SCENIC RIM REGIONAL COUNCIL

Corporate & Community Services Committee

Report

Meeting held in the Council Chambers

82 Brisbane Street

Beaudesert

Tuesday, 19 May 2015

Commenced at 9.46 am

All correspondence to
Be addressed to the
Chief Executive Officer

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SCENIC RIM REGIONAL COUNCIL

CORPORATE & COMMUNITY SERVICES COMMITTEE

REPORT CONTENTS

CORPORATE & COMMUNITY SERVICES COMMITTEE

REPORT

CHIEF EXECUTIVE OFFICER

I advise that the Committee met on **Tuesday, 19 May 2015**. Councillors present:

Cr N J Waistell, Chairperson
Cr J C Brent, Mayor
Cr N O'Carroll
Cr V A West, Deputy Mayor
Cr J J Sanders
Cr R J Stanfield

ATTENDANCE

Executive Officers

C R Barke, Chief Executive Officer
P A Murphy, Director Infrastructure Services
A M Magner, Director Regional Services
K Stidworthy, Chief Finance Officer

APOLOGIES

Cr D A McInnes

DECLARATIONS OF INTEREST BY MEMBERS

Nil

Reception of Deputations by Appointment / Visitors

Nil

CORPORATE & COMMUNITY SERVICES COMMITTEE

REPORT

Please note: **The Committee resolved to go into closed session in accordance with the provisions of s.275 of the Local Government Regulation 2012 to discuss the items of business indicated as closed in the Committee Report.**

At the conclusion of these items, the Committee resolved to resume in open session. The Committee's recommendation on each item, discussed in closed session, is as detailed at the end of each item in the Report.

1. EXECUTIVE

1.1 Quarter 3 Operational Plan 2014 2015 Review

Executive Officer: Chief Executive Officer

File Reference: 04/12/006

Chief Executive Officer's Recommendation

That Council endorse the third Quarterly Report of the 2014/2015 Operational Plan.

Committee Recommendation

That the Chief Executive Officer's recommendation be adopted.

Moved: Cr Brent
Seconded: Cr West

Carried

Attachments

1. Quarter 3 Operational Plan Report (attached separately).

2. CHIEF FINANCE OFFICER

Nil

3. REGIONAL SERVICES

3.1 Biodiversity Strategy

Executive Officer: **Director Regional Services**

File Reference: **11/14/001**

Director's Recommendation

That Council endorse the release of the draft Scenic Rim Regional Council Biodiversity Strategy for public consultation.

Committee Recommendation

That the Director Regional Services' recommendation be adopted.

Moved: Cr O'Carroll
Seconded: Cr West

Carried

Attachments

1. Draft Scenic Rim Regional Council Biodiversity Strategy.
2. Draft Scenic Rim Regional Council Biodiversity Strategy Appendices.

Attachment 1 - Draft Scenic Rim Regional Council Biodiversity Strategy

BIODIVERSITY STRATEGY

A TEN YEAR STRATEGY FOR THE CONSERVATION OF BIODIVERSITY IN THE SCENIC RIM

2015 - 2025 / DRAFT

SCENIC RIM Regional Council

CONTENTS

INTRODUCTION

It gives me great pleasure to introduce Scenic Rim Regional Council's Biodiversity Strategy.

This document represents a 10-year framework to achieve enhanced environmental outcomes within the Scenic Rim.

This undertaking is integral to delivering on the desired outcomes of the Scenic Rim Community Plan 2011-2026, a shared vision with the community for the future of our region.

Central to this vision are improved environmental outcomes ensuring a positive legacy for future generations in the green belt of South East Queensland.

Council recognises that Scenic Rim boasts a unique natural environment and is committed to proactively working to preserve and enhance it in partnership with the community.

Biodiversity is crucial to the region as it contribute to ecological balance that our important agricultural and tourism industries require to operate.

In addition to being an important food bowl for the nation, the Scenic Rim's native bushland, national parks and waterways represent the vital organs of the wider region.

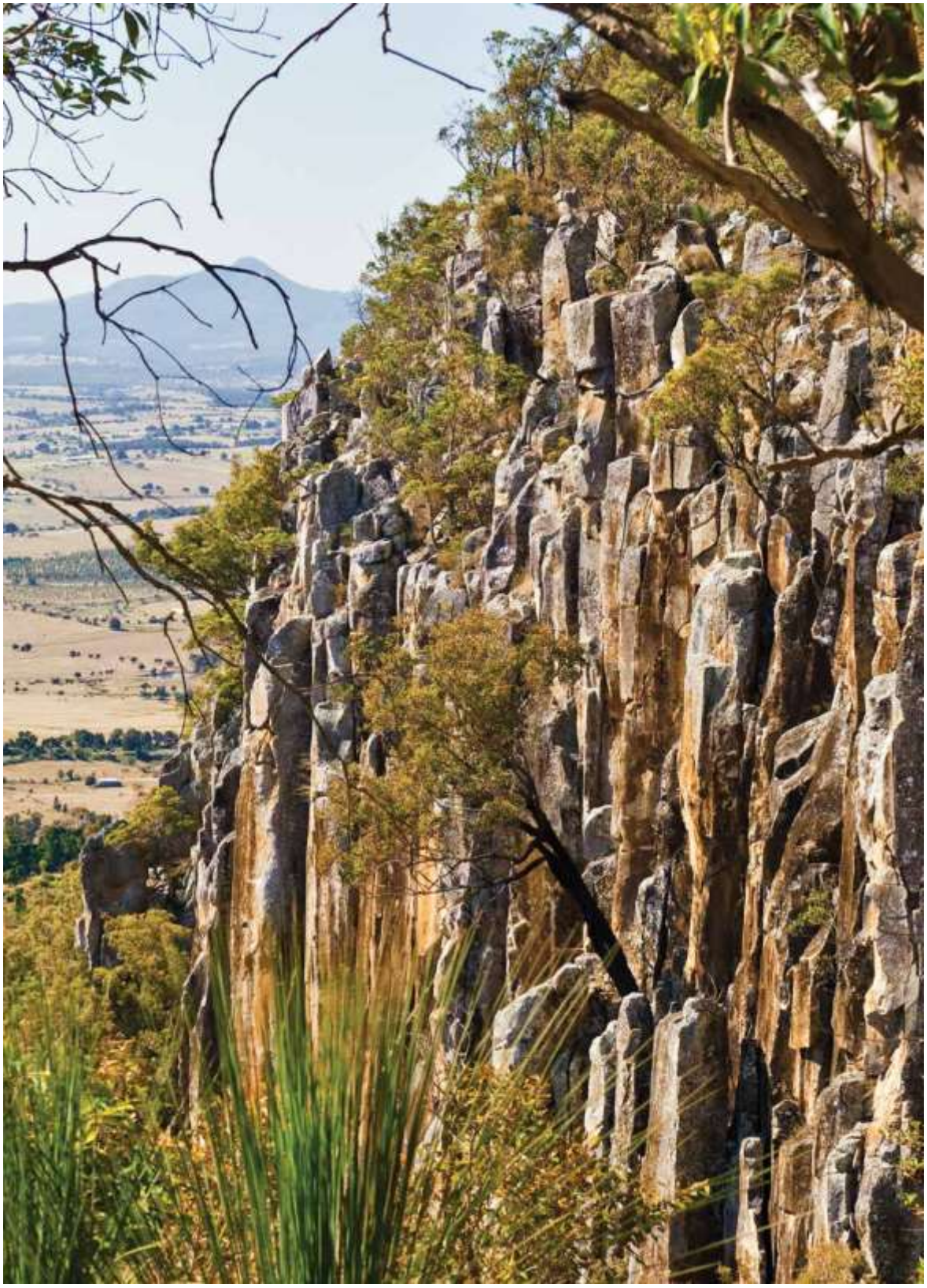
Council acknowledges the role of landholders, particularly primary producers, and the community as stewards of the local environment and we invite you to participate with Council on this journey.

Cr John Brent
Mayor

This draft strategy has been produced based on input received from the community and local government officers and builds on previous local government strategies. This draft aligns with the 2014 Update of the SEQ Natural Resource Management Plan.

Further comment and input is now sought before the Strategy is finalised in 2015.

Disclaimer:
No responsibility is taken by Scenic Rim Regional Council or SEQ Catchments Ltd. for any actions taken based on the information contained in this Draft Strategy. Further advice should be sought before acting upon information contained in this Draft Strategy.



EXECUTIVE SUMMARY

The Scenic Rim is a rural region set in the foothills of the Great Dividing Range surrounded by World Heritage listed National Parks. The region has a wealth of biodiversity, with a vast array of plants and animals, ecosystems and geology creating an iconic landscape. Within the region there are many recognisable ecosystems such as Brigalow scrub, cloud forests, wet eucalypt forests and blue gum flats providing home for over 2,300 recorded native plants and animals including over 150 rare and threatened species.

These values need to be managed in balance with regional pressures including population growth, urban sprawl, land degradation, habitat removal, invasive species and changing climatic conditions.

Scenic Rim Regional Council recognises the need to manage these issues to maintain core social, economic and environmental functions important for everyday life. Through protecting biodiversity; key values including lifestyle, amenity, industry, cultural heritage, intrinsic qualities and life-support functions can be maintained creating a thriving and liveable region.

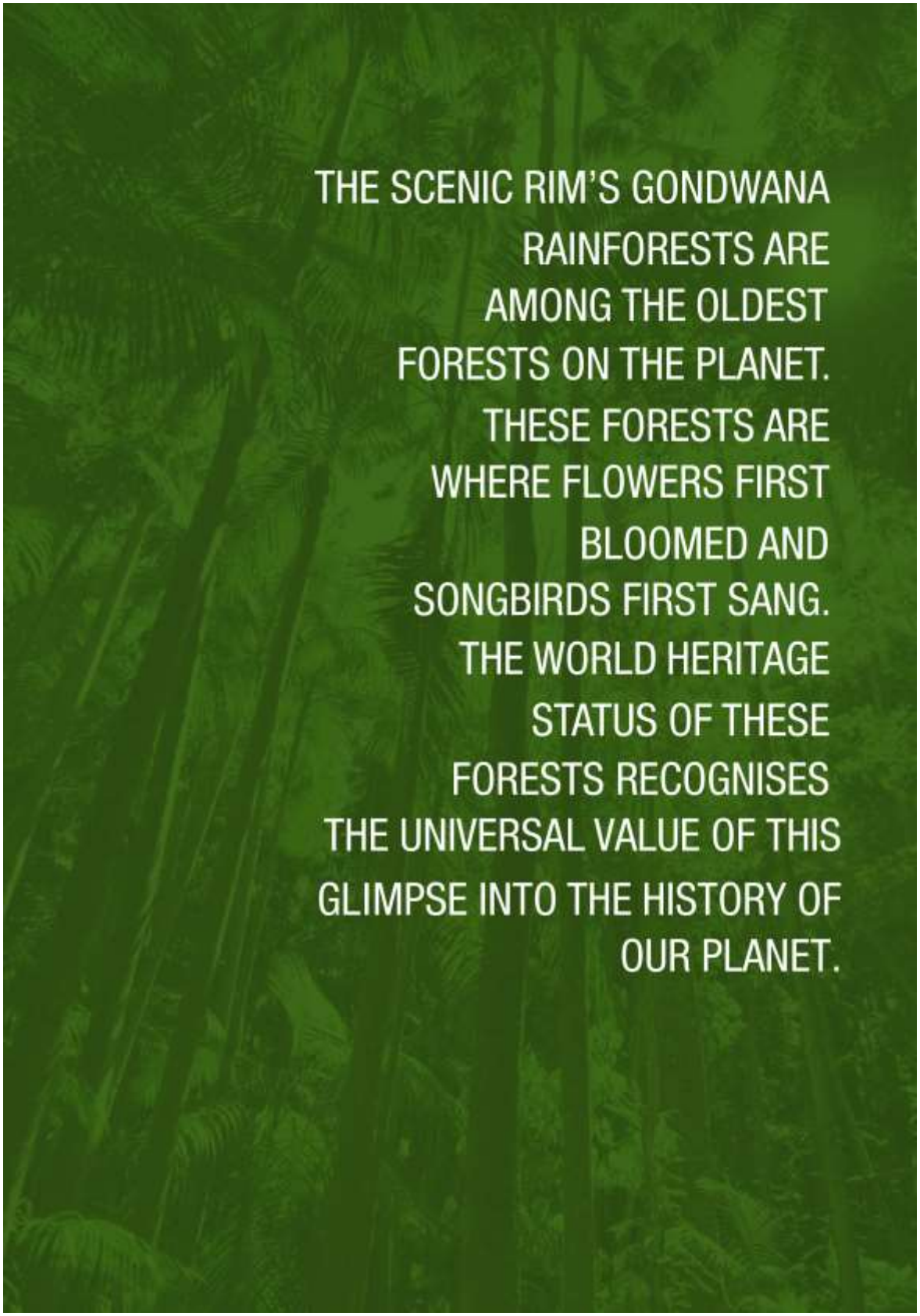
The Scenic Rim Regional Council Biodiversity Strategy is a strategic ten year plan for the management of the region's biodiversity. The strategy outlines the context for biodiversity conservation in the Scenic Rim and reflects Council's vision for the Region:

By 2026, Scenic Rim will be a network of unique rural communities embedded in a productive and sustainable landscape…

…Our community will support sustainable farms, businesses and industries that are compatible with our environment and lifestyle and provide rewarding employment and prosperity for residents. Residents will benefit from the region's productive farmland, stunning natural environment and character-filled towns and villages which attract tourists and visitors and provide ecosystem services for the broader South East Queensland community….

The role of the Strategy is to inform Council planning and operational activities including the development and implementation of the Planning Scheme and policies. It will also assist Council decision making and community initiatives and drive a range of targets, strategies and actions that will deliver the corporate vision.

The strategy will support the engagement of the community and key stakeholders to build and strengthen partnerships in order to maintain and enhance the region's biodiversity. The development of partnerships will also assist in monitoring and reporting outcomes for Council, the community and investors.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RAINFORESTS ARE
AMONG THE OLDEST
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THESE FORESTS ARE
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BLOOMED AND
SONGBIRDS FIRST SANG.
THE WORLD HERITAGE
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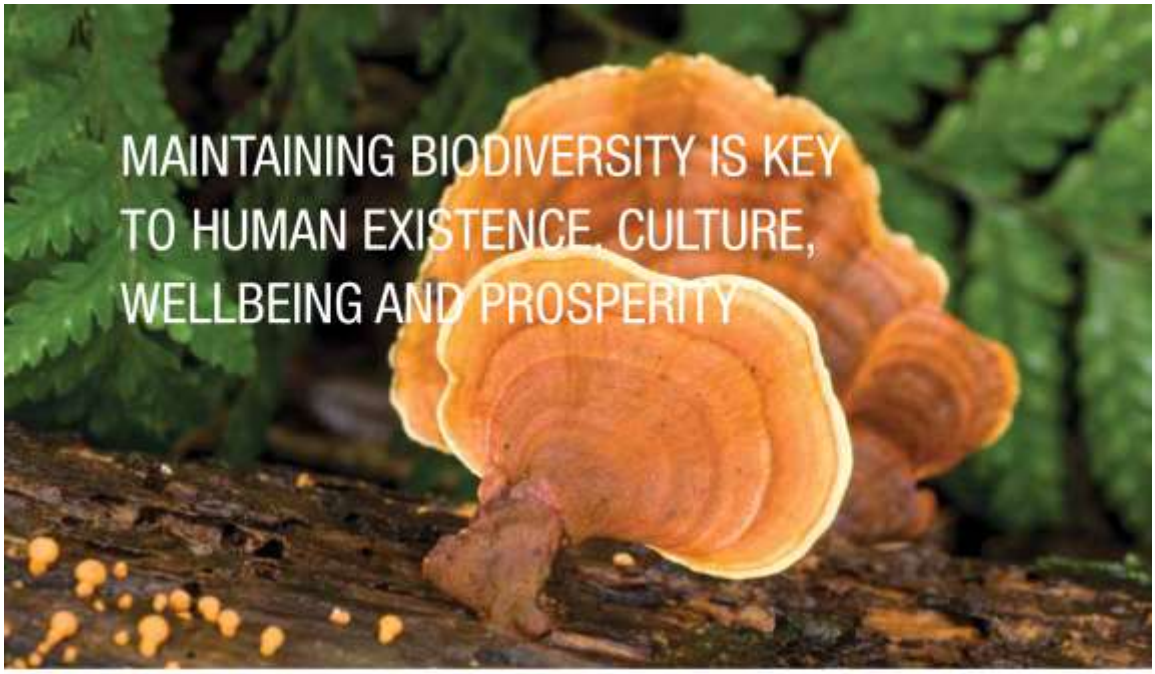


ABBREVIATIONS

EPBC	Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
HA	Hectares
NCA	Nature Conservation Act 1992
NRM	Natural Resource Management
RVMC	Regional Vegetation Management Codes
SARA	State Assessment and Referral Agency
SDAP	State Development Assessment Provisions
SEQ	South East Queensland
SEQ NRM PLAN	South East Queensland Natural Resource Management Plan (2009-2031)
SPA	Sustainable Planning Act 2009
SPP	State Planning Policy 2013
VMFA	Vegetation Management Framework Amendment Act 2013 (Qld)

THE IMPORTANCE OF BIODIVERSITY

Biodiversity underpins the processes that provide benefits to humans and is a fundamental measure of livability. It is essential for supporting our way of life through direct provision of services including clean air, water, food and materials. These direct benefits have flow on effects for creating healthy and livable communities with access to clean resources required to support life. In addition, biodiversity underpins processes required to support industries reliant on key services including water purification, pollination, soil formation and nutrient recycling.

Biodiversity forms an essential part of why residents and visitors alike choose the Scenic Rim as a destination. Lifestyle qualities, tree-change and wilderness qualities are all drawcards for residents and visitors of the region. These values form an intrinsic showcase that invites visitors to stay and enjoy the region.

WHAT IS BIODIVERSITY?

Biodiversity is defined as the variability among living organisms from all sources (including terrestrial, aquatic and other ecosystems and the ecological complexes of which they are part). It occurs at a variety of scales including genetic diversity, species diversity and ecosystem diversity.

Biodiversity is recognised as an important feature of healthy natural assets and increases flexibility and resilience in the face of change (i.e. resilience from natural disasters including floods, droughts and fires). The more diverse a system is, the more it is able to absorb stresses and compensate for damage or loss in one part of the system.

Natural assets that provide habitats for flora and fauna and support biological processes that provide biodiversity include:

- Rainforests, bushland and native grasslands
- Rivers, streams, dams and lakes
- Wetlands
- Forested ranges and peaks (including the unique cloud forests of the Border Ranges)
- Viable corridors of suitable vegetation

In assessing, protecting and maintaining biodiversity, it is essential to account for the full range of living and non-living processes and ecosystem functions responsible for maintaining biodiversity. It is also important to understand the connection between biodiversity and life support systems including the provision of air, water and land.

KEY INDUSTRIES THAT RELY ON NATURAL ASSETS INCLUDE AGRICULTURE AND HORTICULTURE, MINING, TOURISM, RECREATION, WATER SUPPLY AND HEALTH. THESE INDUSTRIES ARE WORTH OVER $368 MILLION TO THE LOCAL ECONOMY PER YEAR

SCENIC RIM ECONOMIC BRIEF 2014

TABLE 1: IMPORTANCE OF BIODIVERSITY FOR LIFESTYLE, WELLBEING AND ECONOMIC PROSPERITY

BENEFITS	SERVICES DEPENDENT ON BIODIVERSITY
Tourism and Recreation	Water purification, pollination, soil formation and nutrient recycling all required for maintaining natural beauty that attracts tourists and provides recreational opportunities.
Agriculture	Water purification, pollination, pest and disease control, soil formation and nutrient recycling all required for growing crops, grazing cattle, timber harvesting, growing turf etc. Diverse ecosystems can assist in managing erosion, salinity and land degradation.
Amenity and Livability	Water purification, pollination, soil formation and nutrient recycling provide clean drinking water, clean air, building materials and micro-climates that create livable communities.
Cultural Heritage	Water purification, pollination, soil formation and nutrient recycling all required for environmental values that support cultural, social and spiritual systems.

CASE STUDY

GRANTS HELPING TO FIND THE SPOTTED-TAILED QUOLL

Quolls are Australia's largest carnivorous marsupials on the mainland and an important keystone predator; if we can protect the Quoll and its habitat, we also help to conserve many other species.

The Spotted Tailed Quoll (Dasyurus maculatus) was thought to be extinct in the Scenic Rim region. In March 2012, reports of sightings from the community prompted Queensland's Quoll Seekers Network (QQSN) to seek an Environmental Grant from the Scenic Rim Regional Council to survey for, and educate people about, this important species. A partnership between QQSN and Council was formed to find the quoll.

The 'Quoll Discovery Experience' was held at The Outlook in Boonah to engage and raise awareness of this rare and elusive animal with locals who also provided leads to finding this cryptic marsupial. Permission was sought from local residents and Land for Wildlife members to gain access to properties, some of which included trekking up mountains, trudging through waist-deep grasslands, and exploring caves with ten kilograms of chicken carcasses and cameras in tow, all in hope of capturing a picture of a quoll. A total of eight sites were surveyed within the Mt Alford area utilising fourteen surveillance cameras and chicken carcasses as bait to attract the elusive quolls.

After three months of searching, the hard work paid off. A healthy male quoll was photographed, providing valuable evidence that they are still persisting in the region. This project has enabled important data to be collected about Spotted-Tailed Quoll species providing invaluable information in developing future quoll conservation efforts.

MEETING LEGISLATIVE OBLIGATIONS

Implementing the actions in this Strategy will not only manage biodiversity that is critical for the community and economy of the region but will also assist Council in meeting legislative requirements for the protection of natural values.

Relevant legislation and plans are listed in Table 2. The full relevance of these documents is described in Appendix A.

TABLE 2: LEGISLATION AND PLANS APPLICABLE THE SCENIC RIM BIODIVERSITY STRATEGY.

COMMONWEALTH
Environment Protection and Biodiversity Conservation Act (1999)
STATE PLANS AND LEGISLATION
Sustainable Planning Act (2009) QLD (SPA)
State Planning Policy (2013) QLD (SPP)
Local Government Act (2009) QLD (LGA)
Environmental Protection Act (1994) QLD (EPA)
The Nature Conservation Act (1992) QLD (NCA)
The Vegetation Management Act (1999) and Vegetation Management Framework Amendment Act (2013) QLD
Biosecurity Act 2014 QLD
The Land Protection (Pest and Stock Route Management) Act (2002) QLD
Water Act (2000) QLD
Environmental Offsets Act (2014) QLD
REGIONAL PLANS
South East Queensland Regional Plan (2015-2041)
South East Queensland Natural Resource Management Plan (2009 - 2031)
SCENIC RIM REGIONAL COUNCIL
Community Plan (2011 - 2026)
Corporate Plan (2013 - 2018)
Draft Scenic Rim Regional Council Planning Scheme
Pest Management Plan (2010- 2015)

THE STORY OF BIODIVERSITY IN THE SCENIC RIM

Formed from the remnants of Gondwana, the Scenic Rim has evolved to become a reservoir of distinct, exceptional and irreplaceable flora and fauna species, geological features and vegetation communities.

The region is an international biodiversity hotspot consisting of World Heritage areas, National Parks and nationally significant biodiversity corridors. The diversity of flora and fauna in the region is reflected in the variety of vegetation groups present including montane heath, rainforests, wet and dry eucalypt forests as well as freshwater wetlands.

The region provides direct links to ancient times. Species including Antarctic Beech and Hoop Pine found in the ancient Gondwana rainforests provide a remnant link from over forty million years ago. These forests once covered the continent but have been reduced through the ages due to the drying of Australia and consequently the emergence and dominance of more drought and fire adapted plants (Myrtaceae and Proteaceae).

The unique geologic history has contributed significantly to biodiversity of the region. The iconic mountain ranges of the Scenic Rim occurred out of three major shield volcanoes resulting from a "hot-spot" in the region. These major volcanoes are the Main Range Shield Volcano, Focal Peak Shield Volcano and Tweed Volcano Caldera (Mt Warning). The remnants of the Focal Peak Volcano include several major intrusive plugs and dykes including Mount Barney, Mount Maroon and Mount May. These features rise up in direct contrast to the Walloon coal measures observed around the outskirts of Beaudesert. These distinct geological features have resulted in the assortment of ecosystems throughout the Scenic Rim.

The distinct geology of the region has given rise to a variety of habitats - from high altitude basalt ranges with dense rainforest or tall wet sclerophyll to dry sclerophyll forests on sandstone foothills to wide floodplains with swamps and Bluegum forests to Vine Scrubs and Ironbark Forests on Walloon sedimentary rocks. This wide altitudinal variation is associated with the Tweed Caldera and past Volcanic Activity. The highest point is Mt Superbus (1370m) with substantial forests above 500m sea level.

The Scenic Rim contains the headwaters for many regionally important waterways - the Bremer and Warrill, the Logan and Albert (with Canungra Creek), and the Coomera. These waterways have a significant impact on downstream users and urbanised areas of Ipswich, Brisbane, Logan and the Gold Coast. In particular they have a large impact on parts of Moreton Bay and play a crucial role in water quality and biodiversity downstream.

Wetlands within the Scenic Rim cover over 50,000 ha with 130 being over 10 ha in size. These wetlands provide important habitat for birds and other plants and animals. In addition, wetlands also provide refuge from extremes of weather, in particular drought. Animals including cattle often rely on these areas for water and feed during times of drought. Wetlands play an important role in improving water quality by trapping sediments, filtering pollution and absorbing pollutants (Department of Environment and Heritage, 2013).

In addition to the diversity of ecosystems, the Scenic Rim is a significant biogeographic region. The area contains a unique mixture of species residing in the upper and lower limits of their distributions (particularly due to the overlap between tropical

and subtropical forests). This feature is termed the Macleay-McPherson Overlap and is considered one of Australia's greatest areas of biodiversity. There is also a western overlap of species with the occurrence of the most eastern extent of Brigalow Belt communities. The current extent of bushland in the Scenic Rim is shown in Figure 1.

FIGURE 1: BUSHLAND EXTENT IN THE SCENIC RIM

PLANTS

The Scenic Rim region contains an astounding 1,926 vascular plants and 799 non-vascular plants (HERBRECS Database). Species including Antarctic Beech (Nothofagus moorei) and Hoop Pine (Araucaria cunninghamii) found in the ancient Gondwana rainforests provide a remnant link from over forty million years ago. Other species including Swamp Tea-tree (Melaleuca Irbyana) and Brigalow (Acacia harpophylla) have been cleared extensively and now exist in small important remnants throughout the Scenic Rim. A list of endangered, near threatened and vulnerable species is provided in table 3.

The region is considered a hotspot of endemism with many species found only in the Scenic Rim. The Mt Barney Tea-tree (Leptospermum barneyense) is one example of extreme endemism being restricted to select locations on Mt Barney and Mt Maroon.

The region is recognised as an important area for acacia (wattle) in Australia having extremely high levels of both diversity and endemism. These two factors suggest that the Scenic Rim may be the birthplace of the acacia genus.

