



NORTH QUEENSLAND REGIONAL PLAN

COVERING THE LOCAL GOVERNMENT AREAS OF BURDEKIN,
CHARTERS TOWERS, HINCHINBROOK, PALM ISLAND AND TOWNSVILLE

March 2020





Castle Hill, Townsville, Queensland – Courtesy of Tourism and Events Queensland

Acknowledgement of the Traditional Owners of country

The Queensland Government, on behalf of the community, pays respect to Elders past, present and emerging. The government recognises that the land, water and seascapes of the North Queensland region form traditional landscapes that were managed for thousands of years by Traditional Owners to provide the resources required for life.

Although these landscapes have changed and are now shared, Traditional Owners have an ongoing and unique connection to their ancestral lands and have responsibilities to the land under their traditional law and customs.

The Queensland Government also recognises Traditional Owners who have been granted native title over land and sea country and their active role in the ongoing management of cultural resources for the important role they play in the social, spiritual and economic future of these communities.

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An electronic copy of this document is available on Queensland's Planning System website at <https://planning.dsdmip.qld.gov.au/>

Foreword

It's an exciting period of change and growth for North Queensland.

A region long known for its natural beauty, with rainforests and unmatched marine activity capturing the imagination of visitors, North Queensland's enviable lifestyle and strong economy are also helping to attract new residents in record numbers.

Traditional industry sectors such as agriculture, defence and resources are thriving, innovative industries like advanced manufacturing and renewable energy are emerging, and exciting urban renewal precincts are being delivered across the north.

The region is well-placed to become a national leader in renewable energy, allied technology and manufacturing, and we're seizing these opportunities through the Townsville Manufacturing Hub, part of a \$30 million commitment to propel advanced manufacturing in regional Queensland.

But despite everything the region has to offer, North Queensland will inevitably face challenges over the next 25 years, from demographic change and increasing urbanisation to structural movements in the regional economy.

That's why we've developed the North Queensland (NQ) Regional Plan – a first-of-its-kind framework for the region that looks to capitalise on the growth, prosperity and diversity of the region by supporting a dynamic economy, creating jobs, boosting business investment, protecting our natural environment, and nurturing tourism and lifestyle opportunities.

The plan's shared vision for the next 25 years sets out the way in which we can continue to build on and maintain everything this great region has to offer, while also managing growth efficiently, sensibly and sustainably.

We have worked collaboratively with Burdekin, Charters Towers, Hinchinbrook, Palm Island and Townsville councils, state agencies, and key stakeholders from the environment, community, economic and development sectors, and we thank all mayors for their commitment to this process, their involvement in the regional planning committee, and their passion for the future of the region.

Burdekin River, Charters Towers, Queensland – Courtesy of Tourism and Events Queensland



This is a plan for all North Queenslanders – one that was informed by extensive community and stakeholder consultation. Without these vital contributions, delivering the NQ Regional Plan would not have been possible.

Together we have planned for future opportunities for agricultural expansion in upper catchments, balanced with protection of the Great Barrier Reef. We have also identified tourism development prospects on Palm Island and supported emerging renewable energy developments.

The NQ Regional Plan has an enhanced economic focus, supporting initiatives such as the expansion of health and knowledge industries in and around the Townsville CBD and James Cook University, and the potential for a future rapid transport link connecting these precincts.

And we're committed to the plan's success, establishing strong implementation actions and a monitoring platform to deliver on the vision of the NQ Regional Plan.

New areas for aquaculture will be investigated, tourism investment in high-value locations will be facilitated, renewables production, including hydrogen, will be encouraged, and the application of tropical urban design will be promoted.

Opportunities for future economic prosperity are identified in the plan that build upon existing Queensland Government commitments: \$380 million over five years for an upgrade to the Townsville to Mount Isa rail line, \$101 million for the expansion of the Port of Townsville, and nearly \$25 million to assist tourism in the Great Barrier Reef.

This is a long-term plan for North Queensland that will provide greater investment certainty for major projects and harness the region's future economic prospects.

It will ensure more jobs will be created in more industries, for the benefit of every community in this great part of our state.



**The Honourable
Cameron Dick MP**

Minister for State Development,
Manufacturing, Infrastructure
and Planning



**The Honourable
Coralee O'Rourke MP**

Minister for Communities and
Minister for Disability Services
and Seniors

A plan prepared in partnership

A plan prepared in partnership with the North Queensland Regional Planning Committee, chaired by the Honourable Cameron Dick MP, Minister for State Development, Manufacturing, Infrastructure and Planning and comprising:

- Burdekin Shire Council
- Charters Towers Regional Council
- Hinchinbrook Shire Council
- Palm Island Aboriginal Shire Council
- Townsville City Council
- The Honourable Coralee O'Rourke MP, Minister for Communities Minister for Disability Services and Seniors Member for Mundingburra
- Mr Aaron Harper MP, Member for Thuringowa
- Mr Scott Stewart MP, Member for Townsville.

Coolgaree Bay, Palm Island



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The plan at a glance

What is the North Queensland Regional Plan?

The North Queensland Regional Plan (NQ Regional Plan) is a 25-year strategic, statutory planning document for the local government areas of Burdekin, Charters Towers, Hinchinbrook, Palm Island and Townsville.

It has been prepared to support the established and emerging industries in the region and to address changes expected to occur within the region. These changes include a growing and ageing population, shifting economic and employment patterns, impacts from climate change and continued technological advances.

The NQ Regional Plan:

- › articulates the vision of the region for lifestyle improvements and economic growth
- › capitalises on major strategic improvements
- › identifies future economic opportunities
- › allows local government and communities to address region-specific issues and develop a planning framework to respond to challenges and opportunities
- › provides direction for local government in preparing local planning schemes
- › informs major planning and funding documents developed by all levels of government.

What the plan aims to do

The principal aim of the NQ Regional Plan is to determine how land use and infrastructure planning can best support economic growth and population change in the region over the next 25 years and beyond. This will be achieved by enhancing the social, economic and environmental systems that support the region's liveability.

More specifically, the NQ Regional Plan will achieve this aim by:

Strengthening:

- established industries and the already-diverse regional economy
- support for local government on key infrastructure projects in the region
- the regional network of important environmental areas and corridors from country to coast
- the role of Traditional Owners and Aboriginal and Torres Strait Islander communities in planning decisions and capitalising on the breadth of local knowledge about regional landscapes and seascapes
- public passenger transport in Townsville and between key centres of economic activity (including health and knowledge precincts)
- the impetus to provide greater housing diversity, supporting North Queensland residents and promoting opportunities for ageing-in-place
- key elements that contribute to the liveability of the region and help attract new populations.

Enabling:

- new local jobs in established and emerging growth industries
- greater opportunities for diverse high-quality tourism offerings including events, self-drive tourism and Indigenous cultural heritage tourism
- greater opportunities for smaller-scale, nature-based tourism and community development and recreation in and around national parks and protected areas
- the benefits of relevant commitments outlined in the Townsville City Deal to be extended across the entire region
- greater investment certainty for major projects in the region.

Identifying:

- future economic opportunities for North Queensland
- regional priorities to inform future updates to the State Infrastructure Plan

- more efficient patterns of development to put an end to Townsville’s urban sprawl, thereby reducing cost pressures on infrastructure provision and services
- improved design outcomes for neighbourhoods and buildings to increase the liveability of the region while taking into account changing climatic influences
- investigation areas for the location of new renewable energy developments
- suitable land supply for industry across the region to support emerging opportunities and economic development, into the future.

Protecting:

- areas of high-value agricultural production from non-agricultural land uses
- strategically important environmental areas from land uses that would have irreversible impacts
- the Great Barrier Reef from intensification of land uses in locations that would result in further negative impacts to water quality
- established and future residential living areas from conflict with new resource activities
- communities from the impacts of natural disaster while building resilience to natural hazards.

Measuring progress

The NQ Regional Plan builds on the strong foundations of local planning and seeks to ensure the region is best placed to successfully navigate the changes expected within the next 25 years. Its intended outcome is to ensure North Queensland’s communities remain liveable and continue to prosper into the future.

To ensure the NQ Regional Plan delivers on its commitments, focused measures of progress will be used to track the success of the plan over time. These ‘measures that matter’ will be tied to the four regional goals.

More information about the ‘measures that matter’ is provided in the ‘Delivery of the NQ Regional Plan’ section of this plan.

Regional vision

North Queensland thrives as a diverse, liveable and progressive region in the tropics, set around the capital of northern Australia.

For the vision to be realised, the NQ Regional Plan identifies the following four regional goals:

Regional goals

North Queensland be a leading economy in regional Australia.

The region maintains a rich and healthy natural environment.

Create liveable, sustainable and resilient communities that promote living in the tropics.

Infrastructure networks support a safe, connected and efficient North Queensland.



Pineapple harvest, Rollingstone

CONTEXT

Regional planning for North Queensland

The North Queensland region covers the local government areas of Burdekin, Charters Towers, Hinchinbrook, Palm Island and Townsville.

Drivers for preparing the regional plan

The NQ Regional Plan focuses on economic opportunities for the region over the short, medium and long-term. These opportunities include supporting and growing the region's established economic industries, as well as capitalising on new opportunities in emerging markets.

In clarifying and prioritising the state's interests in land use planning for the region, the NQ Regional Plan seeks to achieve a cohesive vision for the future of the region.

The NQ Regional Plan provides the high-level framework for planning, land use and infrastructure decisions for the next 25 years and beyond. It does this by identifying:

- key regional goals
- regional outcomes to achieve these goals
- regional policies to deliver on these outcomes
- the state's intent for the future of the region, including infrastructure priorities
- implementation actions to support regional outcomes and policies
- measure to track the key implementation actions of the plan.

What makes the plan work?

Engagement with the **community** ensured the plan was developed by, and works for, North Queenslanders.

Enhanced **collaboration** across all levels of government ensures programs and initiatives are aligned and working to common regional goals.

Improved **coordination** of decision-making ensures more efficient solutions for future infrastructure provision.

The **commitment** of political, industry and community leadership to deliver the regional vision, goals and policies.

All of these elements provide greater **confidence** to industry and government to invest in the future of the North Queensland region.

Structure of the plan

Figure 1 below provides a simple explanation of the structure of the NQ Regional Plan and the methodology that underpins it. To aid navigation, the colours of the diagram correspond to the relevant goals of the plan.

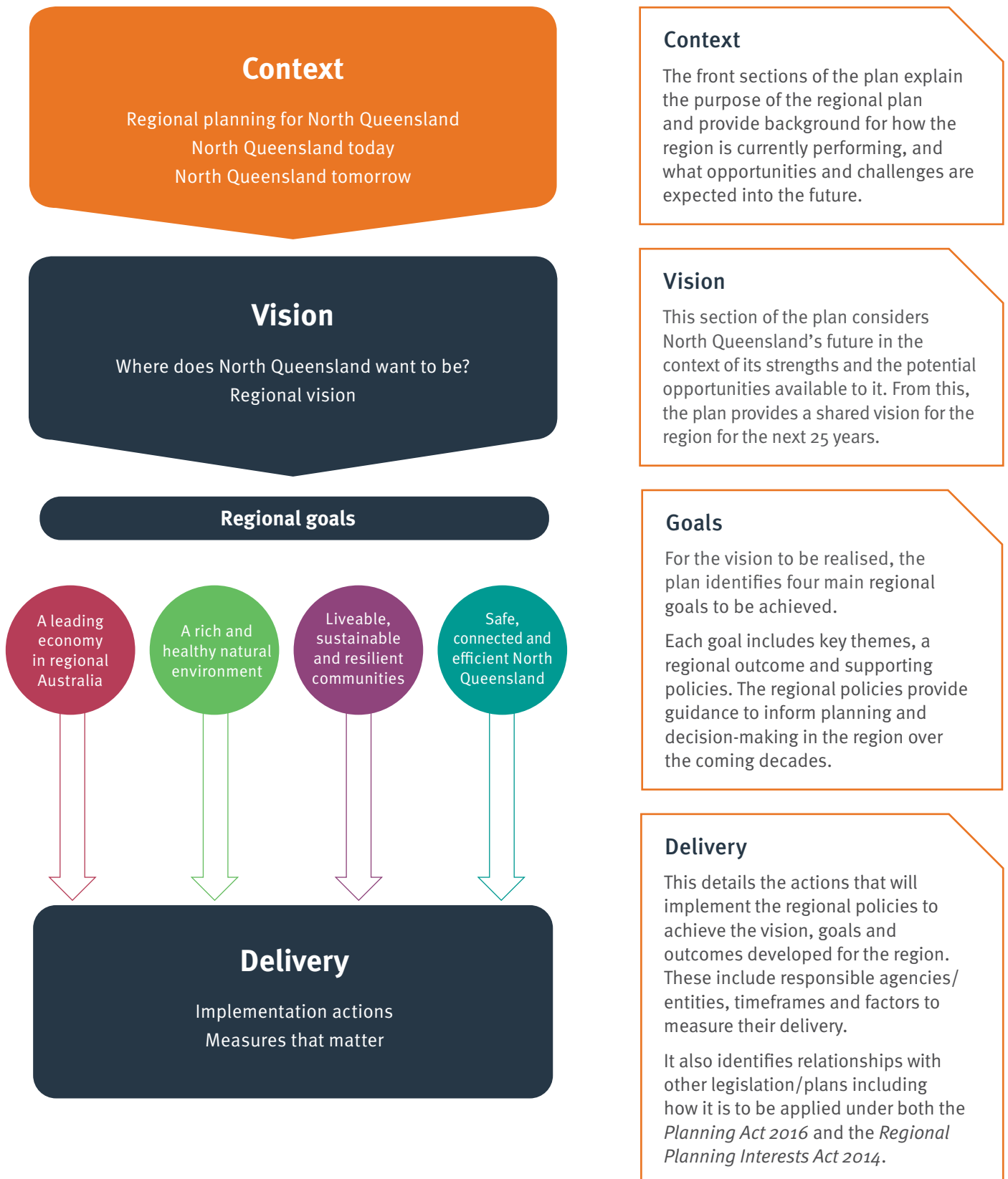


Figure 1: Structure of the NQ Regional Plan

Why does North Queensland need a regional plan?

In Queensland, regional plans are longer-term statutory planning documents that deal with an entire region, rather than just one local government area.

Regional planning allows state and local governments to identify and facilitate opportunities for employment and population changes across the region. This includes identifying where and how a region can accommodate future growth demands and how a region can best position itself to capitalise on potential future economic opportunities.

The NQ Regional Plan guides the long-term future planning and development of the North Queensland region over the next 25 years and beyond. The plan has been prepared by the Queensland Government in partnership with the region's five local governments, industry, Traditional Owners and other key stakeholders.

The strength of the plan is the common understanding it creates among the region's communities, stakeholders, investors and all levels of government about the future of the region and the shared role of all involved in making the regional vision and goals a reality.

The NQ Regional Plan does not address the future of all state government functions in the North Queensland region (such as health, education or policing), nor does it offer solutions to every issue. Instead, the plan provides an opportunity to look to the future and assess how the region can best position itself to address region-specific issues and develop a planning framework to respond to challenges and capitalise on opportunities.

How does the NQ Regional Plan work?

As the comprehensive long-term plan for North Queensland, the NQ Regional Plan responds to opportunities and challenges within the region and beyond. The plan guides strategic planning and decision



Figure 2: Relationship between NQ Regional Plan and other plans

making for all levels of government and industry across a range of sectors (see figure 2), including:

- land use planning by state and local governments, including local government planning schemes and joint planning initiatives such as Priority Development Areas (PDAs) and State Development Areas (SDAs)
- the assessment of development applications made under the *Planning Act 2016* (Planning Act)
- the assessment of certain types of resource activities or regulated activities, as defined under the *Regional Planning Interests Act 2014* (RPI Act)
- infrastructure planning, prioritisation and funding decisions made by all levels of government, and other infrastructure agencies
- other plans and programs, including non-statutory processes, that may influence change and growth management in the North Queensland region, including natural resource management, conservation strategies and regional tourism strategies.

Relationship to land use planning

In Queensland, the majority of land use planning activity is assessed under the Planning Act. The Planning Act is complemented by the RPI Act which extends the consideration of land use policies contained in regional plans to include resource activities (e.g. mining and petroleum) and other regulated activities (e.g. broadacre cropping and water storage dams) that generally occur outside the jurisdiction of the Planning Act (Appendix 1) and local government planning schemes (see Figure 3).

In this way, the NQ Regional Plan is able to take a holistic approach to addressing regional land use issues to ensure consistent planning outcomes occur regardless of the applicable planning legislation.

Consequently, the outcomes, policies and mapping contained within the regional policies for each of the

regional goals, integrate elements relevant to both the Planning Act and the RPI Act where relevant.

The State Planning Policy (SPP) sets out the state government's interests in planning and development for Queensland. The NQ Regional Plan contextualises these state interests (as necessary) to provide the planning and decision-making framework specific to the North Queensland region and its regional land use outcomes. The NQ Region Plan does not cover all interests set out in the SPP. Where the NQ Regional Plan remains silent, direction should be taken from the SPP and relevant local government planning schemes.

