



MIDCOAST
council



BIODIVERSITY FRAMEWORK 2020-2030

**A ROADMAP FOR CONSERVING
NATURAL HERITAGE OF THE MIDCOAST**



EXECUTIVE SUMMARY

The MidCoast Council area contains important biodiversity and natural assets, which have intrinsic value and play a vital role in supporting our community's socioeconomic and cultural wellbeing. Maintaining healthy and biodiverse environments underpins the economy of the region and the way of life of its residents and visitors. The MidCoast community has recognised the value and importance of our natural environment; protection of the natural environment was nominated as one of five core values in the inaugural MidCoast Community Strategic Plan in 2016.

To achieve our communities' vision, we have a shared responsibility to appropriately and effectively manage, conserve and restore the biodiversity, environment and natural assets of the MidCoast Region. Local government has an important role in biodiversity conservation and management as a service provider, a land use planning authority, a regulatory authority acting in the public interest and an owner of natural area reserves. It operates within a legal and regulatory framework that recognises the principles of ecologically sustainable development and delivers biodiversity conservation outcomes.

MidCoast Council has developed this Biodiversity Framework with, and for, the community and other stakeholders to establish a roadmap for biodiversity to 2030 and beyond. It outlines a range of activities, plans, principles, policies, actions, datasets and management tools in a format that promotes adaptive management. This format allows Council to respond to contemporary pressures and opportunities, statutory change, new research, emerging conservation and management practice, funding opportunities and community priorities. Applying clear and consistent objectives for biodiversity will assist in meeting statutory requirements and achieving biodiversity outcomes.

The Framework is cognisant and reflective of the need to provide for appropriate development and growth and seeks to maximise social, economic and environmental returns from biodiversity investment.



USING THIS FRAMEWORK

The Framework is structured in four sections:

SECTION 1: OUTLINE AND CONTEXT

This section provides the background to all sections within the Framework, by:

- defining biodiversity
- describing the MidCoast Council area and special features
- describing the key threats to regional biodiversity and their implications
- providing the legislative and strategic frameworks
- outlining Council's role in managing and conserving biodiversity
- outlining the community's biodiversity vision
- describing what the framework is, its purpose, how to use it and how it will be implemented, monitored and reported on, identifying the key threats to regional biodiversity and discussing the implications of this loss

SECTION 2 – BIODIVERSITY PROGRAM

This section establishes the tools and activities under each of the six adopted Framework themes of:

- engagement and partnerships
- reserves and conservation agreements
- land management
- science and knowledge
- strategic planning and policies,
- land use planning and development

SECTION 3 – IMPLEMENTATION TABLE

This section schedules the implementation of the Framework.

SECTION 4 – REFERENCES AND APPENDICES

This section documents the references and other sources used in the Framework and provides lists of key biodiversity assets and values, including key threatening processes.



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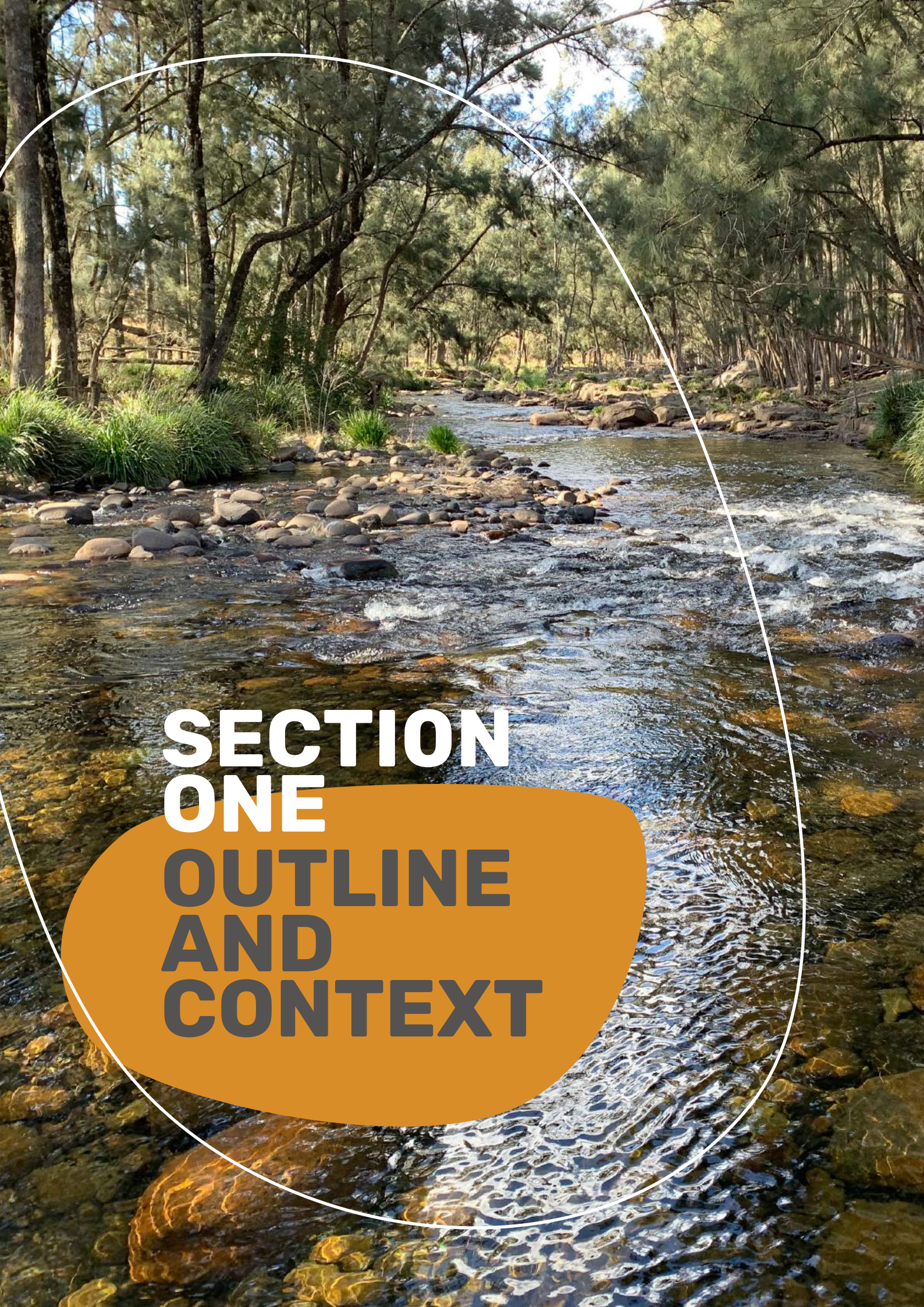
Photos are courtesy of:

Ashley Carlson, Peter Goonan,
Erin Masters and Karen Bettink

A man with long, curly hair and a beaded headband is shown from the chest up. He has white body paint on his face, chest, and arms. He is speaking and gesturing with his hands. The background is a blurred outdoor setting with other people. A large, semi-transparent orange circle is on the right side of the image, and a dark grey semi-transparent circle is at the bottom right, containing the text.

ACKNOWLEDGEMENT OF COUNTRY

We acknowledge the traditional custodians of the land on which we work and live, the Gathang-speaking people and pay our respects to all Aboriginal and Torres Strait Islander people who now reside in the MidCoast Council area. We extend our respect to elders past and present, and to all future cultural-knowledge holders.

A scenic photograph of a river flowing through a forest. The river is shallow and clear, with many rocks visible beneath the surface. The water is moving, creating small white rapids and ripples. The banks are lined with tall, thin trees, likely pines or cypresses, and some green grasses. The lighting suggests a sunny day, with dappled light on the water and rocks. A large, semi-transparent orange oval is overlaid on the lower-left portion of the image, containing the title text in white and dark grey.

SECTION ONE

OUTLINE AND CONTEXT



1: INTRODUCTION

1.1 ABOUT THIS FRAMEWORK

The MidCoast Council Local Government Area (the MidCoast Region) is rich in natural assets and biodiversity features. The health of these underpin the well being of the community, the strength of the economy and the way of life of residents and visitors to the region.

The MidCoast community recognises the importance of the natural environment, identifying its protection as one of five core values in the first *MidCoast Community Strategic Plan* in 2016. In recent Customer Satisfaction Surveys (2020) the environment was recognised as a priority for our local community. In addition, a “biodiversity-rich natural environment” is one of the regional goals of the NSW Government in the adopted *Hunter Regional Plan (2016)*¹.

This Biodiversity Framework recognises that environmental protection and enhancement, including strategic and applied conservation of biodiversity and natural assets and the restoration of degraded areas, can deliver multiple net positive social and economic benefits to our region.

Biodiversity conservation theory and practice can be complex and dynamic. In keeping with the ecosystem approach, Council aims to practice integrated management of land, water and living resources to achieve biodiversity management and conservation outcomes. This includes management of catchments, estuaries, the open coastline and Council reserves. Management will aim to be holistic and adaptive to address the range of habitats and pressures within the Region.

This Framework recognises the important connection and role of Aboriginal people to biodiversity and protecting Country. Following the NSW Government recognition of the connection to Country, this Framework acknowledges that “Aboriginal people across NSW recognise the cultural values of biodiversity and the environment. Plants, animals and ecosystems are at the core of their attachment to the land and the sea. Plants and animals are valued as part of ‘Country’ and may also act as totems. The continued use of wild foods and medicines allows people to pass on cultural knowledge, to use and maintain places of cultural value, and to benefit their wellbeing. The health of waterways and the land is central to Aboriginal heritage”.

1. NSW Government (2016) *Hunter Regional Plan 2036*, Newcastle, NSW.

1.2 CONTEXT

In many areas of Australia and NSW, biodiversity and the condition of the natural environment is in decline. The Australian State of the Environment Report prepared by the Australian Government (2016)² reported:

“Australia's biodiversity is under increased threat and has, overall, continued to decline”, and

“The outlook for Australian biodiversity is generally poor, given the current overall poor status, deteriorating trends and increasing pressures. Our current investments in biodiversity management are not keeping pace with the scale and magnitude of current pressures. Resources for managing biodiversity and for limiting the impact of key pressures mostly appear inadequate to arrest the declining status of many species. Biodiversity and broader conservation management will require major reinvestments across long timeframes to reverse deteriorating trends.”

Habitat loss and fragmentation, invasive species, changes to fire and hydrological regimes and climate change, amongst other pressures are driving this decline and having wide-ranging impacts, including impairing provision of ecosystem services.

The local events of 2019, involving a combination of severe drought and extensive bushfire and the major floods of March 2021, are a stark reminder of the complex and critical biodiversity challenges that Council, other stakeholders and the community face.

Councils in NSW play a key role to help ensure nature and biodiversity are sustained in accordance with our communities' values. Councils operate within, and are guided by National, State and regional legislative and strategic frameworks that apply to the protection, management and assessment of impacts on biodiversity.

Councils in NSW act in four main ways in the context of biodiversity management:

- Council is a service provider, and
- Council is a land use planning authority, and
- Council is a regulatory authority that acts in the public interest, and
- Council is a landowner and manager



2. Cresswell ID, Murphy H (2016). Biodiversity: Biodiversity. In: Australia state of the environment 2016, Australian Government Department of the Environment and Energy, Canberra, <https://soe.environment.gov.au/theme/biodiversity>, DOI 10.4226/94/58b65ac828812



1.3 PURPOSE

MidCoast Council has developed this Biodiversity Framework with, and for, the community and other stakeholders to establish the strategic context for a range of activities that work in concert to appreciate, conserve and manage our region's natural assets. It provides a blueprint for a suite of plans, principles, policies, actions, datasets and management tools in a format that promotes adaptive management.

This format allows Council to respond to contemporary pressures and opportunities, statutory change, new research, emerging conservation and management practice, funding opportunities and community priorities. Applying clear and consistent objectives for biodiversity will assist in meeting statutory requirements and achieving biodiversity outcomes.

The Framework is cognisant and reflective of the need to provide for appropriate development and growth and seeks to maximise social, economic and environmental returns from biodiversity investment.

Scientific, government and community values are being incorporated into this Framework and key principles have been adopted that guide implementation actions.

By grounding our work on the findings of applied scientific research and collaborating with partners, Council seeks to implement biodiversity conservation and management activities in a strategic, collegiate and outcome-focused way. The role of the community is particularly important given the extent of biodiversity assets in privately owned and managed lands.

A key element of the framework is recognition that capital input into environmental protection and repair is often an investment, with a net positive return. This is recognised through undertaking cost benefit analysis for significant environmental projects.

The framework approach will allow Council to update sections and respond to contemporary pressures and opportunities, statutory change, new research, emerging management practices, funding opportunities and community priorities.



The Biodiversity Framework enables Council to:

1. Establish a strategic platform for the identification, protection and enhancement of key biodiversity
2. Identify tools, policies and strategies to protect and restore biodiversity
3. Build on existing policies and programs
4. Guide conservation where it is needed the most based on the best available scientific knowledge and community priorities
5. Guide meaningful partnerships with stakeholders and collaborators to achieve the best possible outcomes
6. Improve Council's capacity to make informed decisions in a variety of disciplines.

1.4 CONSULTATION

The community and stakeholders play a key role in both developing the framework, and in carrying through the program. Engaging with key stakeholders and the broader community helps Council understand their goals, concerns, priorities and partnership opportunities.

How are people being involved?

Individuals, agencies, landholders, special interest groups, partners and the community are being invited to be involved in different ways throughout key phases of framework development.

In 2020, stakeholders and key community members were invited to contribute to the vision, goals, priorities, themes, partnership, collaboration and project ideas for a draft framework. In early 2021, key partners and stakeholders were engaged over relevant programs and actions within themes with focus on strengthening or adding actions, defining partnerships and opportunities. This has been followed with public exhibition and then revision of the framework to reflect the feedback received. Adoption by Council is planned for mid 2021. The framework will then move into implementation phases.