TABLE: 3 ENDANGERED, NEAR THREATENED AND VULNERABLE PLANT SPECIES

LEGISLATION	ANIMAL SPECIES	NUMBER
Nature Conservation Act (1992) (NCA)	Near Threatened	52
	Vulnerable	49
	Endangered	16
Environmental Protection and Biodiversity Conservation Act (1999) (EPBC)	Vulnerable	36
	Endangered	15

VERTEBRATE ANIMALS

The Scenic Rim region contains many regionally and nationally iconic species including the Glossy Black Cockatoo, Albert's Lyrebird, Koala and Brush-tail Rock Wallaby. Wilderness areas in the Scenic Rim provide some of South East Queensland's last sanctuaries for many iconic species including the Spotted-Tailed Quoll (Dasyurus maculatus) (Wild Guide, 2011).

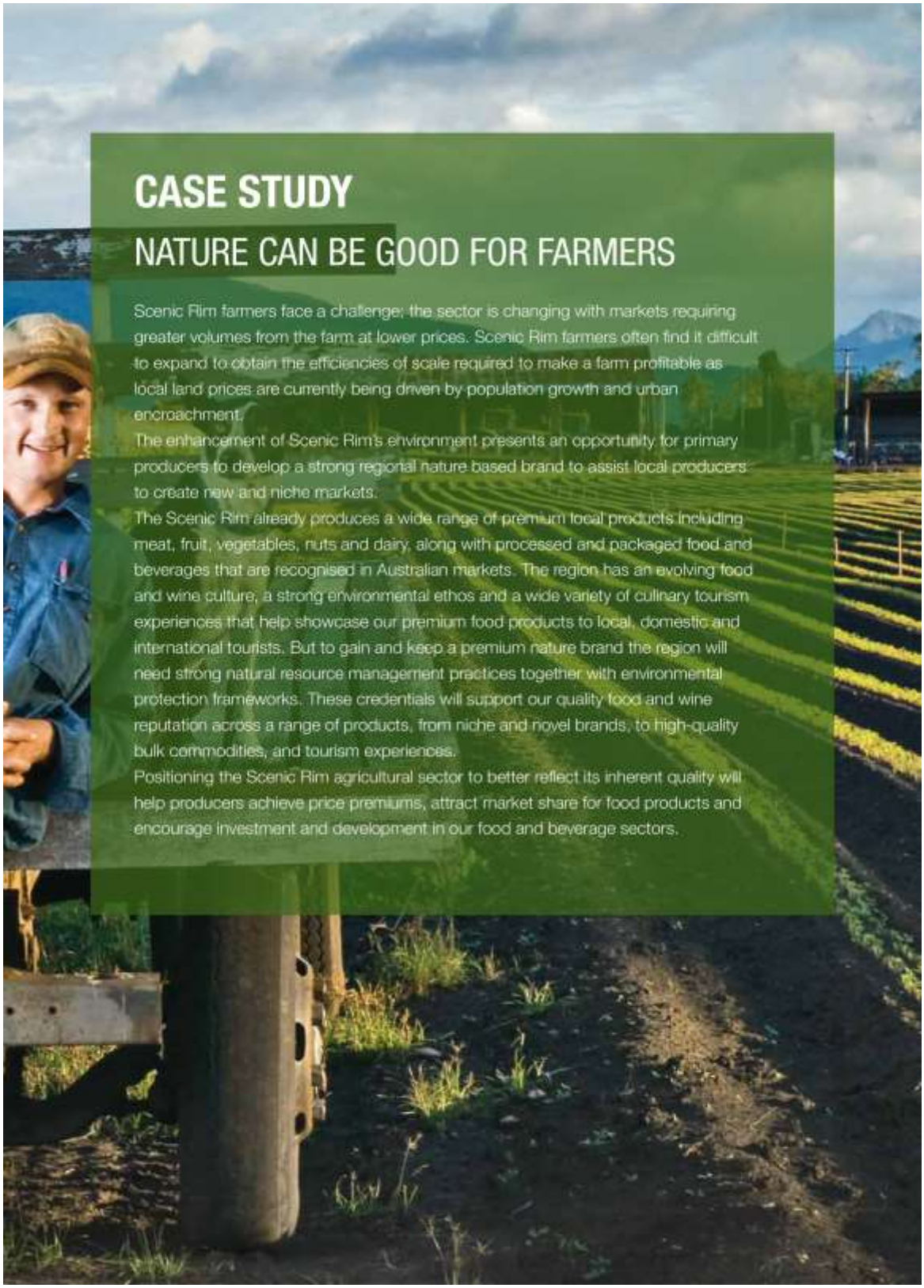
There is a wide diversity of arboreal mammals within the region indicating a good supply of food resources (young trees) but unfortunately, there is a shortage of hollows for habitat. Hollow bearing trees (old trees) are in short supply as a result of historic logging and land clearing.

Historic clearing has created ideal habitat for larger macropods at the expense of smaller wallabies. Small animals are restricted to forested mountains and require better connected habitat in a range of landscape zones.

Severe reduction of past rainforests has resulted in the decline of rainforest species, especially birds. Bush birds have been declining all along the eastern ranges of Australia in the recent times. Rural production landscapes can play a significant role in the recovery of these bush birds through very simple changes to management.

TABLE: 4 ENDANGERED, NEAR THREATENED AND VULNERABLE ANIMAL SPECIES.

LEGISLATION	ANIMAL SPECIES	NUMBER
Nature Conservation Act (1992) (NCA)	Near Threatened	63
	Vulnerable	53
	Endangered	16
Environmental Protection and Biodiversity Conservation Act (1999) (EPBC)	Vulnerable	28
	Endangered	13


CASE STUDY
NATURE CAN BE GOOD FOR FARMERS
Scenic Rim farmers face a challenge; the sector is changing with markets requiring greater volumes from the farm at lower prices. Scenic Rim farmers often find it difficult to expand to obtain the efficiencies of scale required to make a farm profitable as local land prices are currently being driven by population growth and urban encroachment.
The enhancement of Scenic Rim's environment presents an opportunity for primary producers to develop a strong regional nature based brand to assist local producers to create new and niche markets.
The Scenic Rim already produces a wide range of premium local products including meat, fruit, vegetables, nuts and dairy, along with processed and packaged food and beverages that are recognised in Australian markets. The region has an evolving food and wine culture, a strong environmental ethos and a wide variety of culinary tourism experiences that help showcase our premium food products to local, domestic and international tourists. But to gain and keep a premium nature brand the region will need strong natural resource management practices together with environmental protection frameworks. These credentials will support our quality food and wine reputation across a range of products, from niche and novel brands, to high-quality bulk commodities, and tourism experiences.
Positioning the Scenic Rim agricultural sector to better reflect its inherent quality will help producers achieve price premiums, attract market share for food products and encourage investment and development in our food and beverage sectors.

INVERTEBRATE ANIMALS

The region is rich with invertebrates (animals without backbones such as insects, spiders, molluscs, worms, crustaceans) which form the basis for life on earth and are crucial for the survival of all habitats. Some of Australia's largest butterflies can be found in the region. One species, the Richmond Birdwing (Ornithoptera richmondia) has a wing span of up to 16 cm in males and 13 cm in females (Departmennt of Environment and Heritage Protection).

The region has one of the highest diversities of Gondwana-related land snails in Australia, and also has a number of snails and slugs descended from northern hemisphere ancestors, including some relatively large species in the rainforest which can sometimes be seen at night feeding on luminous fungi. The Lamington Cray is another interesting invertebrate found in the Scenic Rim region. Depending on its location in the region, these freshwater crayfish can vary in colour from bright blue to greenish-brown (Wild Guide, 2011).

DIVERSITY OF VEGETATION

There are 65 individual Regional Ecosystems in the region. Regional Ecosystems (RE's) are vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. Biodiversity relies on an adequate representation of a variety of vegetation types.

Species richness (or the total number of species) and taxonomic diversity (total number of species of certain groups, e.g. the total number of mammals) is an indicator for biodiversity. Species richness provides direct benefit, in particular for people who enjoy bird watching, observing large vertebrates and collecting flowers or invertebrate species such as butterflies, beeties or spiders that rely on a diverse range of habitats.

There have been some recent advances in conserving important vegetation types with the extension of Mt Barney, Lamington and Main Range National Parks with an additional 538 ha of vegetation now included in the national estate.

POORLY CONSERVED ECOSYSTEMS

The South East Queensland Natural Resource Management Plan (SEQ NRM Plan) sets a minimum target of 4% conservation of all regional ecosystems. There are 15 vegetation types considered poorly conserved (Table 5) (Map 2). The Scenic Rim Region has significant areas these vegetation types. This presents an opportunity to for Scenic Rim to contribute to the SEQ regional target of 4%. This will aid in the resilience of SEQ into the future.

TABLE 5: SEQ TARGET FOR POORLY CONSERVED ECOSYSTEMS THAT OCCUR WITHIN THE SCENIC RIM

VEGETATION TYPE (REGIONAL ECOSYSTEM)*	SHORT TITLE	FUTURE REQUIREMENT ACROSS SEQ TO MEET REGIONAL TARGET OF 4% (HA)	AVAILABLE WITHIN SCENIC RIM (HA)
12.3.1	Gallery Rainforest on Alluvial Plains	281.39	124.15
12.3.10a	Blue Gum Forest on Alluvial Plains	159.95	18.67
12.3.3	Brigalow Forest on alluvial plains	5,346.77	434.37
12.3.3b	Blue Gum Forest with irbyana on alluvial plains	120.78	20.22
12.3.3c	Irbyana Forest on alluvial plains	63.44	2.83
12.3.3d	Gum-topped Box Forest on alluvial plains	149.03	10.15
12.8.14a	Gum-topped Box Open Forest on volcanic rocks	78.63	326.98
12.8.23	Brigalow Forest on volcanic rocks	45.76	8.89
12.9-10.11	Irbyana Open Forest on Sedimentary Rocks	96.37	62.35
12.9-10.11a	Spotted Gum and Ironbark Forest with irbyana on sedimentary rocks	202.33	76.74
12.9-10.12	Seeana Open Forest on Sedimentary Rocks	520.26	83.91
12.9-10.17a	Gully Forest on sedimentary rocks	19.38	1,733.56
12.9-10.6	Brigalow Vine Scrub on sedimentary rocks	1,228.79	125.66
12.9-10.7	Ironbark Open Forest on sedimentary rocks	2,057.62	5,945.29
12.9-10.7a	Blue Gum and Ironbark Open Forest on sedimentary rocks	271.44	529.88
TOTAL		**11,641.94**	**9,503.65**

*For a complete description of Regional Ecosystems, see Appendix C.

CORE BUSHLAND, CRITICAL CORRIDORS AND STEPPING STONES

There are seven core bushlands with a size greater than 5000ha within the Scenic Rim (Table 5) (Figure 2). These large bushland areas of valuable habitat are unique in the SEQ Region and provide many benefits such as climate regulation, buffering against extreme weather events and refugia for plants and animals in a changing climate.

TABLE 6: THE SEVEN CORE BUSHLANDS OF THE SCENIC RIM.

CORE BUSHLAND	AREA (HA)
Flinders Peak Core	5,583
Lamington Core	26,821
Little Liverpool Range Core	3,555 (of 27,000)
Main Range Core	16,665
Mt Barney Core	24,468
Tamborine Core	8,674
Wyaralong Kooralbyn Core	8,147

FIGURE 2: THE SEVEN CORE BUSHLANDS OF THE SCENIC RIM

Critical linkages and stepping stones link core vegetation. The term critical linkage includes remnant and regrowth vegetation in stepping stone, nodes, links and corridors that allow the movement of genetic material between core areas (Figure 2). Where feasible, areas of vegetation should be connected to one of the Core areas (each greater than 5000ha) (Figure 2). The last time these large corridors were measured in 2011, they all remained intact but had suffered a 50ha reduction of combined area.

The Flinders Peak Core and corridor is currently under pressure from land use change with significant fragmentation in areas. Support to connect this corridor south to the Border Ranges through the Wyaralong Kooralbyn Core would establish a valuable addition to the region's natural infrastructure.

Other bushland areas of 500-5,000ha have had smaller areas of 1-20ha fragmented from existing corridors (Figure 3). Incremental loss of key corridors threatens the resilience and adaptive capacity of natural assets and the community and economy that rely on them.

PROTECTED AREAS OF THE SCENIC RIM

The Scenic Rim is a junction for a number of national and internationally recognised corridors that connect across state boundaries. The World Heritage listed Gondwana Rainforests are remnants of Gondwana, the ancient southern supercontinent that divided up 40 million years ago to form Australia. Gondwana was covered by rainforests with the same types of species that can still be found today. These forests were selected as National Parks due to their exceptional biodiversity, rarity and/or extremely high conservation value providing habitat for more than 200 rare or threatened plant and animal species, including 2,000 year old Antarctic Beech Trees.

FIGURE 3: SCENIC RIM BUSHLAND CORRIDOR NETWORK

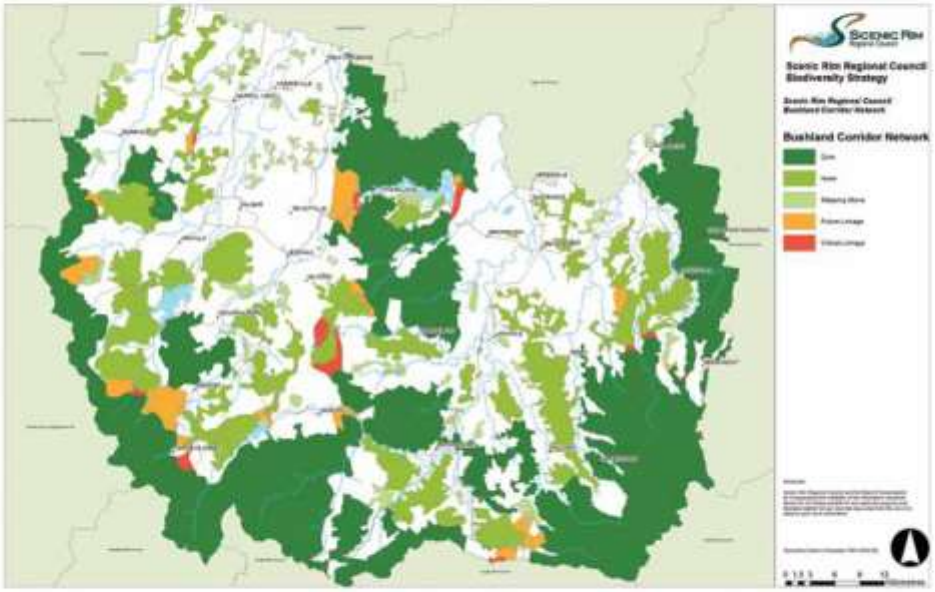


TABLE 7: PROTECTED AREAS OF THE SCENIC RIM 2014

PROTECTED AREA TYPE	NAME
Gondwana Rainforests World Heritage Area	- Lamington National Park. - Mt Chinghee National Park. - Mt Barney National Park. - Main Range National Park.
National Park	- Moogerah Peaks (Mt French) National Park. - Tamborine National Park.
Conservation Park	- Knapp Creek Conservation Park.
Council Reserve	Council has 172 parcels of land throughout the Scenic Rim Region. Councils key reserves include: - Denham Scenic Reserve. - Knapps Peak. - Waterfall Creek. - Sandy Creek Reserve. - Tamborine Escarpment Reserve. - Nindoorinbah Reserve. - Fassifern Reserve.

BIODIVERSITY ON PRIVATE LAND

In addition to protected areas, private landholders play an important role in managing biodiversity. Much of the regions biodiversity exists on private land and in recognition Council has developed and facilitated a variety of different partnerships with landholders throughout the region for biodiversity conservation (Table 8). Council currently coordinates three programs:

Nature Refuge - A Nature Refuge is a voluntary agreement between a landholder and the Queensland Government. Each nature refuge is negotiated directly with the landholder through a nature refuge agreement. Nature refuge status results in protection of natural values within the declared site.

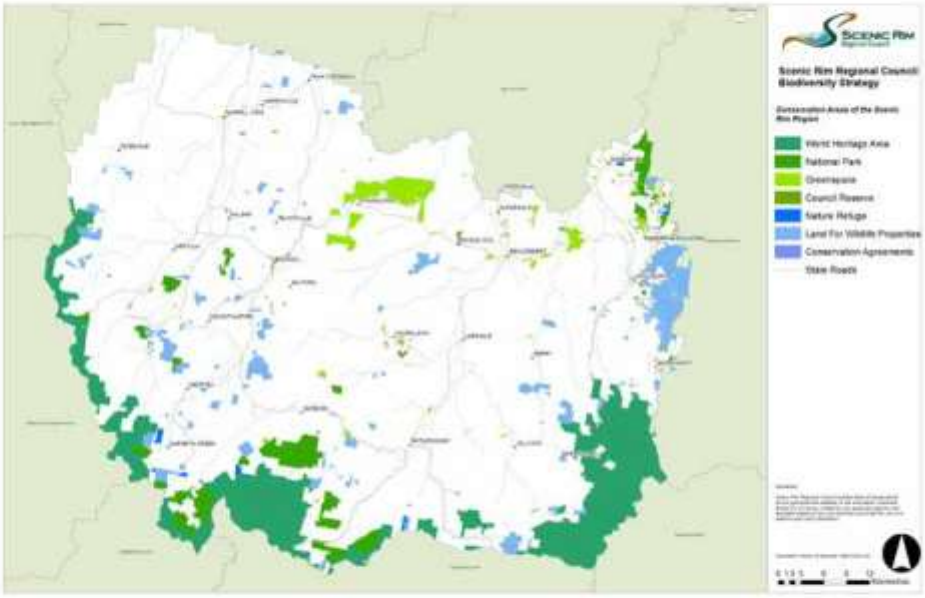
Conservation Covenants and Agreements - A conservation covenant is a voluntary agreement made between a landholder and an authorised body (such as a Covenant Scheme Provider) that aims to protect and enhance the natural, cultural and/or scientific values of certain land. The owner continues to own, use and live on the land while the natural values of an area are conserved by the landholder in partnership with the Covenant Scheme Provider. Voluntary Conservation Covenants or Voluntary Conservation Agreements (VCAs) are offered through Local Government and are usually accompanied by a rate rebate or other financial incentive.

Land for Wildlife - Land for Wildlife is a free, voluntary conservation program that supports landholders to protect native plants and animals on their property.

TABLE 8: PRIVATE PROPERTY PARTNERSHIPS WITHIN THE SCENIC RIM.

PARTNERSHIP TYPE	NUMBER OF PROPERTIES 2014
Nature Refuge	8
Conservation Covenant and Agreements	10
Land for Wildlife	221 19 (working towards being recognised as Land for Wildlife)

FIGURE 4: CONSERVATION AREAS OF THE SCENIC RIM REGION



KEY INDUSTRIES THAT BENEFIT FROM BIODIVERSITY

TOURISM

Nature-based attractions represent the top five most appealing attractions in Australia with 53% of tourists nominating Australia's beaches to be the most appealing attraction followed by Australian wildlife (46%), the Great Barrier Reef (44%), rainforest and national parks (42%) and unspoilt natural wilderness (40%) (Hajkowicz et. Al, 2013). The Scenic Rim has large areas of the latter two.

The Scenic Rim possesses world class natural assets that will continue to attract tourists in greater numbers into the future. The pressures on global biodiversity and natural habitats as a result of a changing climate and human pressures will increase the value of natural areas and habitats that remain pristine. This represents a commercial advantage for the local tourism industry as the region's richness in natural assets and biodiversity are an increasingly valuable attraction for tourists. As a result, the numbers of visitors seeking nature-based experiences are expected to increase requiring a more effective and holistic management of natural assets for positive tourism outcomes.

AGRICULTURE

Agriculture, fisheries and forestry contribute over $220 million dollars per annum to the local economy (Scenic Rim Economic Brief, 2014). This important industry relies on the ecological services, such as soil and water provided by the environment.

Agriculture and human health both benefit from the ecological service that nature provides though clean water, improved soil condition, erosion prevention, pollination, pest control, flood mitigation, soil formation, improved pasture growth and treatment of waste material.

The biodiversity and productivity of agricultural soils are threatened by:

- Increasing salinity
- Declining soil health
- Loss of agricultural land to urban and industrial development
- Soil erosion
- Lack of access to secure water supplies
- Vegetation fragmentation and clearing in upper catchments

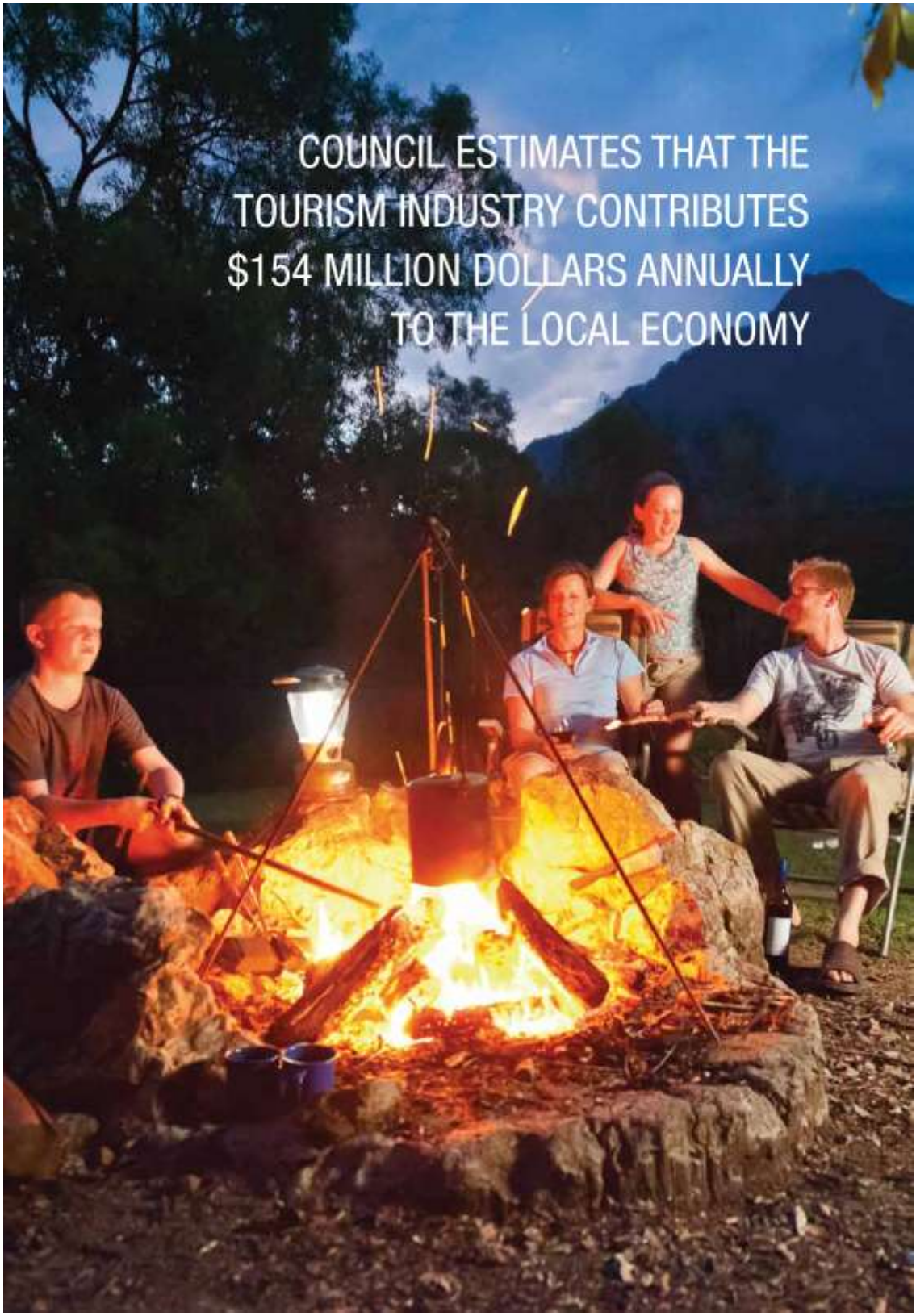
A loss in biodiversity will reduce the ecological service that nature can provide and in turn have negative impacts on productivity and profitability of farmland. A modest decline in primary production attributable to a loss in ecological services would result in significant economic flow on impacts over the next twenty years (Marsden, Jacobs and Assoc, 2010). A fall in agricultural production will also have a serious impact on regional SEQ affecting employment, social character and downstream logistics and manufacturing.

RECREATION

Open space and nature-based recreational opportunities are key drivers of quality of life and important factors in why people choose to live in or visit South East Queensland. The following livability factors top the list of what SEQ residents say they value about living in the region (Queensland Government 2010):

- Openness or spaciousness
- Closeness to natural areas
- Attractive appearance of neighbourhood
- Range of flora and fauna
- Recreational opportunities
- Community size

These factors play a major role in maintaining the quality of life in SEQ. Maintaining these factors is highly reliant on maintaining biodiversity. Even a modest decline of 2% in recreational activity due to loss or damage to natural assets (excluding fishing) could result in a decline in expenditure of approximately $200 million dollars across the SEQ region over the 2009-2031 period (Marsden, Jacobs and Assoc, 2010).

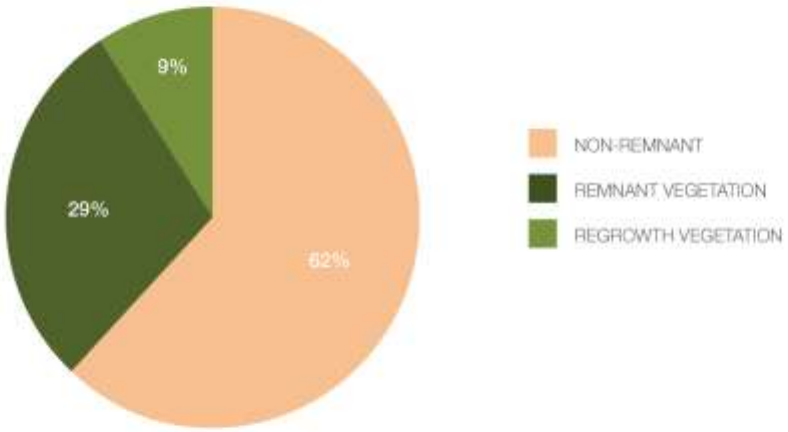

COUNCIL ESTIMATES THAT THE
TOURISM INDUSTRY CONTRIBUTES
$154 MILLION DOLLARS ANNUALLY
TO THE LOCAL ECONOMY

CHALLENGES FOR BIODIVERSITY

CURRENT TRENDS FOR BIODIVERSITY IN THE SCENIC RIM

Measuring trends in changes to natural assets can guide strategic planning and investment to ensure the biodiversity of the Scenic Rim doesn't decline. This will also assist the decision making process to ensure best returns on investment for multiple benefits for the environment, people and the economy.

FIGURE 5: VEGETATION (%) IN THE SCENIC RIM REGION



Bushland covers 38% (161,919 ha) of the Scenic Rim Region of which 29% is remnant vegetation (123,360 ha) (DNRM, 2013) of the total Scenic Rim Council area. The majority of vegetation and biodiversity values are currently retained on private property and managed by private landholders (table 9). Working with and supporting landholders to voluntarily manage properties as part of the broader landscape of the region is essential for maintaining biodiversity.