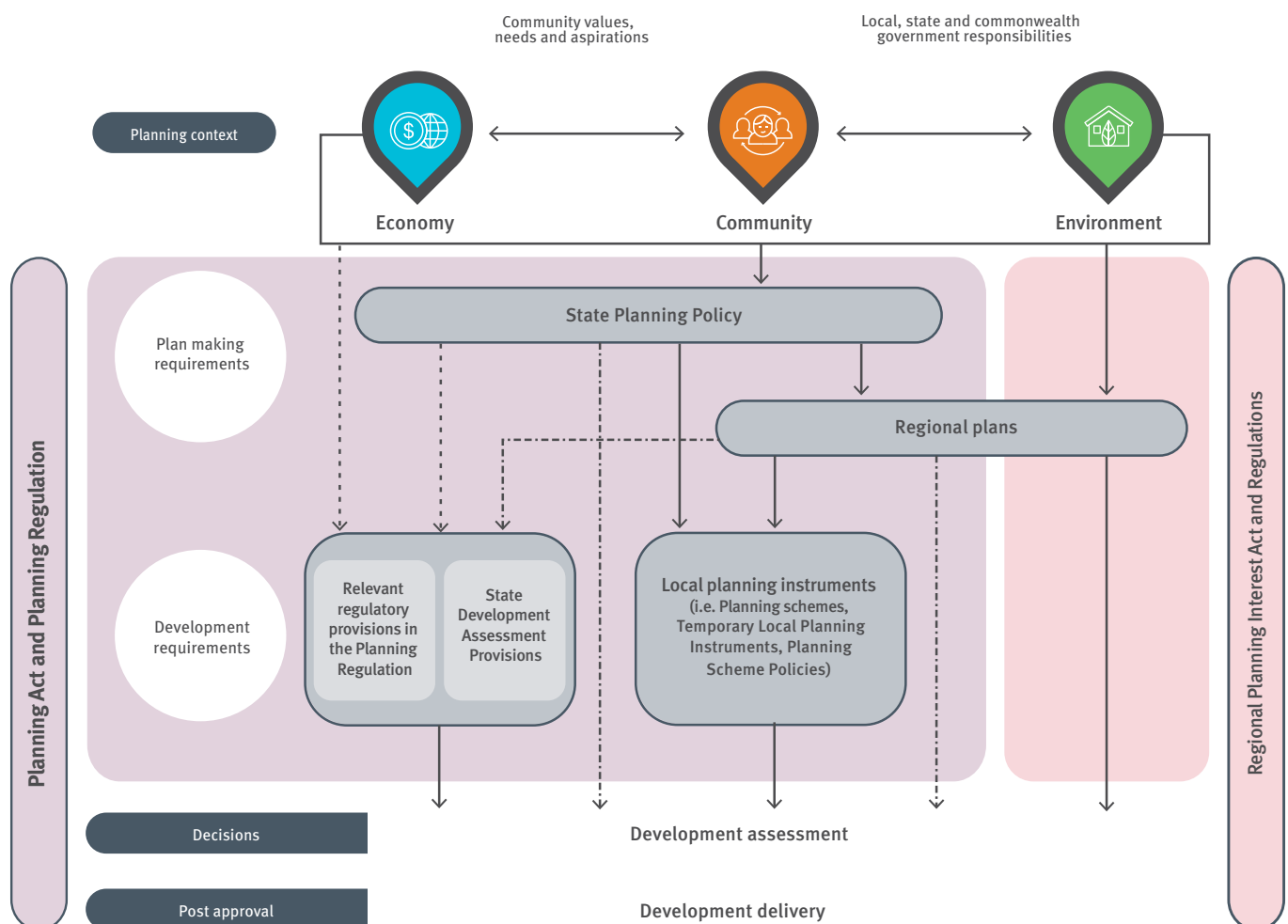


Figure 3: Current Queensland planning framework

State interest iconology, as used in the State Planning Policy

Each section of the NQ Regional Plan uses iconology to illustrate where a state interest has been regionally contextualised within the plan's regional outcomes and policies. Each icon represents a specific state interest, as identified in the SPP. This is intended to assist navigation of the regional plan and to aid local governments in future amendments to local planning schemes. State interests and respective icons are illustrated below.



**Housing supply
and diversity**



**Liveable
communities**



Agriculture



**Development and
construction**



**Mining and
extractive resources**



Tourism



Biodiversity



Coastal environment



Cultural heritage



Water quality



**Emissions and
hazardous activities**



**Natural hazards,
risk and resilience**



**Strategic airports
and aviation facilities**



**Infrastructure
integration**



Strategic ports



**Transport
infrastructure**



**Energy and water
supply**

Relationship to infrastructure provision

The coordinated planning and delivery of infrastructure will be critical to realising the future economic opportunities identified in the NQ Regional Plan. Region-shaping infrastructure identified in the regional plan can be delivered through the State Infrastructure Plan, updates to the Townsville City Deal and through a range of other government funding programs (e.g. building our regions).

The NQ Regional Plan does not identify specific projects for inclusion into these programs. Rather, the plan provides the overarching rationale for what the regional infrastructure needs are, and how they relate to the future economic and lifestyle aspirations of the region. By setting out a framework for need, the NQ Regional Plan looks beyond immediate funding cycles and provides a more comprehensive relationship between future economic development, land use planning and infrastructure provision.

More specific detail on the relationship between the regional plan and infrastructure programs is provided in the 'Delivery of the NQ Regional Plan' section of the plan.

Relationship to other planning initiatives

As the Queensland Government's pre-eminent plan for the region, the NQ Regional Plan will also guide planning and decision-making by all state government agencies. This could include future transport decisions, environmental policies, protected area management and tourism strategies. The NQ Regional Plan does not replace or replicate more-focused strategies, but instead charts the overarching direction sought by communities in North Queensland, to ensure that government initiatives work cohesively.

Horseshoe Lagoon, Burdekin



North Queensland today

Population

Estimated residential population 2018¹



236,441

North Queensland



5,011,216

Queensland

Annual growth rate 2008-2018¹



1.1%

North Queensland



1.7%

Queensland

Over 65 years of age¹



14%

North Queensland

15.4%

Queensland

Indigenous population²



7.9%

North Queensland

4.0%

Queensland

Median age¹



35.6 years

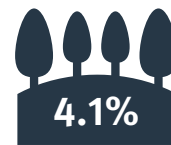
North Queensland

37.3 years

Queensland

National park area¹

3325 km²



4.1%

North Queensland

97,683 km²



5.6%

Queensland

Housing²



92,463
dwellings

North Queensland

Number of jobs¹



109,700

North Queensland



2,532,400

Queensland

Detached dwellings²



82.8%

North Queensland

76.6%

Queensland

Public transport usage to work¹



0.8%

North Queensland

5.0%

Queensland

Attached dwellings²



15.7%

North Queensland

21.9%

Queensland

Tertiary qualifications²



14.2%

North Queensland



18.3%

Queensland

Median house price²



\$300,000

North Queensland

\$452,000

Queensland

Certificates (inc. trade certificates)²



23.1%

North Queensland

21.3%

Queensland

Top five industries by employment¹



Health care and social assistance

17.1%

North Queensland

17.8%

Queensland



Public administration and training

8.6%

North Queensland

8.4%

Queensland



Retail trade

11.7%

North Queensland

14.4%

Queensland



Education and training

8.3%

North Queensland

6.2%

Queensland



Accommodation and food services

7.1%

North Queensland

9.7%

Queensland

1. Queensland Government Statistician's Office, Regional Profiles December 2019

2. Australian Bureau of Statistics, various releases

Gateway to the Asia-Pacific

North Queensland is a growing strategic node for freight, commodities and commerce both to the Asia-Pacific and domestic markets. The region's competitive advantage is its geographic position, coupled with its abundance of natural resources and diverse economic drivers. As growth in the Asia-Pacific continues into the 21st century, North Queensland is in a prime position to capitalise on demand for commodities, agriculture and knowledge.

As northern Australia's centre of major agricultural production and mineral exports, the region has well established supply chain and logistics linkages, with an economic network that reaches across northern Australia and beyond.

- › Anchored by the ports of Townsville and Lucinda, North Queensland has one of the shortest shipping times to China from mainland Australia (approximately 10 days).

- › The Port of Townsville is considered to be one of Australia's most important trading ports for the Asia-Pacific with more than 71 per cent of its trade occurring with Asian markets. The largest trading partners are China, Indonesia, Japan, South Korea, Singapore, Philippines and Malaysia.
- › As the critical northern gateway for the state's trade and investment, the Port of Townsville handles nearly \$9 billion in trade annually and is the leading Australian exporter of copper, zinc, lead and sugar.
- › North Queensland also has emerging links to Asia-Pacific for education, health and knowledge industries. Opportunities include tertiary education (increased student numbers and research partnerships), tropical medicine, health administration, engineering and environmental sciences.

Capital of northern Australia

Townsville's population, combined with the populations of regional centres in and beyond the region, provides a market capable of supporting a range of businesses that would otherwise be expected to operate from South East Queensland. The city is a dynamic, well-served centre with ready access to national and international destinations. Making Townsville, and the region, a preferred location for business conferences, vocational training, health provision, education and sporting tourism.

- › North Queensland is a key logistics hub for inter-regional and interstate freight movements. The Bruce Highway and North Coast rail line support significant trade up and down the coast, with the Flinders Highway and Great Northern Railway supporting movements further west including to and from the North West Mineral Province. The Gregory Developmental Road is also key to supporting north-south inland freight.

- › North Queensland is the main staging point for the processing and export of resources and agricultural products from northern Australia.
- › Renewable energy developments are increasing the region's energy generation and export capacity with supply into the national energy market.
- › North Queensland plays a crucial role for agriculture, resources and public administration in the northern half of the state, providing tertiary and specialised services including health, education, engineering and labour.
- › The region's tourism visitation and administrative capital role is facilitated by Townsville Airport, one of Australia's busiest non-capital city airports based on passenger numbers.



Links with neighbouring regions

Townsville is the largest centre in northern Australia and provides the nexus for the North Queensland region. It performs a key role in the administration and servicing of the region and the broader area of northern Queensland. There is an opportunity to consolidate this role and establish itself as the capital of northern Australia well into the future.

North Queensland's relationship with neighbouring regions is based on long-established economic, social and governance functions. Via mutually beneficial relationships, these neighbouring regions can continue to leverage opportunities from the growth of the North Queensland region.

Maintaining and enhancing the infrastructure networks that support these links will allow existing relationships to be further developed. This includes strengthening the resilience of transport and communications networks, maximising freight and logistic efficiencies, and supporting shared industries such as tourism.

North

Townsville and Cairns are the largest cities outside South East Queensland. The North Queensland and Far North Queensland regions share many commonalities. However, the economic composition of each region is distinct and their relationship is capable of being complementary rather than exclusively competitive. Both regions stand to make economic gains by continuing to foster stronger working relationships into the future.

West

Along the western spine of the Flinders Highway and Great Northern Railway, the North Queensland region is the anchor supporting North West Queensland and much of the Central West Queensland region. The North Queensland region plays a crucial role in servicing communities, farms and mines to the west, with historic population movements in both directions. This includes health, education, engineering and workforce functions.

South

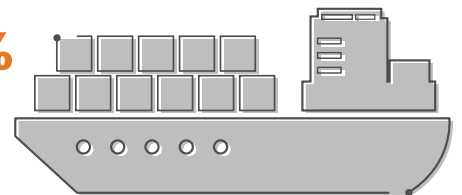
The North Queensland region has particularly strong links with the Mackay, Isaac and Whitsunday region, supporting agriculture production around Bowen, and resource and coal activities in the northern areas of both the Bowen and Galilee basins.

Further south, the region has strong links with South East Queensland in business, freight and governance functions.

Port of Townsville 2018-19

Australia's largest exporter of sugar, copper, lead, zinc and fertiliser

Services over 70% of northern Australia's population



Port of Townsville Limited, Annual Report 2018/19

North West Mineral Province

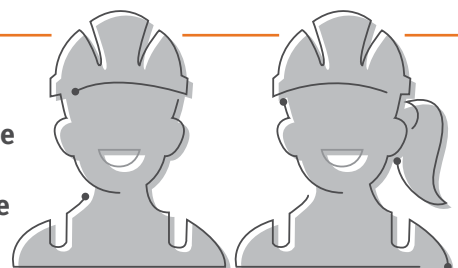
Contains 75% of Queensland's copper, lead, zinc, silver, phosphate and rare earth minerals.

\$6.6 BILLION

The province contributes approximately \$6.6 B in gross value-add to the economy.

Department of State Development, Manufacturing, Infrastructure and Planning, 2017

The resource industry in the province supports



11,110 DIRECT AND INDIRECT JOBS
(37% of all regional employment)



Legend

- Population centre
- ✈ Airport
- ⚓ Port
- ➡ Significant linkages
- ▬ Rail linkages
- 📷 Tourism
- 🌾 Agriculture
- 🐄 Cattle
- ⚒ Resources
- 🚛 General freight
- 🛡 Defence
- 🛢 Fuel and gas
- MM Multi-modal facility
- ⛶ Health

Figure 4: Key inter-regional connectivity

Traditional Owners and Aboriginal and Torres Strait Islander peoples

The North Queensland region has a rich Indigenous history, and is home to many Traditional Owner groups, clans and families (see Figure 5). Ancestral countries and Indigenous language-based areas overlap across the region. These are centred on landscape features and cultural values that have existed long prior to and continued since European settlement.

There are a host of sites and areas throughout the region that hold significance to Traditional Owners.

The spiritual connection between Aboriginal and Torres Strait Islander peoples and country is rarely limited to individual places and is only one element of the broader relationships that exist between landscape and culture.

Traditional Owners are the custodians of the Indigenous knowledge held about the land and seascapes that guide these relationships.

Today, more than seven per cent of the North Queensland region's population identify as Aboriginal and Torres Strait Islander peoples, compared with four per cent of the overall Queensland population. In culture, sport, arts, education and health, Indigenous North Queenslanders make significant contributions to society and are central to the region's identity. Many, however, have struggled to share in the broader economic benefits of the region, particularly in communities such as Palm Island.

Advancing Indigenous interests

The Planning Act is the first planning legislation in Australia that explicitly acknowledges, in its purpose, the importance of valuing, protecting and promoting Aboriginal and Torres Strait Islander knowledge, culture and tradition. In order to put this into effect, planners need to know what comprises 'Aboriginal and Torres Strait Islanders knowledge, culture and tradition', who holds that information and how Aboriginal and Torres Strait Islanders can be involved meaningfully in planning and development.



Foreshore, Palm Island



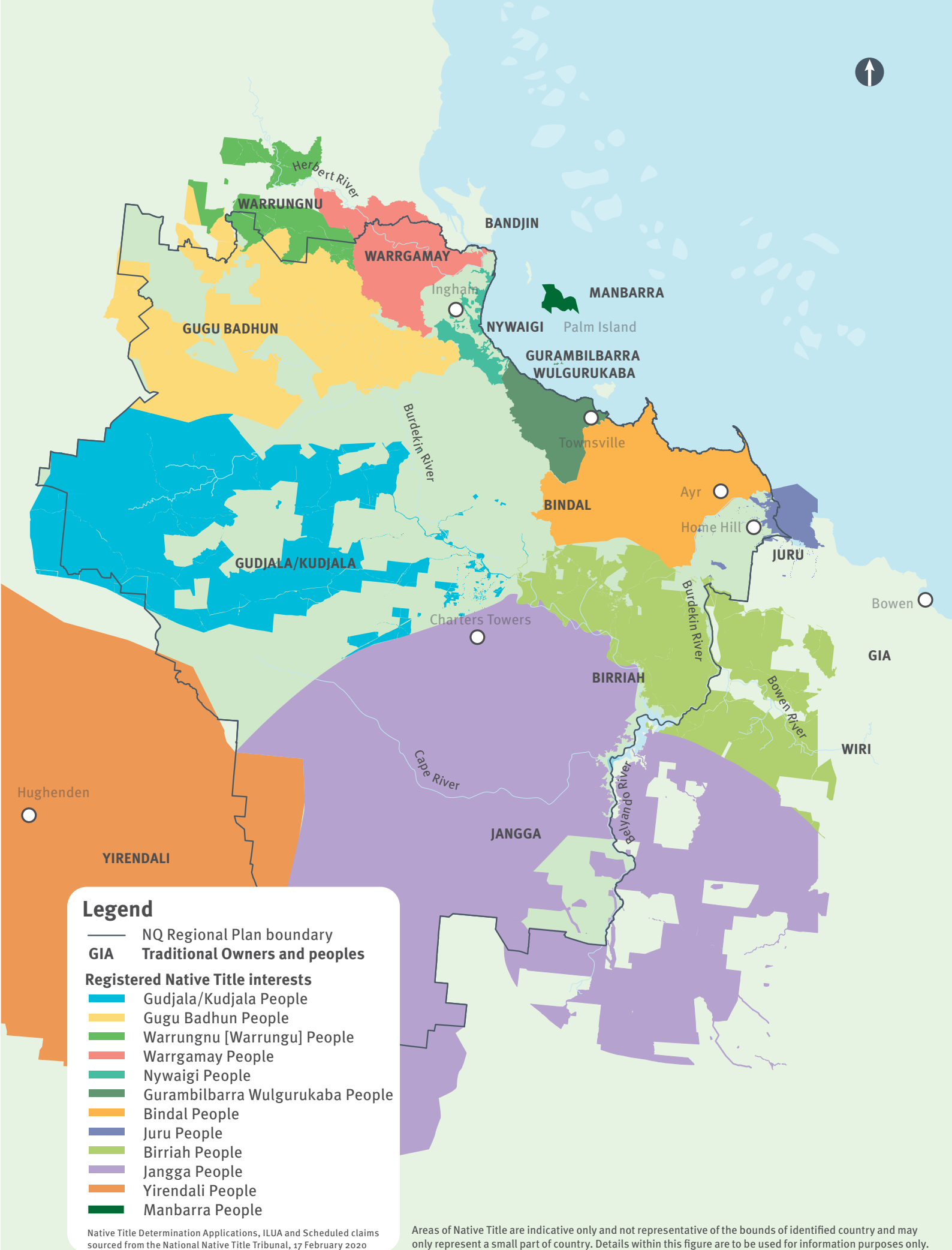


Figure 5: Traditional Owners of the North Queensland region, general areas of country and determined native title areas

Significant 19th – 21st century events

European history in the region dates back to the mid-1800s, starting as a northern outpost of fledgling pastoral settlements. The discovery of gold in the Charters Towers area in the 1860s then led to the settlement of Townsville and establishment of the port.