Why is this important?

It is important that the vision, goals and themes for the future of biodiversity in the region be derived from the community and internal feedback. This is because we have a collective responsibility to protect and manage biodiversity across the region. The Framework seeks to increase understanding of what biodiversity is and its place as a major contributor to our economic sustainability, and to build on and create meaningful partnerships with relevant stakeholder groups and government bodies to achieve the best outcomes for the region. It will create a platform for ongoing engagement within Council and in the wider community to implement biodiversity conservation and management guided by the framework.





2: NATURE OF THE MIDCOAST

2.1 WHAT IS BIODIVERSITY AND WHY IS IT IMPORTANT?

Biodiversity is a term used to describe the variety of living things in the environment. Australia's Biodiversity Conservation Strategy 2019 – 2030 defines biodiversity, or biological diversity, as “the variety of all life forms on earth — the different plants, animals and micro-organisms and the ecosystems of which they are a part³.”

Biodiversity includes:

- Genetic diversity (the variety of genetic information in individual plants, animals and micro-organisms)
- Species diversity (the variety of species)
- Ecosystem diversity (the variety of habitats, ecological communities and processes).

It forms the cornerstone of ecological resilience (or the ability for a given ecosystem, or species, to adequately recover from a natural or human induced loss) and provides for ecosystem services. Ecosystem services are the direct and indirect contributions of ecosystems to human wellbeing. Ecosystem services include the provision of clean water, the production of oxygen, the sequestration of carbon dioxide, the cycling of essential nutrients in the environment and the creation of healthy soils.

3. Commonwealth of Australia (2019) Australia's Strategy for Nature 2019–2030, p3.



The biodiversity of the MidCoast Region has intrinsic, economic and social value. The health, lifestyle and economy of the community is connected to the health of the natural environment and the plants and animals within it. Understanding, protecting and, where required, repairing biodiversity has an important role in building and sustaining the strong community connection, growing the economy and enhancing and improving the quality of life that we value.

Biodiversity and the natural environment provide many of the resources that sustain us including but not limited to food, timber and fuel. Biodiversity provides the oxygen we breathe and purifies the water we drink. It builds and protects soils and stores and cycles nutrients essential for food production. It controls pests and breaks down pollutants in the environment. It aids recovery from unpredictable natural or catastrophic events and helps to maintain a stable climate.

Some of the benefits of biodiversity to the MidCoast Region include:

Spiritual connection: To the Indigenous people, the Biripi and Worimi, healthy Country is integral with cultural well-being. Aboriginal people lived sustainably within the natural environment for many thousands of years and maintain their spiritual connection to the natural environment.

Wellbeing: Experiencing nature contributes to physical and mental wellbeing. This is through boosting concentration, problem-solving and creativity, strengthening immune systems, reducing the incidence of some diseases, boosting physical fitness and improving self-esteem⁴. The MidCoast Region offers relatively good levels of access to natural areas and clean waterways.

4. Davern et al (2016) Quality Green Public Open Space Supporting Health, Wellbeing and Biodiversity: A Literature Review

Amenity: Access to nature is an indicator of the liveability of communities. Protecting and maintaining the amenity of communities whilst providing for sustainable growth and development is a core community value within Council's Community Strategic Plan⁵.

Water supply: Healthy catchments deliver clean water in both riverine and aquifer sources. We rely on riverine and groundwater sources for domestic water in the Manning River, Barrington River, Crawford River, Karuah River, Minimbah Sandbeds and Viney Creek Sandbeds. Natural areas, including wetlands, provide ecosystem services that produce, maintain and purify water supplies.

Tourism economy: The Region is a key holiday destination. One of the key regional drivers of the local economy is nature-based tourism, which is reliant on access to high quality terrestrial and aquatic environments, including coastlines and beaches, lakes / lagoons and local forests and waterfalls. In 2018, the MidCoast Region had over 930 tourist businesses, and thousands of international visitors, contributing over \$38 million directly to the local economy⁶.

Production economy: Key regional economic drivers include agriculture, fisheries and forestry. These are reliant on healthy, diverse and functional terrestrial and aquatic environments. Agricultural productivity benefits from ecosystem services such as nutrient-cycling, soil formation, erosion control, water purification and pollination. Fisheries depend on clean water filtered by riparian and aquatic vegetation as well as healthy mangroves, seagrass meadows and saltmarsh for nursery areas. Local forests supply important markets for products like building materials.

Resilience & Adaptation: Biodiverse habitats protect shorelines, store floodwaters and sequester carbon to assist our community to avoid or mitigate climate change risks and natural disasters. Conserving biodiversity assets will safeguard the community and help global efforts to mitigate climate change.

Intrinsic Value: Biodiversity has an intrinsic value.



5. MidCoast Council (2018) Community Strategic Plan 2020, p13.

6. Tourism Research Australia (2019) Local Government Area Profiles, MidCoast Council.

2.2 OUR REGION

The MidCoast Region is in New South Wales between the lower north coast and the northern extent of the Hunter region.

The MidCoast Region covers a vast area of over one million hectares (10,060 square kilometres). This area is shown in Figure 1. It extends from Diamond Head in the north, Hawks Nest and Tea Gardens in the south, the localities of Cells River, Mernot and Barrington Tops in the north-west through to Limeburners Creek in the south-west. The LGA extends from the coast to the top of the Great Dividing Range.

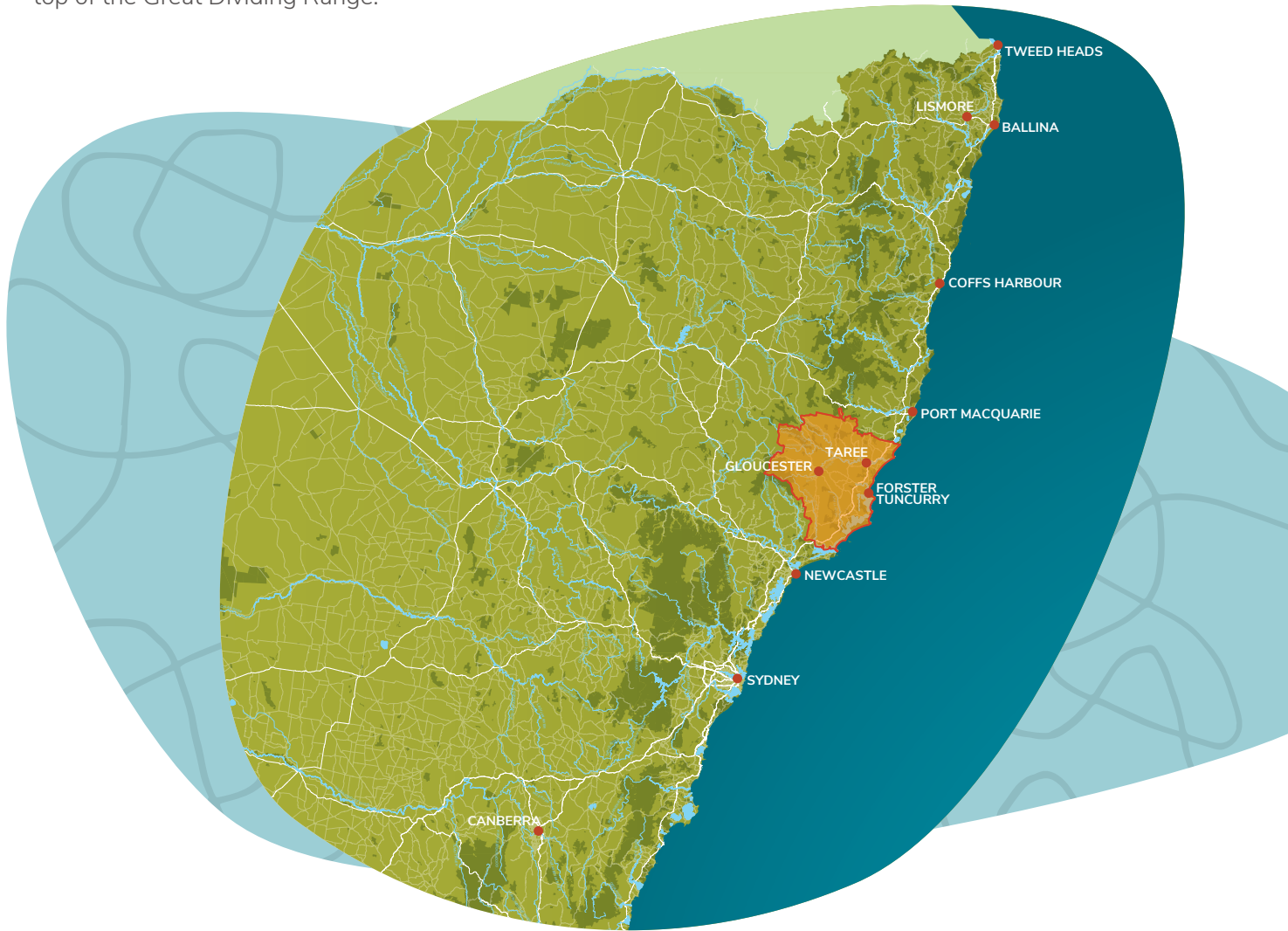


Figure 1: The MidCoast Council Local Government Area

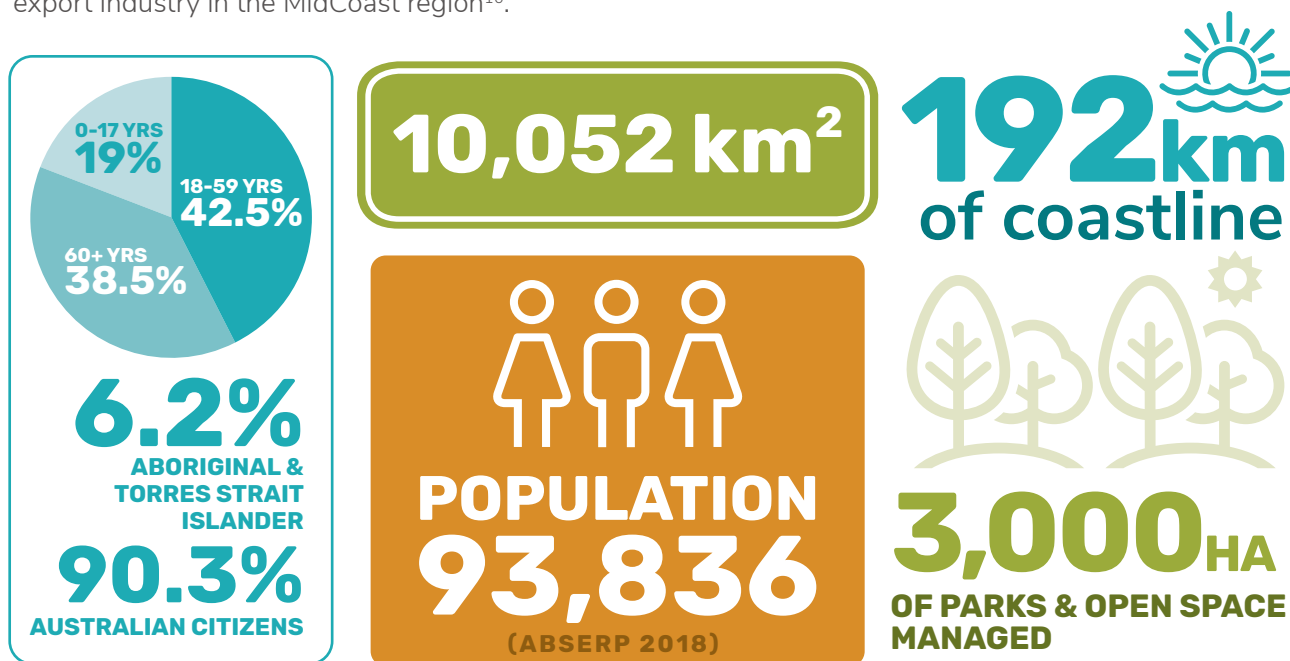
The MidCoast Region is home to over 93,000 people. Many of these residents are attracted by the natural beauty, the lifestyle, the relative affordability and the business and recreational opportunities⁷. These features have made the region popular for retirement and for “tree or sea-changers”. Thirty-eight percent of our population is aged over 60, compared to an average of 27% across regional New South Wales. Over the last ten years, the annual population growth has ranged between 0.6% and 1.2% and this growth is expected to continue⁸.

People identifying as Aboriginal or Torres Strait Islander comprise 6.2% of the MidCoast Region population⁹.

7. Centre for Economic and Regional Development (2018) MidCoast Regional Economic Development Strategy 2018–2022, State of New South Wales (Department of Premier and Cabinet). | 8 . Profile.id (2019) | 9 Profile.id (2019)

The largest population centres in the MidCoast Region are at Taree and Forster Tuncurry. Smaller towns include Wingham, Old Bar, Hawks Nest, Tea Gardens, Harrington, Hallidays Point, Pacific Palms, Smiths Lake, Gloucester and Bulahdelah, with numerous smaller villages and localities.

The biggest employment sectors of the MidCoast Region are health care and social assistance, retail, hospitality, food services, education / training, manufacturing, construction, agriculture, forestry and fishing. Tourism is a key driver of the regional economy with a significant focus on nature-focused activities. Visitors to the MidCoast spent an estimated \$505 million in 2016 making 'tourism' the largest export industry in the MidCoast region¹⁰.



The region supports a diverse range of landscapes and habitats.