TABLE 9: VEGETATION OWNERSHIP IN THE SCENIC RIM

VEGETATION OWNERSHIP IN THE SCENIC RIM			
VEGETATION TYPE	**OWNERSHIP (HA)**		
Tenure	Public	Private	Total
Remnant Vegetation	51,052	72,308	123,360
Non-Remnant Woody Vegetation	1,196	37,363	38,559
TOTAL	**52,501**	**119,031**	**161,919**
VEGETATION TYPE	**OWNERSHIP (% OF ALL VEGETATION)**		
Tenure	Public	Private	Total
Remnant Vegetation	29.76%	42.15%	71.92%
Non-Remnant Woody Vegetation	0.84%	27.24%	28.08%
TOTAL	**30.61%**	**69.39%**	**100.00%**
(Version 8 Remnant and SPOT 2012 Non-Remnant)			

CHANGE IN THE AREA OF VEGETATION

The Scenic Rim area lost a total of 2,296ha of bushland (401ha remnant vegetation and 1,895ha of regrowth vegetation) between 2001-2009 (SEQ NRM Plan 2014 Update).

This decline in vegetation has resulted in a reduction of remnant vegetation to 29.2% (DSITIA, 2014). The 2031 remnant vegetation cover target for the Scenic Rim is a minimum of 30%. Thirty percent remnant vegetation cover represents the threshold at which the environmental, social and economic fabric of the Scenic Rim becomes severely compromised. Aiming for 35% or greater will provide a buffer against unforeseen losses in vegetation.

Strategic areas where vegetation is regenerating should be protected and managed to ensure the region does not fall below the minimum threshold required to ensure landscape resilience. These areas provide cost effective methods of increasing bushland cover.

For agriculture to remain sustainable into the future, ecosystem services such as pest and disease control, pollination, favorable climate and water quality need to be guaranteed. The supply of these services is at risk if bushland extent falls below 30%.

Although maintaining and enhancing remnant vegetation to 30% has been nominated as a target, recent research suggests that for every percent of bushland lost there is a correlating loss in biodiversity (Storch Et. Al, 2012). Research indicates that reduction of native vegetation cover below 30%


CASE STUDY
CONSERVATION PARTNERSHIPS
Over two thirds of all vegetation in the Scenic Rim is on private property.
Private properties form a critical component in supporting habitat for native plants and animals. The planning and delivery of positive environmental outcomes requires a cooperative approach between Council and the landholders of the Scenic Rim. Landholders are equipped with local knowledge and have the ability to proactively observe and manage environmental values on private properties.
Councils Habitat Protection Program provides a range of initiatives designed to aid landholders in the protection and management of environmental values on private property. The program plays a crucial role in creating better land management partnerships between Council, landowners and the community, and enhances the protection of the Region's valuable natural assets. Within the Habitat Protection Program, landholders can take part In Land for Wildlife, Conservation Agreements and Nature Refuges providing a variety of features and commitments to meet the different needs of applicants.
Innovative and engaging approaches in the Habitat Protection Program are continually being developed and revised to better achieve economic, social and environmental outcomes for communities of the Scenic Rim. All landholders are encouraged to play a part in ensuring the Scenic Rim remains scenic for everyone to enjoy.

across a catchment significantly impacts the provision of ecological services. This can have serious impacts upon the local economy including the agricultural sector (Doerr Et. al, 2013). The priority of this Strategy is to address these potential losses and support actions that contribute to the cover of vegetation needed to provide the benefits for a healthy and prosperous region into the future.

EXTENT OF RIPARIAN VEGETATION

Practices surrounding waterways and linked wetlands have increased erosion and altered the range of aquatic habitats that once supported a complex web of aquatic life in the Scenic Rim. River recovery depends essentially on riparian recovery and reconnecting rivers with their floodplains. A number of native fish species are regionally significant and require a focused effort on habitat reinstatement as well as pest species reduction.

Stabilising waterways usually involves reinstating vegetation on the banks and adjacent lands. The area of waterways vegetated or otherwise is therefore an indicator of waterway health and biodiversity (Table 10) (Figure 6).

TABLE 10: EXTENT OF VEGETATED WATERWAYS IN THE SCENIC RIM REGION

WATERWAY	AREA (KM)
Un-vegetated	4,791
Vegetated	2,986

South East Queensland Catchments 2014

MAJOR DRIVERS OF THREATS TO BIODIVERSITY

Three key regional drivers of change in the extent and condition of natural assets over the last decade which will continue to influence society, economy and the environment of the Scenic Rim are:

1. Demographic changes including population growth and migration with associated infrastructure and intensification
2. Land use changes (particularly the scale of development) with associated vegetation clearing
3. Changing climatic conditions including extreme weather events

POPULATION GROWTH AND DEVELOPMENT

The population of the Scenic Rim is estimated to grow to 81,985 people by 2036 (Queensland Government, 2015). Regional centres including Beaudesert, Tamborine Mountain and Boonah require increasingly larger amounts of land to accommodate new residents. Industrial areas including the Bromelton State Development Area will also have profound impacts on biodiversity in the region.

LAND USE CHANGE

Habitat loss and fragmentation often associated with agriculture and land use change are two priority concerns for biodiversity. As vegetation patches are reduced in size they become isolated and the on-going viability of plants and animals is severely affected. This ultimately leads to a reduction in species migration, dispersal, recycling of nutrients, pollination of plants and other natural functions required for ecosystem, social and economic health.

Loss of soil is also a consequence of inappropriate land use and vegetation management which can threaten the economic viability of many enterprises. Based on known plans for development and other land use change, it is estimated, there is potential for 3,322ha of bushland to be affected by 2031 (SEQ NRM Plan 2014 Update).This is below the bushland cover target of a minimum of 30% for the Scenic Rim.

CHANGING CLIMATE

Changes in climatic conditions may be placing increased pressure on biodiversity, society and the economy. Pressures including extreme weather events including flooding events in 2011 and 2013 and the Millennium Drought (2001-2009) as well as heat waves have the ability to alter the range and abundance of many plants and animals.

The impacts of a changing climate are likely to result in changes in species distribution and abundance. While some species will adapt and even thrive in new conditions, other species will be susceptible to reduced range and local extinction.

PEST PLANTS AND ANIMALS

Invasive weeds have the potential to outcompete native flora reducing biodiversity within the region. This in turn places pressure on native fauna reliant on food

sources and habitat. Invasive pest animals can often out-compete native animals for resources and habitat.

Introduced pests place increased pressure on natural systems including predation on native fauna, competition with native animals and damage to habitat. Pest animals have the ability to extinguish entire species through predation, disturbance of habitat and removal of food sources. Many pest and weed species have naturalised throughout the region creating significant challenges for management.

Pest plants and animals also impact upon agricultural production. Currently legislative focus has aimed at the impact of these pests on agricultural business but not biodiversity. Pest plant and animal management requires an integrated approach to enable cost effective outcomes which support biodiversity.

LAND MANAGEMENT AND AGRICULTURAL PRACTICES

Unsustainable agricultural and land use practices pose a threat to the biodiversity of the Scenic Rim Region. Increased soil erosion, water quality decline, salinity and habitat fragmentation all pose threats for retaining biodiversity within the region. These issues also impact on the economy especially agriculture as well as infrastructure including roads, bridges and water storages.

A whole of landscape approach involving all land managers is required to ensure biodiversity and farm productivity is maintained and the flow on benefits can be received right across the community and the economy. In particular, this requires appropriate management of National Parks and engagement of peri-urban or rural residential land managers in natural asset management.

Peri-urban land use change and urban development represents specific issues for land use planners and natural asset management. Increasing numbers of smaller lots can complicate whole of landscape approaches to natural asset management.

FIRE MANAGEMENT

Maintaining an appropriate fire regime is important for the maintenance of biodiversity. In many cases, fire frequency and intensity can result in reduced biodiversity, weed invasion and habitat destruction. Different ecosystems require different fire management regimes to maintain biodiversity. Areas such as rainforests require total fire exclusion in contrast to certain dry eucalypt forests that require periodic burning to reduce fuel loads and initiate obligate seeder species. Mismanagement of controlled burns, fire planning and management can result in reduced biodiversity and increased safety risk to landholders.

SALINITY

Strategic vegetation management forms part of the integrated approach for addressing salinity. The Purga, Teviot and Upper and Mid Warrill sub catchment are at risk from salinity. There are currently 25 sub-catchments in the Scenic Rim affected by dryland salinity. The major extents include Purga Creek sub catchment (220 ha) and Warrill Creek sub catchment (205 ha).

Focusing vegetation management in these sub-catchments will enhance biodiversity while decreasing the risk of salinity damage to agricultural land and waterways. A Salinity Management Plan is available for Roadvale in the Purga Creek sub catchment.

A VISION FOR BIODIVERSITY

The Scenic Rim Regional Council's vision for biodiversity is to:

"RECOGNISE THE REGION'S UNIQUE NATURAL ENVIRONMENT AND PROACTIVELY WORK TO PRESERVE AND ENHANCE IT IN PARTNERSHIP WITH THE COMMUNITY FOR FUTURE GENERATIONS".

It aims to:

- Minimise the impact of pest species, improving degraded land and waterways, and protecting and enhancing environmental corridors.
- Ensure environmental considerations and sustainability principles are integrated into key decision making processes, policies and procedures including future land use planning, and infrastructure and organisational service delivery.
- Manage future growth opportunities and development to preserve our natural assets and to enhance our rural lifestyle.
- Work to improve the vibrancy of our towns and villages whilst recognising their heritage values and natural assets.
- Build and strengthen the social fabric of our growing region which is based on friendly, active and healthy communities and our natural environment.
- Develop a planning vision and supporting planning instruments for the region which promotes community aspirations and clearly articulates the unique qualities of our natural assets and the identity of our towns, villages and communities.
- Engage and partner with key stakeholders in all sectors to progress prosperity and sustainability through coordinated decision making and regional ecosystem investment that duly recognises the significance of our environment and ecosystem services.
- Ensure we operate in a way that recognises and supports business needs and aspirations while protecting broader community and environmental interests.
- Recognise and manage the impacts of climate change and peak oil.

CASE STUDY

MILLION TREES FOR THE SCENIC RIM

Planting a tree is a simple way to enhance our environment. Planting one million trees however, has the ability to significantly alter the regional landscape, creating real positive environmental change while enhancing our natural resources. Scenic Rim Regional Council has committed to an ambitious plan to see one million native trees planted across the region by 2025.

The program seeks to achieve this outcome through the delivery of several initiatives aimed at providing trees to residents, community groups, rural land holders and schools. The program plans to address issues of biodiversity loss while achieving sustainable land practices, waterway restoration and beautification of the region. Trees are important for maintaining a healthy environment and provide shade and clean air for the community while helping increase habitat for wildlife, improving water quality and creating biodiversity values.

The Scenic Rim Million Trees Program is divided into initiatives, each providing specific objectives and outcomes for the public. Each initiative aims to plant as many trees as possible while achieving community, habitat and rural outcomes in the region.

The Million Trees program has been designed to be flexible in nature allowing for a variety of participants. Catering for governments, non-government organisations (NGOs), community groups, businesses and individuals to participate in the program, it combines project experience with local knowledge, promoting the best possible environmental outcomes and returns.

Fostering relationships between the community and investors will enhance the region's social, economic and ecological sustainability framework, ensuring that the Scenic Rim is able to safeguard the essential ecological services our South East Queensland population centres rely on well into the future.

OBJECTIVES, STRATEGIES AND ACTIONS

To achieve council's strategic vision for the Scenic Rim, a series of actions and strategies need to occur. These actions and strategies have been developed around four key themes.

- Protecting our Biodiversity
- Enhancing our Environment
- Working Together
- Building and Sharing our Knowledge

This section provides strategies and actions to guide Council planning and investment to achieve the goals.

PROTECTING OUR BIODIVERSITY

OBJECTIVE

Biodiversity Values Including Terrestrial And Aquatic Systems And Ecological Processes Of The Scenic Rim Are Protected.

PERFORMANCE MEASURE	
• Area of bushland (including remnant and woody regrowth) • Amount of vegetation within poorly conserved regional ecosystems • Condition and size of the seven regional core bushlands • Size and severity of salinity affected land	
1	**Develop mechanisms to protect and enhance biodiversity within the Scenic Rim Regional Council Planning Scheme.**
1.1	Protect the region's people, agriculture, biodiversity, natural resources and built environment from impacts of a degraded environment by developing planning tools to address key threats such as salinity, poor water quality, soil loss and pests.
1.2	Include an environmental offset policy in the Scenic Rim Regional Council Planning Scheme to mitigate the impacts of development.
1.3	Develop planning mechanisms for protecting local environmental values and defining locally significant species.
1.4	Develop planning mechanisms addressing park design, layout and maintenance through the incorporation of social and environmental best practice.
1.5	Protect and enhance the seven Core Habitat areas, World Heritage areas and National Parks with adequate buffers of compatible development and vegetation retention.
1.6	Investigate planning mechanisms for the protection of Bushland in significant corridors.
2	**Integrate environmental considerations and sustainability principles into key corporate governance frameworks and decision-making processes.**
2.1	Investigate how to strengthen the current quality management systems for Council works which may include the application of environmental offsets system.
2.2	Utilise Council Local Laws in environmental considerations.
2.3	Utilise the Scenic Rim Biosecurity Plan in coordinating pest management across the region.
2.4	Utilise Council regulatory tools in the protection and management of waterways, wetlands and water quality.
2.5	Protect environmental values through the use of voluntary statutory tools such as covenants.

ENHANCING OUR ENVIRONMENT

OBJECTIVE

Connectedness and condition of terrestrial and aquatic systems are enhanced providing habitat for the regions diversity of flora, fauna and ecological functions.

PERFORMANCE MEASURE • Bushland cover of the Scenic Rim Region • Riparian vegetation coverage • Number of trees planted in the Scenic Rim • Amount and condition of vegetation on Council managed land	
3	**Develop a regional corridor network to provide core habitat and key linkages.**
3.1	Advocate for the extension of the regional Flinders Peak to Karrawtha corridor to include Mount Barney and the Border Ranges.
3.2	Identify, and map the critical corridors, key linkages and nodes including priority regeneration areas.
3.3	Work with the community to enhance vegetation in core bushland areas, corridors, stepping stones and nodes.
4	**Enhance and protect significant landscapes, ecosystems, flora and fauna.**
4.1	Work with Government, NGO's and the public to protect and enhance poorly conserved ecosystems.
4.2	Support management efforts for the recovery of Commonwealth, State and locally significant species.
4.3	Review Council's river management and rehabilitation program, to ensure wetlands, waterways and water quality are protected and enhanced.
5	**Maintain and improve the planning and management framework for Councils Natural Areas (Bushland) Reserve System to focus resources where they deliver the greatest benefit.**
5.1	Consider ecological values in the management of Council controlled lands.
6	**Provide programs and support in enhancing the environment.**
6.1	Provide grants, subsidies and rebates and investigate extending the use of other market-based instruments to improve the environment of the Region.
6.2	Assist local land managers to enhance the environment, with incentives, information and support.
6.3	Continue investment in Council programs including Scenic Rim One Million Trees Program, Environmental Grants and Habitat Protection Program.
6.4	Investigate options to assist local farmers in managing their waterways. (e.g. riparian fencing)
6.5	Support land managers in the control of pest animals, including foxes and cats.
6.6	Investigate and promote mechanisms that provide economic incentives in the retention of native regrowth, such as agri-forestry.
6.7	Encourage the adoption of water sensitive urban design by the local development industry.

WORKING TOGETHER

OBJECTIVE

Cooperation, participation and collaboration are central to all actions in responding to existing and emerging threats in a coordinated and timely manner.

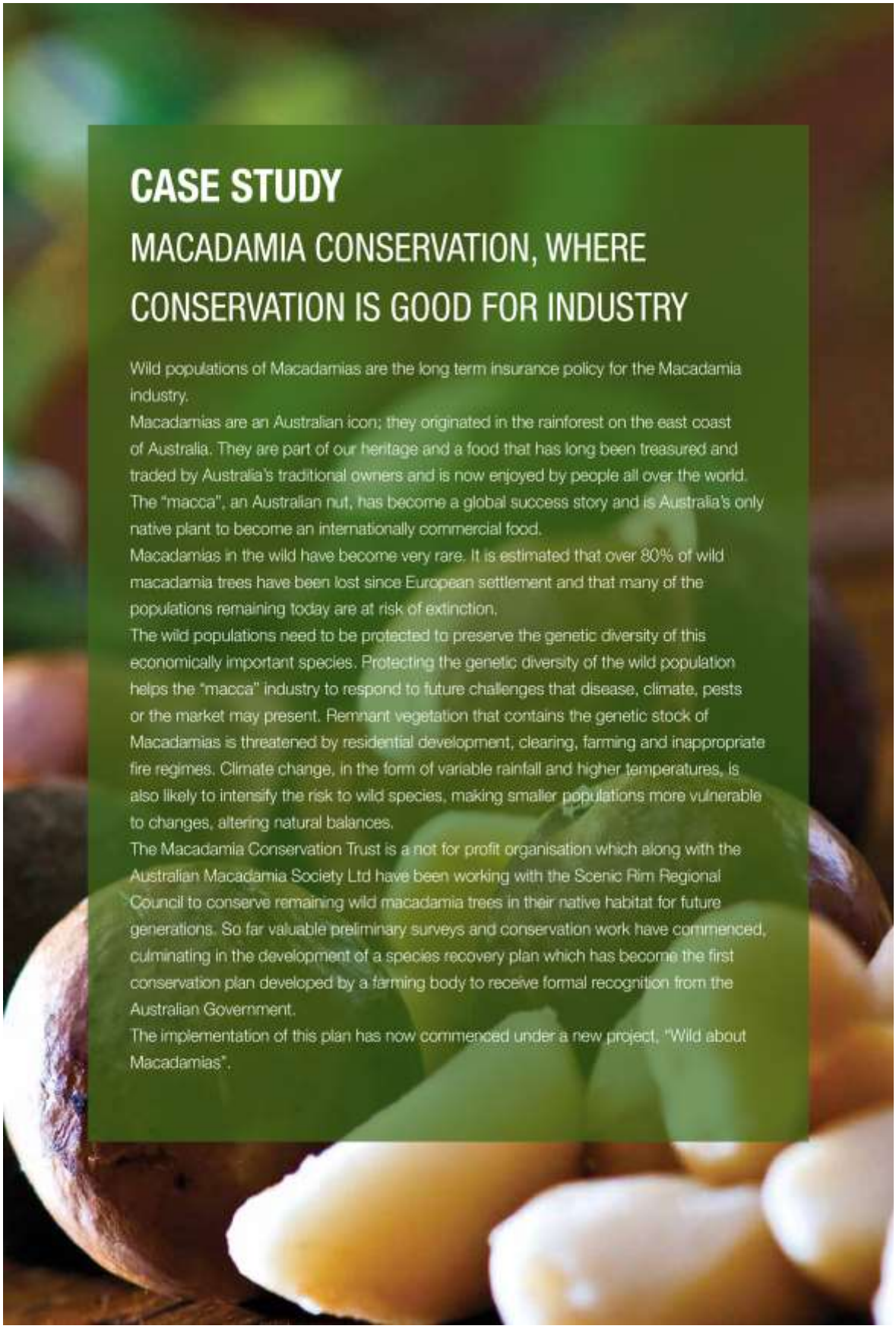
PERFORMANCE MEASURE	
	• Management partnerships between Council and other agencies • Partnerships between Council and community groups • Collaboration efforts between Council and other agencies • Collaboration efforts between Council and private landholders
7	**Encourage a coordinated approach to Biodiversity management across the region by working cooperatively with Government and other key management agencies.**
7.1	Work cooperatively with the State government and other key management agencies to ensure a coordinated approach to Biosecurity management across the region.
7.2	Investigate management frameworks to improve the delivery of catchment management.
8	**Maintain relationships and develop partnerships with key stakeholders such as Government agencies, NGO's, catchment management and community groups within the region.**
8.1	Attract environmental investment to the region by providing funding projects that align with Councils biodiversity vision.
8.2	Collaborate with government agencies, research institutions and NGO's to research and monitor biodiversity within the region.
8.3	Work in partnership with agricultural business to encourage and support best environmental practice.
8.4	Assist landholders through effective information programs to better understand their legal obligations, to ensure compliance with local laws and planning scheme provisions.
8.5	Explore and develop new ways to engage groups that are not traditionally involved in conservation (e.g. peri-urban property owners).
9	**Partner and collaborate with individuals and groups.**
9.1	Continue to foster partnerships with established Indigenous groups.
9.2	Assist in strengthening the Scenic Rim nature based brand to assist local farmers and tourism operators in marketing their products.
9.3	Build and support volunteer efforts in nature conservation and pest management.
9.4	Support the community in their conservation efforts by continuing current popular programs such as Environmental Grants and the Habitat Protection Program.

BUILDING AND SHARING OUR KNOWLEDGE

OBJECTIVE

Knowledge is developed, shared, maintained and reviewed to provide new and adaptive approaches in preserving biodiversity values.

PERFORMANCE MEASURE • Education projects, partnerships provided • Environmental publications developed • Monitoring and review of investment outcomes	
10	**Develop a knowledge hub of regional and local environmental information that shares Council's knowledge and data about Biodiversity with community and industry.**
10.1	Support local survey and monitoring activities in strengthening local knowledge of flora and fauna.
10.2	Improve the ability to respond to threats to biodiversity through education and training.
10.3	Provide information to encourage and empower the community to make informed decisions about issues including, sustainability, livability and biodiversity.
10.4	Improve knowledge of local cultural heritage and environmental values.
11	**Educate, Innovate and lead in environmental awareness.**
11.1	Investigate innovative tools to assist in raising environmental awareness within the community and private enterprise.
11.2	Deliver education programs that align with Council's biodiversity vision.
11.3	Support communities and environmental organisations in developing biodiversity events to share best practice and promote new and innovative approaches for biodiversity conservation.
11.4	Support opportunities to deliver environmental education in partnership with other key stakeholder that align with Council's Biodiversity vision.
11.5	Facilitate learning opportunities for the adoption of environmental best practice by the agricultural and development sectors.
12	**Ensure investment and management outcomes in biodiversity are monitored.**
12.1	Strengthen partnerships with research and higher education institutions to enhance research, monitoring and reporting outcomes.



CASE STUDY

MACADAMIA CONSERVATION, WHERE CONSERVATION IS GOOD FOR INDUSTRY

Wild populations of Macadamias are the long term insurance policy for the Macadamia industry.

Macadamias are an Australian icon; they originated in the rainforest on the east coast of Australia. They are part of our heritage and a food that has long been treasured and traded by Australia's traditional owners and is now enjoyed by people all over the world. The "macca", an Australian nut, has become a global success story and is Australia's only native plant to become an internationally commercial food.

Macadamias in the wild have become very rare. It is estimated that over 80% of wild macadamia trees have been lost since European settlement and that many of the populations remaining today are at risk of extinction.

The wild populations need to be protected to preserve the genetic diversity of this economically important species. Protecting the genetic diversity of the wild population helps the "macca" industry to respond to future challenges that disease, climate, pests or the market may present. Remnant vegetation that contains the genetic stock of Macadamias is threatened by residential development, clearing, farming and inappropriate fire regimes. Climate change, in the form of variable rainfall and higher temperatures, is also likely to intensify the risk to wild species, making smaller populations more vulnerable to changes, altering natural balances.

The Macadamia Conservation Trust is a not for profit organisation which along with the Australian Macadamia Society Ltd have been working with the Scenic Rim Regional Council to conserve remaining wild macadamia trees in their native habitat for future generations. So far valuable preliminary surveys and conservation work have commenced, culminating in the development of a species recovery plan which has become the first conservation plan developed by a farming body to receive formal recognition from the Australian Government.

The implementation of this plan has now commenced under a new project, "Wild about Macadamias".

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GLOSSARY OF TERMS

BACK ON TRACK - A prioritisation of SEQ region fauna and flora species for recovery actions and threat abatement.

BIODIVERSITY (BIOLOGICAL DIVERSITY) - The different communities, native plants, animals and micro-organisms, the genes they contain and the ecosystems they form.

CATCHMENT - The entire geographic area drained by a river and its tributaries.

CLIMATE CHANGE/FUTURE CLIMATE CHANGE - A range of changes to local climate over the next 70 years based on the current unprecedented rise in CO2 in the atmosphere. Such a drastic change is forecast to bring on an accelerated greenhouse effect affecting the whole world climate.

CONSERVATION - The retention of current levels of biodiversity.

DISTURBANCE - Accelerated change caused by human activity or extreme natural events.

ECOLOGICAL SUSTAINABILITY is a balance that integrates—

(a) Protection of ecological processes and natural systems at local, regional, State and wider levels; and

(b) economic development; and

(c) maintenance of the cultural, economic, physical and social wellbeing of people and communities.

(Queensland Government, 2009)

ECOSYSTEM - A community of organisms interacting with one another and their environment.

Ecosystem services - Services provided by functioning ecosystems that are essential to human survival (e.g. provision of clean air and water).

FAUNA - Animals

FLORA - Plants

HABITAT - The physical location of an organism in the environment, the type of environment, vegetation and climate inhabited by an organism.

HABITAT FRAGMENTATION - Habitat becomes isolated from other habitat due to separation by human activities including development and land clearing leading to loss of ecological function.

MONTANE - This ecosystem is characterised by low stunted heath like vegetation growing in mountainous areas. Other characteristics include lack of soil nutrients, hard rock and tough growing conditions.

NON-REMNANT VEGETATION - All vegetation that is not mapped as remnant vegetation. May include regrowth, heavily thinned or logged and significantly disturbed vegetation that fails to meet the structural and / or floristic characteristics of remnant vegetation.

NON VASCULAR - Non-vascular plants are plants without a vascular system (xylem and phloem). Although non-vascular plants lack these particular tissues, many possess simpler tissues that are specialised for internal transport of water.

POORLY CONSERVED - Less than 4% of the pre-clearing extent is represented in protected areas.

PRECAUTIONARY PRINCIPLE - An approach to risk management states that if an action or policy has a suspected risk of causing harm to the public or to the environment, in the absence of scientific consensus that the action or policy is not harmful, the burden of proof that it is not harmful falls on those taking an action.

RAMSAR CONVENTION - The Convention on Wetlands of International Importance, called the Ramsar Convention, is an intergovernmental treaty that provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources.

RARE AND THREATENED - A general term to describe all species that are categorised for likelihood of extinction as other than common or "least concern". Includes "near threatened", "vulnerable" and "endangered".

REFUGIA - Areas in the landscape that are buffered from extreme weather by features such as dense leaf cover, hills and gullies. Refugia are areas which will face the least long term change in climate and allow for plants and animals to move between areas as these changes occur. It is an area which is stable, accessible and large enough to sustain viable populations of the species residing within it. (Reside Et al, 2013).

REGIONAL ECOSYSTEMS - Vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil.

REMNANT VEGETATION - Areas of relatively mature native vegetation remaining in the landscape. Could be pre-european or mature regrowth.

RIVERINE - Associated with the banks of a freshwater watercourse (creeks, rivers, pond or lake).

SALINITY - The increased accumulation of excessive salts in land and water at sufficient levels to impact on humans and natural assets (plants, animals, aquatic ecosystems, water supplies, agriculture or infrastructure.

SEQ BIOREGION - One of the 89 large geographically distinct bioregions in Australia based on common climate, geology, landform, native vegetation and species information.

THREATENED SPECIES - Includes Endangered and Vulnerable under the Nature Conservation Act 1992. Species identified as critically endangered, endangered or vulnerable (IUCN categories International Union for the Conservation of Nature and Natural Resources) in the Environmental Protection Agency's Back on Track species prioritisation framework.

VASCULAR - A large group of plants that are defined as those land plants that have lignified tissues (the xylem) for conducting water and minerals throughout the plant. They also have a specialised non-lignified tissue (the phloem) to conduct products of photosynthesis.