With the development of a regional railway network in the late 1800s, the centres of Ravenswood, Charters Towers, Ayr and Ingham flourished. Into the 20th century, the region continued to position itself as a major agricultural force and, from World War II onwards, became home to a significant military presence.

Between the 1950s and 1970s, the region saw unprecedented growth and investment. This period also supported a new wave of inbound immigration, with significant numbers of migrants from southern Europe, in particular Italy. Large-scale infrastructure projects – including the Port of Townsville, Lucinda Jetty, Lavarack Barracks, James Cook University and copper, zinc and nickel refineries – set the foundation for industrial growth that continues today. In fact, they represent the basis of many of the region's current economic strengths. Figure 6 below highlights some of the key developments of the last century.

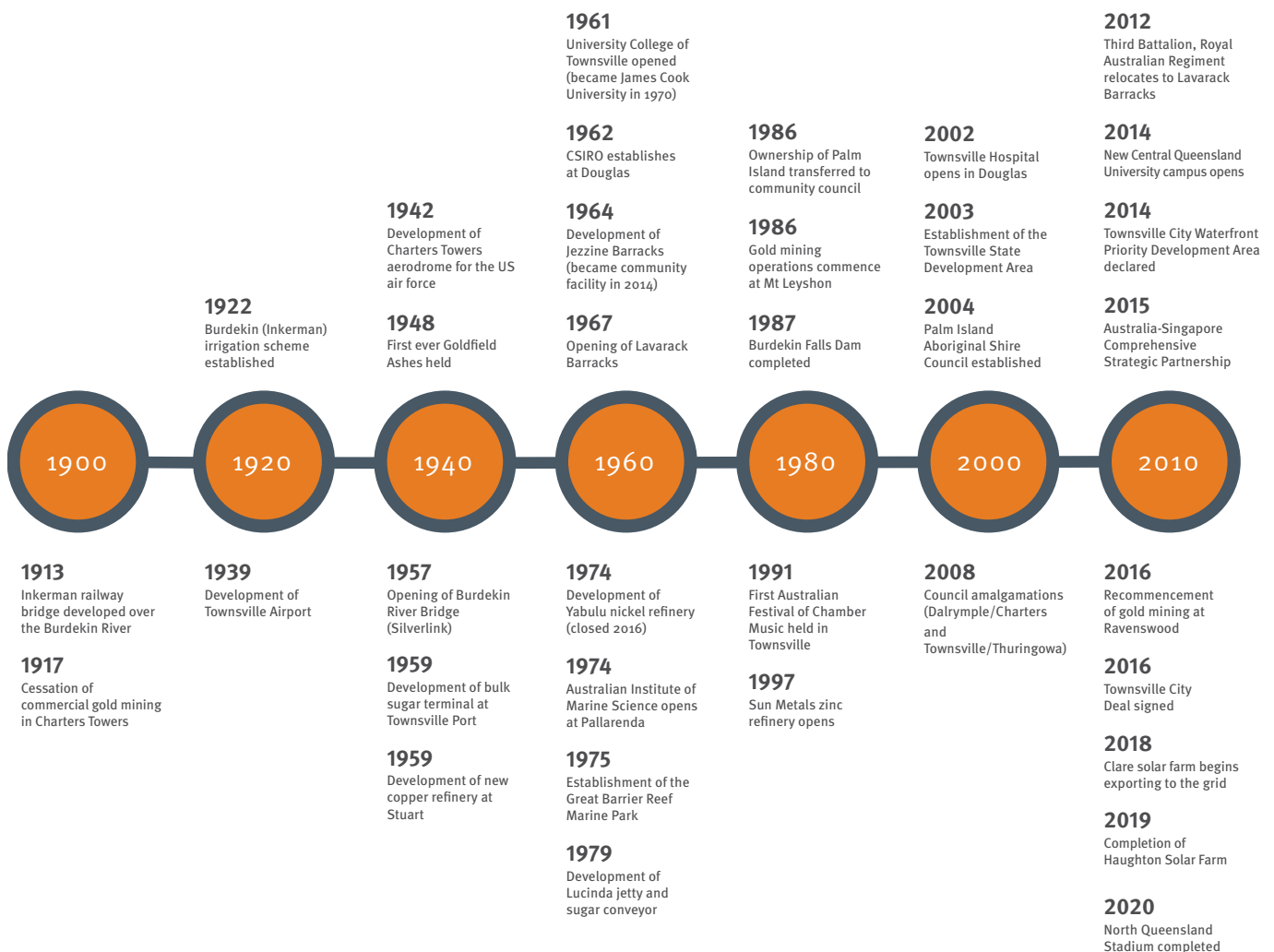


Figure 6: Timeline of significant events



Palmer Street, Townsville

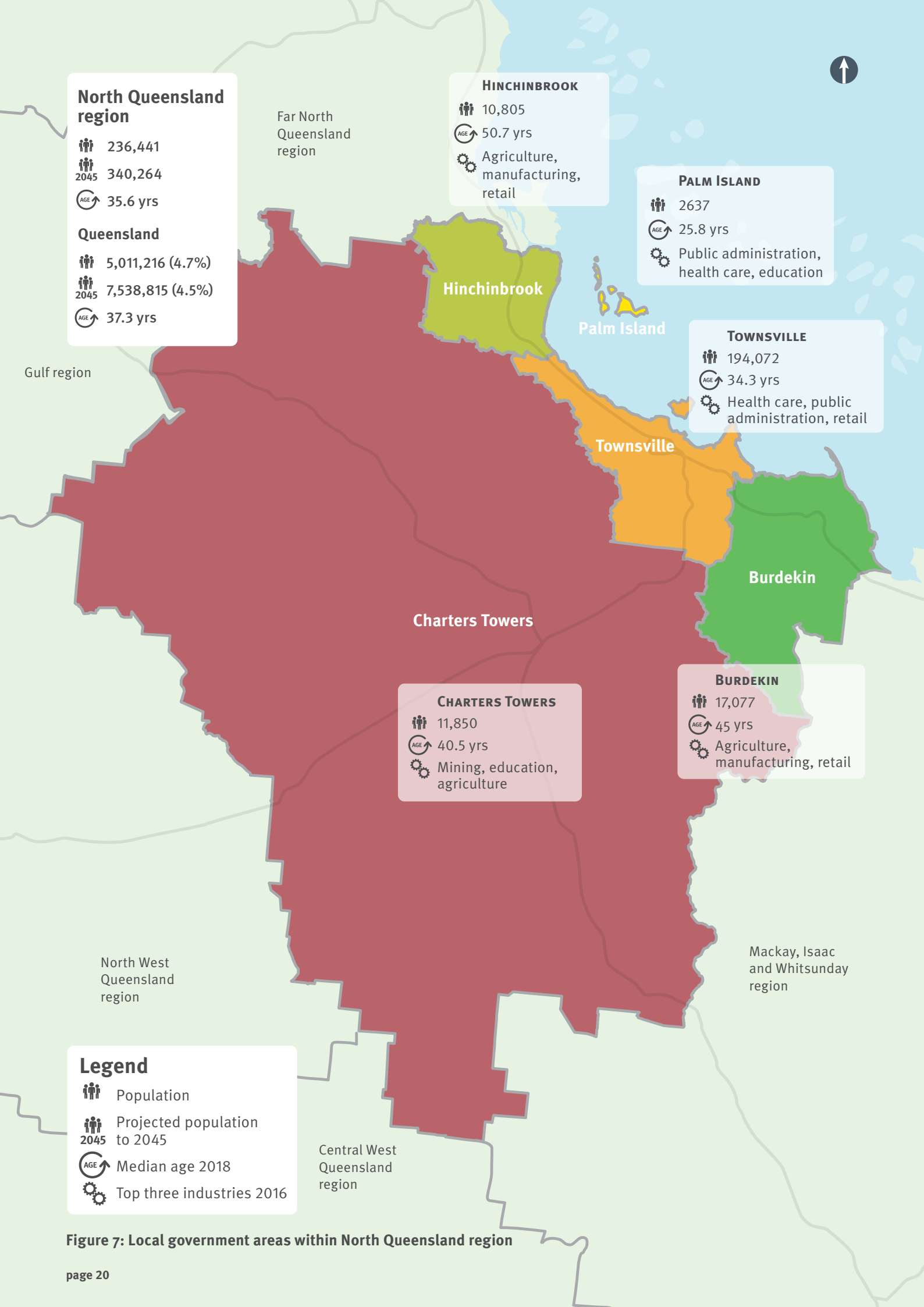


Figure 7: Local government areas within North Queensland region



Haughton River Bridge, Giru

Burdekin

Local government area statistics	
Area 5044 km²	Unique lifestyle values The two main towns of Ayr and Home Hill are located 12 kilometres apart and linked by the landmark Burdekin River Bridge known locally as the ‘Silverlink’, which is one of the longest bridges in Australia at 1103 metres. There are also several coastal fishing villages that are of importance to local residents and contribute to the Burdekin’s relaxed outdoor lifestyle. The affordable cost of living, lifestyle and natural assets and being within a one-hours’ drive of Townsville, make the Burdekin Shire an attractive place to live and work.
Population 17,077	
Key centres Ayr – population of 9103 Other significant centres include Home Hill, Giru, Clare and Brandon.	
Economic overview	
Primary industries Sugar cane – more than one quarter of Australia’s sugar harvest. Agriculture – fruit, vegetables, rice, pulses, beef and aquaculture.	Economic opportunities Diversification of the agricultural industry in the Burdekin is increasing, with farmers embracing complementary crops and new technology to enhance the health of soil, reduce environmental impacts and improve productivity. Manufacturing plays an important role in supporting the diversification of the agricultural industry. Growth is occurring in nature-based tourism, leveraging off the region’s key environmental features, such as Bowling Green Bay (a Ramsar internationally important wetland). Destination and events tourism is also growing in the region due to attractors such as Yongala Wreck dive site, the Sweet Days Hot Nights Festival and the Burdekin Art Trail.
Environmental features	
The shire is set on the Delta and flood plains of two major rivers - the Burdekin and the Haughton. Its fertile agricultural land supply and secure irrigation source, combined with approximately 300 days of sunshine a year, make it one of the most productive agricultural areas of Australia. Other key environmental features include the shire’s world-class wetlands (some of which are internationally recognised under the Ramsar Convention), and its coastline which borders the Great Barrier Reef Marine Park.	
Infrastructure	
The Burdekin Falls Dam (located within Charters Towers Regional Council) and significant underground aquifers enable secure and sustainable irrigation. Water supply in the region is significant, reliable and well managed under a variety of important water supply schemes. The shire also has strong road and rail networks and linkages south to the Whitsundays and north to Townsville and its major shipping port and airport.	

Charters Towers

Local government area statistics	
Area 68,382 km ²	Unique lifestyle values Charters Towers is the largest component of the North Queensland region by area, covering almost 86 per cent of the region and four per cent of the state. The Charters Towers region is centred on the major historic town of Charters Towers and includes a number of smaller outlying townships. The region retains much of the historic character from its gold mining past and is now a popular tourist destination and stopping point for travellers along the inland highways.
Population 11,850	
Key centres Charters Towers – population of 8021 Other rural townships in the region include Balfes Creek, Greenvale, Hervey Range, Homestead, Mingela, Ravenswood and Pentland.	
Economic overview	
Primary industries Agriculture – services hub for saleyards, agricultural supplies and professional services. Beef production area – supporting over 600,000 head of cattle. Mining – activities centred on gold, copper, iron (magnetite) and gems. Education – the ‘education centre of the west’, with eight schools, including three private boarding schools, a TAFE campus and the Charters Towers School of Distance Education.	Economic opportunities Strategically placed in the western resource corridor and northern and western agricultural corridors, Charters Towers’ primary sectors offer significant potential to support the economic growth of the region. Charters Towers is important for beef production, cattle sales and exports, supplying high quality beef product to processing facilities in Townsville, South East Queensland and international markets. There is an opportunity to position Charters Towers as a major service centre for the rural production area of northern Australia. Charters Towers can leverage further opportunities from ongoing defence investment at the Greenvale Military Training Area, including supply chain opportunities associated with the Australian Singapore Military Training Initiative.
Environmental features	
The council area includes the Burdekin Falls Dam, which is fed by the Burdekin, Cape, Belyando and Suttor rivers. The Burdekin River, the second most economically important river in Australia, runs through the region providing water supply to regional communities, grazing, mining and extractive resource operators. Other key environmental features within Charters Towers include the Dalrymple National Park, with its ancient lava flows and fossilised limestone and White Mountain National Park, known for its white sandstone bluffs and gorges. The north eastern reaches of the area also includes the Wet Tropics of Queensland World Heritage Area.	
Infrastructure	
The Burdekin Falls Dam is the largest dam in Queensland and is designed to allow for future increases in storage capacity and for future hydro-electric generation. Charters Towers is also strategically located to play a much greater role as a service centre to mining and agricultural development in inland North Queensland, being located at the region’s cross-roads of major highways, and within the Mount Isa to Townsville economic corridor, whilst still within proximity to Townsville.	

Gill Street, Charters Towers





Lucinda jetty, Lucinda

Hinchinbrook

Local government area statistics	
Area 2807 km²	Unique lifestyle values Hinchinbrook offers a rich and distinguished cultural heritage, centred on the town of Ingham and surrounding communities, set along the coast and within the vast fields of sugar cane. The natural beauty and diversity of the shire offers lifestyle options bounded by natural assets from tropical beaches to rainforests, islands and reefs, pristine waterways and quaint riverfront communities.
Population 10,805	
Key centres Ingham – population of 4354 Other communities in the region include Lucinda, Forrest Beach, Halifax, Taylors Beach, Trebonne and Toobanna.	
Economic overview	
Primary Industries Sugar production – the dominant industry with two functioning mills including the Victoria Mill, which is the largest mill in the southern hemisphere. Renewable energy – agriculture-based energy production. Other agricultural industries – beef cattle production, softwood and hardwood timber, aquaculture and small-scale horticulture. Agricultural services – well-developed engineering and logistics functions, centred around the regional hub of Ingham. Coastal areas – small-scale commercial fisheries, and recreational fishing.	Economic opportunities The shire’s natural assets, including national parks, waterfalls, the Herbert River and its tributaries, beaches of the Hinchinbrook Channel, Orpheus Island and the Great Barrier Reef are ideal for nature-based tourism, particularly for small tourism operators. Hinchinbrook’s diverse economy also involves the shire’s tropical sciences, and agri-business technology with expanding aquaculture and renewable energy industries. Diversification in lifestyle enterprise, general aviation and training and waste management is also occurring within the region.
Environmental features	
Hinchinbrook is home to unique natural features, including the Great Barrier Reef, World Heritage listed wet tropics rainforest, a nationally significant birdwatching destination in the TYTO Wetlands, and the Wallaman Falls – the highest sheer-drop waterfall in the southern hemisphere. The Lucinda/Dungeness area is the southern gateway to the world’s largest island national park (Hinchinbrook Island) and is a point of departure to the Great Barrier Reef, the Greater Palm Island group, and the resort and research station at Orpheus Island.	
Infrastructure	
The shire is located on the Bruce Highway between Townsville and Cairns, and facilitates an important inter-regional freight, commuter and tourism route between these centres. The coastal town of Lucinda also boasts the longest jetty in the southern hemisphere at 5.76 kilometres. Sugar is exported from the region to Asia-Pacific markets via this jetty.	