These landscapes support unique and rich biological diversity. The region sits near the boundary of the sub-tropical and the temperate climate classification zones and supports a diverse range of habitats across a large altitudinal range, extending from sea-level on the coast to 1,586-metres in the Barrington Tops. These factors underpin the large diversity of the plants and animals of the region.

192 kilometres of coastline fringes large areas of waterways and wetlands.



10. Centre for Economic and Regional Development (2018), p8.

2.3 SPECIAL BIODIVERSITY FEATURES

It is well known that the Australian continent has unique and globally significant biodiversity and natural features. Developing in isolation over many millions of years, Australia has more endemic species (ie species that are found nowhere else in the world) than any other country and between 7 and 10% of all species on Earth occur here. This national context is important when considering biodiversity and its management in the MidCoast Region.

The MidCoast Region sits wholly within the NSW North Coast Terrestrial Bioregion and the Manning Shelf Marine Bioregion. It contains eleven separate Interim Biogeographic Regionalisation for Australia (IBRA) Sub-Regions, shown on Figure 2. The topography is variable and includes flat, hilly and rugged landforms, and landscapes ranging from beaches and coastal sea-cliffs, dune-fields, escarpments of the Great Dividing Range and valley floors, floodplains and deep river gorges such as the Ellenborough River below the Ellenborough Falls.

The plants and animals in the region are biologically diverse due in part to both subtropical and temperate climatic influences and the range of available habitats across the region's vast altitudinal range, from sea-level on the coast to 1,586-metres at Brumlow Tops, the highest point within the Barrington Tops.

The Region boasts unique species and areas of International, National, State and other significance including:

- The World Heritage listed Gondwanan Rainforests of Australia in Barrington Tops National Park
- The internationally recognised Myall Lakes Ramsar Site in Myall Lakes National Park
- Extensive areas of mapped Wilderness
- 5 wetlands of National Significance: Crowdy Bay National Park, Wallis Lake and adjacent estuarine islands, Myall Lakes, Port Stephens and Barrington Tops Swamps
- One Marine Park: Port Stephens - Great Lakes Marine Park
- 16 National Parks, 37 Nature Reserves and 5 State Conservation Areas
- At least 72 native mammal species, 46 frog species, 79 reptile species, 4 marine turtles and 337 birds, excluding seabirds
- At least 1,330 native plant species, including species that are found nowhere else in the world ("endemic" species)
- New South Wales' most important nesting site for the endangered little tern: Manning Entrance sand shoals at Farquhar Park and Harrington
- A site of international importance for migratory shorebirds – the Port Stephens estuary (and its population of the eastern curlew)
- Significant residual populations of the koala, whose population in New South Wales fell by 26% over the last 20-years



- Important areas of habitat for a range of state-listed threatened ecological communities, including littoral rainforest, coastal saltmarsh, swamp sclerophyll forest on coastal floodplains and lowland rainforest
- The entire known range of the threatened Manning River helmeted turtle, which is confined to the rivers of the Manning catchment
- Endemic populations of critically threatened terrestrial ground orchids including species such as Tuncurry midge orchid and pale yellow doubletail
- Wallis Lake has the largest area of seagrass in any estuary in NSW, comprising 35% of the State's total area of seagrass, as well as unique sponge communities
- At 200 metres, Ellenborough Falls is one of the longest single drop waterfalls in the Southern Hemisphere
- The Myall Lakes National Park is the 7th most visited National Park in New South Wales, attracting over 1.2 million visitors in 2018. Annual visits to Myall Lakes National Park increased 162% between 2014 and 2018. Booti Booti National Park attracted 449,000 visitors and Crowdy Bay National Park attracted 400,000 visitors in 2018¹¹
- One of the few coastal breeding sites of the Australian Pelican (in Wallis Lake)
- The Manning River is the only double delta river in the Southern Hemisphere.



11. MidCoast Council, 2020

Approximately
1330
**NATIVE
PLANT
SPECIES**
in the area



58
**NATIONAL
PARKS**



261km
MANNING RIVER

**THE ONLY
DOUBLE DELTA
RIVER IN
THE SOUTHERN
HEMISPHERE**



1 **INTERNATIONALLY RECOGNISED
WETLAND - MYALL LAKES**



**2 AWARD WINNING
REMEDiated WETLANDS
DARAWANK (900HA)
& CATTAL (1500HA)**

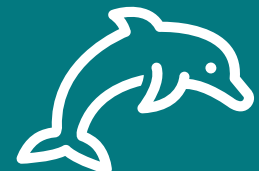


**WALLIS LAKE
35%
OF NSW
SEAGRASS**



**WORLD
HERITAGE
LISTED AREA,
GONDWANAN
RAINFORESTS
(BARRINGTON
TOPS)**

**ONE
MARINE PARK
PORT STEPHENS
GREAT LAKES**



5 COASTAL LAKES & LAGOONS

MYALL, WALLIS, KHAPPINGHAT, SMITHS & BLACKHEAD

5

**WETLANDS OF NATIONAL
SIGNIFICANCE**



**CROWDY BAY NATIONAL PARK,
WALLIS LAKE AND ADJACENT
ESTUARINE ISLANDS, MYALL
LAKES, PORT STEPHENS AND
BARRINGTON TOPS SWAMPS**



192km
of coastline
(10% OF THE NSW COASTLINE)



17 **LISTED
THREATENED
ECOLOGICAL
COMMUNITIES**

Maps showing some of the most significant features of the MidCoast Region are provided in Figures 2 to 5 following.