SCENIC RIM REGIONAL COUNCIL

BIODIVERSITY STRATEGY

SCENIC RIM
Regional Council

Attachment 2 - Draft Scenic Rim Regional Council Biodiversity Strategy Appendices

BIODIVERSITY STRATEGY

APPENDICES

2015 - 2025 / DRAFT

SCENIC RIM Regional Council

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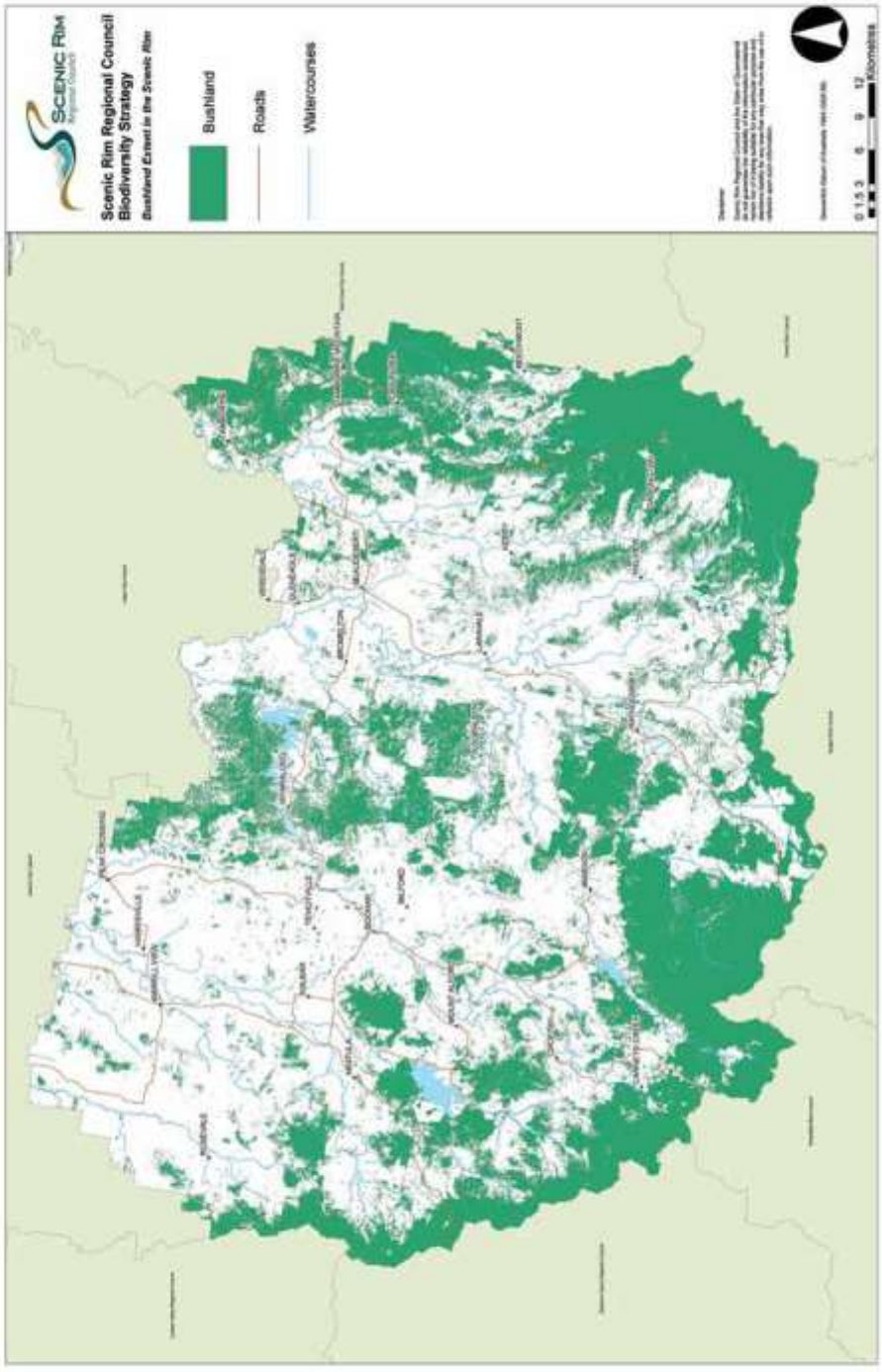

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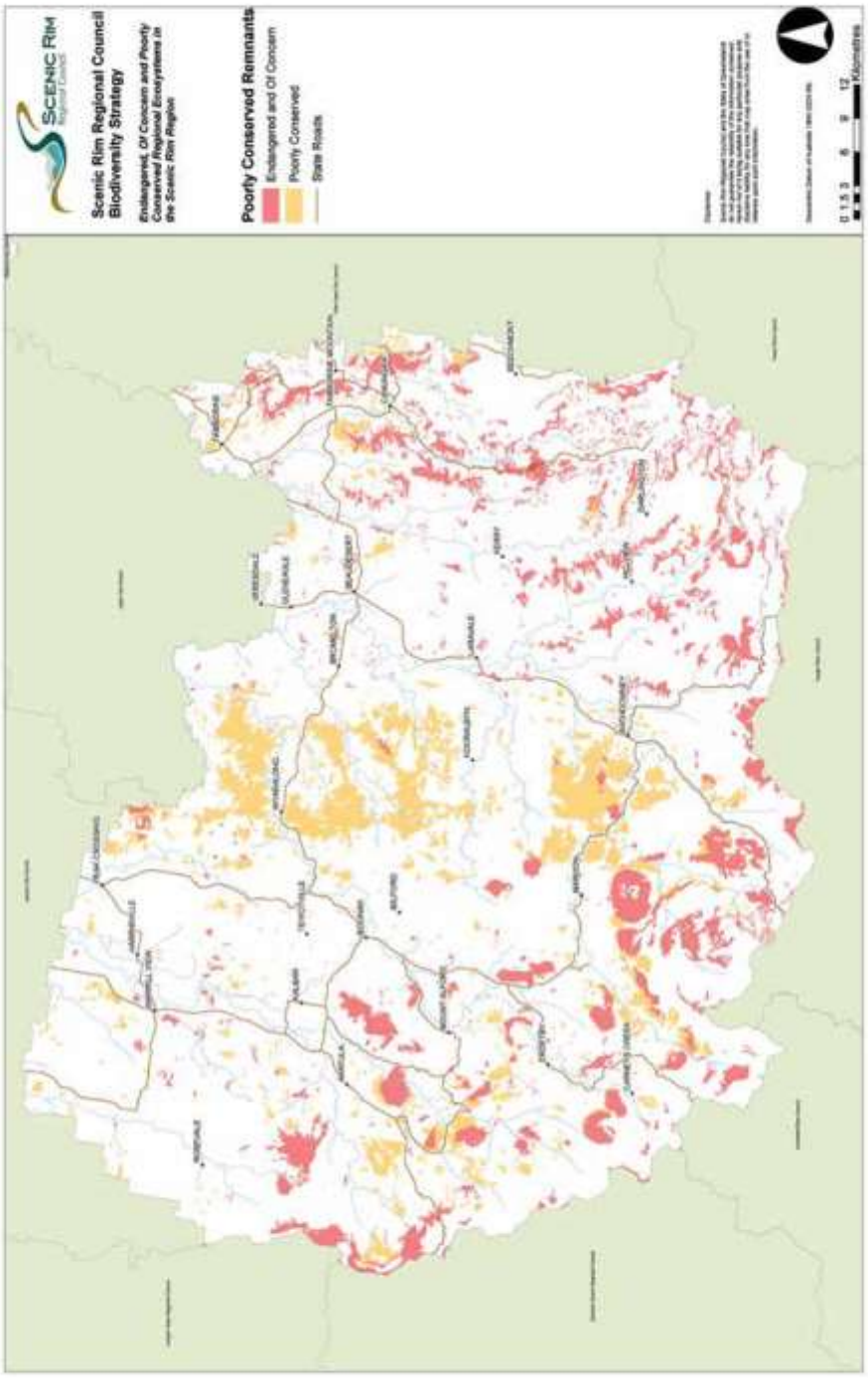

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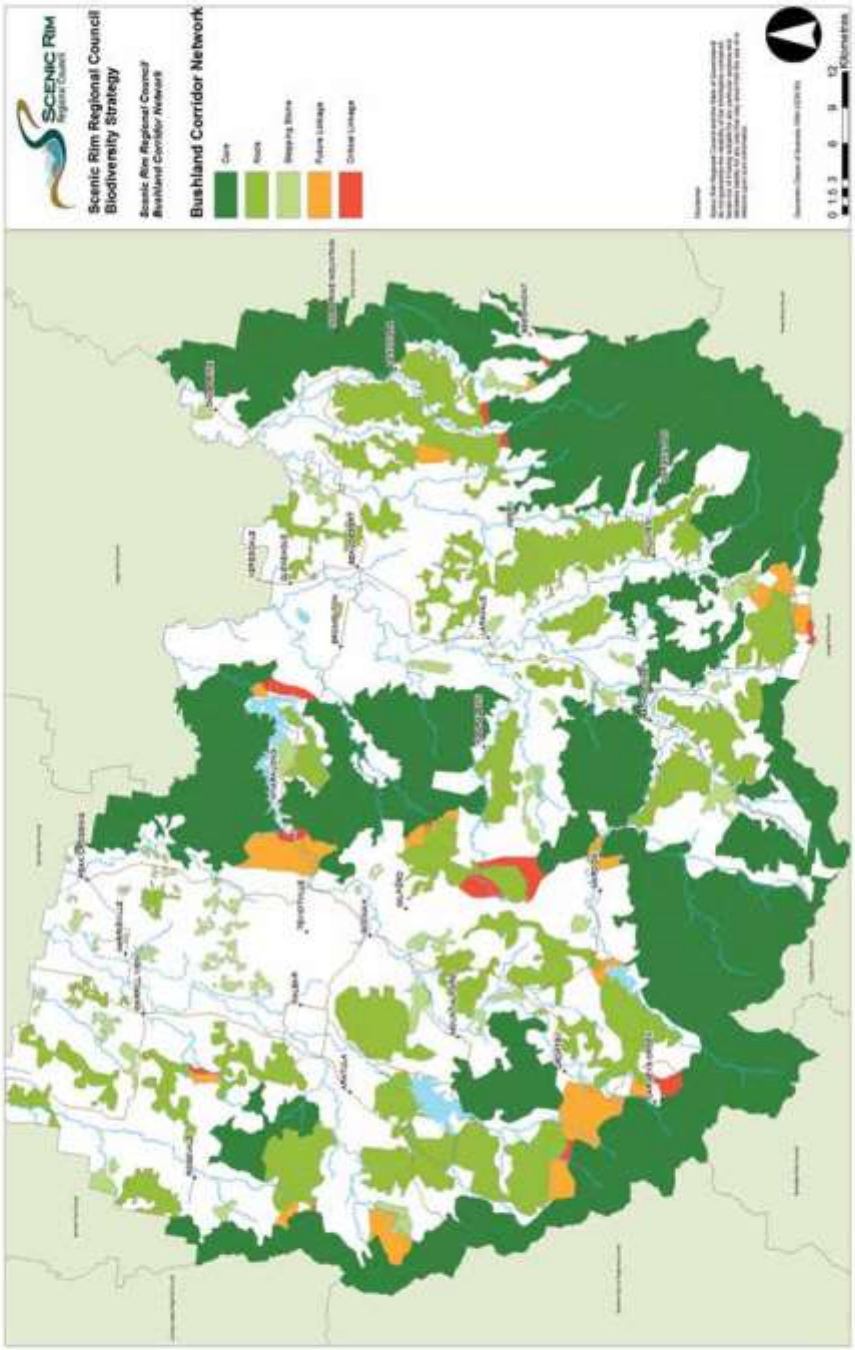
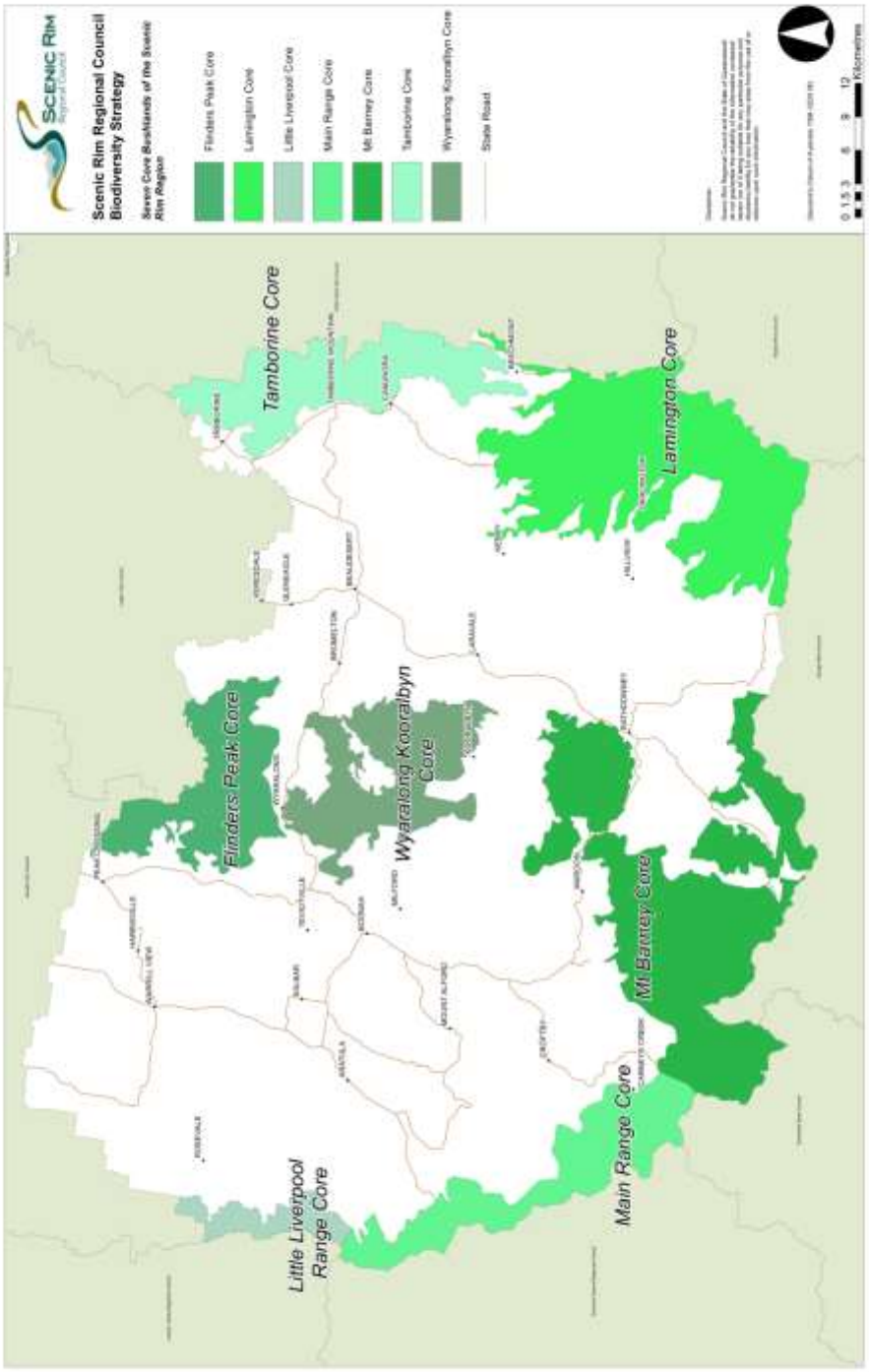


MAP 3: BUSHLAND CORRIDOR NETWORK



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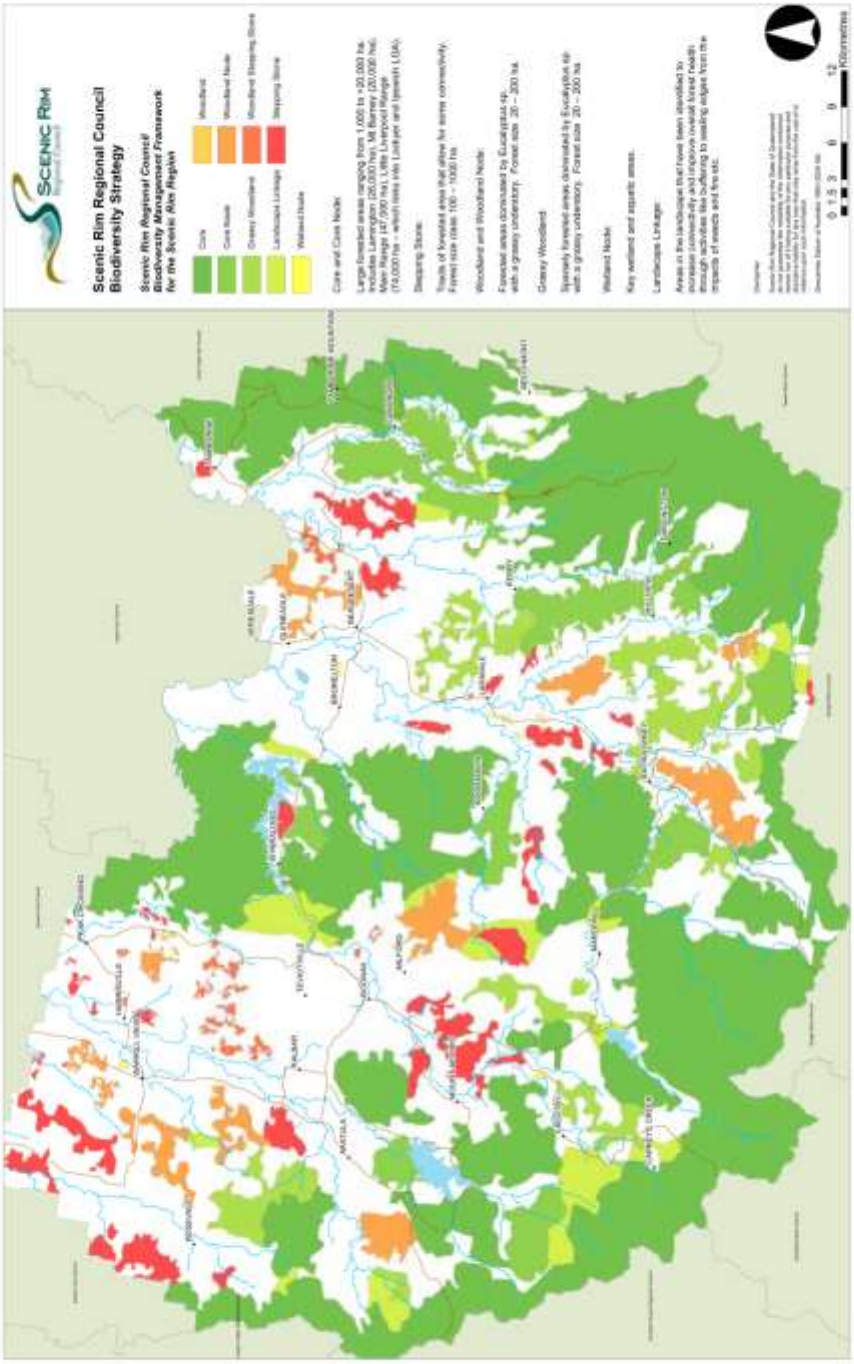
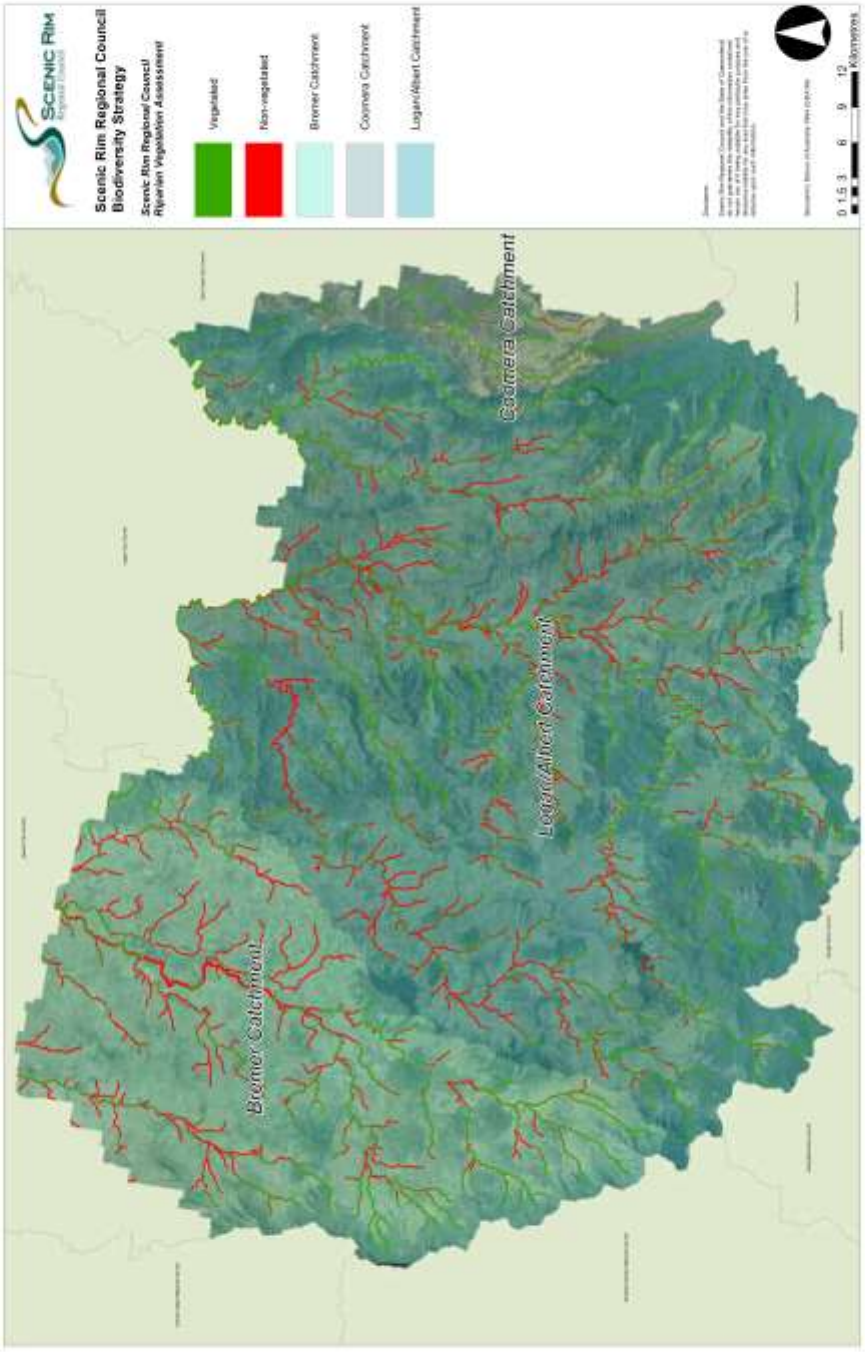
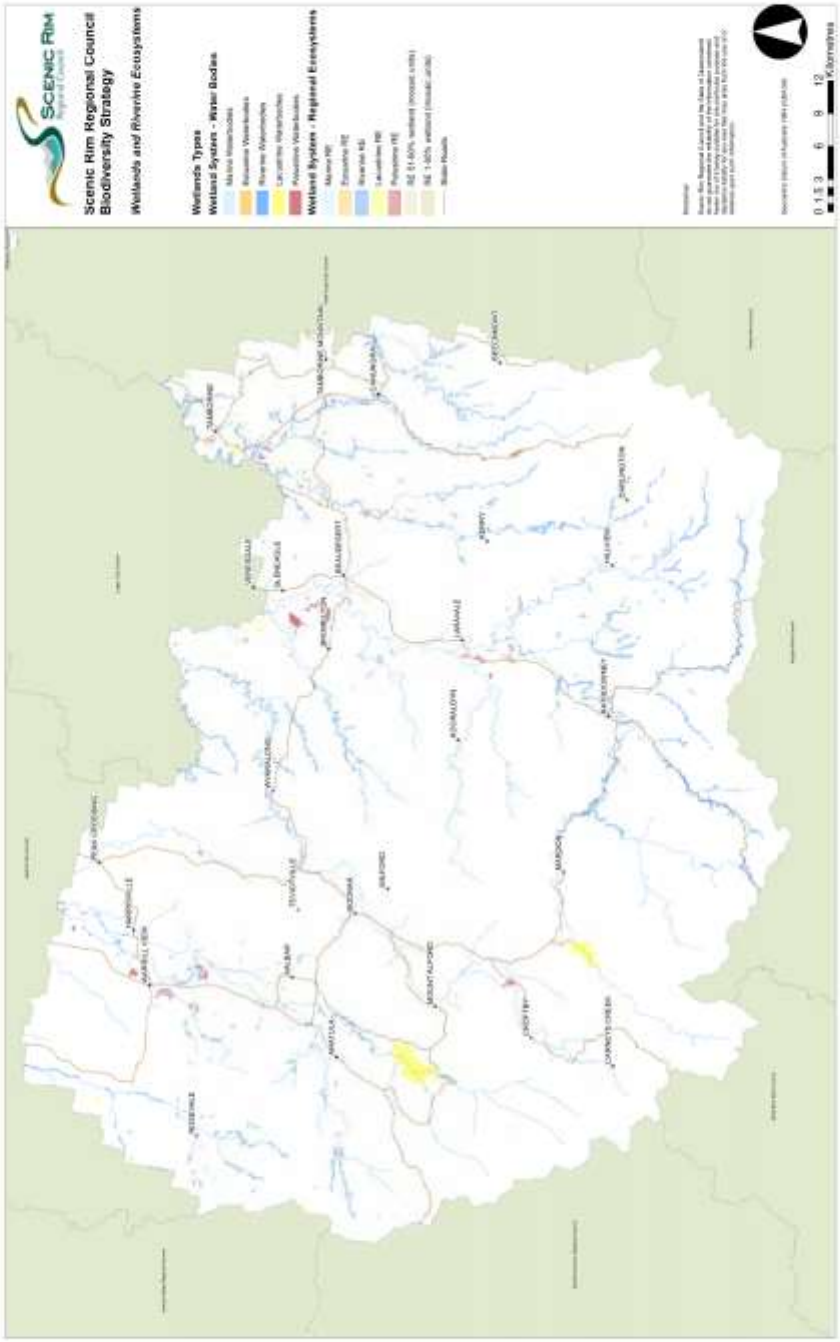