Palm Island

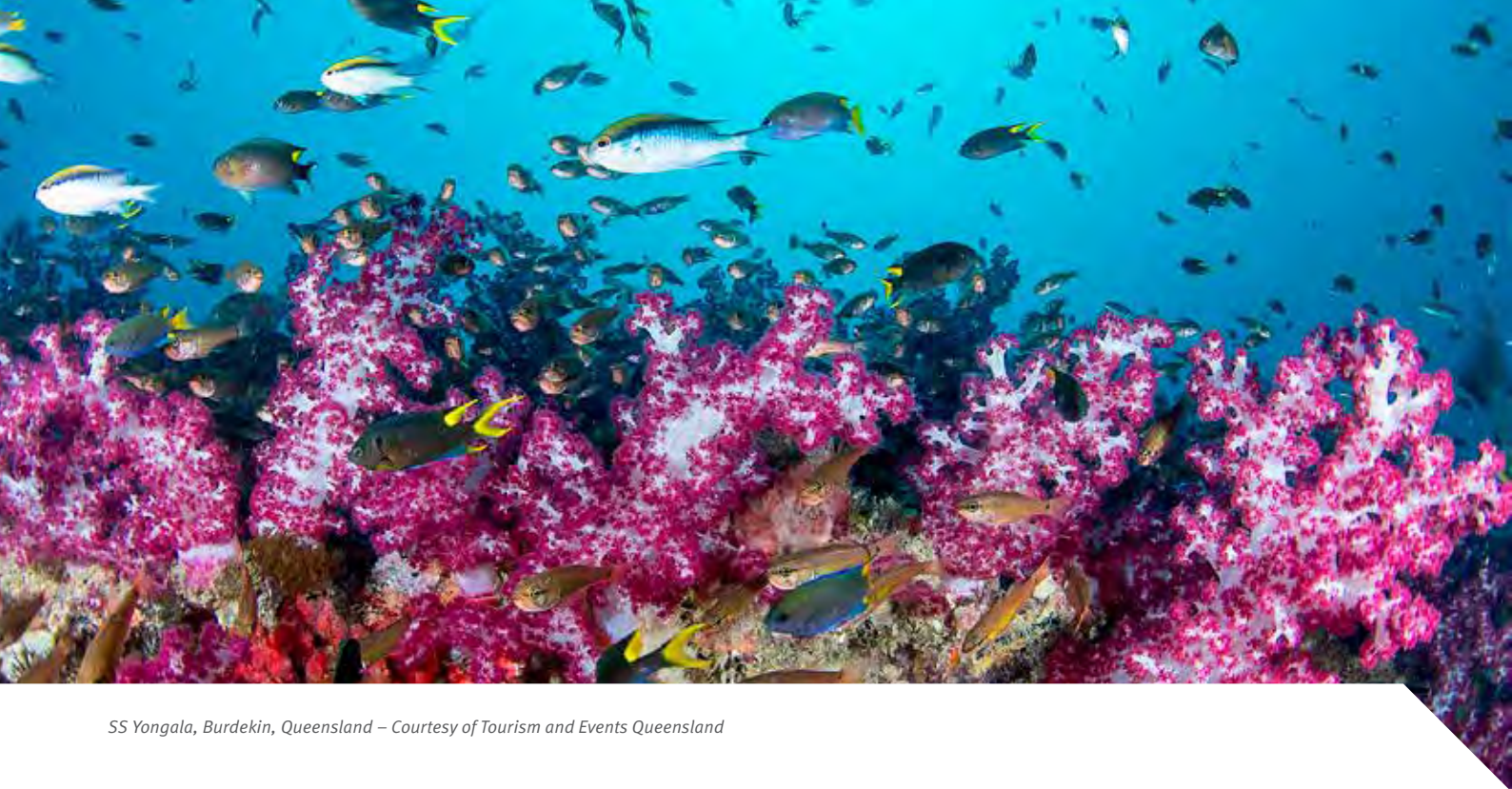
Local government area statistics	
Area 72 km²	Unique lifestyle values Home to the Bwgcolman people (meaning ‘many peoples’), Palm Island was a former Aboriginal mission and penal settlement. It is now home to one of the largest Aboriginal communities in Queensland (94.2 per cent of the population are Aboriginal or Torres Strait Islander). The Traditional Owners of the island are the Manbarra people. Palm Island is located 65 kilometres north-west of Townsville and consists of small bays, sandy beaches and steep forested mountains. The island has a young population, with the average age being 25.8 compared to Queensland’s average age of 36.9.
Population 2637	
Economic overview	
Primary Industries Health, education and government services.	Economic opportunities The community has traditionally been challenged by high unemployment due to limited mainland access, training opportunities and commercial activities. Development on Palm Island is determined by an Indigenous Land Use Agreement, which defines the township area and enables the Manbarra people to be involved in decision-making outside the township area. Opportunities exist for nature-based and cultural tourism on the island, capitalising on its idyllic setting, biodiversity and unique history and culture.
Environmental features	
Palm Island is the main island of the Greater Palm Island group, all of which are continental islands. The island has mountainous terrain covered in rainforest and eucalyptus open woodland fringed by coral reef. The ocean surrounding the island is part of the Great Barrier Reef Marine Park.	
Infrastructure	
The island is accessed by sea and air services from Townsville, with services providing five return trips per week. Regular scheduled flights operate from Palm Island on weekdays. Palm Island Airport also serves as a departure point for Orpheus Island Resort (part of the Hinchinbrook local government area).	

Town square, Palm Island



Townsville

Local government area statistics	
Area 3731 km²	Unique lifestyle values Townsville is the largest city in northern Australia and is commonly referred to as the capital of northern Queensland. The city acts as the key administrative, education, research and service centre for the region, offering diverse employment opportunities, affordable housing, a tropical climate, and a wide range of outdoor recreational and cultural opportunities. Unique locations such as Paluma, The Strand and Riverway, add to the unique lifestyle that Townsville has to offer. Magnetic Island is Townsville’s island paradise, a 20-minute ferry ride from Townsville. Two thirds of the island is national park with abundant wildlife. It is one of the only residential islands on the Great Barrier Reef and is a major tourism asset for Townsville.
Population 194,072	
Key centres Townsville CBD Major centres include Aitkenvale, Douglas, Hyde Park and Thuringowa Central.	
Economic overview	
Primary Industries Major health facilities – Townsville University Hospital (tertiary hospital), private hospitals and mature allied health functions. Tertiary education and research facilities – James Cook University, Central Queensland University, Australian Institute of Marine Science and headquarters of the Great Barrier Reef Marine Park Authority. Defence – the largest defence base in Australia with major defence establishments including the Australian Defence Force at Lavarack Barracks, Ross Island Barracks, the Royal Australian Air Force Base Townsville, Townsville Field Training Area and Port of Townsville Berth 10 (designed for the Royal Australian Navy).	Economic opportunities Townsville hosts a range of established industries such as defence, mineral processing, engineering and tourism, as well as having established health and knowledge facilities. There are on-going opportunities to expand these established industries as well as develop emerging sectors such as renewable energy. In 2016, Townsville became the first Australian city to have a City Deal. The Townsville City Deal is a commitment by three levels of government to transform the city through job creation, economic growth and investment over the next 15 years. Significant redevelopment of the Townsville CBD is being driven within the Townsville City Waterfront Priority Development Area including the North Queensland Stadium. Expansion of the Port of Townsville has been approved to include wider and deeper shipping channels and additional berths. This expansion will accommodate forecast growth in trade and address capacity constraints. Townsville has opportunities to further develop and enhance its advanced manufacturing capabilities, including agricultural technologies, advanced metal production, food transformation and defence industries. The health sector will also see significant growth in Townsville, with the Townsville University Hospital forecast to require an additional 70 per cent in bed numbers to 2041.
Environmental features	
Townsville has unique tropical landscapes and areas of high environmental significance, such as the Great Barrier Reef (including Magnetic Island) and Wet Tropics of Queensland World Heritage Area, as well as the Ramsar-listed Bowling Green Bay wetlands.	
Infrastructure	
The Port of Townsville is the third largest multi-cargo port in Australia, handling 600 to 800 vessels per year with major road and rail links to the north, south and west. Townsville also has one of the busiest non-capital city airports in Australia in terms of passenger numbers, with flights to Cairns, Mackay, Mount Isa and greater South-East Queensland. The airport is co-located with the RAAF Base Townsville.	



SS Yongala, Burdekin, Queensland – Courtesy of Tourism and Events Queensland

The adjoining Great Barrier Reef

The only living structure visible from space, the Great Barrier Reef is the largest and most diverse marine ecosystem on the planet. Being one of two World Heritage Areas in the region (the second being the Wet Tropics of North Queensland World Heritage Area), the reef is an iconic feature that underpins much of the Queensland economy and is especially vital to North Queensland. The Queensland region adjoins the central section of the Great Barrier Reef and borders approximately 250 kilometres of the 2300 kilometre long reef system.

The Great Barrier Reef faces a number of pressures. The inshore condition of the central section of the reef is known to be in decline. During the past 30 years, coral cover has declined by nearly 50 per cent on mid-shelf and offshore reefs, underscoring the declining health of the reef. The central section of the reef has also seen the most severe bleaching from the mass-bleaching events of 2016 and 2017. Large-scale bleaching is a stress response to higher than average water temperatures and, with climate change, this is expected to become a more frequent occurrence.

While the drivers for climate change are global, localised stressors, such as poor water quality, also influence reef health. Increased urbanisation (contributing wastewater, stormwater and associated contaminants) and land-based run-off from agricultural practices are also adding significant pressure. Recent science on sediment effects identifies that increased nutrient loads also contribute to more frequent outbreaks of crown-of-thorns starfish, resulting in further coral cover decline.

There has been some improvement in land management and farming practices in the past decade, however significant work is still required to address sediment, inorganic nitrogen and pesticide runoff in the region. Other pressures include direct use and loss of wetlands, coastal habitat changes and loss of habitat connectivity and population growth.

The region does not currently enjoy the volume of direct reef tourism of Far North Queensland or the Mackay, Isaac and Whitsunday regions. However, it functions as the administrative, management and research epicentre for the Great Barrier Reef. It is the base for the Great Barrier Reef Marine Park Authority, Australian Institute of Marine Sciences, Australian Research Council's Centre of Excellence for Coral Reef studies, TropWATER, CSIRO and ReefHQ aquarium. The region's status is internationally recognised with James Cook University ranked number one in the world for marine biology and number two for biodiversity conservation research.

Building on this position – and reinforcing the North Queensland region as a global leader in environmental research, management and governance – is a key future outcome for the region and will benefit the ongoing protection and management of the Great Barrier Reef.

Influences on North Queensland tomorrow

The future for the North Queensland region holds opportunities and challenges alike, some unique to the region and others the result of global trends. The following is an overview of significant influences on the region's future.

Increasing urbanisation

The world's population is becoming more urbanised. This is particularly true in Asia where the trend towards city living has been matched by upward growth in Asian economies. Similar trends are evident in the North Queensland region, with most population growth occurring in the Townsville urban area.

In addition to the demands for new and diversified housing types to accommodate urban growth, the trend towards urbanisation in Asia brings opportunities for the region. The proximity of the Port of Townsville to Asia provides the opportunity to market the region's high-quality agricultural produce to Asia's increasingly urbanised and affluent populations. The region's high-quality tertiary health, knowledge and training facilities provide another opportunity to service growing urban populations.

Economic drivers

Consistent with global trends, Australia has experienced a gradual economic transition to less labour-intensive industries and a shift towards more sustainable technologies during the last 20 years.

With structural changes in the regional economy expected to continue, the North Queensland region is

anticipated to benefit from growth in knowledge and service-based industries, as well as other emerging sectors. With these changes, new opportunities and areas for investment will be created.

Planning for these changes requires the promotion of emerging industries, while also continuing to support established sectors. More focused planning can provide greater land use and infrastructure efficiencies and investment certainty. These efficiencies should be balanced with the provision of areas that can cater for larger scale industrial uses (like minerals processing and refining) to locate in a manner that is sensitive to urban uses.

Centralisation of the region

Driven by broader economic factors, the pattern of population drift toward Townsville from regional areas is projected to continue. The long-held model of younger people moving to larger centres for further education and lifestyle before returning back to the regions has also stalled. Providing and maintaining services, facilities, amenities and housing will be necessary to attract younger people and families back to the less urbanised areas. This will provide an opportunity to explore innovative ways to supply remote services.

Maintaining strong regional economies is critical to enabling regional centres to attract people and remain self-sustaining. Strengthening connections with both Townsville and surrounding regions will also increase the attractiveness and resilience of regional centres.

Lannercost Street, Ingham



New technology

Rapid changes in technology are transforming how people communicate, live and work. We are increasingly moving online to connect, work, deliver and access services, obtain information and perform consumer transactions (e.g. shopping). In rural landscapes, precision farming, satellite technology and the 'digital homestead' will increasingly dictate how we farm and produce.

High-quality digital communications can eliminate, or at least reduce, the 'tyranny of distance' between regional areas and capital cities, and between Australia and the rest of the world. Although many opportunities will be linked to these changes, there will be impacts on existing skill sets, education, labour markets, retail models, urban planning and transportation networks.

The North Queensland region has an opportunity to position itself as a regional leader in the uptake of new technology and take advantage of future changes. This will require innovative approaches for accessing high-quality digital networks and new thinking on how we plan for jobs, commerce and infrastructure.

Historic land management practices and climate change

In many areas of the North Queensland region, the impacts of historic land management practices are being felt, including decreased soil fertility, erosion, salinisation, poor water quality outcomes and increasing difficulty accessing suitable groundwater. These impacts affect the viability of agricultural activities and the ecological health of natural areas, which are at risk of being further compounded by the impacts of climate change.

Increased rainfall volatility in the region has been highlighted in recent years with urban water restrictions and drought-declarations in Charters Towers and Townsville.

The region has recorded one of the most significant declines in annual rainfall over the past half-century, with rainfall variation projected to increase. Rainfall events and cyclones are predicted to be less frequent but more intense, presenting additional problems for erosion, water quality, topsoil retention and non-irrigated cropping/grazing practices. Higher temperatures and more frequent hot days are also predicted, with impacts on soil moisture, ground cover, evaporation rates and heat stress in livestock.

These changes also include effects on urban areas, infrastructure and economic activity from more intense cyclones, storm surge and flooding, such as the flooding event that affected the region in February 2019. Current land use planning benefits from more accurate modelling of the impacts of climate change and associated weather events, which can be used when considering adaptation strategies, long-term land use suitability and infrastructure resilience.

Access to natural assets

Like most parts of the world, the North Queensland region's substantial stock of natural assets remains under pressure from urban expansion, agriculture and resource development. As well as biodiversity and ecological values, natural assets provide benefits to the community including clean air and water, scenic amenity, outdoor recreation and commercial opportunities for tourism.

Balanced long-term planning will play a key role in protecting the region's natural assets while providing for a variety of compatible and sustainable commercial and community uses that will further enhance the region. The NQ Regional Plan capitalises on the opportunities to focus urban growth, agriculture and resource activities into areas with low biodiversity values.

Ageing populations

The region's population has a younger median age (35.6 years) than the state (37.3 years). This figure is influenced by the demographics of Palm Island and Townsville which have more youthful populations (median ages of 25.8 years and 34.3 years respectively). Despite this younger median age, the region is experiencing demographic changes, including an ageing population, and is growing at a relatively slow pace. Changes in household size, structures and efficiencies mean that housing choice and access to infrastructure and services will be an ongoing priority for the region's communities.

An ageing population has implications for economic growth, workforce structure, government revenue and services such as healthcare. There may also be implications for inter-generational equity and knowledge transfer, with new generations of farmers and supporting trades required to maintain established economic strengths. These changes will require a greater range of housing options, provision of appropriate services and increased lifestyle options, including improved opportunities to age-in-place.

Traditional Owners

Traditional Owners in the region have a strong attachment to country and continue to share their living culture with the environment. Their spiritual connection to the land is not limited to individual heritage places, but is a broader, more complex relationship between culture and landscape. These relationships and cultural knowledge are passed down through generations and hold important lessons for land and natural resource management. Many aspects of Traditional Owners' rights are protected under legislation such as the *Native Title Act 1993 (Commonwealth)*, *Native Title (Queensland) Act 1993* and the *Aboriginal Cultural Heritage Act 2003*.

Many issues relating to economic development, urban growth, liveability, environment and infrastructure present challenges and opportunities to everyone in the wider regional community. In some cases, such challenges and opportunities are unique to Traditional Owners. Regional planning and land use challenges and opportunities specific to Traditional Owners in the North Queensland region are addressed throughout the plan.