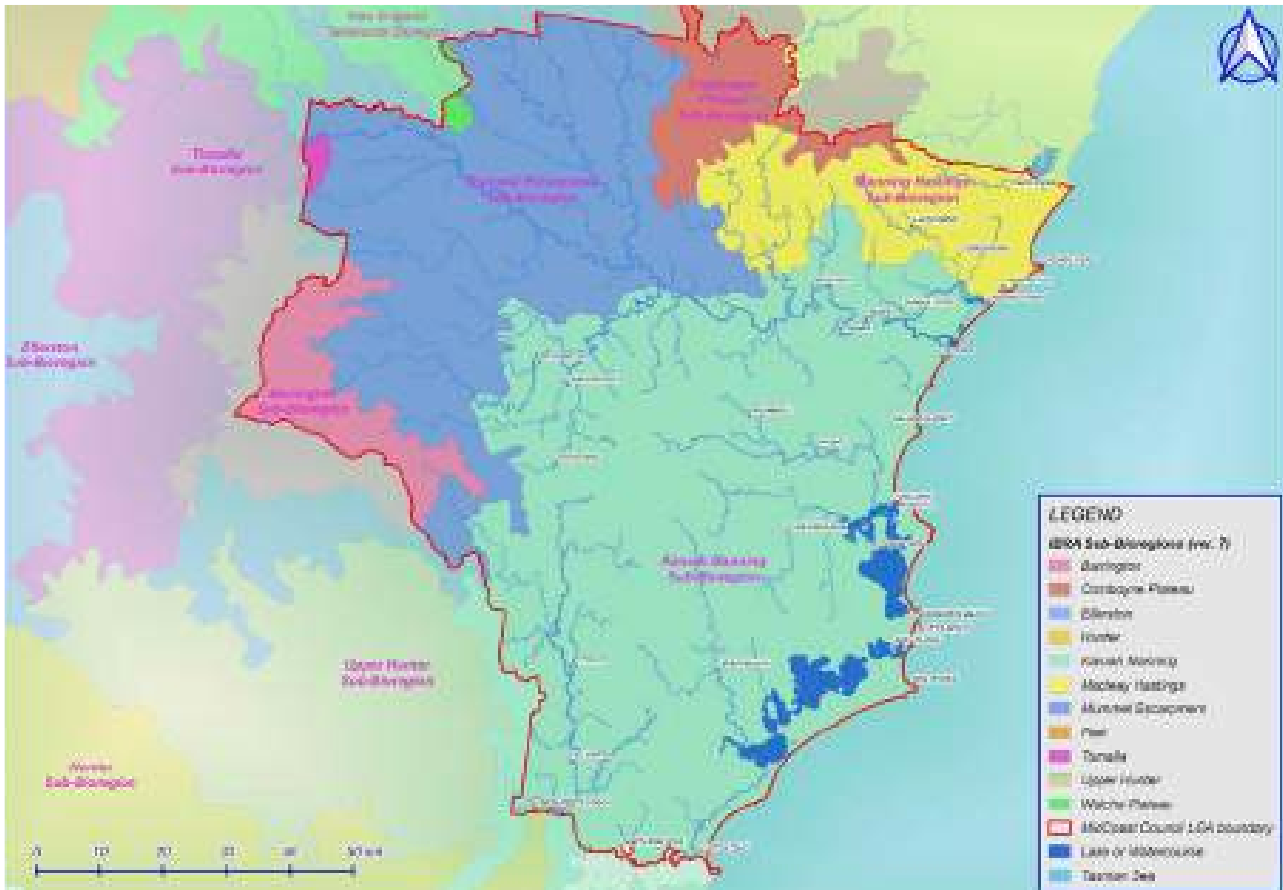


Figure 2: IBRA Sub-Bioregions of the MidCoast Region

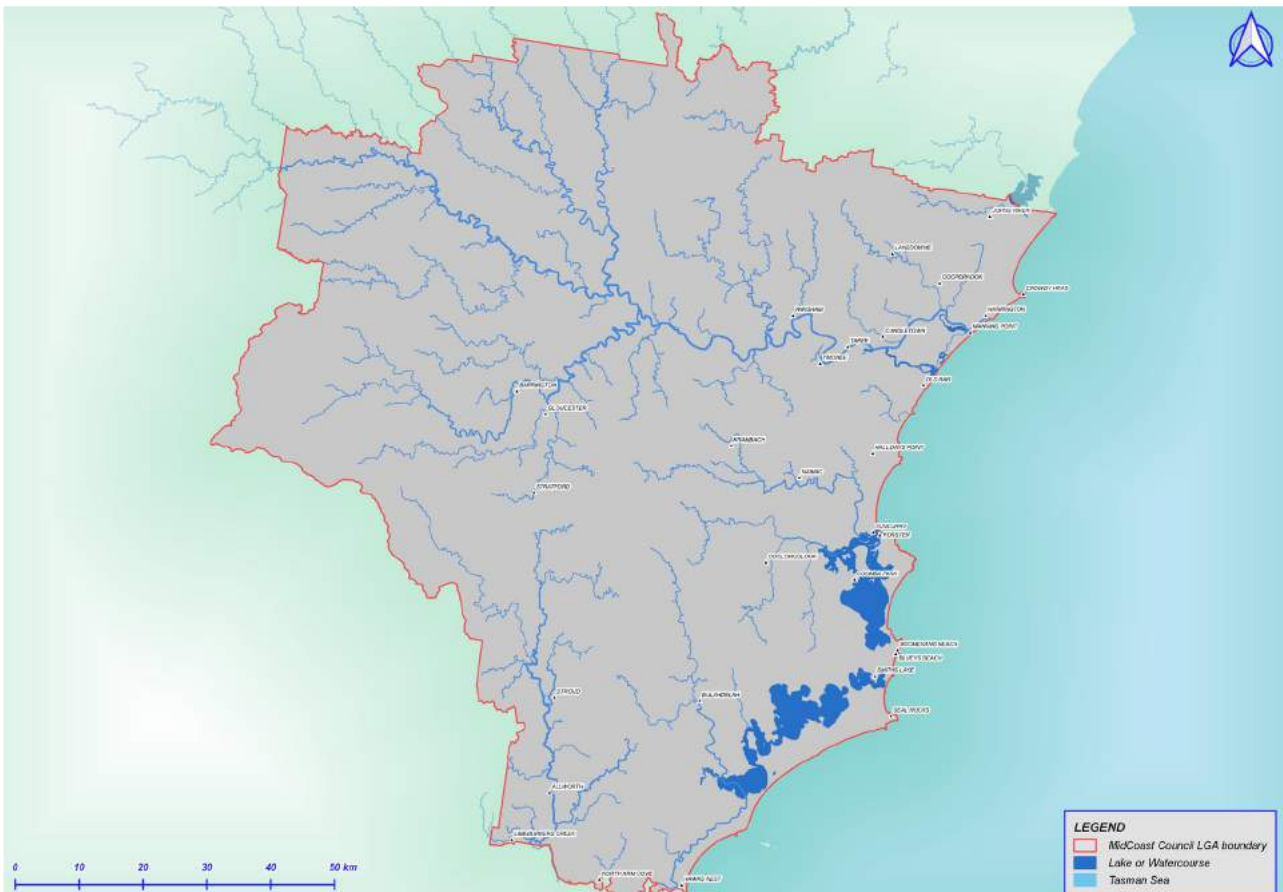


Figure 3: Major waterways and estuaries within the MidCoast Region

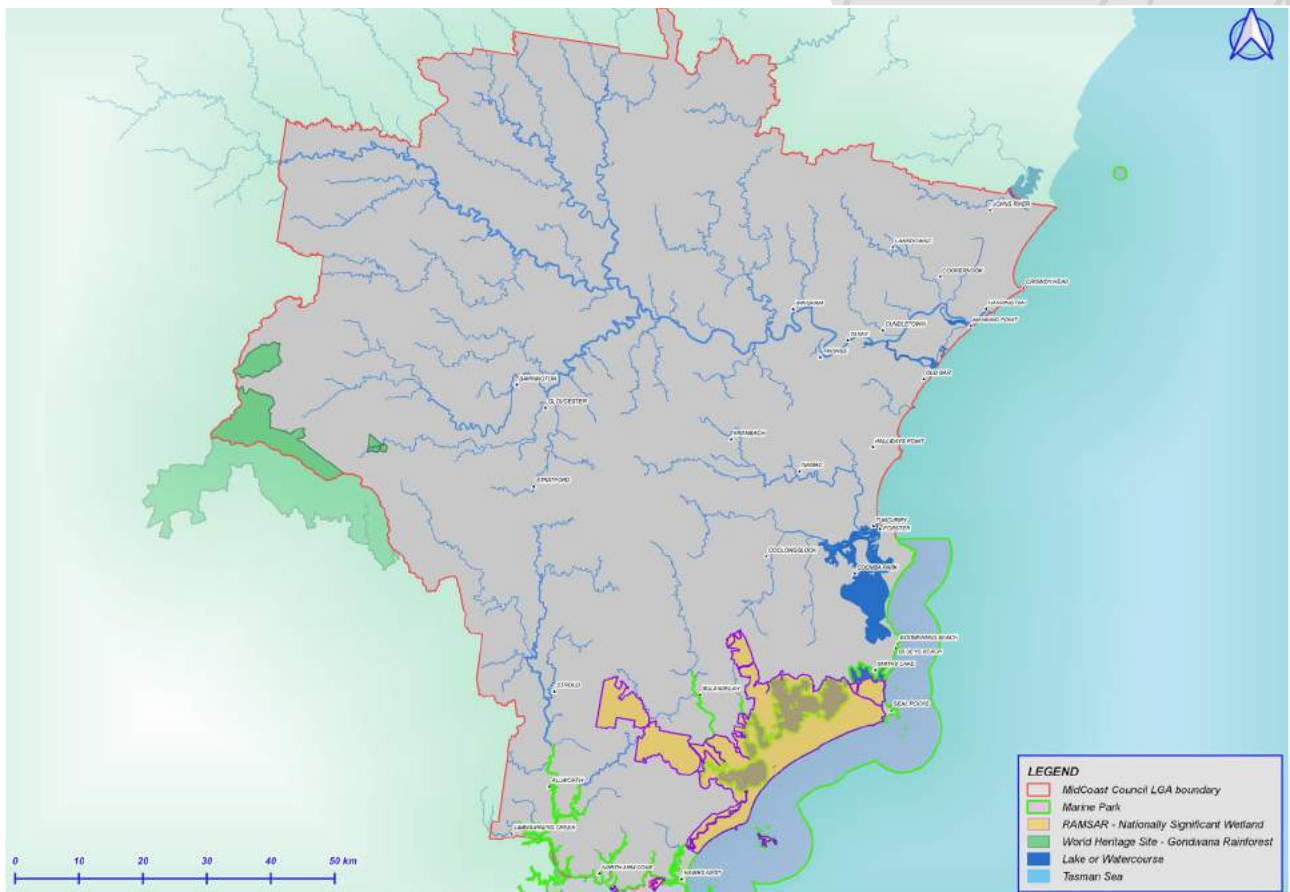


Figure 4: Map of areas of international biodiversity significance in the MidCoast Region

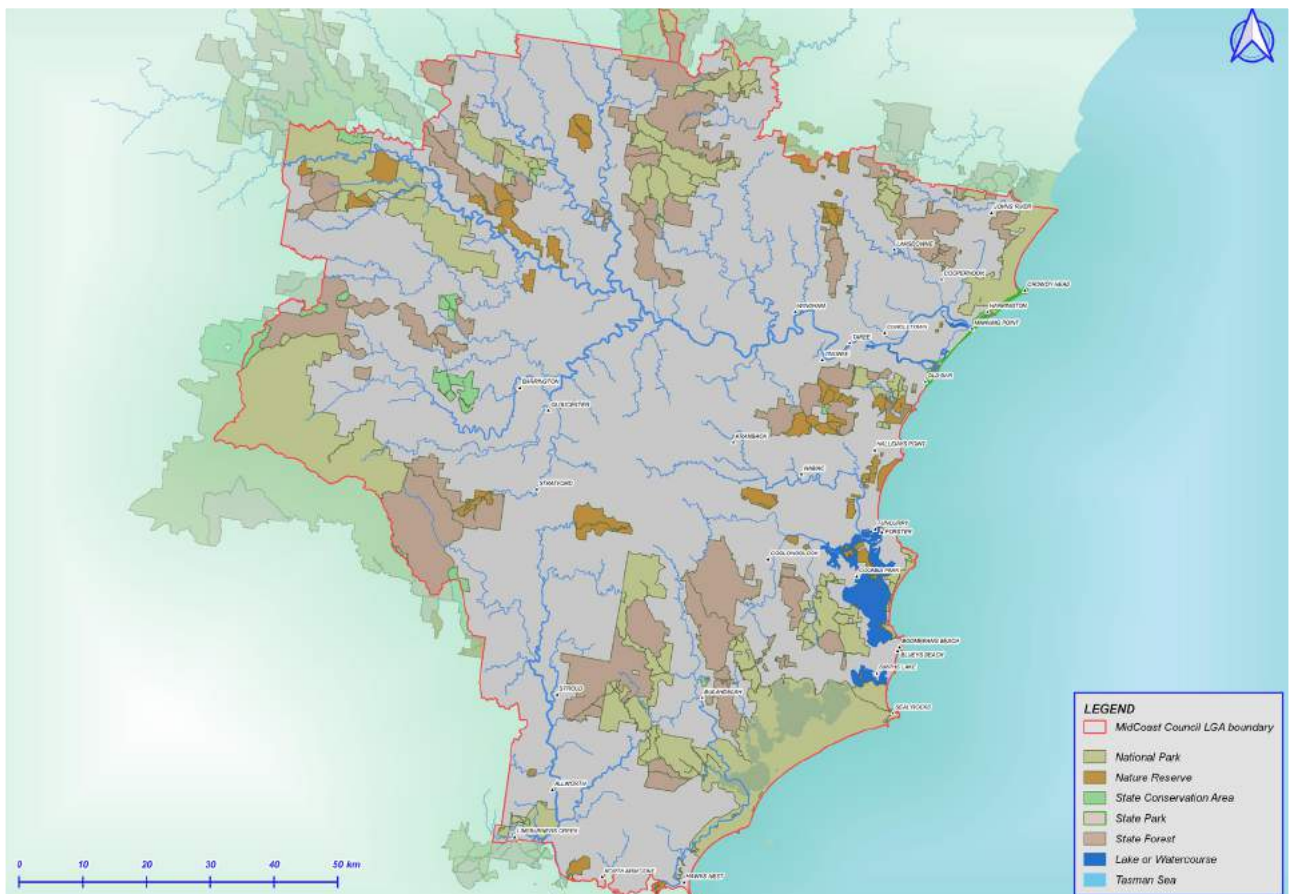


Figure 5: Map of areas of National Parks, Nature Reserves and State Forests

Threatened species are identified and given special protection under Commonwealth and State legislation. Many of the State's threatened plants and animals occur in the MidCoast Region, including species such as the Manning River helmeted turtle and the Tuncurry midge orchid, which are not found anywhere else in the world.

The Region has likely lost 3 mammal species to extinction since European settlement: the Tasmanian bettong (*Bettongia gaimardi*), white-footed tree-rat (*Conilurus albipes*) and the eastern quoll (*Dasyurus viverrinus*). No frogs or reptiles are thought to have become extinct in the MidCoast Region. The status of birds is unknown; however, it appears that there are no longer populations of the coastal emu¹².

The MidCoast Region currently supports 97 threatened fauna species excluding cetaceans and predominantly sea birds (comprising 30 mammals, 7 frogs, 5 reptiles, 54 birds and 1 invertebrate), and 41 threatened flora species. These species are listed in Appendix 4 and Appendix 5.

The recorded locations of threatened species listed under State and Commonwealth legislation in the MidCoast Region are shown in Figure 6.

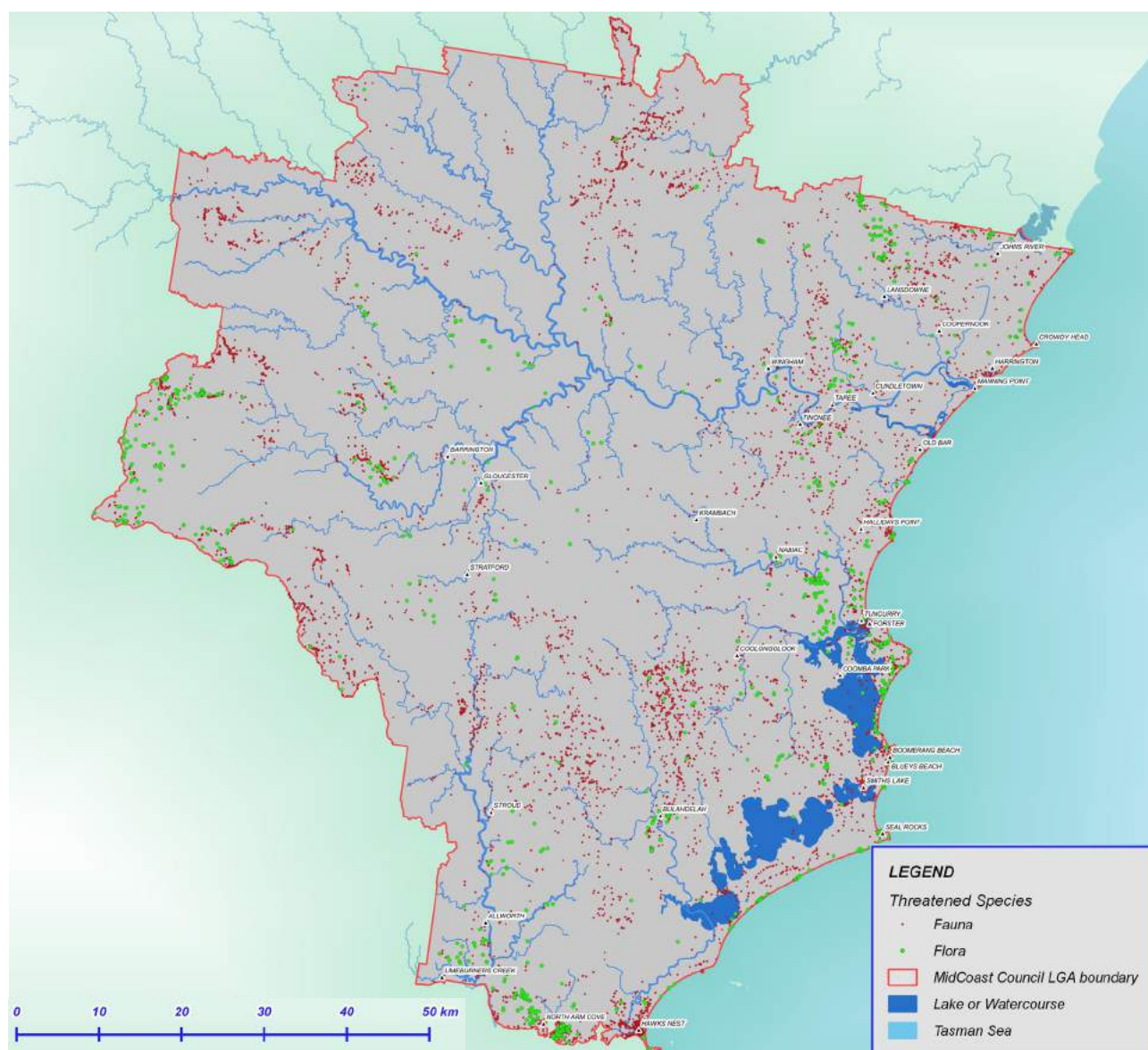


Figure 6: Map of the records of threatened flora and fauna species in the MidCoast Region (source: Bionet 2019)

12. NSW Government (2019) Bionet Atlas search.

Certain threatened species have been identified by MidCoast Council for conservation action at specific locations. These species have been prioritised based on community concern, the presence of habitat on Council land, the damaging effects of the 2019 bushfires and / or the species being a flagship species whose conservation benefits other species or landscapes.

The priority threatened species for Council includes:

- Koala (focussing on Kiwarra, Hawks Nest, Brimbin, Hallidays Point)
- Long-nosed potoroo
- Squirrel glider (Forster)
- Manning River helmeted turtle
- Yellow-bellied glider (Smiths Lake)
- Grey-crowned babbler (Gloucester)
- Guthrie's grevillea
- Narrow-leaved red gum and slaty red gum
- Ground orchids including Tuncurry midge orchid and yellow doubletail orchid.



Non-listed threatened species are also important to consider, as these may become endangered in relatively short timeframes and have important ecological roles. For example, many insects and fungi are essential to maintain ecosystem functioning. Effective biodiversity management and conservation aims to suspend the decline and assist recovery of threatened species as well to protect the status of and secure common species.

Threatened Ecological Communities (TECs) are vegetation types that are either inherently rare or which have been heavily cleared and for which the remaining areas are under significant pressure. MidCoast Council contains 17 listed threatened ecological communities, comprising 4 communities listed under the Commonwealth EPBC Act 1999 and 13 under the NSW Biodiversity Conservation Act 2016. A full list of Threatened Ecological Communities that are known from the MidCoast Region, and their status is provided in Appendix 6. Threatened populations are listed in Appendix 7.

Derived from these listings, priority threatened ecological communities have been identified for the MidCoast Region because they occur in Council reserves or are a community or other priority for local conservation management and recovery.

These include:

- Littoral rainforests,
- Lowland rainforests,
- Coastal saltmarshes,
- Themeda grasslands on coastal headlands.

At present, there is no accurate mapping available of the occurrence of threatened ecological communities across the MidCoast Region.

A range of other species and vegetation communities that do not currently meet State or Commonwealth criteria for listing but are of regional significance occur in the MidCoast Region. These include species and communities that are inherently rare or uncommon, endemic, on the edge of their range or that have suffered significant depletion in spatial extent or condition.