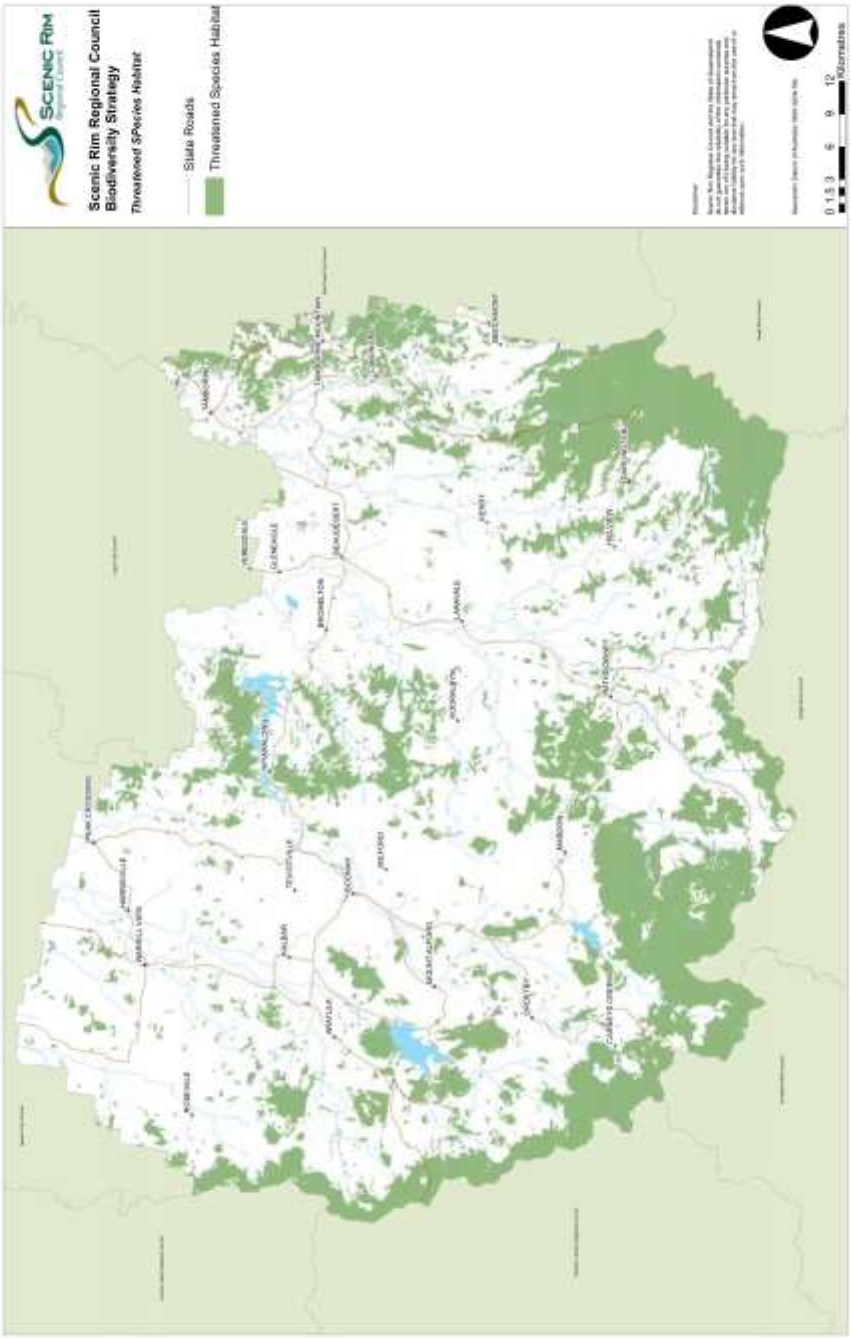
MAP 5: BIODIVERSITY MANAGEMENT FRAMEWORK FOR THE SCENIC RIM



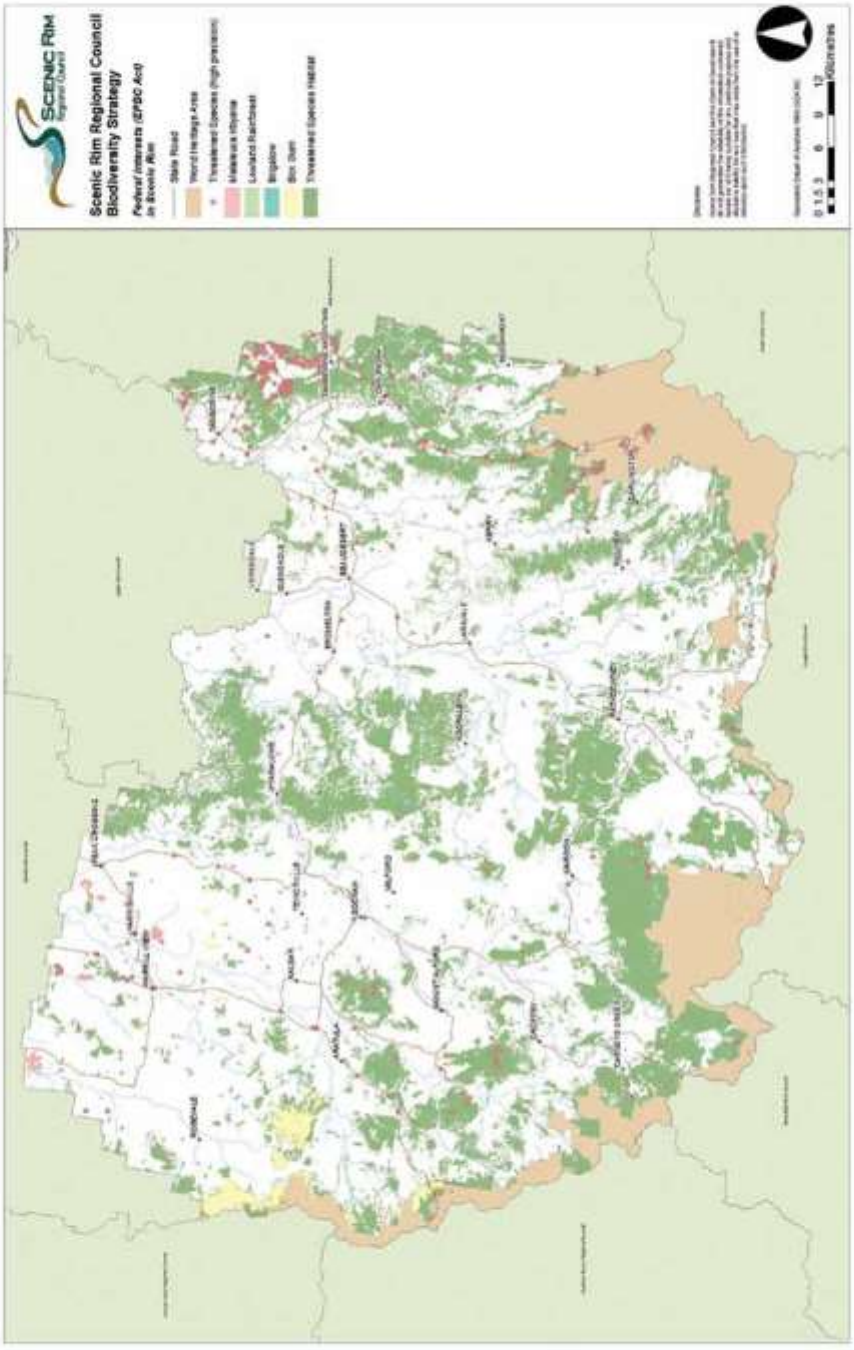
MAP 6: RIPARIAN VEGETATION ASSESSMENT SCENIC RIM



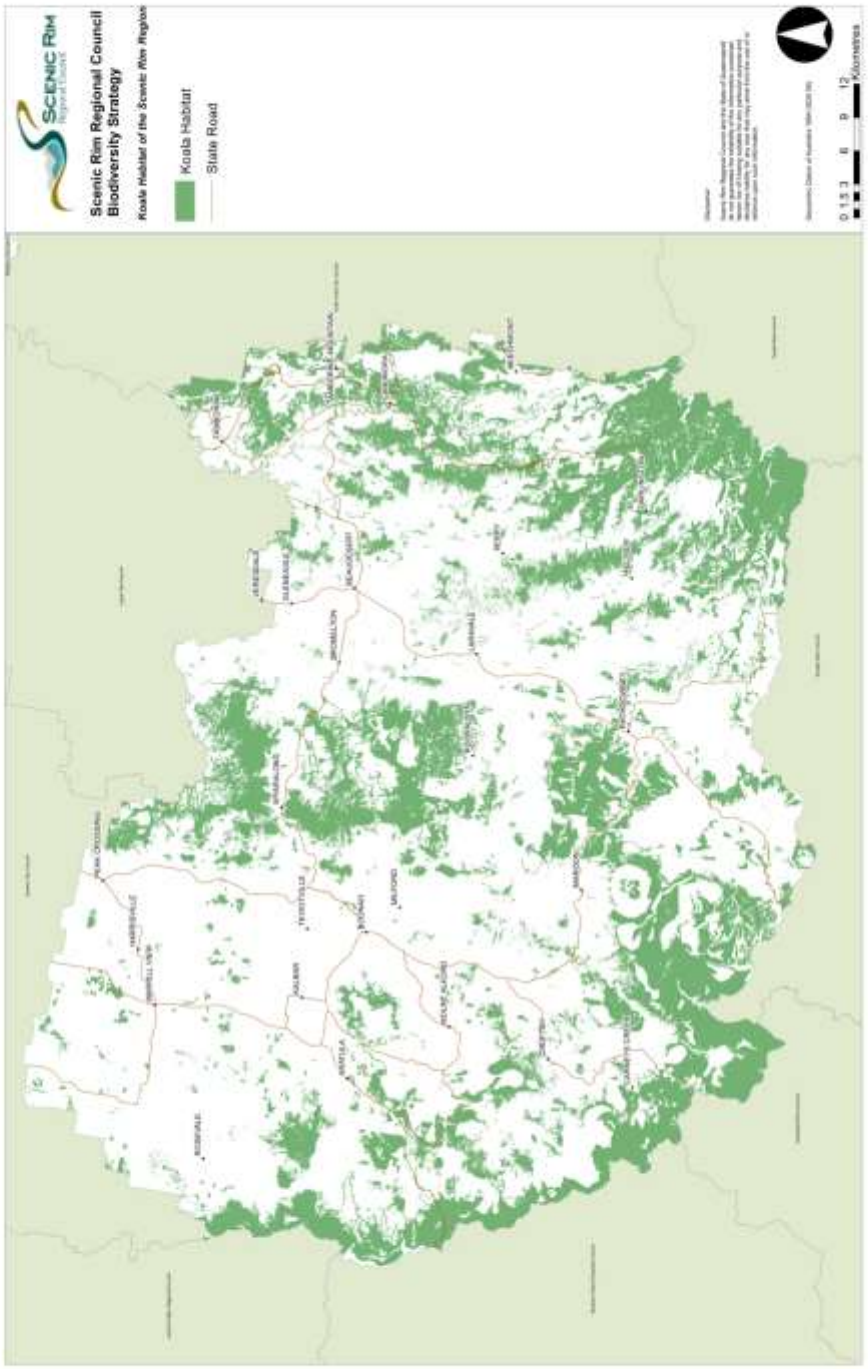
MAP 7: WETLANDS AND RIVERINE ECOSYSTEMS SCENIC RIM



MAP 8: THREATENED SPECIES HABITAT (REMNANT)



MAP 9: FEDERAL INTERESTS (EPBC ACT) IN SCENIC RIM



MAP 10: KOALA HABITAT IN SCENIC RIM REGIONAL COUNCIL

APPENDIX B: RELEVANCE OF LEGISLATION AND PLANS TO THE BIODIVERSITY STRATEGY

COMMONWEALTH LEGISLATION

LEGISLATION	RELEVANCE
The Environment Protection and Biodiversity Conservation Act (1999)	The Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) provides a legal framework for the protection of nationally and internationally important flora and fauna. The Act designates matters of national environmental significance and promotes conservation through assessment of actions deemed to have a significant impact on protected matters. Potential triggers for EPBC referral are indicated in Map 9

STATE PLANS AND LEGISLATION

LEGISLATION	RELEVANCE
Sustainable Planning Act (2009)	Sustainable Planning Act 2009 (SPA) is 'an Act for a framework to integrate planning and development assessment so that development and its effects are managed in a way that is ecologically sustainable, and for related purposes' (Queensland Government, 2014). Sustainable Planning Act 2009 (SPA) is 'an Act for a framework to integrate planning and development assessment so that development and its effects are managed in a way that is ecologically sustainable. (Queensland Government, 2014).
State Planning Policy (2013)	The Local Government Act 2009 (as amended by the Local Government and Other Legislation Amendment Bill 2012) requires Council to prepare a five year corporate plan that incorporates community engagement and review progress annually. The State Planning Policy (SPP) is a key component of Queensland's land use planning system. The policy aims to balance development and the environment while allowing communities to grow and prosper.
Local Government Act (2009)	The Nature Conservation Act (1992) (NCA) provides protection for flora and fauna in Queensland. This is provided through regulation regarding the "taking" including removal, lopping, destruction and degradation of native flora and fauna. Species listed under the Nature Conservation Act appear in Appendix C. The Local Government Act 2009 (as amended by the Local Government and Other Legislation Amendment Bill 2012) requires Council to prepare a five year corporate plan that incorporates community engagement and review progress annually.

LEGISLATION	RELEVANCE
Environmental Protection Act (1994)	As at January 2015 most provisions of this legislation are not yet in operation. The Act is designed with intent of delivering a single cohesive legislative framework for biosecurity in Queensland. The main function under this Act is to ensure that the biosecurity matters (invasive biosecurity matter for the local government's area) are managed within the local government's area in compliance with this Act. A local government is required to have a biosecurity plan for invasive biosecurity matters for its local government area. The object of the EP Act is 'to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends (ecologically sustainable development) (Queensland Government, 2014).
The Nature Conservation Act (1992)	The Water Act (2000) allows for the allocation and use of water for the physical, economic and social wellbeing of the people of Queensland and Australia within limits that can be sustained indefinitely. It covers the management of watercourses, the operation of water resource plans, water licenses and in steam quarrying. A review of the Water Act is currently underway. Any changes to the regulation of watercourses that may impact on biodiversity outcomes will need to be considered. The Nature Conservation Act (1992) (NCA) provides protection for flora and fauna in Queensland. This is provided through regulation regarding the "taking" including removal, lopping, destruction and degradation of native flora and fauna. Species listed under the Nature Conservation Act appear in Appendix D.
The Vegetation Management Act (1999) And Vegetation Management Framework Amendment Act (2013)	Amendments to the Queensland Vegetation Management Framework, introduced by the Vegetation Management Framework Amendment Act 2013 (Qld) (VMFA Act) changed the assessment process for vegetation clearing as of 1 July 2013, with the introduction of the State Assessment and Referral Agency (SARA). SARA coordinates the assessment of vegetation clearing applications which are considered against the State Development Assessment Provisions (SDAP). The SDAP includes Module 8: Native Vegetation Clearing, which repeals a range of Regional Vegetation Management Codes (RVMC) and Vegetation Management Policies.
Biosecurity Act 2014	The Act is designed with intent of delivering a single cohesive legislative framework for biosecurity in Queensland. The main function under this Act is to ensure that the biosecurity matters (invasive biosecurity matter for the local government's area) are managed within the local government's area in compliance with this Act. A local government is required to have a biosecurity plan for invasive biosecurity matters for its local government area.
The Land Protection (Pest and Stock Route Management) Act (2002)	The Land Protection (Pest and Stock Route Management) Act 2002 provides a framework and powers for improved management of weeds, pest animals and the stock route network. This Act will be superseded by the Biosecurity Act.
Water Act 2000	The Water Act (2000) allows for the allocation and use of water for the physical, economic and social wellbeing of the people of Queensland and Australia within limits that can be sustained indefinitely. It covers the management of watercourses, the operation of water resource plans, water licenses and in steam quarrying. A review of the Water Act is currently underway. Any changes to the regulation of watercourses that may impact on biodiversity outcomes will need to be considered.
Environmental Offsets Act 2014	The purpose of the act is to counterbalance the significant impacts of activities on environmental matters through the use of environmental offsets. The act achieves this through establishing an offsets framework providing levels of protection for prescribed environmental matters. The act also provides a head of power for local governments to create an offsets policy for the purpose of matters of local environmental significance.

REGIONAL PLANS

PLAN	RELEVANCE
South East Queensland Regional Plan (2015-2041)	The SEQ Regional Plan is currently being renewed to reflect the State Government's policy and planning reform agenda with an increased focus on economic development. Biodiversity will be the key to providing the benefits required to facilitate this economic development.
South East Queensland Natural Resource Management Plan (2009 – 2031)	The SEQ NRM Plan 2009-2031 established a minimum level of outcomes that the region must achieve to maintain and enhance the ability of our natural assets to support the wellbeing and prosperity of the community.

SCENIC RIM REGIONAL COUNCIL

PLAN	RELEVANCE
Community Plan (2011 – 2026)	The vision for the region is expressed in the Scenic Rim Community Plan. The plan was adopted by Council in 2011 following extensive community consultation. The Community Plan includes the following outcome for our biodiversity; • Scenic views and vistas are protected • Natural assets are cared for and degraded areas restored • Waste, energy and resources are sustainably managed • The region retains its landscape, open spaces and green corridors • Diverse rural industries continue to be healthy and productive • The services provided by our ecosystems are valued • Systems are resilient and have adapted to climate change • A growing population is accommodated within the limits of the region's capacity
Corporate Plan (2013 - 2018)	The 2013-2018 Corporate Plan provides a strategic direction for council over the next five years in achieving the vision of the Community Plan. This Strategy will reflect the following goals of the Scenic Rim Regional Council Corporate Plan • Recognise the region's unique natural environment and proactively work to preserve and enhance it in partnership with the community (Corporate Plan pg. 5) • Minimise the impact of pest species, improving degraded land and waterways, and protecting and enhancing environmental corridors (Corporate Plan pg. 5) • Ensure environmental considerations and sustainability principles are integrated into key decision making processes, policies and procedures including future land use planning, and infrastructure and organisational service delivery (Corporate Plan pg. 5) • Manage future growth opportunities and development to preserve our natural assets and to enhance our rural lifestyle (Corporate Plan pg. 11) • Work to improve the vibrancy of our towns and villages whilst recognising their heritage values and natural assets (Corporate Plan pg. 13) • Build and strengthen the social fabric of our growing region which is based on friendly, active and healthy communities and our natural environment (Corporate Plan pg. 17) • Develop a planning vision and supporting planning instruments for the region which promotes community aspirations and clearly articulates the unique qualities of our natural assets and the identity of our towns, villages and communities (Corporate Plan pg. 11) • Recognise and manage the impacts of climate change and peak oil (Corporate Plan pg. 5) • Engage and partner with key stakeholders in all sectors to progress prosperity and sustainability through coordinated decision making and regional ecosystem investment that duly recognises the significance of our environment and ecosystem services (Corporate Plan pg. 5) • Ensure we operate in a way that recognises and supports business needs and aspirations while protecting broader community and environmental interests (Corporate Plan pg. 7)
Draft Scenic Rim Regional Council Planning Scheme	The Planning Scheme is currently in production and will reference maps from the Biodiversity Strategy. This will enable direct alignment between the Scheme as a land use planning instrument and the Strategy as a document that identifies key areas required for the achievement of maintaining and enhancing biodiversity values.
Pest Management Plan (2010- 2015)	Introduced Pests are a high priority for maintaining biodiversity, human health and the economy of the region. The Pest Management Plan targets Class 1 and 2 weeds that primarily have social and economic impacts. Action must be taken to avoid their introduction and spread. Class 3 weeds including Chinese Celtis and Madeira vine have major impacts on biodiversity but action is not legally required unless the land is adjacent to an environmentally significant area. A full list of declared pest plants appears in Appendix E.

APPENDIX C: REGIONAL ECOSYSTEMS OF THE SCENIC RIM

Captured from Regional Ecosystems Version 8, 2014 Release. For more information visit: https://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/index.php

Poorly Conserved, Of Concern and Endangered regional ecosystems indicated as follows:

*Ecosystems are Poorly Conserved (Less than 4% of original extent protected)

Ecosystems VMA class is Of Concern

^ Ecosystems VMA class is Endangered

ECOSYSTEM	SHORT DESCRIPTION	SUM OF AREA (HA)
12.11.1	Simple notophyll vine forest often with abundant Archontophoenix cunninghamiana (gully vine forest) on metamorphics +/- interbedded volcanics	591.42
12.11.10	Notophyll vine forest +/- Araucaria cunninghamii on metamorphics +/- interbedded volcanics	835.89
12.11.2	Eucalyptus saligna or E. grandis, E. microcorys, Lophostemon confertus tall open forest on metamorphics +/- interbedded volcanics	173.58
12.11.3	Eucalyptus siderophloia, E. propinqua +/- E. microcorys, Lophostemon confertus, Corymbia intermedia, E. acmenoides open forest on metamorphics +/- interbedded volcanics	1,309.96
12.11.3a	Lophostemon confertus +/- Eucalyptus microcorys, E. carnea, E. propinqua, E. major, E. siderophloia woodland. Occurs in gullies and exposed ridges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics.	11.03
12.11.5a	Eucalyptus tindaliae, E. carnea, Corymbia intermedia woodland +/- E. crebra, Corymbia citriodora subsp. variegata, Eucalyptus major, E. helidonica, Corymbia henryi, Angophora woodsiana, C. trachyphloia (away from the coast) or E. siderophloia, E. microcorys, E. racemosa subsp. racemosa, E. propinqua (closer to the coast). Occurs on Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics.	620.06
12.11.5e	Corymbia citriodora subsp. variegata woodland usually including Eucalyptus siderophloia or E. crebra (sub coastal ranges), E. propinqua and E. acmenoides or E. carnea. Other species that may be present and abundant locally include Corymbia intermedia, C. trachyphloia subsp. trachyphloia, Eucalyptus tereticornis, E. microcorys, E. portuensis, E. helidonica, E. major, E. longirostrata, E. biturbinata, E. moluccana and Angophora leiocarpa. Lophostemon confertus often present in gullies and as a sub canopy or understorey tree. Mixed understorey of grasses, shrubs and ferns. Occurs on hills and ranges of Palaeozoic and older moderately to strongly deformed and metamorphosed sediments and interbedded volcanics.	635.56
12.11.6	Corymbia citriodora subsp. variegata, Eucalyptus crebra woodland on metamorphics +/- interbedded volcanics	677.05
12.12.13	Araucarian Complex microphyll to notophyll vine forest on Mesozoic to Proterozoic igneous rocks	21.10
12.12.14#	Eucalyptus racemosa subsp. racemosa +/- Lophostemon confertus, Syncarpia glomulifera, Eucalyptus acmenoides woodland usually on rocky near coastal areas on Mesozoic to Proterozoic igneous rocks	867.26
12.12.15	Corymbia intermedia +/- Eucalyptus propinqua, E. siderophloia, E. microcorys, Lophostemon confertus open forest on Mesozoic to Proterozoic igneous rocks	674.46

ECOSYSTEM	SHORT DESCRIPTION	SUM OF AREA (HA)
12.12.15a	Eucalyptus grandis and/or E. saligna tall open forest +/- vine forest understorey. Other canopy species include E. microcorys, E. acmenoides, Lophostemon confertus, E. siderophloia, E. propinqua, Corymbia intermedia. Occurs in wet gullies on Mesozoic to Proterozoic igneous rocks.	170.97
12.12.16	Notophyll vine forest on Mesozoic to Proterozoic igneous rocks	98.70
12.12.3	Open forest complex with Corymbia citriodora subsp. variegata, Eucalyptus siderophloia or E. crebra or E. decolor, E. major and/or E. longirostrata, E. acmenoides or E. portuensis on Mesozoic to Proterozoic igneous rocks	158.06
12.12.5	Corymbia citriodora subsp. variegata, Eucalyptus crebra open forest on Mesozoic to Proterozoic igneous rocks	64.70
12.3.1*^	Gallery rainforest (notophyll vine forest) on alluvial plains	
	128.39	
12.3.10a*^	Acacia harpophylla open forest to woodland. Occurs on Quaternary alluvial plains where minor areas of cracking clay soils prevail.	18.56
12.3.11#	Eucalyptus tereticornis +/- Eucalyptus siderophloia, Corymbia intermedia open forest on alluvial plains usually near coast	56.50
12.3.2#	Eucalyptus grandis tall open forest on alluvial plains	
	230.37	
12.3.3*^	Eucalyptus grandis tall open forest on alluvial plains	
12.3.3b*^	Floodplain (other than floodplain wetlands). Open forest to woodland of Eucalyptus moluccana and/or Eucalyptus tereticornis and E. crebra, with a sparse to mid-dense understorey of Melaleuca irbyana. Occurs on margins of Quaternary alluvial plains.	15.98
12.3.3c*^	Floodplain (other than floodplain wetlands). Open forest to woodland of Eucalyptus moluccana and/or Eucalyptus tereticornis and E. crebra, with a sparse to mid-dense understorey of Melaleuca irbyana. Occurs on margins of Quaternary alluvial plains.	2.82
12.3.3d*^	Floodplain (other than floodplain wetlands). Eucalyptus moluccana woodland. Other frequently occurring species include Eucalyptus tereticornis, E. crebra, E. siderophloia and Corymbia intermedia. Occurs on margins of Quaternary alluvial plains usually adjacent sedimentary geologies.	8.54
12.3.7	Eucalyptus tereticornis, Casuarina cunninghamiana subsp. cunninghamiana +/- Melaleuca spp. fringing woodland	1,267.87
12.3.8#	Swamps with Cyperus spp., Schoenoplectus spp. and Eleocharis spp.	560.188
12.8.1	Eucalyptus campanulata tall open forest on Cainozoic igneous rocks	4,727.20
12.8.11#	Eucalyptus dunnii tall open forest on Cainozoic igneous rocks	100.45
12.8.12#	Eucalyptus obliqua tall open forest on Cainozoic igneous rocks	1.19
12.8.13#	Araucarian complex microphyll vine forest on Cainozoic igneous rocks	1,620.79
12.8.14	Eucalyptus eugenioides, E. biturbinata, E. melliodora +/- E. tereticornis, Corymbia intermedia woodland on Cainozoic igneous rocks	8,766.66
12.8.14a*	Eucalyptus moluccana open forest +/- E. tereticornis, Eucalyptus siderophloia or E. crebra. Understorey generally sparse but can become shrubby in absence of fire. Occurs on Cainozoic igneous rocks.	32.75
12.8.16#	Eucalyptus crebra +/- E. melliodora, E. tereticornis woodland on Cainozoic igneous rocks	9,918.88
12.8.17	Eucalyptus melanophloia +/- E. crebra, E. tereticornis, Corymbia tessellaris woodland on Cainozoic igneous rocks	5,995.70
12.8.18#	Simple notophyll vine forest with Cerstopetalum apetalum on Cainozoic igneous rocks	111.41
12.8.19#	Simple notophyll vine forest with Cerstopetalum apetalum on Cainozoic igneous rocks	1,546.42
12.8.2#	Eucalyptus oreades tall open forest on Cainozoic igneous rocks	276.50
12.8.20#	Shrubby woodland with Eucalyptus racemosa or E. dura on Cainozoic igneous rocks	5,784.14