Resource dependency

As the global population continues to grow, so too will the worldwide demand for natural resources. North Queensland and the surrounding regions are advantaged by an abundant supply of natural resources and solar access. This provides significant opportunities for the region to value-add to these resources ahead of exporting them to external markets. Opportunities also exist to offer training to those involved in resource activities and allied emerging industries.

Like many regional areas of Queensland, access to affordable and secure water is regarded as a principal economic and infrastructure imperative. Long-term planning for the region must ensure these resources are managed sustainably for future generations and to help meet and capitalise on increasing demand. This includes recognising the importance of resources, such as prime agricultural land, and protecting these from incompatible land uses. Opportunities to improve access to and security of water resources within the region will assist in securing significant economic gains into the future.

Water supply, distributions and end user opportunities

A number of initiatives are underway to improve water supply and distribution within the region. The greatest attention has been on improving the security and efficiency of water supply networks to urban areas, to support communities and industry.

For Townsville, the Queensland Government is progressing outcomes identified by the Townsville Water Security Taskforce that supports sustainable and secure long-term water supply for future population and industry growth. Initial recommendations included the development of a new pipeline between Ross River Dam and the Haughton Pump Station (Stage 1 Haughton pipeline). The Australian Government is working in partnership with state and local governments for the construction of Stage 2 of the Haughton pipeline.

Stage 1 and 2 of the pipeline will provide a water transfer capacity of 364 ML/d from the Burdekin River at Clare Weir to the Ross River Dam at Toonpan.

Additional investigations in the region involving water supply and security include detailed assessment of raising the existing Burdekin Falls Dam, the Hells Gate Dam project, Big Rocks Weir project, and progression of the Lower Burdekin Groundwater Strategy. These projects must consider the impacts to waterways upstream and downstream of any development, as well as aquatic biosecurity risks.

The state government will consider a range of current and future options for the water supply and security for the region over the life of the NQ Regional Plan.



VISION

Building a regional vision for North Queensland

The influences outlined earlier in the plan include external drivers for change that are often largely beyond our control. We must accept that change will disrupt current practice.

Therefore, it is essential that the North Queensland region takes control of its future and becomes its own vehicle for change. Very few places in regional Australia are more capable than the North Queensland region of doing just that and setting themselves up for future prosperity.

Strategically located, with a diverse economy and high-quality natural assets, the North Queensland region already has many of the building blocks in place to respond to global trends and further cement itself as a leader in Queensland and Australia.

These competitive advantages indicate that future prosperity in the region likely requires evolution, rather than wholesale transformation.

Building on visioning work over the past few decades, the following regional vision is to take the North Queensland region forward over the next 25 years: North Queensland thrives as a diverse, liveable and progressive region in the tropics, set around the emerging capital of northern Australia.

North Queensland thrives as a diverse, liveable and progressive region in the tropics, set around the emerging capital of northern Australia.

This vision highlights the region's economic potential and important national role, while acknowledging important factors such as liveability, lifestyle and the natural environment that define the region and that must be retained into the future.

The vision will be realised by achieving the following four regional goals:

A leading economy in regional Australia.

To position the North Queensland region as a leading regional economy over the next 25 years by capitalising on its diverse industry base and numerous competitive advantages.

A rich and healthy natural environment.

To protect and sustainably manage biodiversity, landscape values and the ecological processes that support the region's natural assets, to maintain and enhance a unique environment.

Liveable, sustainable and resilient communities that promote living in the tropics.

To ensure growth occurs within a consolidated and connected urban settlement pattern, and to create liveable and sustainable communities that respond to the region's tropical climate and seek to increase resilience to natural hazards and climate change.

A safe, connected and efficient North Queensland.

To support the region's communities and economic resources by developing resilient and reliable infrastructure and a transport network that moves people and freight safely and efficiently.

Australian Institute of Tropical Health and Medicine, Townsville





Rainforest, Paluma

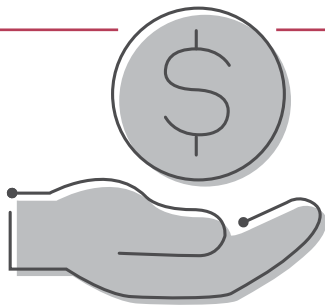


GOAL 1

A leading economy in regional Australia

North Queensland has built and maintained a strong and diverse economy with sustained economic growth supporting an increase in population and major infrastructure. The gross regional product (GRP) of the region is estimated at \$16 billion.⁽ⁱ⁾

The region has competitive advantages in its proximity to the Asia-Pacific, a skilled workforce and key infrastructure already in place. These advantages provide an excellent position from which to capitalise on broader economic trends and opportunities, to become a national economic leader over coming economic cycles.



As at 2017, the gross regional product (GRP) of North Queensland was estimated at **\$16.686 Billion**

REMPPLAN, Economic profile: Townsville North Queensland. Based on ABS 2016 Census Place of Work Employment (Scaled), ABS 2016 / 2017 National Input Output Tables, and ABS June 2018 Gross State Product.

Economic strengths

The primary strengths of the region's economy are agriculture, health, education, tourism, mining, manufacturing and defence industries. These sectors support broader economic activity with mature logistics networks and well-established service industries. Regional economic strengths are also supported by a labour force which has adapted to the region's diverse industry base.

Through decades of investment, the region has equipped itself with exceptional infrastructure, including:

- world-class health, education and research facilities, such as James Cook University, Central Queensland University, Australian Institute of Marine Science and Australian Institute of Tropical Health and Medicine
- mature transport networks, headlined by the Port of Townsville, which services more than 20 shipping lines that link to 136 ports around the world
- major industry and industry enablers, such as sugar mills, mineral refineries, power generators and cattle yards
- public infrastructure, such as the North Queensland Stadium, museums and galleries, greenspace, water parks and recreational trails.

This infrastructure means the region is well-placed to benefit from broader economic trends affecting the national and global economy and capitalise upon its lifestyle attributes that attract population and talent.

Economic opportunities

North Queensland is presently responding to changing economic drivers. This includes the rise of health, knowledge and renewable energy-based industries and renewed growth in established industries such as defence, manufacturing, tourism and agriculture. The region's geographical position also presents ongoing opportunities to service northern Australia and increase its reach and influence into the Asia-Pacific market.

This location when coupled with strong growth in the knowledge, health and advanced manufacturing industries will further the region's international connections and help maintain a more resilient economy.

In continuing to attract growth and find value in the abovementioned sectors, the North Queensland region must support a balanced economy – facilitating the expansion of emerging sectors, while supporting established economic strengths. Goal 1 of the NQ Regional Plan seeks to achieve this by:

- Planning for and encouraging new industrial expansion areas (and allied infrastructure) capable of supporting growth in advanced manufacturing and other emerging industries.
- Ensuring the ongoing growth of defence operations and assets throughout the region is facilitated, whilst protecting established assets from incompatible development.

- Improving the measures in place to protect agricultural land resources and identify new opportunities to sustainably expand this sector.
- Supporting long term growth of health, knowledge and research industries within the region, improving existing facilities and building the region's technical and scientific expertise.
- Expanding the region's unique and diverse tourism opportunities, encouraging high-quality visitor experiences and new tourism offerings.
- Planning for and supporting the region's renewable energy industry and emerging allied technologies, to become a national leader in green energy.
- Managing and facilitating mining and extractive resource activities within and beyond the region, including allied value-add industries.

The following figures (Figure 8a and 8b) provide a conceptual snapshot of the existing economic drivers and economic investigation areas within the North Queensland region. This is represented at a regional scale and around the Townsville urban area.

Australian Institute of Marine Science, Townsville



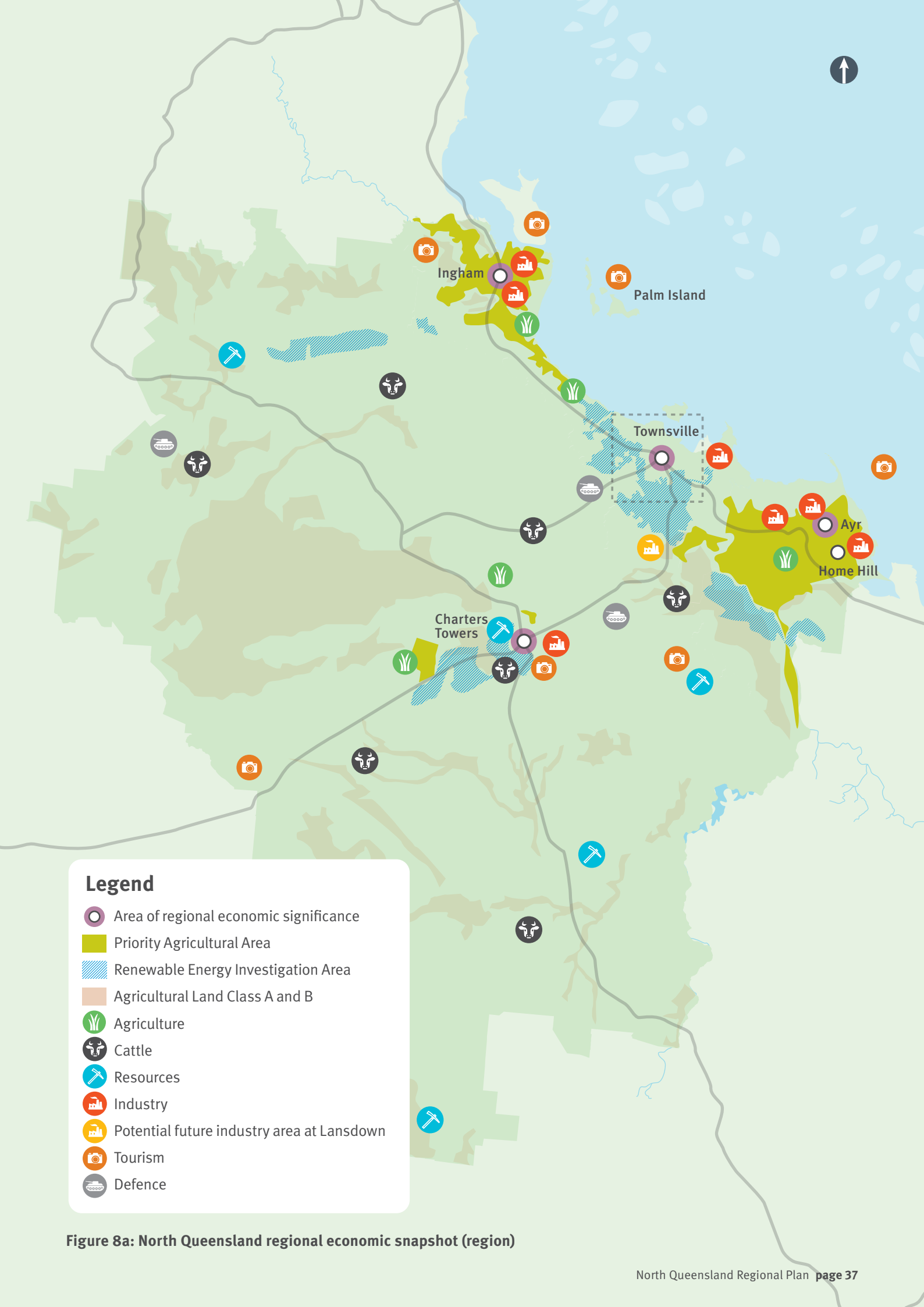
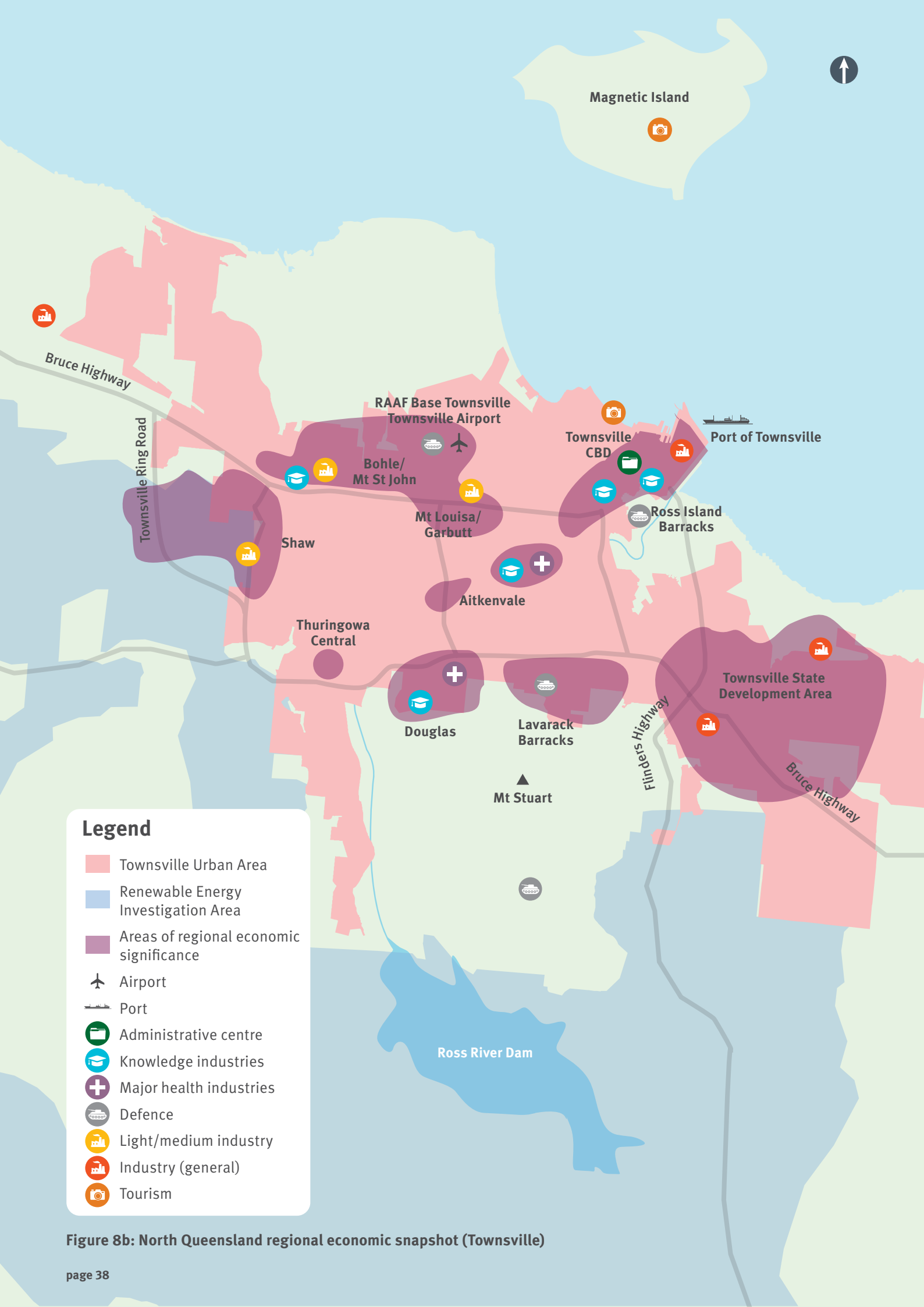


Figure 8a: North Queensland regional economic snapshot (region)



Legend

- Townsville Urban Area
- Renewable Energy Investigation Area
- Areas of regional economic significance
- Airport
- Port
- Administrative centre
- Knowledge industries
- Major health industries
- Defence
- Light/medium industry
- Industry (general)
- Tourism

Figure 8b: North Queensland regional economic snapshot (Townsville)

Established and emerging industry



North Queensland has long been a base for various major industry, including mineral processing, sugar mills, beef processing and concrete batching plants. Industry remains a major employer in the region and has been supported by significant foreign investment. The resilience of this sector is directly reflected in the region's economy and it is vital that the region continues to grow its established and emerging industries, capitalising on its skilled supply chains and knowledge-based services.

Industries considered for the region include sea, air, rail and road-dependent industrial uses such as manufacturing (chemicals and metals production), minerals processing, food processing, intermodal freight and logistics and bulk storage. To enable the sustained growth of these sectors, focus will need to be placed on effectively integrating and maximising new and emerging technologies in manufacturing applications.

Advanced manufacturing

North Queensland is home to a diversified manufacturing industry with a strong metal manufacturing sector and emerging opportunities in food transformation (food systems based on a move away from monoculture).

A renewed focus on collaborative research and development access to new markets can help drive a transition to advanced manufacturing in North Queensland. Embracing new technologies, digital connectivity and global best practices to produce innovative products and services such as robotics, automation and composite manufacturing will improve the region's productivity and global competitiveness.

Advanced manufacturing

Advanced manufacturing is the development of products with a high level of technology and expertise applied along the supply chain and production cycle. This could include a focus on customisation, new materials, innovative manufacturing technologies and pioneering research and development. Applied examples include:

- biomanufacturing – engineered biological systems such as algae supporting aquaculture
- additive manufacturing – 3D printing used for medical applications
- robotics and automated functions – drones used for agricultural and stock management.