2.4 OUR BIODIVERSITY IS UNDER PRESSURE

Habitat loss, degradation and fragmentation from clearing and certain land uses, invasive plants and animals and climate change and altered bushfire and hydrological regimes have pushed biodiversity and natural systems into decline and undermined the services they provide. The MidCoast Region has also experienced, and is still experiencing, this decline.

Australia has been a major contributor to biodiversity loss and has experienced the largest documented decline in biodiversity of any continent over the past 200 years¹³. According to the International Union for the Conservation of Nature (IUCN), Australia is one of seven countries responsible for more than half of global biodiversity loss and is ranked second in the world for ongoing species extinction behind Indonesia (based on the number of native species that had their status changed to threatened, vulnerable or endangered since 1996)¹⁴. Since European settlement, more than 50 species of Australian animals have become extinct, including 27 mammal species, 23 bird species and 4 frog species. 48 Australian plants are officially recognised as being extinct¹⁵. Australia's rate of species decline continues to be among the world's highest, and is the highest in the OECD, the group of 30 western democratic nations¹⁶. The federal government recently concluded that Australia's biodiversity had declined further since 2011 and new approaches were needed to address this downward trajectory for many species¹⁷.

13. Department of Environment and Energy (2017) Biodiversity conservation (weblink) Canberra: Australian Government. <http://www.environment.gov.au/biodiversity/conservation>, Accessed 16 March 2020.

14. Waldron, A., Miller, D., Redding, D. et al. (2017) Reductions in global biodiversity loss predicted from conservation spending. *Nature* 551, 364–367

15. Department of the Environment, Water, Heritage and the Arts (2000) Environment Protection and Biodiversity Conservation Act 1999

16. Platt, J. R. (2013) Can You Guess Which Country Has the Most Endangered Species? *Scientific American*.

17. State of the Environment 2011 Committee. Australia state of the environment 2011. Independent report to the Australian Government Minister for Sustainability, Environment, Water, Population and Communities. Canberra: DSEWPac, 2011

The Australian Government recognises that “land clearing represents a fundamental pressure” and that “extensive historical clearing resulting in fragmentation continues to exert pressures on the land environment”. It notes that “approximately 44 per cent of Australian forests and woodlands have been cleared since European settlement”.¹⁸ Rates of clearing since European settlement vary across different ecosystem types. Some ecosystems have been heavily impacted. For instance, across Australia, since European settlement, >99% of all temperate lowland grasslands, >60% of all coastal wetlands in southern Australia, 45% of open forests and 25% of rainforests have been cleared.¹⁹ The latest data from the NSW Government indicates that more land is being cleared than is being re-created, restored or regenerated (the net state-wide clearing rate in 2014-15 was 14,700-hectares, which increased to 27,100-hectares in 2017-18). It further reported that “only 9% of NSW ... is in close to natural condition. The condition of the remaining 52% of NSW still with native vegetation cover, is variable, but has deteriorated, largely due to different land uses and land management practices.

Land clearing is the main threat to the extent and condition of native vegetation in NSW. While some vegetation classes, particularly woodlands and grasslands, have been substantially depleted since European settlement, others remain largely intact”²⁰.

Riparian zones, the land alongside creeks, streams, gullies, rivers and wetlands, are experiencing decline across Australia. These zones are unique and diverse, are often the most fertile parts of the landscape and are important in maintaining both terrestrial and aquatic biodiversity because of the role they play in regulating environmental conditions, such as bank stability, temperature and water quality and flow.²¹ Yet the condition of freshwater waterways and riparian zones is often poor to moderate throughout NSW.²² Drought, stream flow change and the effects of a changing climate are exacerbating impacts on these ecosystems²³.

According to OECD (2019), the pace and scale of actions within Australia to address the biodiversity crisis “have not been enough to improve the status and trends of ecosystems and species. Small initiatives and limited investment are insufficient to fully address a legacy of land clearing combined with growing pressure from population growth, expanding development, invasive species and climate change”²⁴.

Whilst it is important to understand the global context for biodiversity loss, the focus of this Biodiversity Framework is on the MidCoast Region. While the region contains large and diverse natural areas and residually high levels of biodiversity, there remains significant legacy and contemporary threats to biodiversity.



18. Jackson WJ, Argent RM, Bax NJ, Clark GF, Coleman S, Cresswell ID, Emmerson KM, Evans K, Hibberd MF, Johnston EL, Keywood MD, Klekociuk A, Mackay R, Metcalfe D, Murphy H, Rankin A, Smith DC & Wienecke B (2017). Australia state of the environment 2016: overview, independent report to the Australian Government Minister for the Environment and Energy, Australian Government Department of the Environment and Energy, Canberra.

19. Burns E, Lindenmayer, D Lowe & Thurgate N (eds) (2014) Biodiversity and environmental change: monitoring, challenges and direction. CSIRO Publishing.

20. NSW Environment Protection Authority. 2018, NSW State of the Environment 2018. NSW Government, Sydney.

21. WaterNSW (2020) Riparian Zones, <https://www.waternsw.com.au/water-quality/catchment/living/managing-land/riparian>

22. Jackson et al. (2016) Biodiversity: Freshwater species and ecosystems, Jurisdictional reporting on freshwater species and ecosystems

23. State of NSW & Department of Environment, Climate Change & Water NSW (2010) Priorities for Biodiversity Adaption to Climate Change, report, Sydney, NSW.

24. OECD (2019) OECD Environmental Performance Reviews: Australia 2019, OECD Publishing, Paris, p 170.

In the MidCoast Region there are 303,000 hectares of land in national parks, nature reserves and state conservation areas. However, the reserve system is not comprehensive, adequate or representative. It is biased to landscapes not typically useful for other land use purposes, sometimes in rugged or isolated locations. That is, the reserve system in the MidCoast Region is focused on parts of the landscape that are not useful for other activity or use such as residential or rural housing. This is referred to as “residual reservation”.

Threats exist as consequence of both legacy impacts (for example, historic broad scale land clearing for agriculture and development) and contemporary pressures (the effects of weeds and feral pest animals, habitat fragmentation, habitat modification, climate change and disease).

A range of specific threatening processes are listed under both the NSW Biodiversity Conservation Act 2016, and the Environment Protection and Biodiversity Conservation Act 1999. Threatening processes applicable to biodiversity on the MidCoast Region are listed in Appendix 1.

In a recent targeted survey as part of the Framework engagement program²⁵, rural landholders and community saw major threats to biodiversity in the region having substantial impacts now or in the near future as:

- Altered fire patterns
- Altered hydrological patterns (drains, dams, etc)
- Clearing of native vegetation and habitat
- Climate change, exacerbating and increasing the problems caused by bad planning and excessive urban development and land clearing
- Degradation of native vegetation and habitat
- Environmental pollution
- Feral pest or free-ranging domestic animals
- Human impacts like roads, land uses, etc
- Apathy
- Chemicals - pesticides/herbicides, plastic fibres, etc.
- Expansion of housing development inappropriate agricultural uses.



25. MidCoast Council (2020) Targeted Engagement October to November 2020 report



Land clearing: Clearing of native vegetation / habitat is one of the major causes of species loss and ecosystem service disruption and remains a key ongoing threat to biodiversity. Major periods of land clearing in the MidCoast Region included the exploitation of rainforest timbers in the mid to late 1800's, forestry expansion in the early 1900's, dairy development in the early 1900's, expansion of industrialised agriculture and mechanised clearing combined with post-war resettlement schemes from the 1950s and coastal residential development from the 1980s.

Habitat degradation: Ecological communities and biodiversity can be simplified and impacted by the degradation and / or simplification of habitat. This typically occurs because of grazing, under-scrubbing, logging and other disturbances.

Fragmentation: Fragmentation and loss of connectivity creates small isolated populations with limited gene flow, reduced potential to adapt to environmental change and impaired dispersal and recolonisation after disturbances. The MidCoast Region has areas of fragmented landscapes with habitat isolation. The most profound of these are associated with clearing of river floodplains and valleys for agriculture.

Invasive exotic plants: Invasive exotic plants can displace native vegetation, compete for light and nutrient resources, alter vegetation structure and biological function and degrade fauna habitat. A list of the priority invasive exotic plant species in the LGA is provided in Appendix 2.

Introduced pest animals: Introduced pest animals hunt native wildlife, compete for resources and degrade groundcover, soil, riparian vegetation and water quality. They can also harbour or spread animal and human diseases, damage farm infrastructure and other built assets and endanger human life. A list of the introduced pest animal species in the LGA is provided in Appendix 3.

Altered fire regimes: Most native plants, animals and ecosystems are adapted to specific fire regimes. However, altered fire regimes, including either under or over-frequent fire, can negatively impact on biodiversity. Over-frequent fire and high intensity wildfire are most likely to cause significant negative impacts and predicted to be exacerbated under a changing climate. Anecdotal evidence suggests that some fire-prone landscapes in the MidCoast Region are over-burnt, including Crowdy Bay National Park and the Minimbah sandbeds.

Altered hydrological regimes: A significant proportion of coastal and riverine wetlands in the MidCoast Region (and across New South Wales) have been lost because of altered hydrological regimes.²⁶ Altered hydrological regimes may result from one or more activities including water harvesting, draining, channelisation and infilling and mainly affects rivers and streams, wetlands, floodplains, riparian zones and other groundwater dependent ecosystems. It includes the effects of over-extraction, some sandmining practices as well as weir and floodgate construction and operation, which impede natural flows and fish movement. Draining of coastal wetlands can lead to severe acid generation, such as at Darawakh Creek- Froggalla Swamp, Moto Wetlands, Coopernook Wetlands and Cattai Creek - Big Swamp. Severe drought in 2019 severely impacted aquatic systems in many local waterways and contributed to fish-kills and the death of many platypus, turtles and other aquatic species.

Pollution: Pollution can interrupt ecological processes, affect organisms and smother habitats. It can also drive other degradation processes, such as algal blooms and pollution from acid sulphate soil landscapes. Key pollutants in the MidCoast Region include sediments and nutrients from agricultural run-off, stormwater pollutants from urban run-off, acid in waterways from exposed acid sulfate soils as well as plastics and other litter.

Human impacts: Human impacts on biodiversity include hunting / culling, over-fishing and vehicle strikes. Vehicle strike impacts can be a severe threat to species such as the koala.

Changing climate: Climate change poses a significant threat to biodiversity in many parts of Australia including the MidCoast Region. Projections of future changes in climate locally include increasing temperatures and temperature extremes, increasingly severe droughts, increasing the scale and intensity of wildfires, rising sea levels, reduced and migrating rainfall patterns, changed regional flooding and reduced water availability.²⁶ Locally, the most vulnerable ecosystems include coastal ecosystems, sub-alpine areas, rainforests, fragmented terrestrial ecosystems and areas vulnerable to fire or low freshwater availability. Species that could become endangered or extinct include those living near the upper limit of their temperature range (for example, in alpine regions), those with restricted climatic niches and those that cannot migrate to new habitats due to habitat fragmentation. While some climate change impacts are already being experienced, a biodiverse landscape holds opportunities for mitigating and embedding in resistance to climate change. Forests and wetlands sequester significant amounts of carbon dioxide from the atmosphere. There are many other biological processes that can contribute to reducing the effects of climate change. For instance, the maintenance of coastal vegetation and wetlands can also provide transitional/migration impact protection from the effects of sea-level rise and increased storm events.⁴¹

Disease: Plant and animal diseases can significantly affect biodiversity, as well as economically important local industries such as the oyster industry and animal agriculture. These diseases may be naturalised, widespread or sporadic within the region or be not yet introduced. Regional examples include Myrtle rust, a known significant pathogen of plants of the Myrtaceae family caused by *Puccinia psidii* that has spread across the eastern Australian landscape. Fauna diseases include the infectious bacteria, *Chlamydia*, that while not usually fatal to koalas, can severely impact koala health and reduce breeding rates, and disease caused by a Chytrid fungus that is linked to the decline and disappearance of many frog species.



26. Bureau of Meteorology (2020) State of the Climate 2020 Report, Canberra



2.5 HOW DOES BIODIVERSITY LOSS IMPACT US?

Loss of biodiversity impacts the delivery of ecosystem services which in turn impacts the social and economic drivers in the MidCoast Region.

The connections between a biodiversity impact and negative social and economic outcomes is examined in Diagram 1.

One example of the impact of the loss or decline of ecosystem services provisions of the natural environment was the 1997 Hepatitis A outbreak in oysters within Wallis Lake. Hepatitis A virus poses a special risk to consumers who eat raw oysters because it can survive for long periods in estuaries and cause severe disease. One person died from the virus, with many people suffering illness. The Hepatitis A outbreak caused multi-million-dollar regional economic losses because of significantly reduced tourism and visitation, reduced seafood consumption and a temporary closure of the oyster industry. The Hepatitis A event in Wallis Lake was a catalyst for improvements in local catchment and environmental management and monitoring systems.

Diagram 1 illustrates some of the linkages that may be made between biodiversity impacts and negative community and economic outcomes associated with:

- Reduced farm productivity and depleted fish stocks
- Increased treatment costs for domestic water supplies
- Damage to our tourism brand, reduced visitor rates and spending
- Loss of our lifestyle, amenity, and cultural identity.

In order to prevent the impact of biodiversity loss and protect the natural environment for future generations, the most cost-effective approach is to use the precautionary principle and conserve existing natural assets rather than attempt expensive remediation once damage has occurred.