ECOSYSTEM	SHORT DESCRIPTION	SUM OF AREA (HA)
12.8.23*^	Acacia harpophylla open forest on Cainozoic igneous rocks	8.89
12.8.24^	Corymbia citriodora subsp. variegata open forest on Cainozoic igneous rocks especially trachyte	2,935.56
12.8.25#	Open forest with Eucalyptus acmenoides or E. helidonica on Cainozoic igneous rocks especially trachyte	2,822.25
12.8.3	Complex notophyll vine forest on Cainozoic igneous rocks. Altitude <600m	5,331.86
12.8.4	Complex notophyll vine forest with Araucaria spp. on Cainozoic igneous rocks	5,126.62
12.8.5	Complex notophyll vine forest on Cainozoic igneous rocks. Altitude usually >600m	10,862.62
12.8.6#	Simple microphyll fern forest with Nothofagus moorei on Cainozoic igneous rocks	710.48
12.8.7#	Simple microphyll fern thicket with Acmena smithii on Cainozoic igneous rocks	249.27
12.8.8#	Eucalyptus saligna or E. grandis tall open forest on Cainozoic igneous rocks	1,112.42
12.8.9	Lophostemonconfertus open forest on Cainozoic igneous rocks	3,395.75
12.9-10.11*^	Melaleuca irbyana low open forest on sedimentary rocks	51.11
12.9-10.11a*^	Corymbia citriodora subsp. variegata, Eucalyptus crebra and/or E. moluccana, E. tereticornis, E. crebra open forest with a sparse to mid-dense understorey of Melaleuca irbyana. Occurs on lower slopes and elevated flats with impeded drainage on Mesozoic sediments.	4.14
12.9-10.12*^	Eucalyptus seeana, Corymbia intermedia, Angophora leiocarpa woodland on sedimentary rocks	84.28
12.9-10.14a	Open forest of Eucalyptus grandis, Lophostemon confertus, E. microcorys, Syncarpia glomulifera subsp. glomulifera +/- E. pilularis. Occurs on Cainozoic and Mesozoic sediments especially sandstone in wet gullies and southern slopes.	187.65
12.9-10.15^	Semi-evergreen vine thicket with Brachychiton rupestris on sedimentary rocks	99.80
12.9-10.16#	Araucarian microphyll to notophyll vine forest on Cainozoic and Mesozoic sediments	952.83
12.9-10.17	Eucalyptus acmenoides, E. major, E. siderophloia +/- Corymbia citriodora subsp. variegata woodland on sedimentary rocks	2,053.26
12.9-10.17a*	Lophostemon confertus dominated open forest. Occurs in gullies and southern slopes on Cainozoic and Mesozoic sediments.	1,719.62
12.9-10.17e	Eucalyptus acmenoides, E. propinqua, Corymbia intermedia +/- E. microcorys, Lophostemon confertus open forest. Mixed understorey of grasses, shrubs and ferns. Hills and ranges of Cainozoic and Mesozoic sediments.	3,523.71
12.9-10.19a	Corymbia henryi +/- Eucalyptus fibrosa subsp. fibrosa, Corymbia citriodora subsp. variegata, E. siderophloia, E. crebra open forest. Occurs in coastal areas on Cainozoic and Mesozoic sediments.	6.67
12.9-10.2	Corymbia citriodora subsp. variegata +/- Eucalyptus crebra open forest on sedimentary rocks	24,691.87
12.9-10.3#	Eucalyptus moluccana open forest on sedimentary rocks	341.35
12.9-10.5	Woodland complex often with Corymbia trachyphloia subsp. Trachyphloia, C. citriodora subsp. Variegata, Eucalyptus crebra, E. fibrosa subsp. Fibrosa on quartzose sandstone	688.53
12.9-10.5d	Woodland of Eucalyptus eugenioides, E. biturbinata or E. longirostrata, E. crebra, E. tereticornis and Corymbia trachyphloia. Occurs on Cainozoic and Mesozoic sediments.	1,404.19
12.9-10.6*^	Acacia harpophylla open forest on sedimentary rocks	116.04
12.9-10.7#	Eucalyptus crebra +/- E. tereticornis, Corymbia tessellaris, Angophora spp., E. melanophloia woodland on sedimentary rocks	5,815.00
12.9-10.7a*#	Eucalyptus siderophloia, Corymbia intermedia +/- E. tereticornis and Lophostemon confertus open forest. Occurs on Cainozoic and Mesozoic sediments in near coastal areas.	531.22

APPENDIX D: THREATENED SPECIES OF THE SCENIC RIM

THREATENED FAUNA OF THE SCENIC RIM

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Adelotus brevis	Tusked frog	V	
Assa darlingtoni	Pouched frog	NT	
Kyarranus kundagungan	Red-and-yellow mountainfrog	NT	
Kyarranus loveridgei	Masked mountainfrog	NT	
Litoria pearsoniana	Cascade treefrog	V	
Litoria revelata	Whirring treefrog	NT	
Mixophyes fleayi	Fleay's barred frog	E	E
Mixophyes iteratus	Giant barred frog	E	E
Accipiter novaehollandiae	Grey goshawk	NT	
Anthochaera phrygia	Regent honeyeater	E	E
Atrichornis rufescens	Rufous scrub-bird	V	
Botaurus poiciloptilus	Australasian bittern		E
Calyptorhynchus lathami ssp lathami	Glossy black-cockatoo (eastern)	V	
Climacteris erythrops	Red-browed treecreeper	NT	
Cyclopsitta diophthalma ssp coxeni	Coxen's fig-parrot	E	E
Dasyornis brachypterus	Eastern bristlebird	E	E
Ephippiorhynchus asiaticus	Black-necked stork	NT	
Erythrotriorchis radiatus	Red goshawk	E	V
Geophaps scripta scripta	Squatter pigeon (southern)	V	V
Grantiella picta	Painted honeyeater	V	
Lathamus discolor	Swift parrot	E	E
Lewinia pectoralis	Lewin's rail	NT	
Lophoictinia isura	Square-tailed kite	NT	
Melithreptus gularis	Black-chinned honeyeater	NT	
Menura alberti	Albert's lyrebird	NT	
Nettapus coromandelianus	Cotton pygmy-goose	NT	
Ninox strenua	Powerful owl	V	
Podargus ocellatus ssp plumiferus	Plumed frogmouth	V	

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Poephila cincta cincta	Black-throated finch (southern)	E	E
Rostratula australis	Australian painted snipe	V	V
Stictonetta naevosa	Freckled duck	NT	
Stipiturus malachurus	Southern emu-wren	V	
Turnix melanogaster	Black-breasted button-quail	V	V
Tyto tenebricosa ssp tenebricosa	Sooty owl	NT	
Maccullochella mariensis	Mary River cod		E
Maccullochella peelii	Murray cod		V
Neoceratodus forsteri	Lungfish		V
Pseudomugil mellis	Honey blue eye	V	V
Ornithoptera richmondia	Richmond birdwing	V	
Phyllodes imperialis smithersi	Pink underwing moth		E
Chalinolobus dwyeri	Large pied bat	V	V
Chalinolobus picatus	Little pied bat	NT	
Dasyurus hallucatus	Northern quoll		E
Dasyurus maculatus ssp maculatus	Spotted-tailed quoll (southern subspecies)	V	E
Kerivoula papuensis	Golden-tipped bat	NT	
Nyctophilus corbeni	South-eastern long-eared bat		V
Petrogale penicillata	Brush-tailed rock-wallaby	V	V
Phascolarctos cinereus	Koala	V (SEQ)	
Potorous tridactylus ssp tridactylus	Long-nosed potoroo	V	V
Pseudomys novaehollandiae	New holland mouse		V
Pseudomys oralis	Hastings River mouse	V	E
Pteropus poliocephalus	Grey-headed flying fox		V
Acanthophis antarcticus	Common death adder	NT	
Anomalopus mackayi	Five-clawed worm-skink	E	V
Coeranoscincus reticulatus	Three-toed snake-tooth skink	NT	V
Delma torquata	Collared delma	V	V
Furina dunmalli	Dunmall's snake	V	V
Hamsoniascincus zia	a skink	NT	
Ramphotyphlops broomi	Blind snake	NT	
Saproscincus rosei	a skink	NT	
Saproscincus spectabilis	a skink	NT	

THREATENED FLORA OF THE SCENIC RIM

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Acacia acrionastes	Pindan wattle	NT	
Acacia saxicola	Mt. Maroon wattle	E	
Acronychia baeuerlenii	Byron Bay acronychia	NT	
Agiortia cicatricata		NT	
Allocasuarina defungens	Dwarf heath casuarina		E
Alloxylon pinnatum	Red oak	NT	
Ardisia bakeri	Ardisia	NT	
Argophyllum nullumense	Silver leaf	NT	
Arthraxon hispidus	Hairy jointgrass	V	V
Arundinella grevillensis	Mt Greville reed grass	NT	
Arundinella montana	Mountain reed grass	NT	
Austrobuxus swainii	Pink cherry	NT	
Baloghia marmorata	Jointed baloghia	V	V
Banksia conferta subsp. conferta		V	
Bertya ernestiana		V	V
Bertya pinifolia		V	V
Bosistoa selwynii	Heart-leaved bosistoa		V
Bosistoa transversa	Three-leaved bosistoa		V
Bothriochloa bunyensis	Bunya Mountain bluegrass	V	V
Brachyscome ascendens	Binna Burra daisy	NT	
Brasenia schreberi	Water shield	NT	
Bulbophyllum globuliforme	Miniature moss-orchid	NT	V
Bulbophyllum weinthalii subsp. weinthalii		V	
Callitris baileyi	Bailey's cypress	NT	
Callitris monticola	Dwarf cypress pine	NT	
Cassia marksiana	Brush cassia	V	
Clematis fawcettii	Northern clematis	V	V
Comesperma breviflorum	Thin-stemmed match-heads	NT	
Commersonia breviseta		NT	
Coopernookia scabridiuscula	Coopernookia	V	V

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Corchorus cunninghamii	Native jute	E	
Corybas montanus	Small helmet orchid	V	V
Corynocarpus rupestris subsp. arborescens	Southern corynocarpus	V	
Cryptocarya foetida	Stinking cryptocarya	V	V
Cryptostylis hunteriana	Leafless tongue-orchid		V
Cupaniopsis newmanii	Long-leaved tuckeroo	NT	
Cupaniopsis tomentella	Boonah tuckeroo	V	V
Cyathea cunninghamii	Slender treefern	NT	
Cycas ophiolitica		E	E
Cyperus rupicola	Cliff sedge	NT	
Cyperus semifertilis		V	V
Dendrobium schneideriae var. schneideriae		NT	
Diospyros mabacea	Red-fruited ebony		E
Diploglottis campbellii	Small-leaved tamarind	E	E
Endiandra floydii	Floyd's walnut	E	E
Endiandra hayesii	Velvet laurel	V	V
Eucalyptus codonocarpa	Bell-fruited mallee	NT	
Eucalyptus dunnii	Dunn's white gum	V	
Eucalyptus michaeliana	Hillgrove gum	NT	
Euphrasia bella	Lamington eyebright	E	V
Floydia praealta	Ball nut	V	V
Fontainea australis	Southern fontainea	V	V
Fontainea venosa	Veiny fontainea	V	V
Gahnia insignis		NT	
Gaultheria viridicarpa	Green waxberry	V	V
Genoplesium parvicallum	Mountain-top midge orchid	NT	
Gonocarpus hirtus		V	
Grevillea linsmithii		E	
Hakea maconochieana		V	V
Helica ferruginea	Rusty helica	V	
Helmholtzia glaberrima	Stream lily	NT	

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Hibbertia hexandra		NT	
Hibbertia monticola	Mountain guinea flower	NT	
Hicksbeachia pinnatifolia	Bopple nut	V	V
Huperzia varia	Long clubmoss	V	
Hydrocharis dubia	Frogbit	V	V
Jasminum jennae	Shrubby jasmine	E	
Lastreopsis silvestris	Mountain shield fern	V	
Leionema elatius subsp. beckleri	Tall phebalium	E	
Leionema gracile		V	
Lenwebbia prominens	Velvety myrtle	NT	
Lepidium peregrinum	Wandering pepper-cress		E
Leucopogon recurvisepalus		E	
Lychnothamnus barbatus	a green alga		E
Macadamia integrifolia	Macadamia nut	V	V
Macadamia tetraphylla	Bush nut	V	V
Marsdenia coronata	Slender milkvine	V	V
Marsdenia hemiptera	Rusty vine	NT	
Marsdenia longiloba	Clear milkvine	V	V
Melaleuca groveana	Groves paper bark	NT	
Melaleuca irbyana	Swamp tea-tree	E	
Muellerina myrtifolia	Myrtle-leaved mistletoe	NT	
Notelaea ipsviciensis	Cooneana olive	E	CE
Notelaea lloydii	Lloyd's native olive	V	V
Ochrosia moorei	Southern ochrosia	E	E
Olearia heterocarpa	Nightcap daisy bush	NT	
Owenia cepiodora	Onion cedar	V	V
Ozothamnus vagans		V	V
Ozothamnus whitei		NT	
Pandorea baileyana	Large-leaved wonga vine	NT	
Papillilabium beckleri	Imp orchid	NT	
Pararistolochia praevenosa	Birdwing vine	NT	
Parsonsia tenuis	Slender silkpod	V	
Persoonia volcanica	Mountain geebung	NT	
Phalus australis	Lesser swamp orchid	E	E
Phebalium distans	Mt Berryman phebalium	E	CE
Picris conyzoides		V	
Pimelea umbratica		NT	
Pittosporum oreillyanum	Thorny pittosporum	NT	

SCIENTIFIC NAME	COMMON NAME	NCA STATUS	EPBC STATUS
Planchonella eerwah	Shiny-leaved coondoo	E	E
Plectranthus alloplectus	Narrow-leaf plectranthus	NT	
Plectranthus habrophyllus		E	E
Plectranthus nitidus	Shiny plectranthus	E	E
Podolepis monticola	Mountain podolepis	V	
Pomaderris crassifolia	Thick-leaved pomaderris	V	
Pomaderris notata	Cliff pomaderris	NT	
Pseudanthus pauciflorus subsp. pauciflorus		NT	
Pterostylis bicornis	Horned greenhood	V	V
Pultenaea pycnocephala	Shiny-leaved bush pea	NT	
Pultenaea whiteana	Mt. Barney bush pea	V	
Randia moorei	Spiny gardenia	E	E
Rhaponticum australe	Austral cornflower	V	V
Rulingia salviifolia	Grey rulingia	NT	
Sarcochilus fitzgeraldii	Ravine orchid	E	V
Sarcochilus hartmannii	Cliff orchid	V	V
Sarcochilus weinthalii	Blotched sarcochilus	E	V
Senna acclinis	Brush senna	NT	
Solanum mentiens	Boonah solanum	E	
Sophora fraseri	Brush sophora	V	V
Strobilus pendulinus	Slah's backbone		E
Symplocos baeuerlenii	Small-leaved hazelwood	V	V
Symplocos harroldii	Hairy hazelwood	NT	
Syzygium hodgkinsoniae	Red lilly pilly	V	V
Syzygium moorei	Durobby	V	V
Syzygium paniculatum	Magenta lilly pilly		V
Tetramolopium vagans		V	
Thelionema grande	Tufted granite	NT	
Thesium australe	Austral toadflax	V	V
Tylophora woollsii		E	E
Uromyrtus lamingtonensis		V	
Wahlenbergia glabra		NT	
Wahlenbergia scopulicola	Cliff bluebell	NT	
Westringia blakeana		NT	
Westringia rupicola		V	V
Westringia sericea	Native rosemary	NT	
Zieria adenodonta		NT	
Zieria collina		V	V

APPENDIX E: DECLARED PLANT AND ANIMAL PESTS IN SCENIC RIM

CLASS 1 PLANTS THAT HAVE BEEN IDENTIFIED IN THE REGION.

- alligator weed (Alternanthera philoxeroides)
- honey locust tree (Gleditsia spp. including cultivars and varieties)
- hygrophila (Hygrophila costata)
- miconia (Miconia spp.)
- Senegal tea (Gymnocoronis spilanthoides)

CLASS 2 PLANTS THAT HAVE BEEN IDENTIFIED AS EXISTING WITHIN THE SCENIC RIM REGION:

- African boxthorn (Lycium ferocissimum)
- American rat's tail grass (Sporobolus jacquemontii)
- annual ragweed (Ambrosia artemisiifolia)
- cabomba (Cabomba spp.)
- fireweed (Senecio madagascariensis)
- giant Parramatta grass (Sporobolus fertilis)
- giant rat's tail grass (Sporobolus pyramidalis and S. natalensis)
- groundsel bush (Baccharis halimifolia)
- mother of millions (Bryophyllum delagoense and B. daigremontianum x B. delagoense; Syn.Brycophyllum tubiflorum and B. daigremontianum x B. tubiflorum)
- Parramatta grass (Sporobolus africanus)
- parthenium (Parthenium hysterophorus)
- prickly acacia (Acacia nilotica)
- prickly pear (Opuntia spp. other than O. ficus-indica)
- salvinia (Salvinia molesta)
- water hyacinth (Eichhornia crassipes)
- water lettuce (Pistia stratiotes)

CLASS 3 PLANTS THAT HAVE BEEN IDENTIFIED AS EXISTING WITHIN THE SCENIC RIM REGION:

- African tulip tree (Spathodea campanulata)
- aristolochia or Dutchman's pipe (Aristolochia spp. other than native species)
- asparagus fern (Asparagus aethiopicus 'Sprengeri', A. africanus and A. plumosus)
- athel pine (Tamarix aphylla)
- balloon vine (Cardiospermum grandiflorum)
- blackberry (Rubus anglocandicans, Rubus fruticosus agg.)
- broad-leaved pepper tree (Schinus terebinthifolius)
- camphor laurel (Cinnamomum camphora)

- Captain Cook tree / Yellow Oleander (Thevetia peruviana)
- cat's claw vine (Macfadyena unguis-cati)
- Chinese celtis (Celtis sinensis)
- lantana (all species) (Lantana spp.)
- Madeira vine (Anredera cordifolia)
- privets (Ligustrum lucidum and L. sinense)
- Singapore daisy (Sphagneticola trilobata)
- tortured willow (Salix matsudana)
- yellow bells (Tecoma stans)

DECLARED ANIMALS:

- Wild Dogs (Canis familiaris dingo, Canis familiaris dingo X Canis familiaris, Canis familiaris)
- Feral Cats (Felis catus)
- European Fox (Vulpes vulpes)
- European Rabbit (Oryctolagus cuniculus)
- Feral Pig (Sus scrofa)

SCENIC RIM REGIONAL COUNCIL

BIODIVERSITY STRATEGY

APPENDICES

SCENIC RIM
Regional Council

4. INFRASTRUCTURE SERVICES

4.1 Floodway and Causeway Strategy 2015 - 2018

Executive Officer: **Director Infrastructure Services**

File Reference: **28/03/006; 04/12/008**

Director's Recommendation

That Council adopt the Scenic Rim Regional Floodway and Causeway Strategy 2015 - 2018 to provide the direction for the provision of services associated with the floodway and causeway infrastructure assets.

Committee Recommendation

That the Director Infrastructure Services' recommendation be adopted.

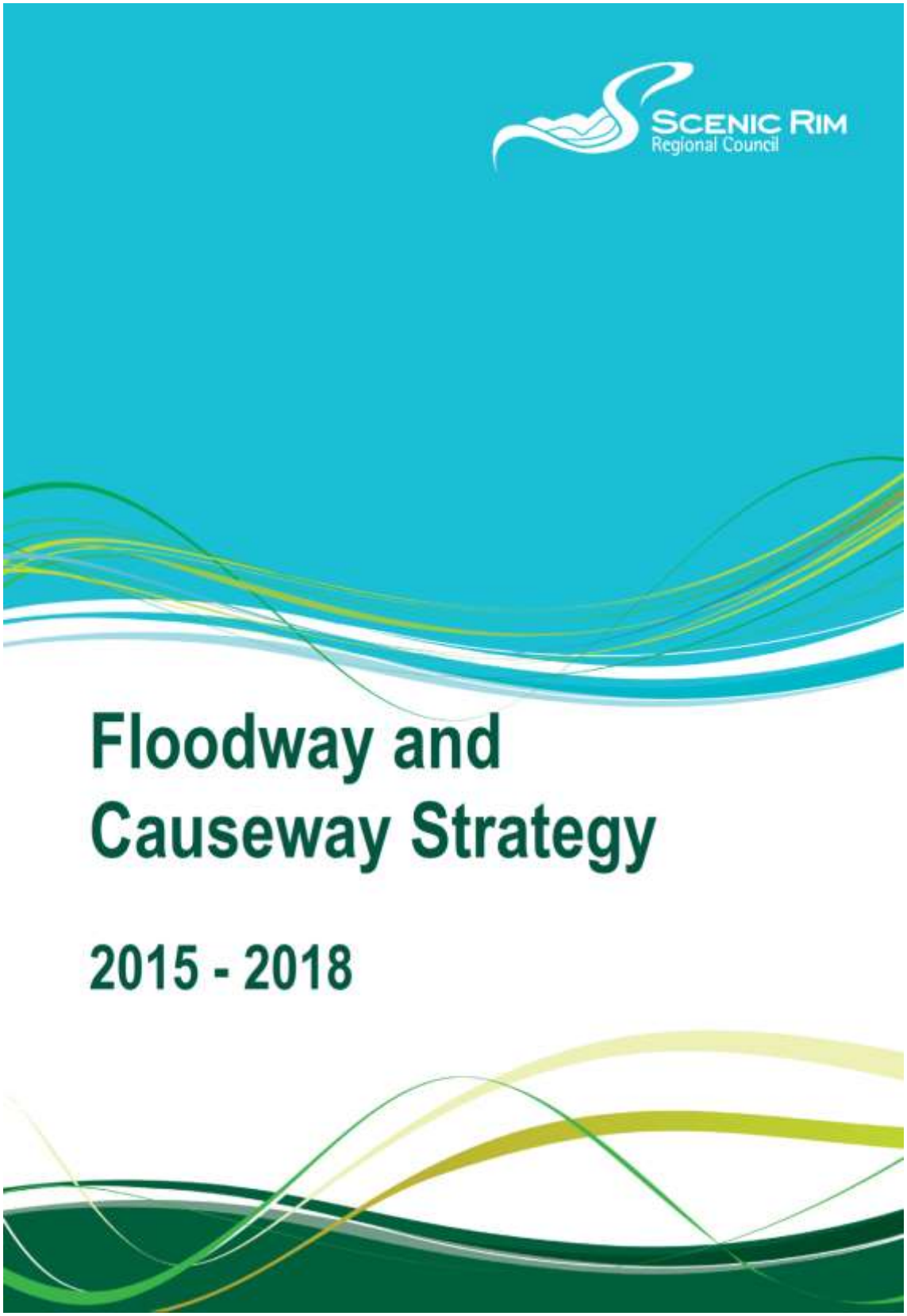
Moved: Cr Sanders
Seconded: Cr Stanfield

Carried

Attachments

1. Draft Scenic Rim Regional Floodway and Causeway Strategy 2015 - 2018.

Attachment 1 - Draft Scenic Rim Regional Floodway and Causeway Strategy



Version Control

Vers	Authored	Date
1	Manager Works	1 April 2015

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Table of Content

Introduction

Floodway and Causeways are generally utilised on low volume roads as a lower cost structure to cross watercourses throughout the region.

A floodway or causeway is generally provided as part of the road infrastructure to service locations prone to flooding for short to medium duration (dependant on rainfall intensity and duration). The infrastructure generally consists of a concrete pavement, underground culverts and erosion control measures within the watercourse.

This Strategy is to provide the basis for development and management of the floodway and causeway assets within the transport network which services the Region.


Sarabah Road, Sarabah

Strategy Context

This Strategy has been developed with consideration to the linkages with a range of strategic documents, legislation, guidelines and standards relating to Council's provision of floodway and causeways.

The below figure shows the interconnection of the Floodway and Causeway Strategy within other existing documents of Council.

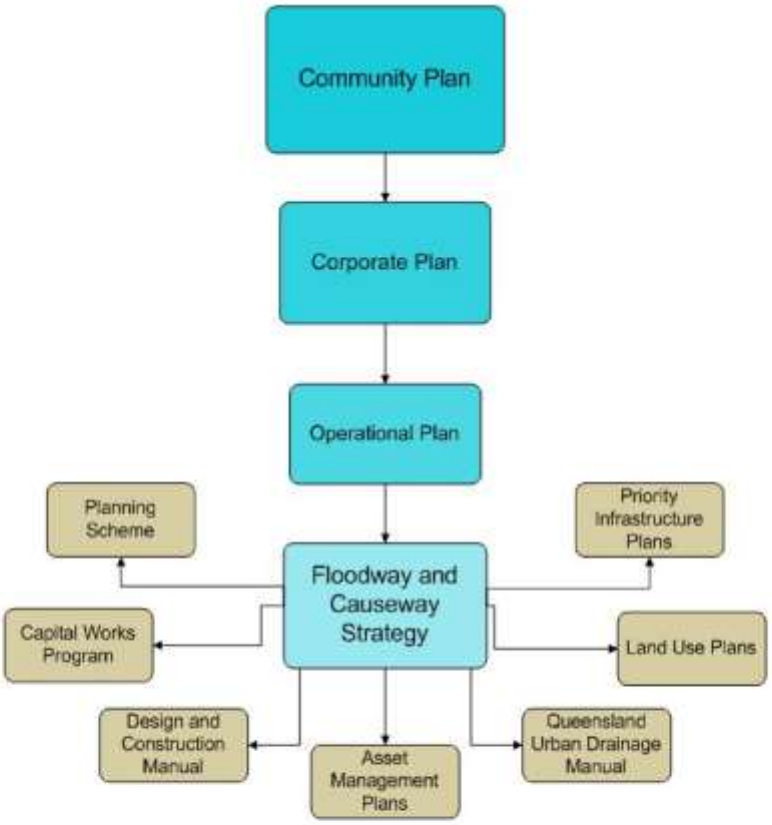

Figure 1. Strategy Plan linkages

Corporate Strategy Documents

The Scenic Rim Community Plan 2011 – 2026 has been prepared following extensive consultation with the community. It is the overarching Plan for the future of the Scenic Rim region in that it "provides a shared vision and plan for the region's future and will guide Council, other levels of government and community action on issues including the environment, economic development, social well-being, infrastructure and governance.

A theme in the Community Plan which focuses on Accessible and Serviced Region is appropriate to this Strategy. One of the outcomes in this theme is for "Infrastructure and services keep pace with growth and changing needs and are compatible with our environment".

The Corporate Plan Statement of Intent for Accessible and Serviced Region states "Council will provide and advocate for infrastructure and services in accordance with the prioritised needs of our growing community". This Strategy must respond to assessment of the prioritised needs of the community. A Prioritisation Model is essential to assist in the development of project priorities.

Legislative Requirements

The *Local Government Act 2009* has been developed with the purpose to provide for "the way in which a local government is constituted and the nature and extent of its responsibilities and power; and a system of local government in Queensland that is accountable, effective, efficient and sustainable"

As defined in *Chapter 3 Part 3* of the *Local Government Act 2009*, a road is "an area of land that is dedicated to public use as a road; or an area of land that – is developed for, or has as one of its main uses, the driving or riding of motor vehicles; and is open to, or used by, the public; or a footpath or bicycle path; or a bridge, culvert, ford, tunnel or viaduct."

The Act outlines the control of roads and bridges by Council, the ability to acquire land for a road or bridge, closure of bridges, and unauthorised works on roads and bridges, amongst other items associated with roads and bridges.

In addition to the above State legislation there may be applicable legal or policy requirements under the common law, local government planning schemes, local laws and/or road and transport guidelines and codes.

A floodway or causeway when referenced in legislation is generally referred to as a ford.

Council Local Laws and Policies

Local Law No. 4 (Local Government Controlled Areas, Facilities and Roads) 2011, has the purpose to "protect the health and safety of persons using local government controlled land, facilities, infrastructure and roads; and preserve features of the natural and built environment and other aspects of the amenity of local government controlled land, facilities, infrastructure and roads". The Local Law achieves this by regulating access to roads (including bridges), and prohibiting or restricting certain activities.

Further to *Local Law No. 4*, a number of Subordinate Local Laws are relevant to road use, these include *Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.2 (Commercial Use of Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.7 (Gates and Grids) 2011*, *Subordinate Local Law No. 1.14 (Undertaking Regulated Activities on Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.15 (Carrying Out Works on a Road or Interfering with a Road or its Operation) 2011*, and *Subordinate Local Law 4 No. (Local Government Controlled Areas, Facilities and Roads) 2011*.