Fertiliser plant, Charters Towers



Future industrial land planning

Appropriately sized and located industrial land in the region is currently limited. Industrial land assessments nominated that a further 1200 hectares of suitable land, that is connected to infrastructure corridors and with access to water and energy supplies, is required in the region by 2026.

Townsville State Development Area (SDA) is an important industrial area due to its proximity to the Port of Townsville, key infrastructure corridors, large workforce and support services. In addition to the works underway to accelerate the Townsville SDA, there is an opportunity to activate new industrial land south of Townsville – the southern industrial corridor along the Flinders Highway at Woodstock (Lansdown).

Identification of new and expanded industrial land opportunities in Burdekin, Charters Towers, Hinchinbrook and Bohle Plains are also ongoing and will be the basis of important economic development outcomes for the region. To ensure the longevity of this sector, new industrial uses must be appropriately serviced, with strong intermodal links provided to key locations, including the Port of Townsville and neighbouring industrial areas. Local governments are advised to work with the state government when investigating and identifying appropriate locations for new industrial land.

Regional outcome

- 1.1 Facilitate the growth of new and established industries in appropriate locations and protect their ongoing function.**

Regional policies

- 1.1.1** Ensure the sufficient long-term supply of suitably located and serviced land to meet the requirements of existing and emerging industries within the region.
- 1.1.2** Ensure existing and new industrial areas remain appropriately buffered from incompatible land uses and that the functionality of connecting infrastructure corridors is protected.
- 1.1.3** Safeguard the ongoing operations and future growth of the Port of Townsville by protecting it from encroachment of incompatible land uses and maintaining the integrity of strategic infrastructure corridors.
- 1.1.4** Plan for and support the establishment and operation of advanced manufacturing enterprises and related supply chains in suitable locations, such as Townsville's southern industrial land corridor (including the Townsville SDA) and Bohle Plains.
- 1.1.5** Explore and support the region's key growth opportunities, particularly within the aviation and aerospace industry and the management of waste bio-mass.

Future opportunities for North Queensland industry

The following opportunities have been identified for the region:

- investigating opportunities to transition to a circular economy model across the supply chain to retain and circulate resources in the regional economy. The waste management and resource recovery sector can play an important role in this transition through the creation of a supply chain that collects, sorts, transfers and recycles waste material into new products
- growing the region's industrial biotechnology and bioproducts sector, including the potential for sugarcane and green waste for use in polyethylene and resins and the development of waste into bioproducts, biofuels and bioenergy
- facilitating growth in the region's aviation and aerospace industry through investment in existing infrastructure, services and training. For example export development and provision of core services, such as remote healthcare serviced by air.



Defence



The Australian Defence Force and associated support industries have been an integral part of North Queensland's regional economy and identity for the past 80 years. The region is home to key defence bases including Lavarack Barracks (one of Australia's largest), Royal Australian Air Force (RAAF) Base Townsville (co-located with Townsville Airport) and the Ross Island Barracks. The Port of Townsville also supports naval operations for both Australia and foreign vessels. Along with training areas and other support functions (see Figure 9), North Queensland is one of Australia's largest defence hubs.

Strong and continued growth in this sector is expected over coming years. Existing industrial strengths can also be leveraged to help grow niche or more specialised regional capabilities.

North Queensland is competitively positioned to assist the Australian Defence Force to meet Australia's strategic defence interests, as well as leverage increased defence spending in global markets, particularly in the Asia-Pacific. The region is set to expand local industry capacity to meet the breadth of present and future defence supply requirements.

Defence service industries

In addition to servicing people and their families making the region their home, service industries aligned with defence play an important economic role within the region. Defence is a significant industry in terms of both employment and expertise and the sector has brought both intellectual and financial capital to North Queensland. Defence-related skills and knowledge are built into the long-established defence industry economy and contribute significantly to the North Queensland knowledge economy.

It is expected that further opportunities will arise as the Australia-Singapore Comprehensive Strategic Partnership progresses. This partnership is between multiple levels of government and will provide enduring economic benefits to North Queensland. This includes military training, training area development and significant upgrades to defence infrastructure and capabilities.

Future planning must ensure that the long-term growth of defence assets, key strategic linkages and training areas are all protected from incompatible land uses that could affect defence operations. Defence facilities also require support from transport and utility infrastructure, with the capacity to accommodate existing and future defence needs.

New industrial opportunities aligned with defence should be accommodated in existing industrial areas including Bohle, Goldtower, Mount St John, Mt Louisa and Stuart. Industrial proposals can alternatively be directed to the Townsville SDA, Woodstock industrial land area and Bohle Plains, as identified in the 'established and emerging industry' section.



RAAF FA-18 flying over Castle Hill

Future opportunities for North Queensland defence

The following opportunities exist for defence within the region:

- strengthening collaboration between defence and the health and knowledge industries, and advanced manufacturing industries to increase the capability of the region's defence industry, such as enhanced technology, training and simulations
- increasing the region's capacity to meet supply chain needs, particularly in line with the defence project pipeline (e.g. Australian Singapore Military Training Initiative).

Regional outcome

- 1.2 Facilitate and protect the ongoing operation and growth of defence assets to provide opportunities to build a diversified and sustainable defence industry, including allied/support services, in appropriate locations.**

Regional policies

- 1.2.1** Protect current defence land holdings and areas identified for future defence developments from encroachment by incompatible land uses that may affect, or be affected by, defence activities.
- 1.2.2** Maintain and improve the resilience of the defence transport network to ensure key defence transport corridors can function under a range of climatic and operational scenarios.
- 1.2.3** Ensure sufficient industrial land to support industries allied to defence is available and that these areas remain appropriately buffered from incompatible land uses.

Spartan aircraft, High Range Training Area



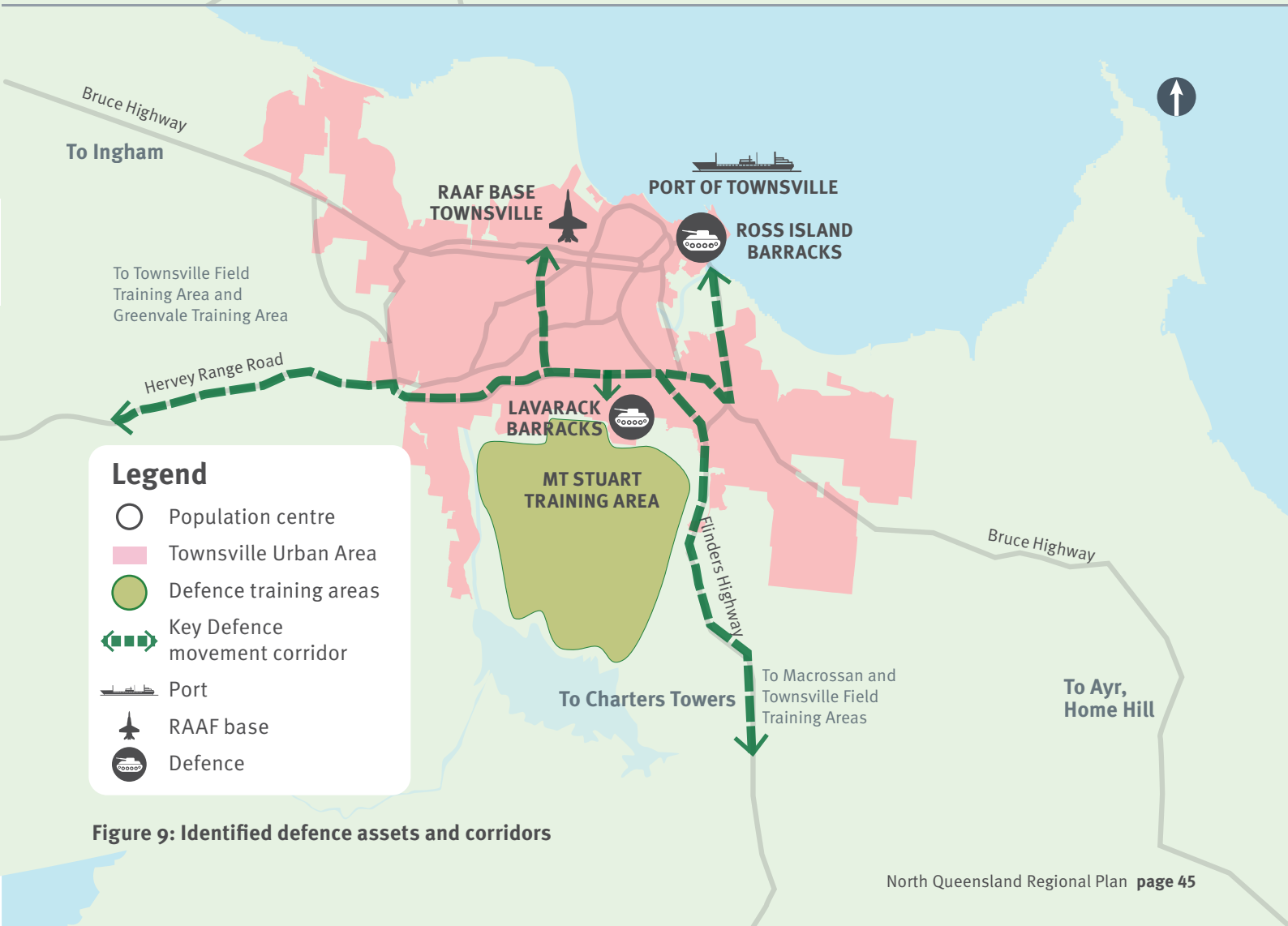


Figure 9: Identified defence assets and corridors



Agriculture and value-add industries

With good soils, water availability and a warm climate, agriculture has been a mainstay of the North Queensland regional economy for the past 120 years. The gross value of agricultural commodities produced (VACP) in the region is estimated at more than \$929.8 million, representing seven per cent of Queensland's total VACP.⁽ⁱⁱ⁾

North Queensland benefits from its proximity to both domestic and Asia-Pacific markets and its reputation for high quality produce. With increases in market demand expected to grow in step with global population growth, there will be opportunities to expand agricultural production within the region. New or expanded agricultural opportunities must be balanced with sustainable environmental outcomes and supported by access to reliable water resources, capable logistics networks and downstream food processing opportunities. The finite nature of the region's agricultural land resources also means that innovative approaches to agricultural production must continue to progress.

Cropping and horticulture

Sugar cane, fruits and vegetables are all hallmarks of the region's agricultural profile. Protecting the valuable agricultural land resources and agricultural production systems that support cropping and horticulture (and other intensive agriculture) is a critical outcome for the region. The NQ Regional Plan has identified Priority Agricultural Areas (PAAs), which are to be protected from fragmentation and incompatible non-agricultural development.

Value-add opportunities and complementary industries directly aligned with agriculture will continue to be supported but these should be clustered with existing industrial or logistics operations. This will further improve efficiencies and minimise impacts on productive land. Development should only be supported in the PAAs where a net production benefit for agriculture will result. For example, smaller-scale renewable energy systems for site-specific use may be appropriate where positive net outcomes for agricultural production can be demonstrated.

Future decision-making about agricultural activities and value-add opportunities should also give consideration to natural resource management plans that provide guidance for improved environmental outcomes. Similarly, an increased understanding and focus on biosecurity considerations will help decrease threats to ongoing agricultural production.

Aquaculture

Aquaculture is an expanding industry in North Queensland with significant export potential. New aquaculture development, such as algae production, builds upon established rock lobster and prawn production. Ongoing technological advances in the treatment of discharge has the potential to allow new aquaculture development to be more ecologically sustainable and suitable for establishment within the region. This could include locations where existing agricultural production is more often compromised or less viable. To help facilitate growth, opportunities to expand land-based aquaculture uses, including aquaculture development areas, will be supported where environmental outcomes can be achieved.

Priority Agricultural Areas

PAAs are strategic clusters of the most regionally significant agricultural production areas that contain various priority agricultural land uses (PALU). These uses include broadacre cropping, horticulture, intensive animal husbandry, plantation forestry and terrestrial aquaculture as shown on Map 1.

Any non-agricultural use or resource activity seeking to operate in these areas will not be supported unless they can co-exist with the PALUs for mutual benefit and without compromising the PALUs current or future ability to operate.

PAAs and PALUs are defined terms under the RPI Act. They identify geographic areas with specific values for the purposes of both the RPI Act and the Planning Act to achieve a consistent planning outcome.



**The footprint of
broadacre cropping
is 1.7%
of the region**

*ABS Agriculture Commodities
SA4 Australia 2017-18*

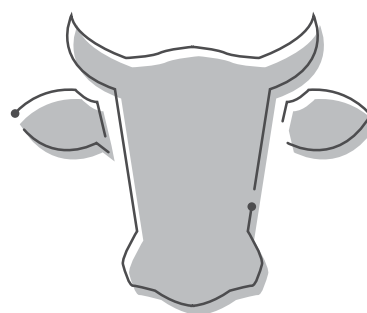


Texas Longhorn, Charters Towers, Queensland – Courtesy of Tourism and Events Queensland/Melissa Findley

Beef cattle industry

The North Queensland beef cattle industry is of national significance. Headlined by live exports from the Port of Townsville, a large processing facility at Stuart and regional sales yards at Charters Towers, the region is the industry focal point for north and north-west Queensland. The stock route network is an important agricultural asset within the region. Continued protection and management of the network, including camping and water reserves, road and watering facilities, is vital for maintenance and expansion of the region's grazing industry (shown on Map 1).

While there is currently good processing capacity in Queensland, there will be opportunities to grow the industry in North Queensland into the future and strengthen supply chains to support greater efficiencies. Such opportunities could include new processing facilities in Charters Towers or expanded feed or finishing lots proximate to the Townsville Port to capitalise on growing demand from Asia for high quality beef.



741,350
head of cattle in
NQ Region 2018
6.2%
of all cattle
in Queensland

ABS Agriculture Commodities SA4 Australia 2017-18

Future opportunities for North Queensland agriculture

Opportunities for the North Queensland agriculture industry to leverage its regional strengths and increase production capacity include:

- intensifying fresh food production to meet market demand, that is supported by improved infrastructure, processing and logistics (including road, rail, sea and airfreight)
- expanding land-based aquaculture developments to supply domestic and international markets, building on existing aquaculture investment and production across the region
- diversifying agriculture or secondary cropping for bioenergy and biopharmaceutical opportunities
- activating Agricultural Land Classification (ALC) Class A and Class B land in the upper catchment areas where environmental impacts (particularly impacts to water quality in downstream areas including the Great Barrier Reef lagoon) potentially associated with new agricultural activities are more capable of being mitigated and/or managed.

Regional outcome

- 1.3 Maintain and investigate opportunities to expand a prosperous and sustainable agricultural sector in the region.**

Regional policies

- 1.3.1** Non-agricultural development within PAAs is not supported, unless the proposed use demonstrates net benefits for regional agricultural production, without compromising the PALUs current or future ability to operate, or is for public infrastructure.
- 1.3.2** Establishment of solar generation systems for off-grid or site-specific uses within PAAs, may be supported where the systems are primarily associated with agricultural production and processing, and are on the same site.
- 1.3.3** PALU's (and associated infrastructure) within the PAAs are protected from resource activities, unless it can be demonstrated that co-existence is mutually beneficial, without compromising the PALU's current or future ability to operate.
- 1.3.4** Encourage and facilitate new and expanded aquaculture development opportunities in appropriate locations.