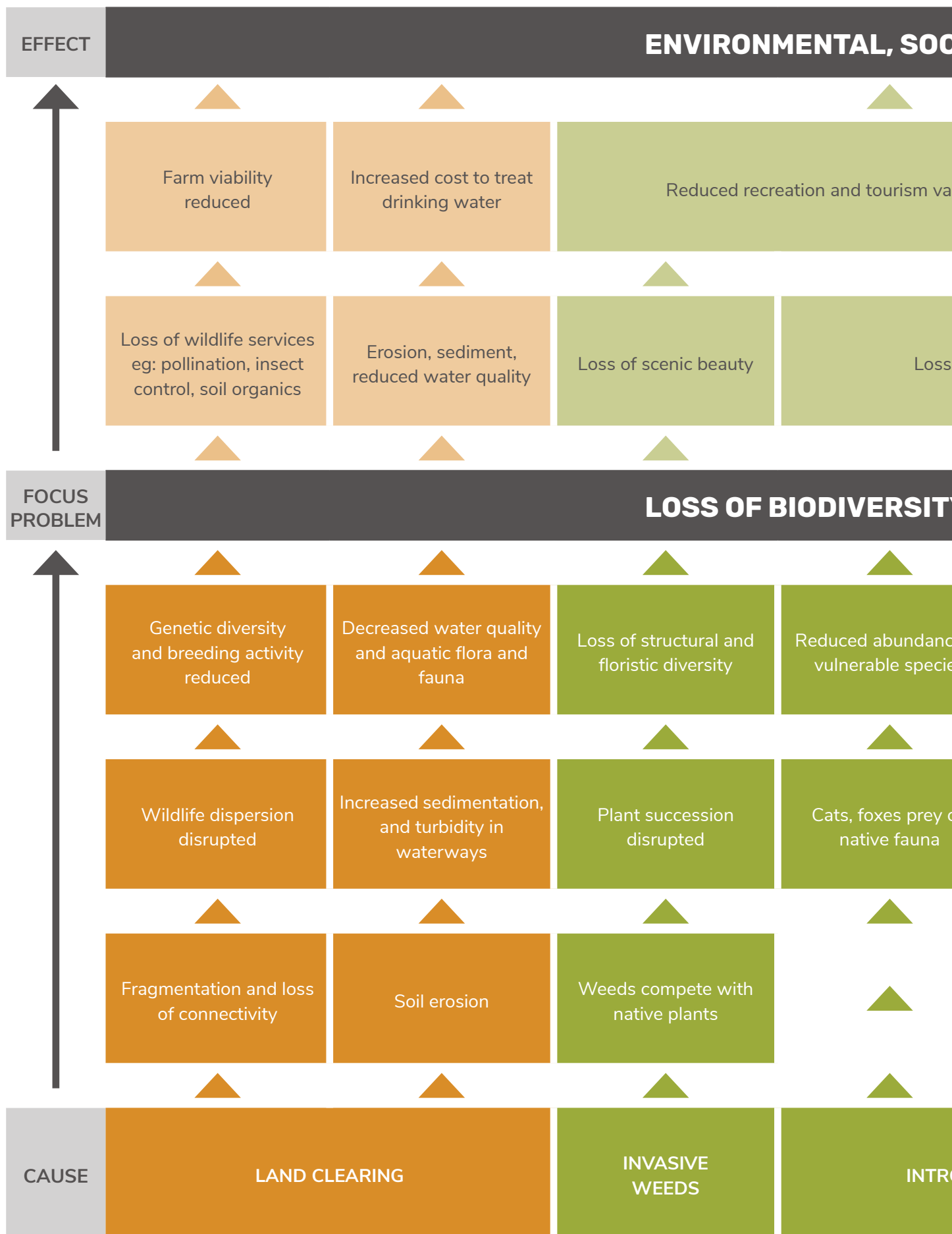
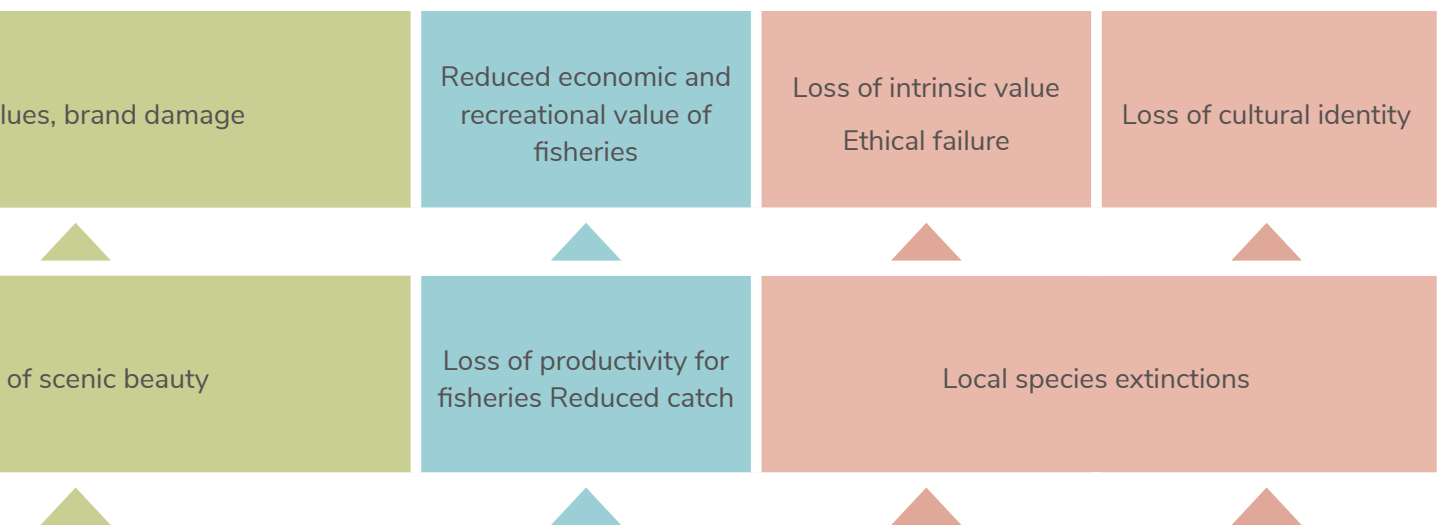
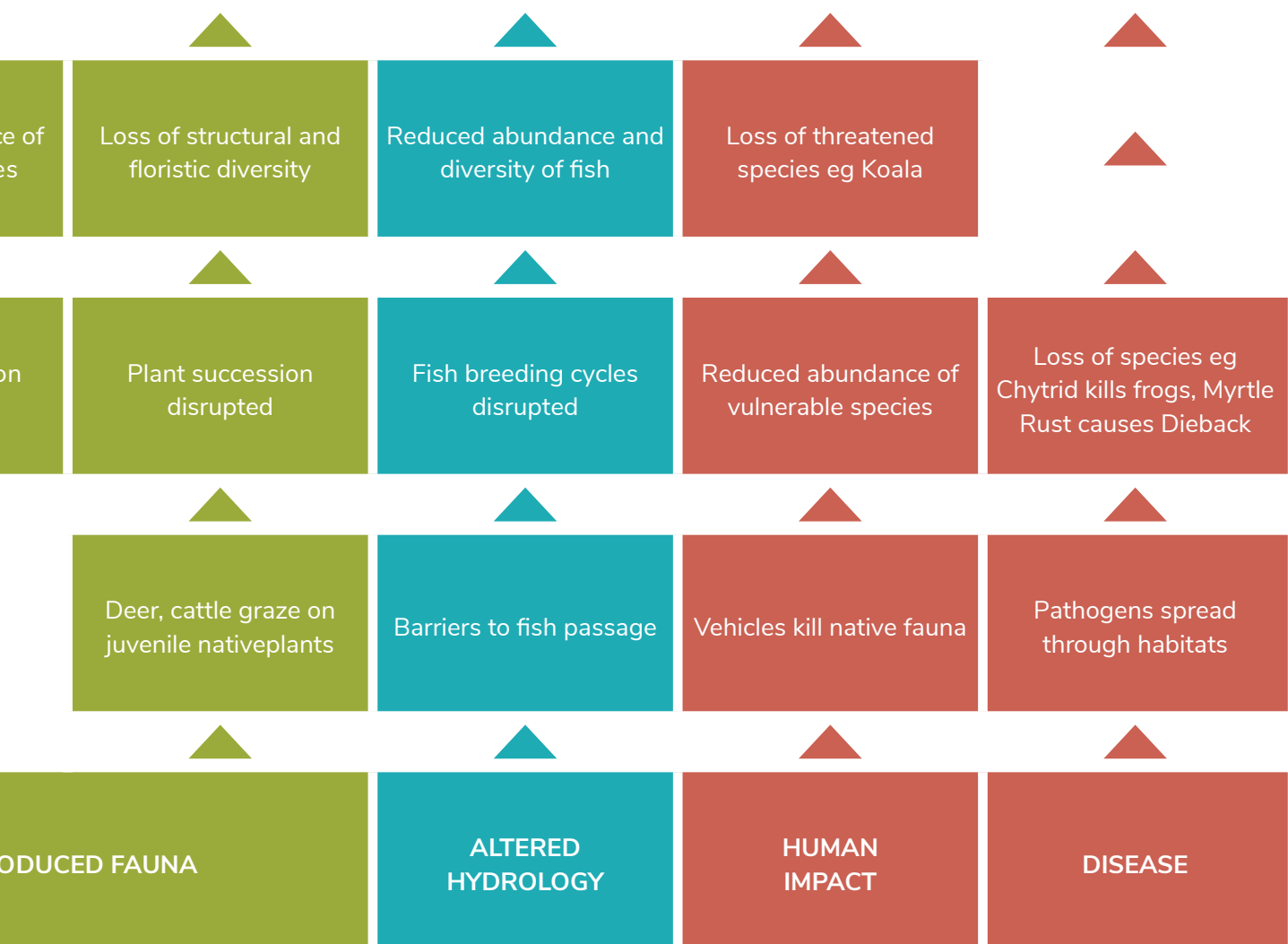


Diagram 1: Problem tree analysis as a pictorial representation of the decline in biodiversity and ecosystems, the causes and

SOCIAL AND ECONOMIC IMPACTS



ENVIRONMENTAL AND ECOSYSTEM SERVICES



environmental, social or economic consequences

2.6 MIDCOAST COUNCIL'S BIODIVERSITY ROLE

Local Government plays an important role in planning and managing biodiversity and the natural environment on both public and private lands.

The charter in the *Local Government Act 1993* requires Council to:

“properly manage, develop, protect, restore, enhance and conserve the environment for which it is responsible, in a manner that is consistent with and promotes the principles of ecologically sustainable development” and “to have regard to the long-term and cumulative effects of its decisions”²⁷.

In accordance with the charter, MidCoast Council represents our community's aspirations and undertakes key roles in relation to biodiversity management in our capacity as:

- a service provider
- a land use planning authority
- a regulatory authority acting in the public interest
- a landowner and manager.

Council also has roles and responsibilities under the NSW Government's *Hunter Regional Plan 2036* relating to biodiversity and land use planning. This plan provides a direction for regional planning decisions and requires that Council implement actions that are consistent with the vision, guiding principles and priorities and that contribute to regional goals. The Plan sets a “biodiversity-rich natural environment” as the second focused goal, with three biodiversity related directions: Direction 14 Protect and connect natural areas, Direction 15: Sustain water quality and security, and Direction 16: Increase resilience to hazards and climate change.



27. Local Government Act 1993

This is in recognition that our natural environment sustains important cultural, social and economic activities. It recognises that good planning and design will be fundamental to protecting the environment and building greater resilience to natural hazards and climate change. Residents and visitors to the region, including the MidCoast Region are fortunate to have ready access to many of the region's natural areas - these areas contribute to the region's identity and the health of its communities. They are also important for recreational and tourism activities, as a focus for investment and a factor in where people choose to live. These points also form part of Goal 3 of the plan relating to supporting thriving communities through enhancing access to recreational facilities and connect open spaces.²⁸

Effective and successful regional biodiversity conservation depends on local government because:

- Conservation planning and management requires a mix of education, incentives and regulatory controls, all of which require local content
- Conservation involves the community and enlists local support, and local government is connected to our community
- Conservation planning targets regions and communities, and local government works at these scales.

Effective delivery of these relies on coordinated actions across many areas of council's core and discretionary business through a range of tools and actions. These are identified in this Framework grouped into themes within Section 2.



28 NSW Government (2016) Hunter Regional Plan, Goal 3, Newcastle.

3: VISION



3.1 NATIONAL AND STATE CONTEXT

In the higher tiers of government, biodiversity is recognised in State and Australian Government statutes and strategic plans. The long-term vision of Australia's Biodiversity Conservation Strategy (2010 – 2030) is that **Australia's biodiversity is healthy and resilient to threats and valued both in its own right and for its essential contribution to our existence.**

Within the Hunter Regional Plan, the NSW Government has adopted a **biodiversity-rich natural environment** as one of the goals.

3.2 OUR COMMUNITY'S VISIONS AND VALUES

Within the community strategic plan MidCoast 2030: Shared Vision, Shared Responsibility, protecting and enhancing the natural environment emerged as a community priority.

The Community's Vision is **We strive to be recognised as a place of unique environmental and cultural significance. Our strong community connection, coupled with our innovative development and growing economy, builds the quality of life we value.** The values are that **Our natural environment is protected and enhanced, while we maintain our growing urban centres and manage our resources wisely.**



The alignment of valuing our environment to the *Local Strategic Planning Statement, CSP and Hunter Regional Plan 2036 Directions* are shown in Figure 7 (below).

The Vision for the environment in Delivery Program and Operational Plan (Objective 7) is:

to understand, value, protect and enhance the biodiversity and natural heritage of the MidCoast region for the environmental, cultural and economic well-being of our community.

Within the LSPS Planning Priority 6 relates to protecting and improving our environment.