Guidelines and Standards

The Austroads Guidelines are the standards used by Council for the design and management of the transport network. Complementing the Austroads Guidelines, are ARRB (Australian Road Research Board) Guidelines. The Department of Transport and Main Roads also have reference standards and guidelines in the building of these structures.

The installation of a new, renewed or upgraded floodway, or causeway, is required to be designed and constructed in accordance with these standards and guidelines, ensuring a safe and efficient network (to current standards) for the Scenic Rim region and its community.

Notwithstanding the above technical documents, Registered Professional Engineers (Qld) assumes full legal responsibility for all designs. This is a state legislative requirement, under the *Professional Engineers Act*.

Disaster Management

Floodways and causeways are positioned in watercourses, and are subjected to flooding during high frequency rainfall events; with the structures subject to impact from high velocity water flow.

The restoration of this infrastructure following natural disasters is prioritised based on community needs and levels of service. At times, due to funding restrictions and other priority work, some of the network may function at a lower level of service for a period of time, via the use of detours and temporary side-tracks.

The Natural Disaster Relief and Recovery Arrangements (NDRRA) is a joint funding initiative of the Commonwealth and State Governments to provide disaster relief and recovery payments for restoration of public infrastructure to help communities recover from the effect of natural disasters.

Following a declared disaster event, there is a period of emergent works whereby Council will rectify the priority areas of the infrastructure network to ensure the immediate safety and connectivity of the community. The remainder of the work to restore the network to its previous level of function is completed in the restoration period, whereby Council assesses the damage, and submits proposals for approval under NDRRA Guidelines. Once approved, Council (or its contractors) restoration of the network is undertaken.

Town Planning

The preparation of the region's Planning Scheme is an opportunity to promote the importance transport network in land use planning.

Development assessment plays a significant part in the process to ensure suitable alignment of transport corridors. Conditions of development application approvals allow for the designers to achieve efficient development in terms of a sustainable transport network.

Floodways and causeways should be acknowledged as a viable alternative for watercourse crossings when low level development occurs on particularly lower order roads within the transport network; therefore providing conditions of development application approvals allowing for the designers to achieve efficient development in terms of transport management.

Infrastructure Agreements (IAs)

Infrastructure Agreements with developers have been used for the identification of major transport network needs and contributions required for delivery. The opportunity exists to utilise the same framework for this infrastructure; however it is highly unlikely that a floodway or causeway would be considered appropriate on higher order transport corridors.

Kengoon Road, Kengoon

Strategic Priority Areas

Strategic Priority Areas have been developed to address these needs.

The provision of a safe transport network provides a link for visitors and residents to commute throughout the Scenic Rim region.

In order to ensure the ongoing provision of such a network to meet transport needs, it is necessary to manage the floodway and causeway network through a variety of documents, including a Floodway and Causeway Strategy which outlines the key Strategic Areas of focus.

The Strategy covers the Strategic Priority areas of:

Community Service Levels

- Ensure the floodway and causeway infrastructure provides a level of service that meets the needs of the community.

Personal and Property Security

- Provision of floodway and causeway infrastructure to ensure stormwater does not adversely impact on persons using the transport network.

Zillman Flat Road, Roadvale

Floodway and Causeway Network Infrastructure

- Provide a network of floodway and causeway infrastructure servicing the transport needs of the community throughout the region in a sustainable manner.

Infrastructure Operation and Maintenance

- Ensure the constructed infrastructure operates in an efficient and effective manner.
- Ensure the infrastructure is maintained over its useful life to perform as the design intended.

Land Use Planning

- Ensure land use planning delivers development that has a focus on sustainable and efficient transport network.

Project Prioritisation

- Ensure renewal, upgrades and new floodway and causeway infrastructure projects are prioritised according to network need.

SCENIC RIM Regional Council

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Strategic Priority Area 1: Community Service Levels

Ensure the floodway and causeway infrastructure provides a level of service that meets the needs of the community.

Community service levels must be established through defining the objectives which the floodway and causeway infrastructure must achieve and to link the design standards to these service levels.

Austroads, ARRB, Australian Standards and the State government's Department of Transport and Main Roads, provide guidelines on the assessment of floodway and causeway infrastructure; as well as providing direction on the design of this infrastructure class.

Strategies

1.1 Review community service objectives and subsequent service levels for the provision of the current floodway and causeway assets.

1.2 Adjust, where necessary, the design criteria for the provision of infrastructure in order to achieve the service levels.

1.3 Undertake assessment of the existing transport network in relation to floodway and causeway assets on a priority basis, to assess the capacity and identify gaps where the infrastructure does not meet the standards; and therefore unable to achieve community service levels.

Strategic Priority Area 2: Personal and Property Security

Provision of floodway and causeway infrastructure to ensure stormwater does not adversely impact on persons using the transport network.

Without effective floodways and causeways to manage water flow depth, velocity and pathways, travelling within the network during and after rain events would be impeded.

Signage standards have been developed over time by industry professionals for the advising of the travelling public to ensure adverse impacts of stormwater running over the travelled path is identified to inform road users and to minimise personal and property damage.

Strategies

2.1 Ensure the safety of the general public through the design and construction of new floodway and causeway infrastructure, while meeting current standards.

2.2 Undertake a review of existing floodway and causeway infrastructure to ensure that there are no high risk items of infrastructure, and program the necessary rectification as funding permits.

2.3 Review signage annually on the floodway network to ensure signage adequately provides appropriate advice to the road user.

2.4 Operate and maintain the existing floodway and causeway infrastructure in order for it to operate at its optimum performance, in regards to personal and property security.

Strategic Priority Area 3: Floodway and Causeway Network Infrastructure

Provide a network of floodway and causeway infrastructure servicing the transport needs of the community throughout the region in a sustainable manner.

The provision of a reliable, safe and sustainable transport network relies on fit for purpose infrastructure, to achieve liveable communities. Design standards provide the basis for the provision of such infrastructure, which will achieve the community service levels.

The use of floodways and causeways for an efficient and effective means of traversing watercourses, on particularly lower order roads within the transport network, is a sustainable option.

While it is generally accepted that existing floodways and causeways provide (in general) an adequate level of service in most circumstances; this may not always be the case.

There is limited information currently available on this particular asset class, with no current mapping data available for location identification purposes.

Strategies

3.1 Identify and record all floodway and causeway assets within the region.

3.2 Develop an Asset Register which lists all Council controlled floodways and causeways.

3.3 Review and assess the network (once known) for its conformance with current standards and develop a program, subject to funding, to replace the infrastructure.

3.4 Undertake a full condition assessment of the asset class every three to five years.

3.5 Include this asset class within the Road Asset Management Plan.

3.6 Recognise funding for renewal of floodways and causeways with regards to available funds; and monitor long-term sustainability of the floodway and causeway network.

Strategic Priority Area 4: Infrastructure Operation and Maintenance

Ensure the constructed infrastructure operates in an efficient and effective manner.

Ensure the infrastructure is maintained over its useful life to perform as the design intended.

The floodway and causeway network requires operational and maintenance activities to maximise the life of the asset and reduce the whole of life costs.

Over time the infrastructure is subject to wear and tear, and at times becomes blocked by debris, reducing the intended level of service provided by the infrastructure. Unless there is an ongoing program to maintain the network through the clearing of debris, silt and vegetation from both the upstream and downstream of the infrastructure, the floodway or cause is unable to perform as expected. High flows, debris collisions and environmental impacts can also cause infrastructure deterioration over time.

A Maintenance Management System is required to ensure the infrastructure is kept at a standard to achieve service levels.

Strategies

4.1 Develop and implement a Maintenance Management System for floodways and causeways infrastructure.

4.2 Determine minimal acceptable program for operation and maintenance budget allocations.

4.3 Develop and implement an operational and maintenance inspection program to ensure defects are logged and rectified, as funding permits.

Strategic Priority Area 5: Land Use Planning

Ensure land use planning delivers development that has a focus on sustainable and efficient transport network.

Land Use Planning is an appropriate tool to manage the impacts of new development that impact on the transport network.

Floodways and causeways should not be modulated as an effective way to traverse watercourses on lower order roads.

Strategies

5.1 Develop the region's Planning Scheme with consideration of principles and key actions of this strategy.

5.2 Condition development in the Scenic Rim region to ensure a sustainable, planned transport network is created/ maintained.

5.3 Integrate Infrastructure Plans with other strategic Council documents to ensure the transport network is maintained appropriately.

5.4 Ensure Infrastructure Agreements (IAs) are developed that appropriate levels of funding is provided for floodway and causeway assets from developers.


Christmas Creek Road.

Strategic Priority Area 6: Project Prioritisation

Ensure renewal, upgrade and new floodway and causeway infrastructure projects are prioritised according to network needs.

As identified in Strategic Priority Area 3: Floodway and Causeway Network Infrastructure, there is limited information on the funding need for this network. Council is yet to develop a prioritisation model for this class of assets; with funds currently allocated on an annual basis to the asset class meeting community needs undetermined. Projects current listed on Council's Ten Year Capital Works Program have been identified purely from a condition only assessment.

Strategies

6.1 Monitor transport network demands to determine floodway and causeway effectiveness in meeting the demands identified.

6.2 Develop a floodway and causeway infrastructure project prioritisation model.

6.3 Undertake a reassessment of the Ten Year Capital Works Program, based on a project prioritisation model.

4.2 Bridge Strategy 2015 - 2020

Executive Officer: **Director Infrastructure Services**

File Reference: **28/03/006; 04/12/008**

Director's Recommendation

That Council adopt the Scenic Rim Regional Council Bridge Strategy 2015 - 2020 to provide direction for the provision of services associated with the region's bridge infrastructure assets.

Committee Recommendation

That the Director Infrastructure Services' recommendation be adopted.

Moved: Cr Sanders
Seconded: Cr Stanfield

Carried

Attachments

1. Draft Scenic Rim Regional Council Bridge Strategy 2015 - 2020.

Attachment 1 - Draft Scenic Rim Regional Council Bridge Strategy 2015 - 2020

Version Control

Vers	Authored	Date
1	Manager Works	1 April 2015

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Table of Content

Introduction

The bridge network is constructed from timber, concrete and composite materials. To achieve a safe, efficient and effective transport network Council must provide continued linkages over many gullies, streams, creeks and rivers via the provision of bridges.

Bridges are crucial components of the transport network by virtue of their high capital value, strategic and operational importance, and the effect on the road network, especially in instances when a structure is taken out of service. Any bridge failure, apart from severely disrupting traffic movements in key areas with consequent inconvenience and economic loss to the community, may also lead to injury or in extreme cases loss of life and resultant property damage. In the region's largely rural road network, where alternative water course crossings are in some cases non-existent, bridge service restrictions can have significant economic and social impacts.

Council maintains a total of 131 bridges, with an asset value in excess of $48million. The majority of these bridges are traditional timber structures (84 bridges), some of which were constructed in excess of 60 years ago when traffic loads were traditionally lower than those imposed by modern freight vehicles.

This Strategy is to provide guiding principles and key strategic areas which influence all other plans, policies and strategies associated with the efficient and sustainable management of the bridge infrastructure within the transport network of the Scenic Rim region.

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Strategy Context

This Strategy has been developed with consideration to the linkages with a range of strategic documents, legislation, guidelines and standards relating to Council's provision of transport network through bridge infrastructure.

The below figure shows the interconnection of the Bridge Strategy with other existing documents of Council.

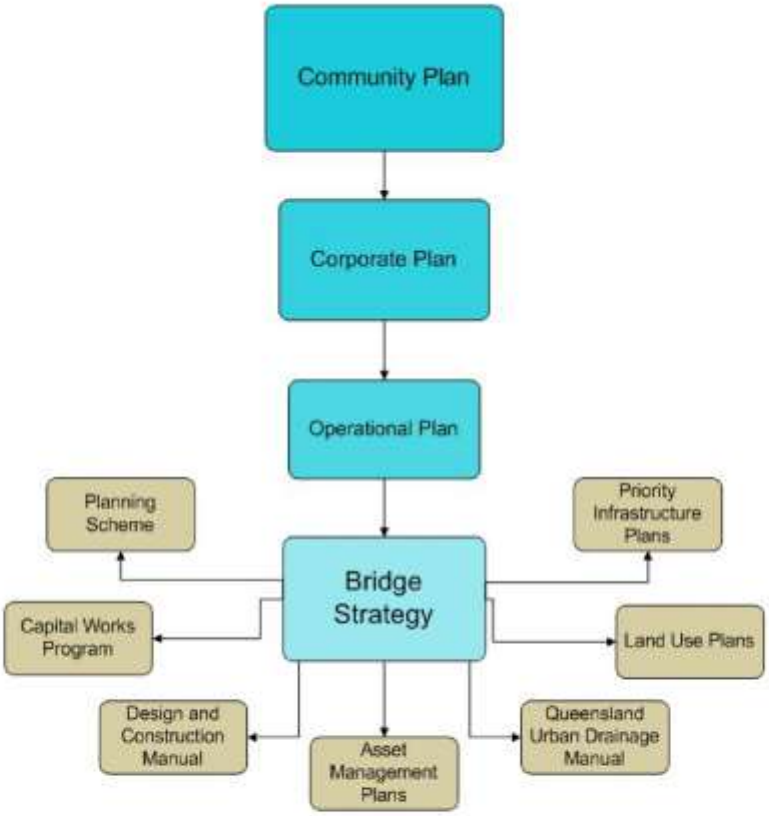

Figure 1 Strategy Plan linkages

Corporate Strategy Documents

The Scenic Rim Community Plan 2011 – 2026 has been prepared following extensive consultation with the community. It is the overarching plan for the future of the Scenic Rim region in that it *provides a shared vision and plan for the region's future and will guide Council, other levels of government and community action on issues including the environment, economic development, social well-being, infrastructure and governance*.

A theme in the Community Plan which focuses on Accessible and Serviced Region is appropriate to this Strategy. One of the outcomes in this theme is *Infrastructure and services keep pace with growth and changing needs and are compatible with our environment*.

The Corporate Plan Statement of Intent for Accessible and Serviced Region states *Council will provide and advocate for infrastructure and services in accordance with the prioritised needs of our growing community*. This Strategy must respond to assessment of the prioritised needs of the community.

Legislative Requirements

The *Local Government Act 2009* has been developed with the purpose to provide for "the way in which a local government is constituted and the nature and extent of its responsibilities and power; and a system of local government in Queensland that is accountable, effective, efficient and sustainable"

As defined in *Chapter 3 Part 3* of the *Local Government Act 2009*, a road is "an area of land that is dedicated to public use as a road; or an area of land that – is developed for, or has as one of its main uses, the driving or riding of motor vehicles; and is open to, or used by, the public; or a footpath or bicycle path; or a bridge, culvert, ford, tunnel or viaduct."

The Act outlines the control of roads and bridges by Council, the ability to acquire land for a road or bridge, closure of bridges, and unauthorised works on roads and bridges, amongst other items associated with roads and bridges.

In addition to the above State legislation there may be applicable legal or policy requirements under the common law, local government planning schemes, local laws and/or road and transport guidelines and codes.

Council Local Laws and Policies

Local Law No. 4 (Local Government Controlled Areas, Facilities and Roads) 2011, has the purpose to *protect the health and safety of persons using local government controlled land, facilities, infrastructure and roads; and preserve features of the natural and built environment and other aspects of the amenity of local government controlled land, facilities, infrastructure and roads.* The Local Law achieves this by regulating access to roads (including bridges), and prohibiting or restricting certain activities.

Further to *Local Law No. 4*, a number of Subordinate Local Laws are relevant to road use, these include *Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011,Subordinate Local Law No. 1.2 (Commercial Use of Local Government Controlled Areas and Roads) 2011, Subordinate Local Law No. 1.7 (Gates and Grids) 2011, Subordinate Local Law No. 1.14 (Undertaking Regulated Activities on Local Government Controlled Areas and Roads) 2011, Subordinate Local Law No. 1.15 (Carrying Out Works on a Road or Interfering with a Road or its Operation) 2011, Subordinate Local Law 4 No. (Local Government Controlled Areas, Facilities and Roads) 2011.*

Council has adopted a policy on the Provision of Road Network, which outlines Council's position on a number of areas such as extensions to road network, road and street construction standards, road and street maintenance standards, signage and traffic control devices, stormwater infrastructure in road reserves, vehicles parking within road reserves, vegetation within road reserves, private access entrances, utility services within a road reserve, and works within a road reserve.

Guidelines and Standards

The Austroads Guidelines are the standards used by Council for the design and management of the transport network. Complementing the Austroads Guidelines, are ARRB (Australian Road Research Board) Guidelines and Australian Standards in particular the Bridge Code.

New bridges are required to be designed and constructed in accordance with these standards and guidelines to ensure the community is provided with a safe and efficient network to current standards.

Notwithstanding the above technical documents, Registered Professional Engineers (Qld) assume full legal responsibility for all designs. This is a State legislative requirement, under the *Professional Engineers Act*.

Disaster Management

Bridges are generally positioned in major watercourses and therefore commonly subjected to flooding. Largely bridge infrastructure is, in most cases, only provided to manage watercourse flows resulting from higher frequency events. The transport network will not be available for use during lower frequency events such as that seen during natural disasters.

Recovery of the bridge network following natural disasters is prioritised based on community needs and levels of service. At times, due to funding restrictions and other priority work, the bridge network may function at a lower level of service for a period of time; this is minimised through the use of detours, low level side-tracks and load limits.

The Natural Disaster Relief and Recovery Arrangements (NDRRA) is a joint funding initiative of the Commonwealth and State Governments to provide disaster relief and recovery payments for infrastructure restoration to help communities recover from the effect of natural disasters.

Following a declared disaster event, there is a period of emergent works whereby Council will rectify the priority areas of the infrastructure network to ensure the immediate safety and connectivity of the community. The remainder of the work to restore the road network to its previous level of function is completed in the restoration period, whereby Council assesses the damage, and submits proposals for approval under NDRRA Guidelines. Once approved, Council (or its contractors) complete the restoration of the network.

Town Planning

The preparation of the region's Planning Scheme is an opportunity to promote the importance of a sustainable transport network through land use planning.

Efficient land use planning must consider suitable network connectivity between different land uses, for now and into the future. Natural features such as ridges and gullies should be considered in the development and transport network planning.

Development assessment plays a significant part in the process to ensure suitable alignment of transport corridors. Conditioning of development application approvals allow for the designers to achieve efficient development in terms of sustainable transport network whilst ensuring bridge structural capacity meets the requirements of the development.

Asset Management Plans

Council has developed Asset Management Plans for all of the major infrastructure classes it manages. Asset Management Plans underpin Council's approach to managing community assets, with the purpose of providing a strategic view of Council's assets in a way that promotes sustainable service provision. This is achieved by assessing the long-term asset related funding requirements (demand) against proposed spending levels (expenditure). An overall funding shortfall in the planning period suggests service provision is not sustainable in the longer term, and appropriate action must be taken to reduce and ultimately close the gap.

The Bridge Asset Management Plan (AMP) recognises timber, concrete, steel and composite bridges as a bridge asset class.

Council's Bridge AMP indicates a majority of region's existing bridge asset base is reaching the end of its useful life; consequently current funding levels are utilised for both the replacement of existing structures, as well as the undertaking of major asset rehabilitation to extend the network's useful life.

Council must continue to examine its operations and maintenance practices, as well as explore options to increase the life of the asset, and overall improvements to the whole of life costs. Additionally, the level of service provided on the different transport linkages throughout the network requires continual monitoring and review.

Strategic Priority Areas

Strategic Priority Areas have been developed to provide an efficient and effective transport network, through the provision of bridge structures.

The provision of a safe transport network provides a link for visitors and residents to commute throughout the Scenic Rim region.

In order to ensure the ongoing provision of such a network to meet transport needs, it is necessary to manage the bridge network through a variety of documents, including a Bridge Strategy which outlines the key Strategic Areas of focus.

This Strategy covers the Strategic Priority Areas of:

Community Service Levels

- Ensure the region's bridge network provides a level of service that meets the needs of the community.

Bridge Network Infrastructure

- Provide a network of roads and bridges to service the range of needs of the community throughout the region in a sustainable manner.

Infrastructure Operation and Maintenance

- Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

Resource Capability

- Recognition of the continued need to have a skilled workforce, appropriate resources and source materials to continue to support the provision of the bridge network.

Land Use Planning

- Ensure land use planning delivers development that has a focus on sustainable and efficient transport network.

Project Prioritisation

- Ensure renewal, upgrades and new bridge infrastructure projects are prioritised according to network needs.

Private and Utility Infrastructure in Road Reserve

- Ensure the installation of private and utility infrastructure in road reserves does not compromise the function and safety of the bridge.

Strategic Priority Area 1: Community Service Levels

Ensure the region's bridge network provides a level of service that meets the needs of the community.

Community service levels must be established through defining the objectives which the road infrastructure must achieve and to link the design standards to these service levels.

Austroads, ARRB, Australian Standards (via the Bridge Code) and Queensland's Transport and Main Roads provide guidelines on the assessment of bridge infrastructure; and provide clear direction on the design of bridge infrastructure.

Strategies

1.1 Align levels of service with the bridge infrastructure to identify minimum acceptable service standards of existing infrastructure and required service standards, when replaced for bridges across the region.

1.2 Program bridges for rehabilitation or replacement depending on their ability to meet the minimum acceptable service standard based also upon condition and relationship within the transport network hierarchy.

1.3 Provide suitable alternative routes for bridges that, do not meet minimum acceptable service standards, and where there is to be a delay in replacement or rehabilitation, either via detour or construction of a side-track.

1.4 Design and construct new and reconstructed bridges in accordance with the Bridge Code (Australian Standard) and Council standards, as outlined in Council's Design and Construction Manual and Standard Drawings.

Strategic Priority Area 2: Bridge Network Infrastructure

Provide a network of roads and bridges to service the range of needs of the community throughout the region in a sustainable manner.

The provision of bridges to service transport demand is essential to ensure the sustainability of the transport network. Whilst there may be a desire to have all timber bridges replaced within the region; this is not a sustainable option for a responsible asset owner to maintain and renew, given the funding levels and the communities ability to pay. As such, bridges are aligned according to their use, and associated truck configuration, known as Minimum Acceptable Load Limit.

There are currently 84 traditional timber bridges considered to be maintained by Council. A number of timber bridges are no longer used by road traffic, and are therefore excluded from future analysis. There are also a further 47 non-timber bridges under Council control; the majority of which were built after 1980.

Council is committed to working towards the best appropriate practice in asset management. An Asset Management Plan has been developed for the bridge network.

New bridges, either constructed by Council or donated to Council through private development, are required to meet the requirements of the Bridge Code (Australian Standard).

Strategies

2.1 Review the bridge Minimum Acceptable Load Limits regularly.

2.2 Maintain a Bridge Asset Register which lists all Council controlled bridges. Bridges that are not on the Register are not considered Council assets, and will not be maintained by Council.

2.3 Review and assess the existing bridge network for conformance with current standards and develop a program subject to funding to replace the infrastructure.

2.4 Revise Bridge Asset Management Plans as appropriate to ensure the above strategies are reflected in the investment plans.

2.5 Recognise funding for renewal of bridges and available funds, and monitor long term sustainability of the bridge network.

Strategic Priority Area 3: Infrastructure Operation and Maintenance

Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

The bridge network requires regular operational and maintenance activities to maximise the life of the asset and reduce the whole of life costs.

The funding required to maintain the service level should be provided based on the condition level of the asset; inadequate funding for maintenance and operations may result in the condition of the asset worsening beyond an acceptable service level by accelerating the deterioration, and consequently an increased renewal cost for the asset.

A Bridge Strategy Report has been developed to provide guidance and consistency for the programming, and prioritisation of rectification of bridge defects, in the region. This manual has resulted in reducing the number of bridge related outages. Regular inspections of the network have also improved identification and programming of works.

Council operates under an accredited Quality Management System for the construction and maintenance of bridges. The elements the Quality Management System covers include quality management, environmental management, forms, workplace health and safety management, and an operations manual.

Strategies

3.1 Review Bridge Strategy Report annually.

3.2 Continue an operational and maintenance inspection program to ensure defects are logged and rectified.

3.3 Review Council's Quality Management System and maintain accreditation.

3.4 Develop Rehabilitation Program annually.

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Strategic Priority Area 4: Resource Capability

Recognition of the continued need to have a skilled workforce, appropriate resources and source materials to continue to support the provision of the bridge network.

The future supply of timber for bridge maintenance and rehabilitation has been identified as a possible future limitation for the continued maintenance of timber bridges. Sources within the timber bridge industry have suggested that the future supply of timber girders in South East Queensland may be below demand and this will be reflected in delays in supply and significant cost increases.

A future risk identified in many areas is the loss of skills, knowledge and craftsmanship of timber bridge carpenters as this occupation progressively diminishes through generations over the next 50 years, or longer. The number of experienced timber bridge carpenters within the industry has significantly reduced over recent years due to diminishing numbers of timber bridges on the national road network.

Council needs to ensure that expertise is maintained by identifying employees as suitable candidates for succession in these positions. Any deficiencies in skills and abilities need to be identified, and effective training initiated so that staff are competent when the vacancies occur.

As the balance of bridges shift from timber towards concrete construction, and maintenance of older concrete bridges becomes more prevalent, Council's bridge gang will require skills in these areas as well as the traditional timber bridge methods.

Strategies

4.1 Continue to explore sources for current and alternative material to ensure the continued provision of the bridge infrastructure is sustainable.

4.2 Retain a skilled workforce capable of undertaking bridge work, of all types/structures.

Strategic Priority Area 5: Land Use Planning

Ensure land use planning delivers development that has a focus on sustainable and efficient transport network.

Land Use Planning is an appropriate tool to determine the function of transport routes within the network, and to provide suitable locations for future linkages between current and future development areas.

Planning for the future growth of the region allows the location of the road corridors to be determined, for both new roads, and any widening of existing roads. This is important to allow Council to secure the road reserves and to ensure the acceptable level of service from the transport network is sustained.

Strategies

5.1 Develop the Scenic Rim regional Planning Scheme with consideration of the principles and key actions of this Strategy.

5.2 Ensure development in the Scenic Rim region is sustainable with a reliable appropriate transport network created.

5.3 Integrate Priority Infrastructure Plans with other strategic Council documents to ensure the transport network is maintained appropriately.

5.4 Ensure Infrastructure Agreements (IAs) provide the appropriate levels of funding for bridge assets.

Strategic Priority Area 6: Project Prioritisation

Ensure renewal, upgrades and new bridge infrastructure projects are prioritised according to network needs.

As identified in Strategic Priority Area 2: Bridge Network Infrastructure, there is a current funding need for the bridge network given its current age and condition.

The actions in this Strategy are intended to mitigate the gap as far as possible; however there remains a need to prioritise the renewal, upgrade, and new works based on risk assessment of the network to determine which roads will remain within the acceptable service level.

A project prioritisation model has been developed which assesses the bridges based on community service levels, traffic volumes, available alternative routes, and the overall condition of the bridge structure. These categories are ranked, and from these rankings the Ten Year Capital Works Program is developed.

Strategies

6.1 Continue to monitor transport network demands to determine the Minimum Acceptance Load Limit for each bridge.

6.2 Review the bridge infrastructure project prioritisation model on an annual basis.

6.3 Undertake an annual reassessment of the Ten Year Capital Works Program based on the project prioritisation model.

Strategic Priority Area 7: Private and Utility Infrastructure in Road Reserve

Ensure the installation of private and utility infrastructure in road reserves does not compromise the function and safety of the road.