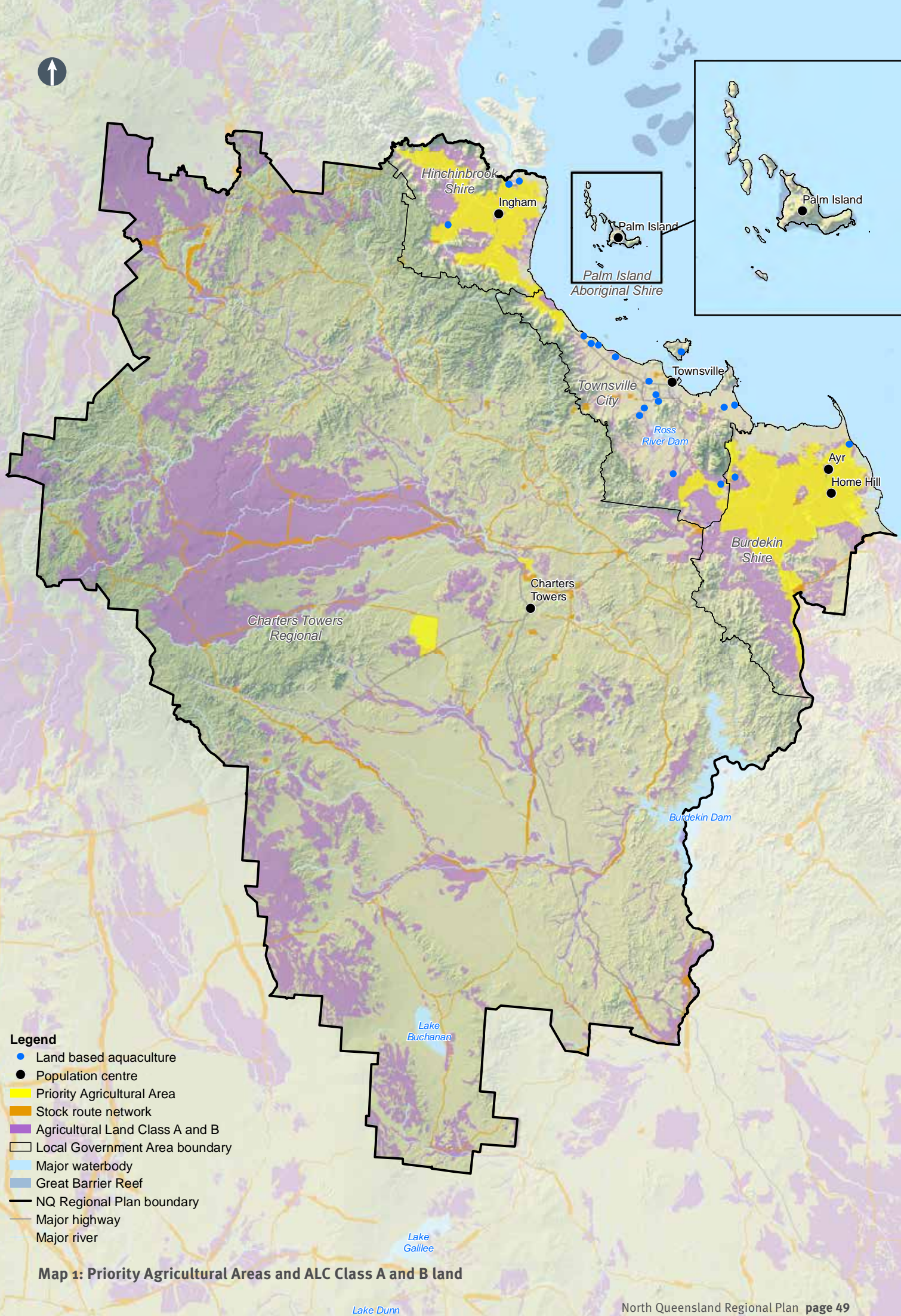
- 1.3.5** Outside of existing agricultural areas, opportunities for new agricultural production are directed to ALC Class A and B land in upper catchment areas where potential environmental impacts, particularly adverse water quality outcomes, can be avoided or mitigated.

- 1.3.6** New and expanding agriculture developments protect and enhance vegetation in riparian corridors and wetlands through the incorporation of best practice farm management to ensure that water quality in receiving environments is not detrimentally affected.

- 1.3.7** The integrity and the purpose of the stock route network within the region is not compromised.

Note:

- Local government is advised to work with the Department of Agriculture and Fisheries, when investigating and identifying appropriate locations for land-based aquaculture.
- Development assessment benchmarks for development applications within PAAs are located on page 120.
- The region also contains strategic cropping lands that are part of the Strategic Cropping Area (SCA) under the RPI Act. These parts of the SCA are not included in the NQ Regional Plan, as strategic cropping lands are mapped across Queensland independently of the regional plan, and this mapping is regularly updated by the Queensland Government.





Growing tourism

Tourism is an emerging industry in North Queensland and provides significant future economic opportunities. The opportunities to grow tourism are broad and include business tourism, events tourism, education tourism, self-drive tourism, adventure and cultural heritage-based tourism.

Relative to other Queensland regions, the tourism potential of North Queensland is yet to be fully realised, making the development and expansion of new tourism products to attract and grow visitor markets, a priority for the region. The region is well placed to capitalise on improved tourism infrastructure, headlined by the North Queensland Stadium, cruise ship terminal, revitalised Townsville domestic terminal and improved accommodation options across the region.

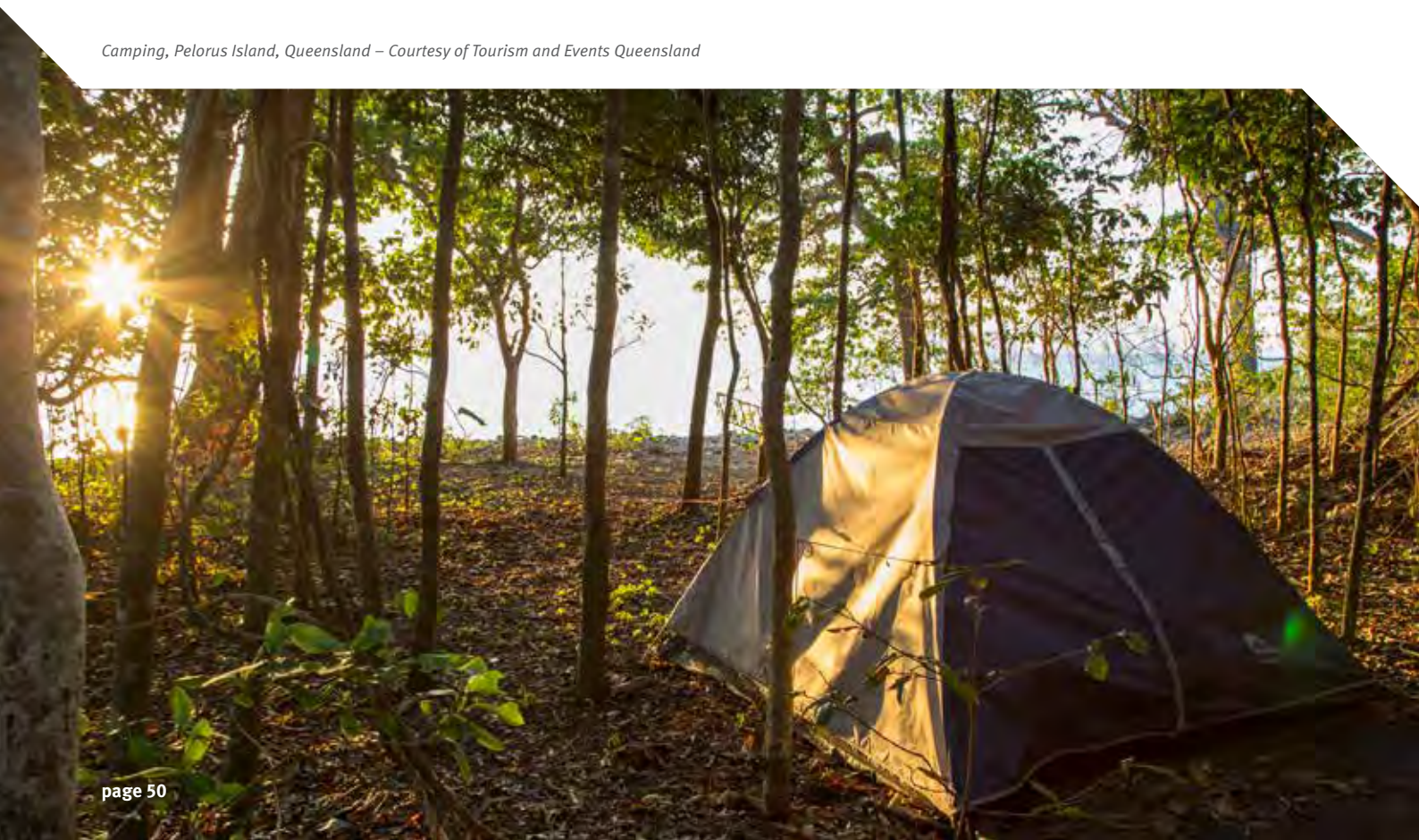
Tourism trends

Tourism trends have changed significantly over the past two decades, with product offerings within the region continuing to diversify. Whilst traditional hotel visitation for events and visiting friends and family still plays an important role in the region's tourism, there has been a rise in more flexible accommodation options, such as Airbnb, and a shift towards self-drive, low cost camping and experiential tourism.

Many of these less-structured tourism patterns have challenged both local government and community expectations and will require new approaches to encourage ongoing tourism development. Contemporary tourism developments are often mixed-use proposals, with residential components included to improve the site's viability and returns. Such developments, when proposed away from urban areas, can pose infrastructure servicing challenges for local governments.

Notwithstanding the challenges, new high-quality tourism opportunities in the region contribute towards the resilience of the regional economy and should be promoted where appropriate. High-quality development proposals benefit from being attractive, environmentally sensitive, well-designed and well-serviced. With a growing international market for nature-based tourism (including eco-tourism) the region is also well placed to draw on its areas of high scenic and natural amenity. However, the management of key environmental outcomes in such areas will remain paramount.

Camping, Pelorus Island, Queensland – Courtesy of Tourism and Events Queensland





Ferry terminal, Palm Island

Future opportunities for North Queensland in tourism

The region has a variety of strategic advantages, which present opportunities for tourism growth including:

- increasing visitation associated with the North Queensland Stadium, Townsville CBD revitalisation, Magnetic Island, the Museum of Underwater Art (Stage 2) and Palm Island
- encouraging and facilitating major and high-value events tourism, including use of the North Queensland Stadium and promotion of the night-time economy
- increasing the share of business-related, international education and training related tourism
- growing the region's self-drive tourism industry and its direct and indirect benefits, with particular focus on the growing caravan, recreation vehicle and camping market and intra-regional connections between Charters Towers, Hinchinbrook and the Burdekin
- increasing visitation from the cruise sector, through investment in the promotion of high-quality day-trip experiences and improved visitor accessibility
- enhancing small-scale, low-impact cultural and nature-based tourism experiences in high-value locations and capitalising on the proximity of the Wet Tropics of Queensland World Heritage Area and the Great Barrier Reef and neighbouring islands
- encouraging and facilitating Aboriginal and Torres Strait Islander cultural experiences, products, and events and enabling knowledge transfer between Aboriginal and Torres Strait Islander peoples and non-Indigenous visitors
- promoting modest and small-scale tourism uses such as bed and breakfast operations, farmgate tourism and smaller bespoke food and/or accommodation offerings.

A collaborative approach must be adopted by local and state governments to enable new small-scale activities and cultural heritage, historical and nature-based tourism opportunities to flourish. This could include reduced thresholds, levels of assessment and/or other policy mechanisms that can separate small-scale, low-impact and low-risk tourism proposals from more complex developments.

Future planning in the region should also seek to identify and prioritise key infrastructure projects that would enable new tourism opportunities to be realised. Potential infrastructure that can provide tourism opportunities includes:

- cruise ship and superyacht facilities
- improved airside and landside infrastructure at airports (including enhanced passenger facilities)
- improved connectivity to Palm Island
- improved ferry and regional bus terminal facilities.

New tourism infrastructure will need to be designed to be resilient to and account for natural hazard events and variations in climatic conditions. This will ensure the tourism industry is able to quickly recover after an event, stimulating continued visitor demand.

Regional outcome

- 1.4 Expand opportunities for tourism in the North Queensland region, with an emphasis on creating diverse and high-quality visitor experiences.**

Regional policies

- 1.4.1** Facilitate key tourism opportunities (including major events, business tourism, regionally focused attractions such as nature-based and cultural heritage tourism) and associated facilities across the region, leveraging opportunities from the North Queensland Stadium as appropriate.

- 1.4.2** Facilitate the improvement of transport infrastructure and systems to strengthen the region's capacity to host events, minimise disruptions to the transport network and increase sustainable transport options for large events, particularly at the North Queensland Stadium.
- 1.4.3** Facilitate the improvement of facilities allied to visiting cruise ship activities and linkages from berths to key attractions within Townsville.
- 1.4.4** Encourage opportunities to enhance and expand self-drive tourism. This includes supporting flexible accommodation options, improving roadside facilities and enhancing the legibility of routes across the region.
- 1.4.5** Provide opportunities for small-scale, low impact and environmentally sensitive nature-based tourism and cultural heritage tourism proposals in conservation areas, where consistent with the management of these areas, and rural landscapes (where the use is complementary and associated with the agricultural use).
- 1.4.6** Direct nature-based tourism development and ancillary services to incorporate environmentally sensitive, high-quality tropical design and architecture that responds to the environmental values and climatic influences.
- 1.4.7** Encourage new tourism development on Palm Island and provide improved connectivity with the mainland.
- 1.4.8** Locate mixed-use tourism developments that incorporate permanent residential components (not including caretaker or staff accommodation functions) within existing urban areas.



Horseshoe Bay, Magnetic Island

Tourism opportunities on Palm Island

Great Palm Island (termed Palm Island) is one of 16 islands in the greater Palm group and is located approximately 65 kilometres north-east of Townsville, in Cleveland Bay. Palm Island is often termed a 'tropical paradise' given its natural assets and subsequent tourism potential, with neighbouring Orpheus Island, well known for its established island resort.

The contemporary Aboriginal name for Palm Islanders is 'Bwgcolman people', which means 'many tribes, one people'. This history provides a unique opportunity to include the Traditional Owners' narrative, as well as the history of the island's mission housing communities, in cultural heritage-based tourism offerings.

The realisation of tourism opportunities on Palm Island offers great potential to strengthen the profile of the community and deliver employment, skills and small business growth. In terms of cultural heritage tourism, Palm Island has the potential for unique product offerings.

The fringing reef of Palm Island is ideally suited to marine tourism including the new Museum of Underwater Art (Stage 2), capitalising on the sunken artistic and historical features that are already drawcards for scuba diving tours. Over time, these features will transition to an artificial reef capable of attracting greater marine life, further enhancing visitor experiences.



Renewable energy

Demand for power in North Queensland will continue to grow in line with the region's population, technological advancements and industry footprint. As a result, renewable energies have seen continued growth, particularly in commercial-scale renewable energy generation and in the development of emerging allied technologies. This has in turn placed downward pressure on electricity prices and is encouraging the co-location of smaller-scale renewable energy generation within higher energy use industries.

Renewable hydrogen

Domestic and international decarbonisation goals and advances in technology are driving global interest in renewable hydrogen. A strong renewable investment pipeline and access to a large export market via the Port of Townsville presents an exciting opportunity for the development of a renewable hydrogen industry in the region.

The cost-competitive production of renewable hydrogen has the potential to reduce emissions across a range of power, industrial and transport applications. This could play a role in delivering on Queensland's target of 50 per cent renewable energy by 2030 and reaching zero net emissions by 2050.

Solar and wind

The region has abundant renewable resources such as solar and wind with significant investment in commercial-scale solar operations already occurring in both the Burdekin and Townsville. As investment interest in energy storage continues to grow, battery projects are also an emerging opportunity.

Renewable Energy Investigation Areas

Facilitating investment in new commercial-scale renewable energy facilities is an economic priority for the region and areas have been identified where these activities will be encouraged. Renewable Energy Investigation Areas (REIAs) are those locations considered most suitable for the establishment of new commercial-scale solar and wind farms. Factors considered in their determination include solar suitability indices, proximity to substations and high voltage transmission lines, slope, environmental and landscape constraints and fragmentation of good quality agriculture land. These areas are shown on Map 2.