WE VALUE	LSPS planning priorities	Alignment with CSP	Alignment with Hunter Regional Plan 2036 Directions
OUR ENVIRONMENT 	P6: Protect and improve our environment P7: Improve our resilience to natural disasters and climate change P8: Managing our land and water assets	E1: We protect, maintain and restore our natural environment E2: We manage resources wisely E3: We balance the needs of our natural and built environments	D10: Agricultural productivity D11: Manage natural resources D14: Protect and connect natural areas D15: Sustain water D16: Hazards and climate change

Figure 7: Alignment of values relating to the environment of other related plans

Objectives and Targets

Rather than establishing objectives for the framework, each biodiversity action will identify specific, measurable objectives that are linked to the targeted outcomes. The Biodiversity Framework instead will set the following main goals to deliver the vision:

1. Maintain or improve the current diversity of species and ecosystems
2. Maintain or improve the provision of ecosystem services
3. Maintain or reinstate (where required) a biodiversity-rich, resilient and connected natural environment

3.3 BIODIVERSITY ENGAGEMENT PROGRAM

Purpose

The community and stakeholders play a key role in both developing the framework, and in carrying through the program. Engaging with key stakeholder groups and the broader community in an open and participatory way helps Council understand their goals, concerns, priorities and partnership opportunities. Engagement for the framework has been designed following the International Association for Public Participation (IAP2) framework as outlined in *MidCoast Council's Community Engagement Policy*.

The specific aims of engagement for the framework are to:

- To gain insight, acceptance and ownership from Council stakeholders and the community on biodiversity values, priorities and actions in the LGA
- To inform the community how their feedback will influence the design to ensure the framework meets the needs of the community
- To secure Council adoption of the framework and integration into IP&R Framework and DPOP
- To build a platform for ongoing support and implementation of the framework by internal and external stakeholders
- To educate and raise awareness within the community and key stakeholders on the LGAs biodiversity values, current and future conservation and management, what a framework is and may cover, what they may expect from Council, what their role is
- Provide key stakeholders with the opportunity to express their opinion, providing insight to values, actions, partnerships, challenges, needs
- To continue to build trust with our community and ensure that all relevant individuals and groups are given the opportunity to be appropriately and adequately engaged. This is particularly important for special interest groups such as Aboriginal Traditional Owners and large property owners in rural areas.





Program

Individuals, agencies, landholders, special interest groups, partners and the community were being invited to be involved in different ways throughout key phases of framework development through a carefully designed and comprehensive program. This comprises:

- first two major phases in 2020, where stakeholders and key community members were invited to contribute to the vision, goals, priorities, themes, partnerships, collaborations and projects for a draft framework
- phase three in early 2021, key partners and stakeholders engaged over relevant programs and actions within themes, with a focus on strengthening or adding actions, defining partnerships and opportunities
- public exhibition consultation and revision of the framework to reflect input. This phase provides everyone with the opportunity for comment and suggestions to be considered
- adoption by Council and phase six implementing the Framework.

Phase one and two engagement

In 2020 internal Council engagement and key external stakeholder engagement was undertaken as part of the first two phases of the engagement program. As outlined in MidCoast Council's Community Engagement Policy the International Association for Public Participation (IAP2) five-point framework for measuring the level of community engagement was used.

Targeted external engagement was undertaken between Tuesday 12 October to Friday 20 November 2020 to generate participation and gain feedback, showcasing why our region is valuable and enabling key stakeholders to provide informed feedback into the initial development of the Framework. Engagement opportunities were adapted to meet health restrictions at the time, and involved distributing engagement packages comprising factsheets, introductory video and instructions, workshop tips for facilitators and a checklist of activities. A diverse range of groups was targeted, including government agencies, special interest groups, Aboriginal Land Councils, rural land holders, and farming groups. The series of engagement activities undertaken provided a variety of ways for the community to share their opinion and ideas, and generate community conversations. A Have Your Say page on our website provided an online hub to share information, encourage participation, and link to the online survey. This survey was the primary tool for gathering feedback and was promoted through a range of communication channels, and provided in targeted email correspondence. Responses to a series of questions were provided in hard copy or via an online link.

The types of survey questions included:

What do you see is Council's role in relation to regional biodiversity management?

Identify the projects you would like to see Council doing to assist deliver common biodiversity goals / visions in the region?

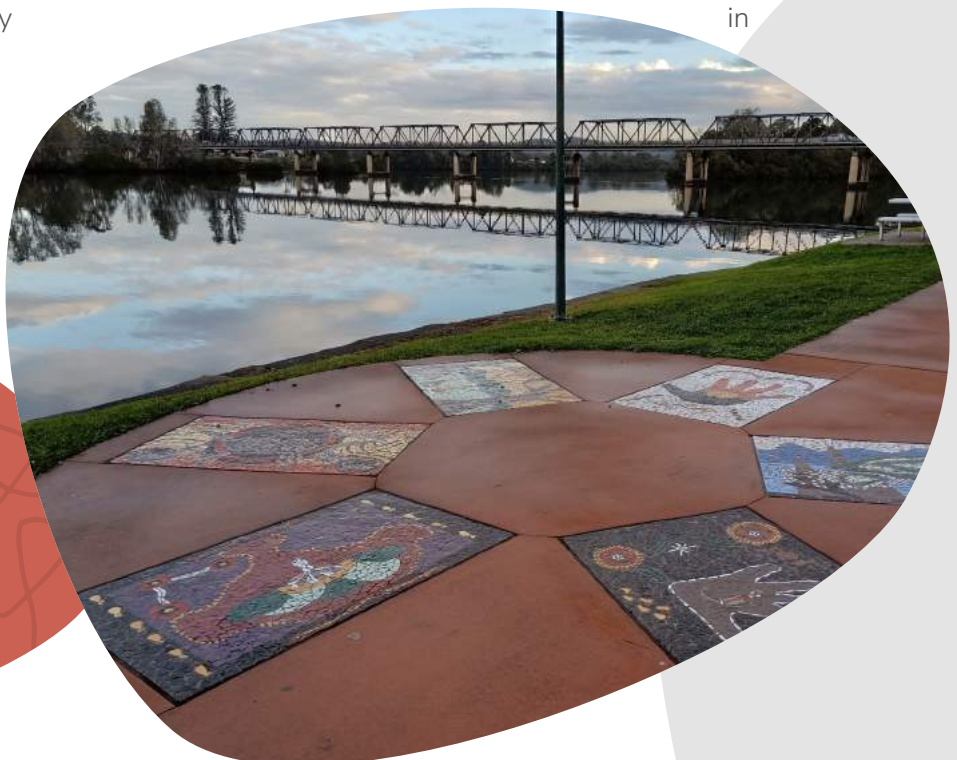
How can Council better support the work of your agency in biodiversity conservation and management?

What is your Groups' vision and goals for biodiversity in the MidCoast Region?

Favourite natural places and iconic, representative or special animal or plant species in the MidCoast Region

Ranking of threats to biodiversity in the region

Projects you would like to see council undertake



3.4 WHAT HAVE WE HEARD SO FAR?

Over the period of the engagement, there were 482 visits to the Have Your Say web page. One on one telephone discussions were held with key stakeholders. 98 people completed the survey online, made up of the following groups:

Government agency 3%

Environmental and
interest groups 14%

Rural landholder 35%

Community 48%



The overall response from environment and interest groups, rural landholders and community was agreeance that:

- We have a responsibility to look after nature and biodiversity for future generations
- Nature and biodiversity are essential to the production of food, other products and clean air and water
- Nature and biodiversity are important for tackling climate change
- Nature and biodiversity are important for my personal recreation, relaxation and spiritual renewal
- Whether I visit natural places or not, it is important for me to know nature and biodiversity is looked after.





Environment and Interest groups expressed overall satisfaction with access to green space such as parks, forests and natural areas and air quality.

These groups would like to see Council delivering the following projects:

- Include biodiversity considerations in development catchment and land use
- Prepare wildlife corridor mapping and strategies
- Repair and protect damaged and degraded wetland systems
- Rezone high conservation value lands for environmental protection
- Encourage and facilitate private land conservation outcomes
- Assist the Aboriginal community with the preservation of culturally-significant areas
- Encourage ecological or cultural burning of lands
- Manage Council natural areas for their biodiversity values
- Respond in the event of biodiversity emergencies such as large wildfires
- Acquire land for new Council Natural Area Reserves
- Adopt biodiversity measures in climate change policies and plans
- Adopt tree protections in urban lands
- Deliver biodiversity education and engagement programs
- Prepare Local Area Conservation Action Plans
- Collate compile and publish biodiversity knowledge of the MidCoast Region
- Continue to act as a regional provider for the Land for Wildlife program
- Deliver nature-based recreation assets and opportunities such as walks
- Deliver strategic feral pest animal programs for biodiversity conservation
- Deliver strategic programs to control or manage domestic pets
- Deliver strategic weed programs for biodiversity conservation
- Prepare threatened communities and species conservation and management



For Rural landholders and community survey responses to the question “What activities do you like to do in our natural areas?” were by most popular Bushwalking (76), Fishing / canoeing / swimming / surfing (62), Picnics (56), Camping (46), Photography (50), Other cultural activities (28) and Horse or mountain bike riding (16).

When asked to name three (3) plant or animal species that are iconic or represent/special to the MidCoast region, Koalas ranked the highest followed by the Manning Helmeted Turtle and Flying Fox.

Rural landholders and community saw major threats to biodiversity in the region having substantial impacts now or in the near future as:

Altered fire patterns
Altered hydrological patterns (drains dams etc)
Clearing of native vegetation and habitat
Climate change
Degradation of native vegetation and habitat
Environmental pollution
Feral pest or free ranging domestic animals
Human impacts like roads land uses etc
Other: Apathy
Other: Chemicals pesticides/herbicides plastic fibres etc
Other: Expansion of housing development inappropriate agricultural uses
Other: Global Warming this is exacerbating and increasing the problems caused by bad

Government Agency responses advised that they would like Council to focus on:

- Strategic conservation planning with local-scale mapping and data, management and legal protection of public bushland, education and support for private land conservation, internal Council policies to prevent further vegetation loss and to offset above BOS requirements
- Education, protection, partnerships, collaboration, Land purchases, cooperative funding bids, working hand in hand with NPWS
- Effective land management - eg control of pest and weeds, erosion, maintain native vegetation and proper industry use.

Restoring and protecting connectivity was a key recurring theme for community groups, individuals, landholders and Aboriginal groups from the consultation during late 2020. This is stated explicitly, and in the projects and programs respondents consistently listed as priorities for Council:

- Preparing local area conservation action plans
- Preparing wildlife corridor mapping and strategies
- Include biodiversity considerations in development, catchment and land use planning
- Encourage and facilitate private land conservation outcomes
- Rezoning high conservation value lands for environmental protection



Rural landholders and community would like to see Council deliver on the following projects:

- Acquire land for new Council Natural Area Reserves
- Adopt biodiversity measures in climate change policies and plans
- Adopt tree protections in urban lands
- Assist the Aboriginal community with the preservation of culturally significant landscapes
- Collate compile and publish biodiversity knowledge of the MidCoast Region
- Continue to act as a regional provider for the Land for Wildlife program
- Deliver biodiversity education and engagement programs
- Deliver nature based recreation assets and opportunities such as walks
- Deliver or fund research projects for biodiversity
- Deliver strategic feral pest animal programs for biodiversity conservation including education
- Deliver strategic weed programs for biodiversity conservation including education
- Encourage and facilitate private land conservation outcomes
- Encourage ecological or cultural burning of lands
- Include biodiversity considerations in development catchment and land use planning
- Manage Council natural areas for their biodiversity values
- Manage roadside environments that have significant biodiversity values

3.5 A VISION FOR NATURE FOR THE MIDCOAST

In the first phases of targeted stakeholder and community engagement program for the framework, participants' input on their values, priorities, concerns and ideas is being used prepare the vision, goals and themes specific to the framework, which will be carried through for input for exhibition, and ultimately the final Framework version.

While local Aboriginal groups' vision and goals for biodiversity overlap with these broader community aspirations, the vision identified during consultation for the Worimi community is to:

Protect and nurture Country.²⁹ This vision is supported by a set of goals, outlined in Theme 4.

At present, the Biodiversity Vision for this framework is based on the *Delivery Program* and *Operational Plan Objective 7*:

We understand, value, protect and enhance the biodiversity and natural heritage of the MidCoast region for the environmental, cultural and economic well-being of our community.



29. Worimi Aboriginal Land Council (Green Team Unit) submission to Biodiversity Framework Survey, 16 November 2020.



4. LEGISLATIVE AND PLANNING CONTEXT

A legislative and regulatory framework applies to the protection, conservation, management, and assessment of impacts on biodiversity. Applying clear and consistent objectives for biodiversity across the range of mandatory and discretionary Council activities will assist in meeting regulatory requirements and conserving biodiversity in line with the communities' goals and aspirations.

Relevant legislation is identified below, with the summary and relevance to MidCoast Council outlined in Appendix 8.

4.1 INTERNATIONAL CONVENTIONS

Convention
Convention on Biological Diversity
Convention on Wetlands of International Importance (Ramsar convention)
Convention concerning the Protection of the World Cultural and Natural Heritage (World Heritage Convention)

4.2 AUSTRALIAN GOVERNMENT LEGISLATION

Statute

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)

4.3 NEW SOUTH WALES GOVERNMENT LEGISLATION

Statute

Local Government Act 1993

Environmental Planning and Assessment Act 1979

Biodiversity Conservation Act 2016

Fisheries Management Act 1994

Crown Land Management Act 2016

Local Land Services Act 2013

Water Management Act 2000

National Parks and Wildlife Act 1974

Aboriginal Land Rights Act 1983

Protection of the Environment Operations Act 1997

Biosecurity Act 2015

Rural Fires Act 1997

State Environment Planning Policy (Koala Habitat Protection) 2019

State Environmental Planning Policy (Vegetation in Non-Rural Areas) 2017

State Environmental Planning Policy – Coastal Management

State Coastal Management Act 2016



4.4 GOVERNMENT STRATEGIES AND REPORTS

State and national governments tend to focus on biodiversity management at larger spatial and administrative scales. Local government can support local and regional biodiversity and implement the communities' environmental goals and aspirations. In doing so, Councils can assist State and Commonwealth Governments to meet their biodiversity targets and deliver on their natural resource management plans.