The installation of private and utility infrastructure within a road reserve has implications for Council. These implications include public safety, liability in the case of an accident, visual impact in terms of the regions image, visual amenity and visibility, as well as potential practical implications on maintenance and access, and strategically in terms of the road network management. A poorly placed structure within the road reserve may restrict Council's ability to provide an adequate level of service from its bridge network.

Examples of infrastructure in road reserve that may impede a bridge's serviceability include:

- Roadside memorials
- Fencing
- Property accesses
- Private pipelines and conduits
- Electrical network above and below ground
- Communication network above and below ground

Council regulates infrastructure within road reserves through Local Laws, Subordinate Local Laws, and the subsequent application and approval processes. This ensures appropriate controls and standards for the installation of private and utility infrastructure in road reserves, that private and utility infrastructure does not adversely impact on Council infrastructure within road reserves, protection to the public from damage that may be incurred from the installation of private and utility infrastructure, and protection of the visual amenity and nature of the region.

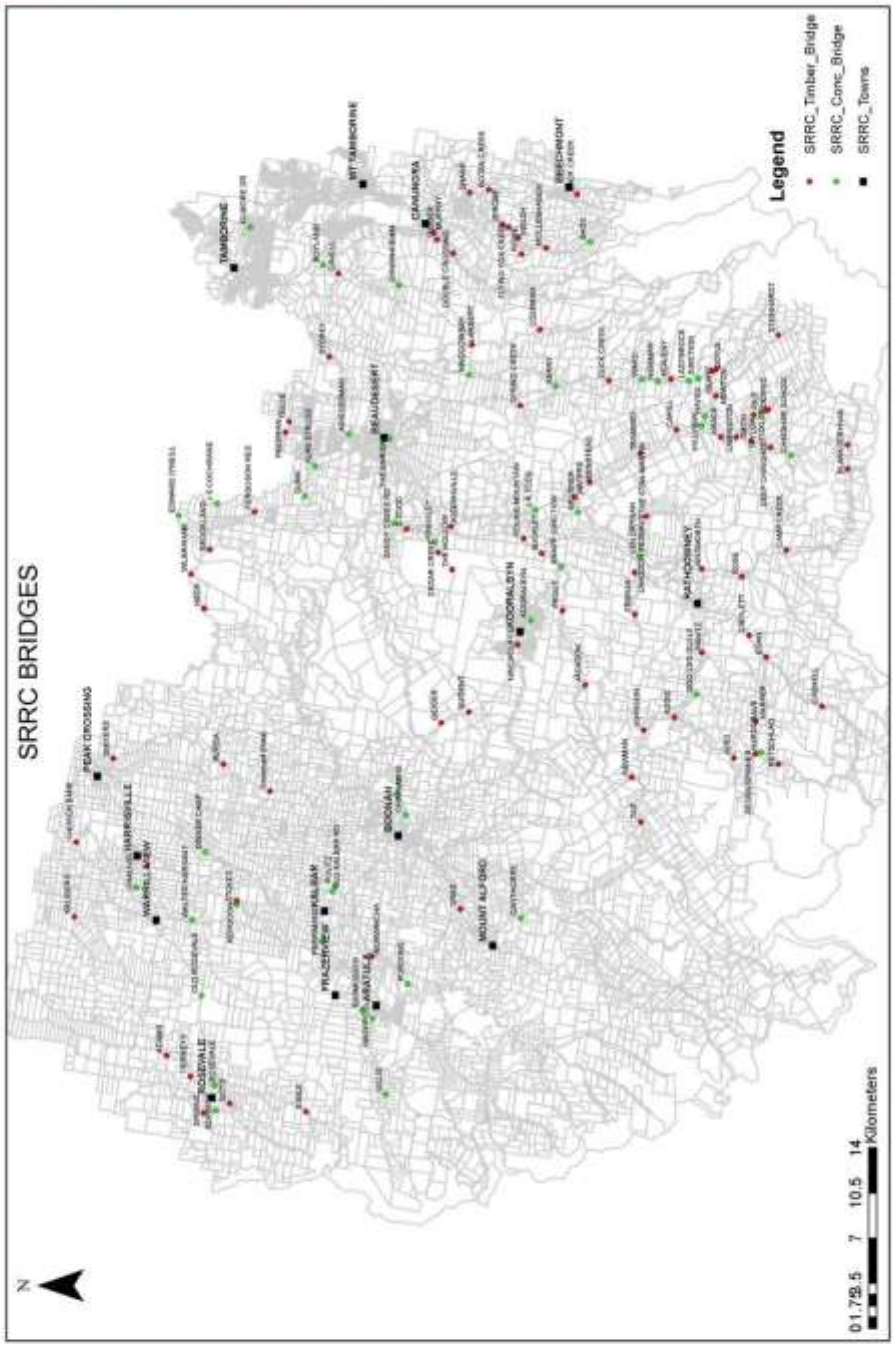
Strategies

7.1 Ensure Bridge assets maintain their service levels by monitoring the current and potential impact of private and utility infrastructure in road reserves through the use of standards and permits.

7.2 Continue to ensure safe passage by users of the bridge network through standards and permits, to allow only safe structures within the road reserve.

7.3 Develop a monitoring and inspection process, based on self-assessment of private and utility infrastructure, in road reserves.

Appendix 1 – Bridge Network



Appendix 2 – Bridge Prioritisation Model and 10 Year Capital Works Program

The Bridge Prioritisation Model is based on a set of weighted criteria. These criteria include:

- Community Service Level
- Traffic Volumes
- Alternative Route
- Bridge Condition Assessment

Project are assessed against these criteria according to a rating, and given a Weighted Score [(Community Service Level x Traffic Volumes x Alternative Route) / 3 + Bridge Condition Assessment]. An aggregate of the weighted category score is then given an overall project score. Projects are then ranked based upon the overall project score.

Criteria are rated on the following basis:

Community Service Level

Total use is calculated by the addition of Community Link, Commercial Link and Interconnector, each multiplied by their relevant weight.

(service level * weighting) combined = community service level score

Community Link is given a value of either 0 or 1. 1 being where the bridge is an important link to a community and cannot be detoured, e.g. Kooralbyn Bridge. (weighting of 5)

Commercial Link is similar to Community link, with 1 being where the bridge is an important link for heavy traffic. (weighting of 5)

Interconnector based on whether the road is an interconnector between other major roads, i.e. it can be detoured, for example Bruxner Bridge. (weighting of 2)

Traffic Volume

Traffic volumes ranges are scored between 5 - 10 as follows:

AADT	Score	AADT	Score
0-20	5	150-500	8
20-50	6	501-1000	9
50-150	7	>1000	10

AADT = Annual Average Daily Traffic

Alternative route

Alternative route is given a subjective rating for alternative routes being non-sidetrack routes and sidetrack routes. (non-sidetrack * sidetrack) = alternative route score. This score gives a measurable rating of inconvenience to the road user as a result of the alternative route provision.

Non-sidetrack (ie alternative route) ranges between 0 – 1, with 0 being the 'ideal' alternate route, 1 being no alternate route, and fractions of this based on the suitability.

Sidetrack is similar to Alternate Route, with 0 being the 'ideal' side track, and 1 being no side track.

Bridge Condition Assessment

Each bridge is given a score using the BridgeGuide scoring system which allows each component to be rated and weighted by type, and then the bridge is given a condition score; this is based on the latest Level 2 condition inspection report.

4.3 Footpath and Bikeway Strategy 2015 - 2020

Executive Officer: **Director Infrastructure Services**

File Reference: **28/03/006; 04/12/008;**

Director's Recommendation

That Council adopt the Scenic Rim Regional Council Footpath and Bikeway Strategy 2015 - 2020 to provide direction for the provision of services associated with the region's footpath and bikeway infrastructure assets.

Committee Recommendation

That the Director Infrastructure Services' recommendation be adopted.

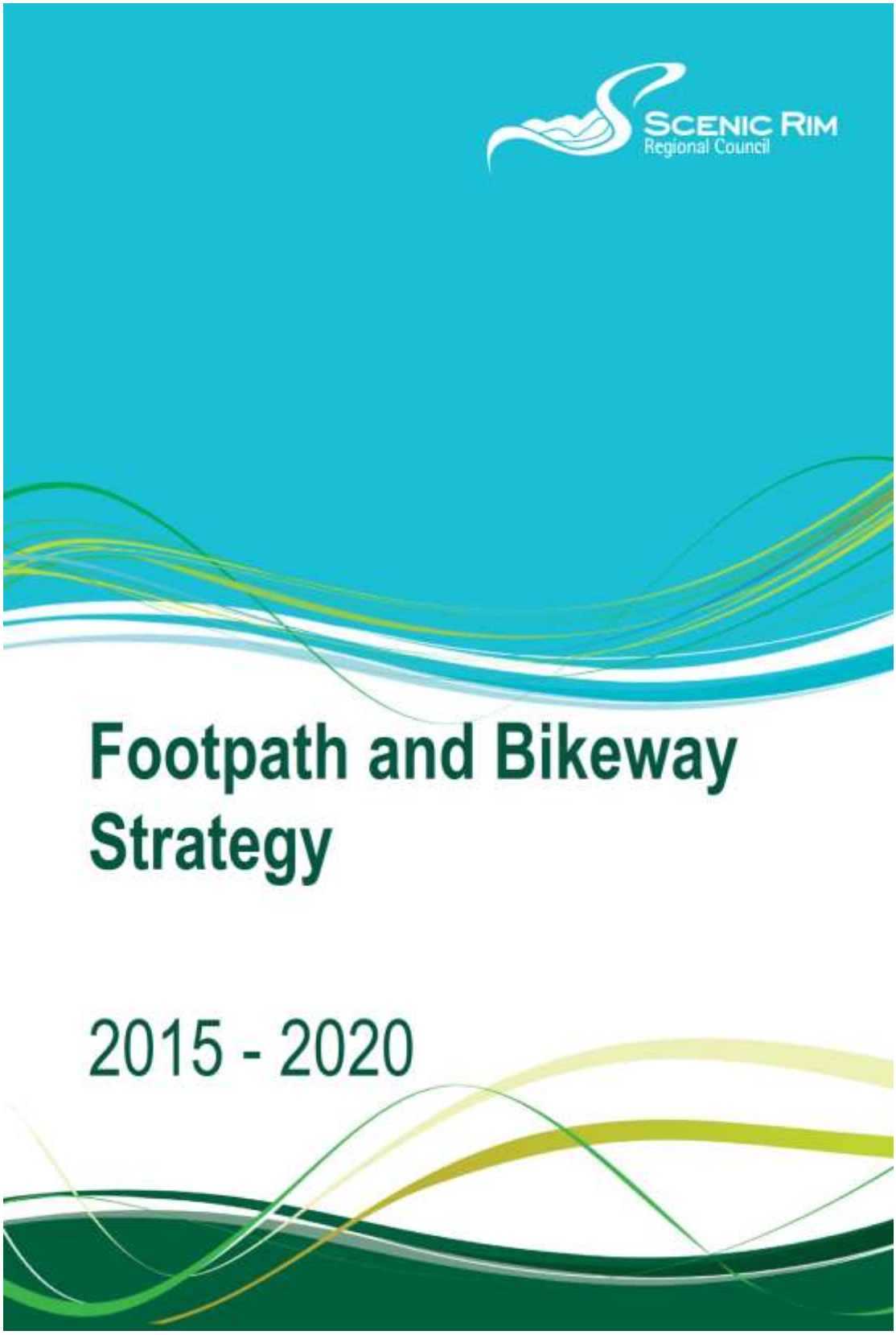
Moved: Cr Sanders
Seconded: Cr Stanfield

Carried

Attachments

1. Draft Scenic Rim Regional Council Footpath and Bikeway Strategy 2015 - 2020.

Attachment 1 - Draft Scenic Rim Regional Council Footpath and Bikeway Strategy 2015 - 2020



Version Control

Vers	Authored	Date
2	Manager Works	27 April 2015

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Table of Content

Introduction

Council maintains a network of footpaths and bikeways that act as a conduit for pedestrians and cyclist to move within the urban and semi-urban areas within the region.

Council provides a network of 69.5 kilometres of footpaths and bikeways throughout the region. This strategy outlines the desired strategic outcomes and associated actions to assist in developing an integrated and user-friendly pedestrian and cycle network across the region that supports safe walking and cycling and increased accessibility; at the same time recognising the need to renew and maintain the current infrastructure that services the urban and semi-urban areas within the region efficiently and sustainably.

Strategy Context

This Strategy has been developed with consideration to the linkages with a range of strategic documents, legislation, guidelines and standards relating to Council's provision of the footpath and bikeway network.

The below figure shows the interconnection of the Footpath and Bikeway Strategy with other existing documents of Council.

Figure 1. Strategy Plan linkages

Corporate Strategy Documents

The Scenic Rim Community Plan 2011 – 2026 has been prepared following extensive consultation with the community. It is the overarching Plan for the future of the Scenic Rim region in that it "provides a shared vision and plan for the region's future and will guide Council, other levels of government and community action on issues including the environment, economic development, social well-being, infrastructure and governance."

A theme in the Community Plan which focuses on Accessible and Serviced Region is appropriate to this Strategy. One of the outcomes in this theme is "Infrastructure and services keep pace with growth and changing needs and are compatible with our environment".

The Corporate Plan Statement of Intent for Accessible and Serviced Region states "Council will provide and advocate for infrastructure and services in accordance with the prioritised needs of our growing community". This Strategy must respond to assessment of the prioritised needs of the community.

Legislative Requirements

The *Local Government Act 2009* has been developed with the purpose to provide for "the way in which a local government is constituted and the nature and extent of its responsibilities and power; and a system of local government in Queensland that is accountable, effective, efficient and sustainable"

As defined in *Chapter 3 Part 3* of the *Local Government Act 2009*, a road is "an area of land that is dedicated to public use as a road; or an area of land that – is developed for, or has as one of its main uses, the driving or riding of motor vehicles; and is open to, or used by, the public; or a footpath or bicycle path; or a bridge, culvert, ford, tunnel or viaduct."

In addition to the above State legislation there may be applicable legal or policy requirements under the common law, local government planning schemes, local laws and/or road and transport guidelines and codes that cover Footpaths and Bikeways.

Council Local Laws and Policies

Local Law No. 4 (Local Government Controlled Areas, Facilities and Roads) 2011, has the purpose to "protect the health and safety of persons using local government controlled land, facilities, infrastructure and roads; and preserve features of the natural and built environment and other aspects of the amenity of local government controlled land, facilities, infrastructure and roads." The Local Law achieves this by regulating access to roads, and prohibiting or restricting certain activities. As footpaths generally exist within the road corridor the flowing Local Laws and Policies are also relevant to Footpaths and Bikeway Infrastructure.

Further to *Local Law No. 4*, a number of Subordinate Local Laws are relevant to road and transport use, these include *Subordinate Local Law No. 1.1 (Alteration or Improvement to Local Government Controlled Areas and Roads) 2011*,*Subordinate Local Law No. 1.2 (Commercial Use of Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.7 (Gates and Grids) 2011*, *Subordinate Local Law No. 1.14 (Undertaking Regulated Activities on Local Government Controlled Areas and Roads) 2011*, *Subordinate Local Law No. 1.15 (Carrying Out Works on a Road or Interfering with a Road or its Operation) 2011*, *Subordinate Local Law 4 No. (Local Government Controlled Areas, Facilities and Roads) 2011*.

Council has adopted a policy on the Provision of Road Network, which outlines Council's position on a number of areas such as extensions to road network, road and street construction standards, road and street maintenance standards, signage and traffic control devices, stormwater infrastructure in road reserves, vehicles parking within road reserves, vegetation within road reserves, private access entrances, utility services within a road reserve, and works within a road reserve.

Guidelines and Standards

The Austroads Guidelines are the standards used by Council for the design and management of this network; complementing the Austroads Guidelines, are ARRB (Australian Road Research Board) Guidelines and Council's Design and Construction Manual.

New, as well as, renewed footpaths and bikeways are required to be designed and constructed in accordance with these standards and guidelines to ensure the community receives a safe and efficient network to current standards.

Notwithstanding the above technical documents, Registered Professional Engineers (Qld) assume full legal responsibility for all designs. This is a State legislative requirement, under the *Professional Engineers Act*.

Town Planning

The preparation of the region's Planning Scheme is an opportunity to promote the importance of a sustainable footpath and bikeway network through land use planning.

Efficient land use planning must consider suitable network connectivity between nodal influences and places of interest that have potential to generate walking and cycling such as parks, schools and public transport.

Footpaths and bikeways also provide a conduit to enhance the community's healthy lifestyle, including exercise possibilities, through safe promotion of walking and cycling.

Asset Management Plans

Council has developed Asset Management Plans for all of the major infrastructure classes it manages. The Asset Management Plans underpin Council's approach to managing community assets, with the purpose of providing a strategic view of Council's assets in a way that promotes sustainable service provision. This is achieved by assessing the long term asset related funding requirements (demand) against proposed spending levels (expenditure). An overall funding shortfall in the planning period suggests service provision is not sustainable in the long-term, and appropriate action must be taken to reduce, ultimately close the gap.

The Asset Management Plan (AMP) addresses the assets of various types and configuration, earthen, basic gravel, sealed asphalt and concrete.

The AMP indicates the existing asset base is being renewed at a rate at which does not meet renewal and upgrade requirements. Furthermore, current funding level does not match the demand for new assets in this class; with Council to determine through this strategy how to address this issue.

Increased funding of the asset class may be difficult to achieve, due to decreases in available grant money from both a Federal and State level, which in the past has provided supplementary funding; as well as limitations on available funds through rate revenue and community affordability.

Council must continue to examine its operations and maintenance practices, as well as explore options to increase the life of the asset, and overall improvements to the whole of life costs.

Strategic Priority Areas

Strategic Priority Areas have been developed to address the provision of an integrated footpath and bikeway network to the Scenic Rim region.

The provision of a safe footpath and bikeway network provides a link to residents within the urban and semi-urban areas within the Scenic Rim region.

In order to ensure the ongoing provision of such a network for all users, it is necessary to manage the network through a variety of documents including this Strategy which outlines the key Strategic Areas of focus.

This Strategy covers the Strategic Priority Areas of:

Community Service Levels

- Ensure the footpath and bikeway network provides a level of service that meets the needs of the community.

Infrastructure

- Provide a network of footpaths and bikeways to service the range of needs of the community throughout the region in a sustainable manner.

Infrastructure Operation and Maintenance

- Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

Land Use Planning

- Ensure land use planning delivers development that has a focus on sustainable and efficient footpath and bikeway networks within urban areas.

Project Prioritisation

- Ensure renewal, upgrades and new infrastructure projects are prioritised according to a risk mitigation approach.

Private and Utility Infrastructure

- Ensure the installation of private and utility infrastructure in road reserves does not compromise the function and safety of the footpath of bikeway.

Strategic Priority Area 1: Community Service Levels

Ensure the footpath and bikeway network provides a level of service that meets the needs of the community.

Community service levels must be established through defining the objectives which the footpath and bikeway infrastructure must achieve and to link the design standards to these service levels.

Austroads and ARRB provide guidelines on the assessment of the infrastructure; and the Design and Construction Manual quantifies the design criteria, basis on the industry risk levels.

Strategies

1.1 Align levels of service to identify minimum acceptable service standards and desired service standards, for footpaths and bikeways across the region.

1.2 Ensure footpaths and bikeways are meet the desired service standard, and are to be reconstructed to current standards.

1.3 Ensure new, and reconstructed, footpaths and bikeways are designed and constructed in accordance with current industry and Council standards, as outlined in Council's Design and Construction Manual and Standard Drawings.

Strategic Priority Area 2: Network Infrastructure

Provide a network of footpaths and bikeways to service the range of needs of the community throughout the region in a sustainable manner.

The provision of footpaths and bikeways to service the demand of the users is desirable to ensure the sustainability and conductivity of the network. Whilst there may be a desire to have all paths concreted, this is not a sustainable option for a responsible asset owner to maintain and renew given the funding levels and the community's ability to fund. As such, there is a need to except that differing styles of footpaths and bikeways will exist within the network, from basic earthen mown trails to concreted paths.

New footpaths and bikeways donated to Council through private development are required to be constructed to the current standards, including widths, as specified by Council.

The current footpath network has been mapped and is contained within this Strategy, Appendix 1.

Strategies

2.1 Retain an Asset Register which lists all Council controlled footpaths and bikeways.

2.2 Review and assess the existing footpath and bikeway network for conformance with current standards, and develop a program, subject to funding, to upgrade the infrastructure.

2.3 Revise Asset Management Plan, as appropriate, to ensure the above strategies are reflected in the investment plans.

2.4 Recognise the current funding gap between the demand for renewal of the existing footpath and bikeways, and the desire to upgrade and create new links within the current network.

2.5 Develop a plan, and continue to update a plan, for each town and village within the region, identifying future footpath and bikeway linkages.

Strategic Priority Area 3: Infrastructure Operation and Maintenance

Ensure the constructed infrastructure operates in an efficient and effective manner to meet the service level expected of the infrastructure over the life of the asset.

The footpath network requires operational and maintenance activities to maximise the life of the asset and to reduce the whole of life costs.

The funding required to maintain the service level should be provided based on the condition level of the asset; inadequate funding for maintenance and operation may result in the condition of the asset worsening beyond an acceptable service level, and consequently an increased renewal cost for the asset.

The majority of issues relating to footpaths relate to the heaving of footpath blocks and edge wear, both causing tripping hazards. Inspections of the network are carried out at least annually; with some footpaths inspected as regularly as weekly within central business districts. Footpath maintenance activities have been documented and are included in Council's Maintenance Management Manual.

It is envisaged that the manual will ultimately result in a reduction of customer requests, with inspections of the network identifying required rectification works; supporting a proactive approach to footpath maintenance as opposed to a reactive approach.

Strategies

3.1 Review Maintenance Management Manual annually.

3.2 Continue to review and implement an operational and maintenance inspection program to ensure defects are logged and rectified as prioritised within current budgets allow.

3.3 Deliver operational and maintenance activities to maintain the service levels of the footpaths and bikeways.

Strategic Priority Area 4: Land Use Planning

Ensure land use planning delivers development that has a focus on sustainable and efficient footpath and bikeway networks.

Land Use Planning is an appropriate tool to determine the function of footpaths and bikeways within the network, and to provide suitable locations for future linkages between current and future development areas.

Planning for the future growth of the region allows the location of the transport corridors to be determined, for both new road (footpath and bikeway) corridors, and any widening of existing road reserves to provide sufficient width for all infrastructure including footpaths and bikeways; this, allowing Council to secure the road reserves and to ensure the acceptable level of service from the transport network is sustained.

The Priority Infrastructure Plans (PIPs) are the tools to determine the future transport requirements as the region grows. It is critical that the outcomes of the PIPs are integrated with the Ten Year Capital Works Prioritised Program, the Asset Management Plan, and the long-term financial forecast to assist in the ongoing sustainability of the Scenic Rim Regional Council.

Strategies

4.1 Develop the region's Planning Scheme with consideration of the principles and key actions of this strategy.

4.2 Condition development in the Scenic Rim region to ensure a sustainable, planned footpath and bikeway network is created.

4.3 Integrate Priority Infrastructure Plans with other strategic Council documents to ensure the footpath and bikeway network meets Council's desired standard of service.

Strategic Priority Area 5: Project Prioritisation

Ensure renewal, upgrades and new infrastructure projects are prioritised according to a risk mitigation approach.

As identified in Strategic Priority Area 3: Footpath and Bikeway Network Infrastructure, currently a gap exists between the renewal demand of the current network, desired increase in footpath and bikeway linkages, and the current available level of funding.

The actions in this strategy are intended to mitigate the gap; however there remains a need to prioritise the renewal, upgrade and new works based on a risk assessment of the network in order to determine which footpaths and bikeways will be included in the ten year program of work.

A project prioritisation model has been developed which assesses a variety of issues including use, network impacts, project cost and current condition. Emphasis is currently given to renewing existing assets over new links. Projects are ranked, and consequently prioritised accordingly to their ranking to deliver Council's Ten Year Capital Works Program.

A copy of the current footpath and bikeways prioritisation model is included within this Strategy, Appendix 2.

Strategies

5.1 Review the footpath and bikeway infrastructure project prioritisation model on an annual basis.

5.2 Undertake an annual reassessment of the Ten Year Capital Works Program based on the revised project prioritisation model.

Strategic Priority Area 6: Private and Utility Infrastructure

Ensure the installation of private and utility infrastructure in road reserves does not compromise the function and safety of the footpath of bikeway.

The installation of private and utility infrastructure within a road reserve has implications to Council. These implications include public safety, liability in the case of an accident, visual impact in terms of the region's image, visual amenity and visibility, as well as potential practical implications on maintenance and access, as well as strategically in terms of the footpath and bikeway network management. A poorly placed structure within the road reserve may restrict Council's ability to provide an adequate level of service to its community via the footpath and bikeway network.

Examples of private and utility infrastructure in road reserve include, but not limited to:

- Mailboxes
- Roadside memorials
- Property accesses
- Private pipelines and conduits
- Entry statements to residential developments
- Raised structures for outdoor dining
- Shop awnings and fixtures
- Utility service poles and pits

Council regulates infrastructure within road reserves through Local Laws, Subordinate Local Laws, and subsequent application and approval processes; ensuring appropriate controls and standards for the installation of private and utility infrastructure in road reserves. The regulation of infrastructure within road reserves ensures private and utility infrastructure does not adversely impact on Council's infrastructure within road reserves, while safeguarding the public from damage that may be incurred from the installation of private and utility infrastructure, as well as conserving the visual amenity and nature of the Scenic Rim region.

Strategies

6.1 Ensure footpath and bikeway assets maintain their service levels by monitoring the current and potential impact of private and utility infrastructure in road reserves through the use of standards and permits.

6.2 Continue to ensure safe passage by users of the footpath and bikeway network through standards and permits, to allow only safe structures within the transport corridor.

6.3 Develop a monitoring and inspection process, based on self-assessment of private and utility infrastructure, in road reserves.

Appendix 1 – Bikeway and Footpath Network Plans

Beaudesert Township - Central

Beaudesert Township - East

Beaudesert Township - North

Boonah Township - Central

Boonah Township - North

Boonah Township - South

Canungra Township

Harrisville Township

Kalbar Township

Kooralbyn Township

Peak Crossing Township

Tamborine Mountain - North

Tamborine Mountain - North

Appendix 2 – Footpath and Bikeway Prioritisation Models

Footpath and Bikeway Prioritisation Model

The Footpath and Bikeway Prioritisation Model is based on a set of weighted criteria. These criteria include:

- Usage
- Network Impacts
- Value in Investment
- Condition and Public Risk

Projects are assessed against these criteria (category) according to ranking, and given a Category Score (Ranking x Weighting = Category Score). An aggregate of the weighted category score is then given an overall project score. Projects are then ranked based upon the overall project score.

Category	Ranking	Description	Weighting
Usage	3	High	1
	2	Medium	
	1	Low	
Network Impacts	3	Renewal of Footpath/Bikeway	1
	2	New footpath providing a link to existing footpath/Bikeway	
	1	New Footpath extending network	
Value in Investment	3	Low cost <$50,000	1
	2	Medium Cost $50,000 to $150,000	
	1	High >$150,000	
Condition and Public Risk	3	Poor condition and high risk	1.5
	2	Average condition and medium risk	
	1	Good condition and low risk	

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CHAIRPERSON
CORPORATE & COMMUNITY SERVICES COMMITTEE