The role of local Councils in State and Commonwealth biodiversity strategic Framework and the range of key strategies and reports have been considered in developing this Biodiversity Framework. These include:

Biodiversity Conservation

Australia's Biodiversity Conservation Strategy 2010 - 2030

New South Wales Draft Biodiversity Strategy 2010 - 2015

New South Wales Biodiversity Conservation Investment Strategy 2017 - 2037

Biodiversity Planning Guide for NSW Local Government 2001

National Parks and Nature Reserves

Australia's Strategy for the National Reserve System 2009 - 2030

Draft NSW National Parks System Directions Statement 2017

Regional and Local Planning

Hunter Regional Plan 2036

Mid North Coast Regional Strategy 2009

Mid North Coast Regional Conservation Plan 2011

Climate Change Adaptation

NSW Biodiversity and Climate Change
Adaptation Framework 2007 - 2008

Agency Strategic Planning

Local Land Services Strategic Plan 2016 - 2021

Invasive Species Management

New South Wales Biosecurity Strategy 2013 - 2021

NSW Invasive Species Plan 2018 - 2021

NSW Weeds Action Program 2015 - 2020

Hunter Regional Strategic Pest Animal Management
Plan 2018 - 2023 MidCoast Council Policy and Planning

MidCoast 2030 Shared Vision, Shared Responsibility

Rural Strategy

Climate Change Policy



4.5 BIODIVERSITY COMPLIANCE RESPONSIBILITIES

Councils in New South Wales have a range of statutory responsibilities relating to biodiversity protection. The NSW Ombudsman has prepared “Enforcement guidelines for councils”. This guideline provides direction for councils, particularly in relation to the importance of enforcement, the principles of regulatory action and best-practice enforcement and compliance processes. The NSW Ombudsman has also prepared a “model compliance and enforcement policy” for councils.

In relation to biodiversity matters, councils have statutory enforcement or action responsibilities in relation to matters that includes:

- Domestic dog attacks on native wildlife
- Domestic cat attacks on native wildlife
- Introduction to dogs in sensitive, regulated natural areas (including beaches)
- Feral animal management and control in public places
- Development without consent – impacting on biodiversity features or values (including construction, clearing, landform modification or filling)
- Non-compliance with development consent that impacts on biodiversity features or values
- Environmental pollution (air or water)
- On-site sewage management - pollution
- Littering
- Unlawful dumping of waste materials
- Algal bloom matters
- Clearing of trees and native vegetation from Council regulated lands or in conflict with Council statutory instruments
- Clearing of vegetation and habitat in roadsides, parks and open space reserves
- Weed biosecurity regulation
- Vehicle use on beaches (particularly relating to impacts on shorebirds, etc)
- Undertaking activities that are prohibited or in conflict with permitted activities in certain zones (eg. introduction of stock to E2 zoned land in the Great Lakes LEP 2014)
- Clearing and harm to coastal wetlands, littoral rainforests (and land in their proximity) in mapped sites under the Coastal Management SEPP



The development of a compliance policy for MidCoast Council will:

- Clearly identify relevant statutes and legislation pertaining to biodiversity matters
- Provide guidance on prioritisation and triaging of biodiversity compliance matters
- Identify compliance teams, including subject matter experts and specify effective investigative processes
- Describe optimal enforcement options and pathways for certain offences
- Document internal processes, communication and relationships



5. FRAMEWORK PRINCIPLES AND THEMES

5.1 PRINCIPLES

The following set of principles guide biodiversity decisions in the Framework and its implementation:

Access to nature:: Providing appropriate access to nature is a means to engage the community and encourage stewardship for biodiversity.

Appropriate scale: Biodiversity conservation action is undertaken at the appropriate spatial and temporal scales required to conserve species and ecosystems.

Collaboration: Biodiversity conservation involves collaboration with stakeholders from all sectors to create more effective and sustainable solutions.

Conservation hierarchy: Biodiversity planning functions are delivered within a tiered hierarchy to protect, then restore, then reconstruct. When considering development controls, the approach must be to avoid then mitigate before considering offsets.

Continuous improvement: Outcomes are to be meaningful and measurable, with monitoring, evaluation and reporting programs to track progress and guide improvement.

Effectiveness: Biodiversity planning and management is to be coordinated, consistent and economically responsible.

Ecosystem approach: Protecting natural habitats and ecosystem services through integrated management of land, water and living resources is to be the foundation of biodiversity conservation. The conservation and, where appropriate, restoration of these interactions and processes is of greater significance for the long-term maintenance of biological diversity than simple protection of species.

Intrinsic value: Native species, communities and landscapes have intrinsic value and warrant protection.

Local offsets: Offsets that are provided for local developments are to be as near as possible to the disturbance site (and not beyond the boundaries of the Council area) and the benefits should be readily accessible to the community which accommodates the disturbance.

Maintaining biodiversity: The current assemblage of flora and fauna species in the MidCoast Region is preserved, including threatened species.

Multiple sources of knowledge: Biodiversity conservation is based on scientific, Indigenous and community knowledge.

Nil-tenure: The optimal approach to biodiversity conservation adopts a nil-tenure approach. That is, management actions are adopted across all relevant lands regardless of the land ownership. This principle is particularly important for pest animals and weeds.

People matter: People are an integral component of ecosystems.

Precautionary principle: The absence of scientific certainty should not be used to postpone conservation measures when biodiversity is threatened with potentially irreversible degradation.

Research and innovation: Research and data is to underpin adaptive decision-making. Innovation is important to the achievement of biodiversity conservation outcomes.

Resilience: Maintaining and improving the condition, extent and connectivity of native vegetation will support resilience against impacts such as climate change and pest animals.

Reserves and covenants: Long term biodiversity values are most effectively conserved in public ownership, and then, through the establishment of permanently-protected private conservation instruments (such as biodiversity stewardship sites established under the Biodiversity Conservation Act 2015).

Stewardship: We protect what we value – maximising community appreciation of and engagement with nature is central to changing hearts and minds.

Sustainable development: Biodiversity conservation is considered early and throughout the planning and development process, striving to meet current needs while protecting economic, social and environmental values for future generations.

Traditional custodianship: Council recognises that as land managers for thousands of years, Aboriginal people hold valuable cultural and biological knowledge to inform contemporary practice.





5.2 THEMES

This Biodiversity Framework has adopted the following key themes. All of the biodiversity actions to be implemented as part of this Framework are grouped under the relevant theme:

THEME	Description
1. Engagement and Partnerships	Building relationships, understanding and appreciation and working towards community stewardship of biodiversity and natural areas
2. Reserves and Conservation Agreements	Making progress to a comprehensive, adequate and representative reserve scheme with well-managed public and private protected areas.
3. Land Management:	Protecting and improving biodiversity values through on-ground work.
4. Science and Knowledge	Obtaining data to fill knowledge gaps and ensure research is continuously improved to underpin sound decision making
5. Strategic Planning and Policies	Adopting strategic plans and policies to guide best-practice outcomes and to communicate with stakeholders.
6. Land Use Planning and Development	Protecting biodiversity through land use and development controls.

Each theme comprises a suite of tools and actions as shown in Diagram 2 and described in Section 2. Actions are listed with a timeframe for delivery, summarised below:

TIMEFRAME	Term
Short term	2020-2024
Medium term	2020-2027
Long term	2020-2030
Ongoing	Ongoing

1. ENGAGEMENT AND PARTNERSHIPS

Community education and participation

Landholder engagement and incentives

Partnerships for biodiversity

Bushcare and Landcare support



2. RESERVES AND CONSERVATION AGREEMENTS

Mapping and zoning protected areas

Securing land for reserves

Private land conservation

Indigenous Protected Areas



3. LAND MANAGEMENT

Strategic weed program

Pest animal management program

Council bushland reserves management

Significant roadside areas program

Fish and wetland habitat programs

Biodiversity disaster response and resilience

Nature-based facilities

Fire management



4. SCIENCE AND KNOWLEDGE

Understanding flora and fauna species diversity

Biodiversity research

Vegetation mapping and monitoring

Climate change adaptation

Mapping important biodiversity and ecosystem service value lands

Sub-catchment terrestrial landscape health reports

Climate change

Aboriginal cultural and community knowledge



5. STRATEGIC PLANNING & POLICIES

Local Conservation Action Plans

Tops to Coast plan and mapping

Threatened biodiversity management guidelines

Coast and catchment management planning



6. LAND USE PLANNING & DEVELOPMENT

Land use planning

Biodiversity impact assessment (Development)

Biodiversity impact assessment (Council activities)

Development incentives for conservation

Greening Strategy



Diagram 2: The Themes for Biodiversity Program within the Framework.



6. IMPLEMENTATION, SUCCESS, MONITORING AND REPORTING

6.1 IMPLEMENTATION

To ensure the Biodiversity Framework meets its objectives it will be delivered within the council Integrated Planning and Reporting Framework, which includes:

- The Delivery Program and Operational Plan, and
- Departmental, Branch and individual Business Plans and work programs

The Integrated Planning and Reporting Framework (IP&R Framework) was introduced to New South Wales Councils in 2012 to help achieve better outcomes for communities through best practice management. The IP&R Framework recognises that Council plans and community aspirations should not sit in isolation and are connected. It allows Council to draw its' various plans together to ensure maximum leverage by planning holistically for the future of the MidCoast Region. The IP&R Framework and its relationship to the Biodiversity Framework is shown in Diagram 3.

Based on the Community Strategic Plan, Councils Delivery Program and Operational Plan (DPOP) sets out the broad goals for each Council term of office and identifies annual commitments to the community. Integrating sustainable development goals in future CSPs and any strategic planning documents as part of implementing this framework, will be important for future biodiversity protection.

The current Delivery Program is a three-year plan that captures the focus areas for Council.

Annual Operational Plans outline in more detail the individual activities, services, key projects and capital works that Council will seek to deliver in the year.

Within the 2019 DPOP, Strategy 7.1 to “Value, protect, monitor and manage the health and diversity of our natural assets, wildlife and ecosystems”. This Strategy directly relates to and influences this Framework. The Biodiversity Framework responds to and informs the IP&R framework of MidCoast Council.

Priority actions identified in Section 2 of the Framework will be integrated into future Delivery Program and Operational Plans.



Diagram 3: The Integrated Planning and Reporting Framework

Within Council, annual business plans are a way of documenting team responsibilities and actions. These business plans subsequently inform individual work plans. Successful biodiversity conservation and management will take a multi-disciplinary approach involving teams across Council.

Budgets will be costed and allocated for implementation of the biodiversity program set out in this Framework, as part of the annual budget cycle. The environmental rate funds the employment of environmental staff and the range of environmental actions and projects across the MidCoast Region.

In addition, State and Commonwealth Governments and other organisations provide grant-funds for biodiversity-related projects across NSW. Such programs include Coast and Estuary grants, NSW Environmental Trust grants, Recreational Fishing grants, Flagship Fish Habitat Rehabilitation grants and the Save Our Species program. The Council environmental rate funds have been successfully leveraged with external grant funds to deliver significant environmental outcomes for the community. Applying for, receiving and administering external grants for biodiversity management will be a priority action to allow successful implementation of the activities identified in this Framework.



6.2 SUCCESS FACTORS

The following factors are considered valuable in order for this Biodiversity Framework to be successful:

- An understanding of the communities' aspirations and values
- Adequate resources including information and qualified and experienced personnel
- A clear and enabling policy framework
- Effective relationships with agencies and stakeholders
- A values-based integrated approach
- A focus on causes of biodiversity loss rather than symptoms

It is also important that each biodiversity action identified in this Framework considers and adopts their own success factors and which are reflected upon as part of activity evaluation and review.



6.3 MONITORING, EVALUATION AND REPORTING

It is important that Council monitors the progress and achievement of actions set out in the Biodiversity Framework. Where applicable, this needs to be undertaken in an adaptive management and / or participatory action learning model.

Identification and focus on key indicators to monitor, evaluate and report on biodiversity outcomes will be important for management response and improvement.

Monitoring shall involve collecting information on the status of biodiversity indicators and any discernible positive or negative trends. Indicators are to be selected to represent important values and be effective and efficient to monitor. Associated with this, is the identification of threshold values, which can be used to provide an early warning sign for emerging biodiversity threats.

A set of indicators will be developed as part of Action 6.6: terrestrial landscape health reports. The criteria for indicator selection will be based on the following:

- relevance to Biodiversity Framework objectives
- representation of biodiversity priorities and the more vulnerable aspects of biodiversity in the region
- ecological relevance at multiple scales
- relevance to biodiversity interactions and ecosystem functions in the region
- relevance of an ability to demonstrate causative factors and to provide early warning signs
- feasibility in measurement and monitoring (and cost-effectiveness)

Reporting will be integrated into Council's existing processes by way of:

Annual reporting: focussing on Council's implementation of the Delivery Program and Operational Plan,

- State of the Environment reporting
- End of term reporting: The outgoing Council's report to the community on Council's progress in implementing the Framework during its term.

The term of the Biodiversity Framework of 2020 - 2030 aligns with those of other core Council strategies and documents. In depth review and evaluation of the Biodiversity Framework will be undertaken at 2030 with interim reviews in line with Council's four-year Delivery Program and Operational Plan cycle.





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