Ross River Solar Farm, Townsville





Co-generation Plant, Victoria Mill, Ingham

Future Opportunities for North Queensland renewable energy

With the ongoing development of renewable energy projects in the region, there is an opportunity for North Queensland to become a national leader in renewables and allied technologies. Opportunities include:

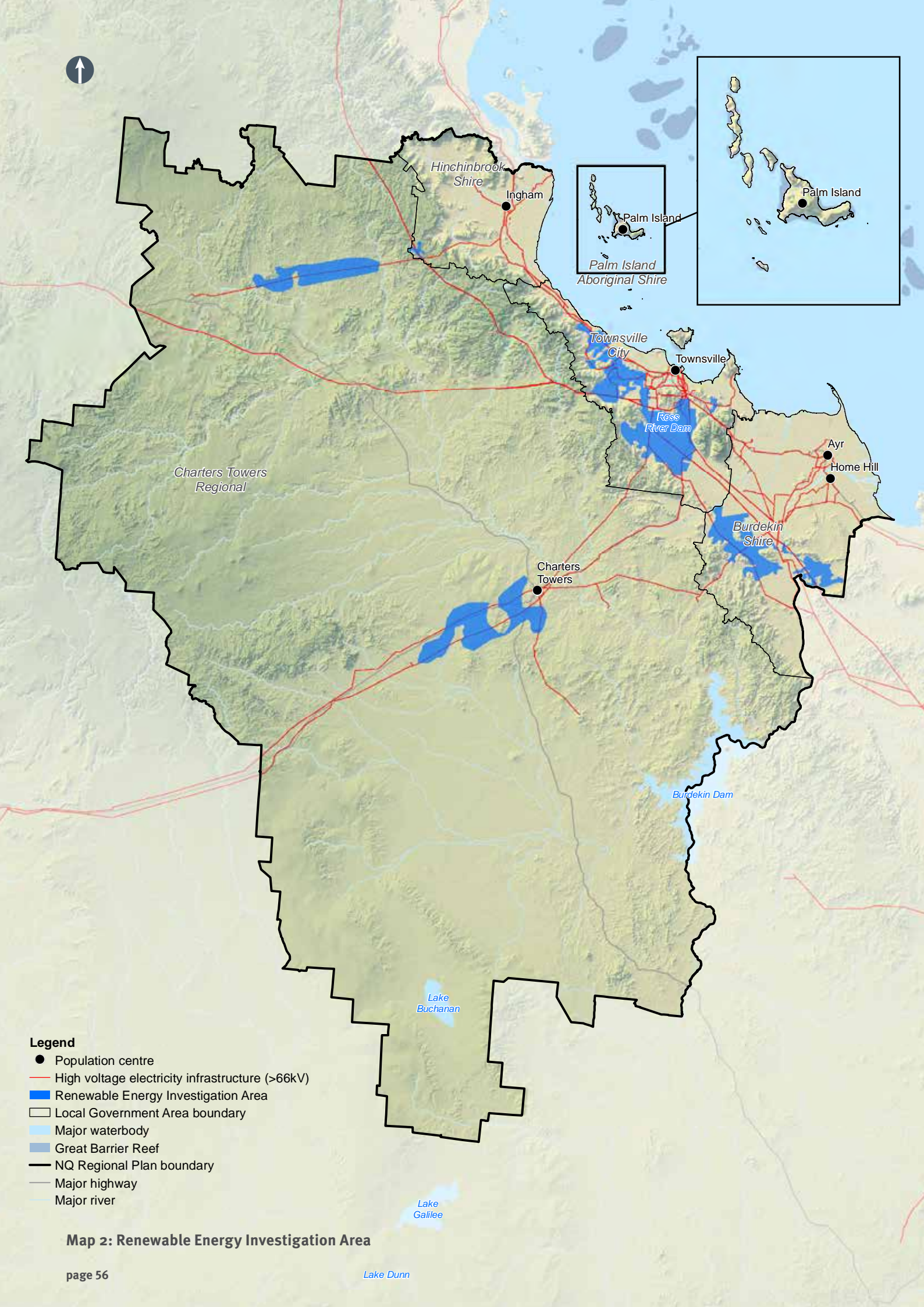
- investing in and facilitating renewable hydrogen for a diverse range of domestic applications and long-term export in line with the release of the Queensland Hydrogen Industry Strategy 2019-2024. Delivery of this strategy also provides an opportunity to focus on supporting innovation and facilitating skills development for this new technology prospect for the region
- investigating and promoting battery storage technology associated with renewable energy generation and purpose-built infrastructure for electric transportation expanding the region's biotechnology and bioproducts sector, including sustainable biofuel production, as identified in the Queensland Biofutures Roadmap.

Regional outcome

- 1.5 Position the North Queensland region as a national leader for the production, storage, transmission and export of renewable energy and ancillary technologies.**

Regional policies

- 1.5.1** Direct and encourage commercial-scale solar and wind farms to establish in REIAs, as shown on Map 2.
- 1.5.2** Support new land uses associated with renewable energy generation (e.g. storage and distribution technology) on industrial land, or land adjacent to existing renewable energy developments as appropriate. New development in these areas should be supported by enabling infrastructure.
- 1.5.3** Support opportunities for total energy planning, such as stand-alone systems and/or closed generation networks, for new commercial, industrial and residential development.
- 1.5.4** Plan for and support the establishment and on-going operation of emerging renewable energy and allied technologies, such as hydrogen energy and battery storage projects in suitable locations.
- 1.5.5** Support the establishment and on-going operation of new biofuel production facilities and/or biomass energy generation in appropriate locations, primarily within industrial zones, adjacent to existing processing facilities that support fuel sources or are co-located with agricultural production areas where crops are to be produced.





Fertiliser plant, Charters Towers

Health and knowledge industries



The North Queensland region is well-placed to become a national leader within the health and knowledge industries and establish a global role as the knowledge hub for the tropical health and sciences. The region has excellent health and education facilities, as well as world-renowned research functions including tropical medicine, public health, marine sciences, agricultural sciences, engineering and environmental studies. Tertiary institutions build on strong education foundations, with schooling in Charters Towers, Townsville and Hinchinbrook drawing and educating students from across northern and western Queensland.

The knowledge economy references those sectors of the economy in which the production of goods and services is based primarily on knowledge-intensive skills.

The knowledge economy in North Queensland sits across all sectors, with research, development and commercialisation opportunities available for both established and emerging industries. Increasing specialisation and expertise within local industries will help to increase higher skilled jobs and wages into the future.

Health industries

Healthcare is the largest employment sector in the region, accounting for 17 per cent of the workforce. The Townsville Hospital and Health Service is the largest employer in the region and is northern Australia's principal tertiary healthcare facility. The hospital is one of the most significant pieces of public infrastructure in the region, providing primary and tertiary health services to over 670,000 people, from Mackay to the Torres Strait and west to the Northern Territory border. Over the life of the NQ Regional Plan this figure is expected to increase to over one million people. It is also a major teaching hospital and a leader in clinical research across a range of disciplines, playing a key role in the Douglas Health and Knowledge Precinct (recently branded the TropiQ Townsville Tropical Intelligence and Health Precinct).

Industry growth in this sector is attributed to an increasing and ageing population, inward skilled migration, capital investment, health tourism and higher wages. Maintaining and strengthening health industries and associated services is a critical

economic outcome for the region. Opportunities to improve the linkages between Townsville and the health services and centres in Ayr, Charters Towers and Ingham, should also be encouraged and facilitated where possible, particularly where regional hospitals are located outside of the town centres.

Aged care services

Strong growth in aged care services is expected across the region, with opportunities for the development of new or expanded aged care facilities. Locating new aged care facilities within and close to primary healthcare facilities offers easier access to allied services and reduces travel dependency.

Planning should facilitate opportunities for new development that directly supports health industries, aged-care services and those functions that advance the region in becoming a national health leader.

Knowledge industries

Knowledge industries are those that contribute to advancing technical and scientific expertise and have a greater reliance on intellectual capabilities than on physical inputs or resources. These industries reflect a greater dependence on knowledge and information and the increasing need for ready access to these elements by business and public sectors. In North Queensland, examples include tertiary educators, marine and environmental research institutes, tropical health providers, legal and financial services, telecommunication experts, engineering firms and agricultural science hubs.

The region has strong prospects for growth within its knowledge industries, with innovation and leadership in the advanced manufacturing and agriculture sectors. The region can also build on its tropical expertise, capitalising on the growing demand for products and services in tropical medicine and tropical built form solutions, as well as human and environmental resilience.

New investment in national and international tertiary and vocational education, bio-products, applied research functions and allied business opportunities, will continue to strengthen the knowledge economy.



Students at James Cook University, Douglas

Knowledge precincts

Knowledge industries benefit from a concentration of businesses, industry, education and research facilities and a skilled worker-base in identifiable and connected knowledge precincts. In a knowledge-based economy, tertiary and research institutions (including technical and further education facilities) play a central role in attracting and creating investment and intellectual capital. The ability to conduct business and readily interact, and share information and knowledge, is considered critical.

The TropiQ Townsville Tropical Intelligence and Health Precinct, located in Douglas (TropiQ) (including the Townsville University Hospital, James Cook University and a range of other health, education research and innovation enterprises) is located 10 kilometres from the Townsville CBD (see Figure 10). Due to both its national and international reputation and ability to grow other industries, the success of this precinct remains vital to the future prosperity of the region.

The Townsville CBD Knowledge Precinct is also experiencing continued growth of the Central Queensland University, with the future ability to consolidate acute research functions, such as marine science and sports science, associated with the revitalisation of the Townsville waterfront and the North Queensland Stadium (see Figure 10). The CBD precinct is capable of becoming a key driver in the attraction and retention of knowledge-workers, students, researchers and world class businesses, leveraging off its locational and cultural attributes. The NQ Regional Plan supports growth of the precinct to reinforce the primacy of the Townsville CBD and provide a more-fitting centre for the Capital of northern Australia.

Future opportunities for North Queensland health and knowledge industries

The region has great potential to strengthen and enhance its role within the health and knowledge industries, on both a national and international stage. Opportunities include:

- maximising knowledge sharing and collaboration by locating and linking health and knowledge-orientated businesses within precincts, to build the region's profile
- leveraging the advantages of the co-location of tertiary hospitals and education facilities and the unique access to tropical environments, to solidify its role as a global leader and centre of excellence for tropical health and knowledge
- increasing the region's attraction and liveability, through the provision of high-quality mixed-use areas providing exemplary accommodation, open spaces, community facilities and transport solutions
- increasing the region's appeal to the Asia-Pacific market (both international students and delivery of specialised knowledge), through the targeted regional application of health, knowledge and research.

Regional outcome

- 1.6 Enhance the region's opportunities as a hub for research, health and knowledge industries in northern Australia and the global tropics.**

Regional policies

- 1.6.1** Facilitate the growth and expansion of health and knowledge precincts in Townsville by providing opportunities for innovative transport, residential and mixed-use development, sustainability, technological and infrastructure solutions.

- 1.6.2** Cluster research, health and knowledge industries within regional centres, around existing commercial centres and/or existing primary health/knowledge facilities.

- 1.6.3** Plan for and support the development of new or expanding aged care facilities and allied infrastructure in accessible locations within the regional centres.

- 1.6.4** Support high frequency transport links between the Townsville CBD and TropiQ.

Australian Institute of Tropical Health and Medicine, Townsville



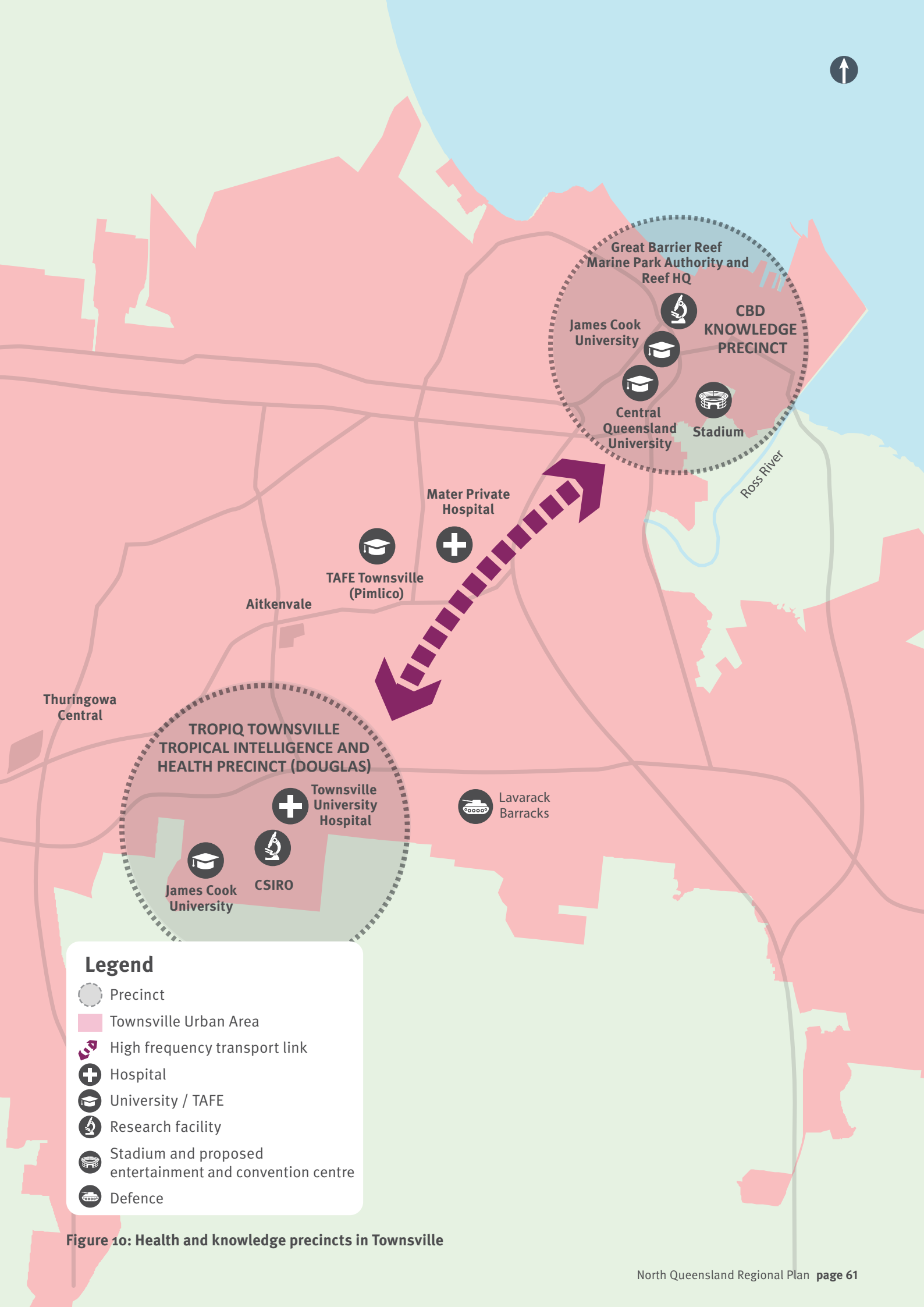


Figure 10: Health and knowledge precincts in Townsville



Mining and extractive industries

The North Queensland region has produced a diverse range of mineral products including gold, silver, limestone, dolomite, precious gems and a range of significant extractive resources (e.g. sand, gravel, quarry rock and clay). North Queensland is also rich in a range of technology minerals, including rare earth elements, which have a growing market profile. These present an ongoing opportunity across the region, with strong future demand expected for these minerals.

Geological investigations also indicate there is good mineral and gas prospect across the region, including potentially significant deposits of coal, natural gas, gold and other metallic ores. This includes the northern part of the Galilee Basin, which does not presently have production activities but has high prospects for coal and petroleum.

Significant mining operations in the region are headlined by gold mining at Ravenswood and Charters Towers. Beyond direct mining operations, the region also plays a significant role in supporting mining activities in the North West Mineral Province and both the Bowen and Galilee Basins. This support includes the provision of labour, mineral processing, logistics, administrative functions and significant throughput via the Mount Isa to Townsville corridor and the Port of Townsville. The Queensland Government made a half a billion dollar investment in the Mt Isa to Townsville rail line, to improve efficiencies and increase flooding resilience.

Future planning

In Queensland, the assessment of proposed mining and extractive resources is undertaken via two different processes. Resource activities (coal, minerals, gas, geothermal and petroleum resources) are assessed according to the requirements of various pieces of legislation, with the majority under the *Mineral Resources Act 1989* and RPI Act. The Planning Act is responsible for assessing proposals for extractive resources such as quarry rock, sand, gravel and clays.

Production increases in mining and extractive resources are supported, but will require balance with environmental, agricultural and urban considerations. The NQ Regional Plan includes PAAs, Strategic Environmental Areas (SEAs) and Priority Living Areas (PLAs) to achieve this balance.

As a historic gold mining centre, Charters Towers is an example of an urban centre established directly atop and around mining activities. This co-existence has caused no significant issues given the scale and characteristics of the mining activity. However, it is important to ensure that these land uses are appropriately balanced into the future and the potential impacts of any future intensification are not to the detriment of the community. This is the purpose of the PLAs.

Priority Living Areas

Priority Living Areas have effect through the RPI Act and give communities, via their council, a say on resource activities that may impact on a town's amenity and wellbeing. These are shown in Map 3 and within Schedule B (Maps A-T).

Each PLA map generally represents a two kilometre buffer area around the key settlement area of each respective location and identifies where a resource activity cannot establish without first demonstrating compatibility with the existing urban uses within the settlement.

Any proposed resource activity within the identified PLAs must demonstrate that the location, nature and conduct of the activity is compatible with the planned future for the area. This is completed through an application process established under the RPI Act. Importantly, all resource activity proposals within a PLA must be publicly notified.

PLAs are proposed to replace existing restricted areas (urban), as gazetted under the *Mineral Resources Act 1989* in 2011 (RA384), where deemed necessary or appropriate.

Future opportunities for North Queensland mining and extractive industries

Future opportunities within the mining and extractive resources industry include:

- supporting the identification and extraction of precious metals and rare earth elements. There is expected to be an increase in demand, due to their increasing use in emerging technologies (such as electric cars, renewable energy products and low-emission power sources)
- expanding the region's support capacity (supply chain, logistics and other allied services) for the North West mineral province, Bowen Basin and Northern Galilee Basin
- investigating and promoting new technologies to improve the sustainability and capabilities of mining and resource extraction. Technological advancement will also help improve the viability of extracting existing mineral deposits in the region.

Ravenswood Gold Mine, Charters Towers



Regional outcome

- 1.7** Sustainably and efficiently manage the region's mineral, petroleum, gas and extractive resources, and facilitate the appropriate growth of resource activities and allied value-add industries that support them, in and beyond the region to meet the needs of existing and future communities.

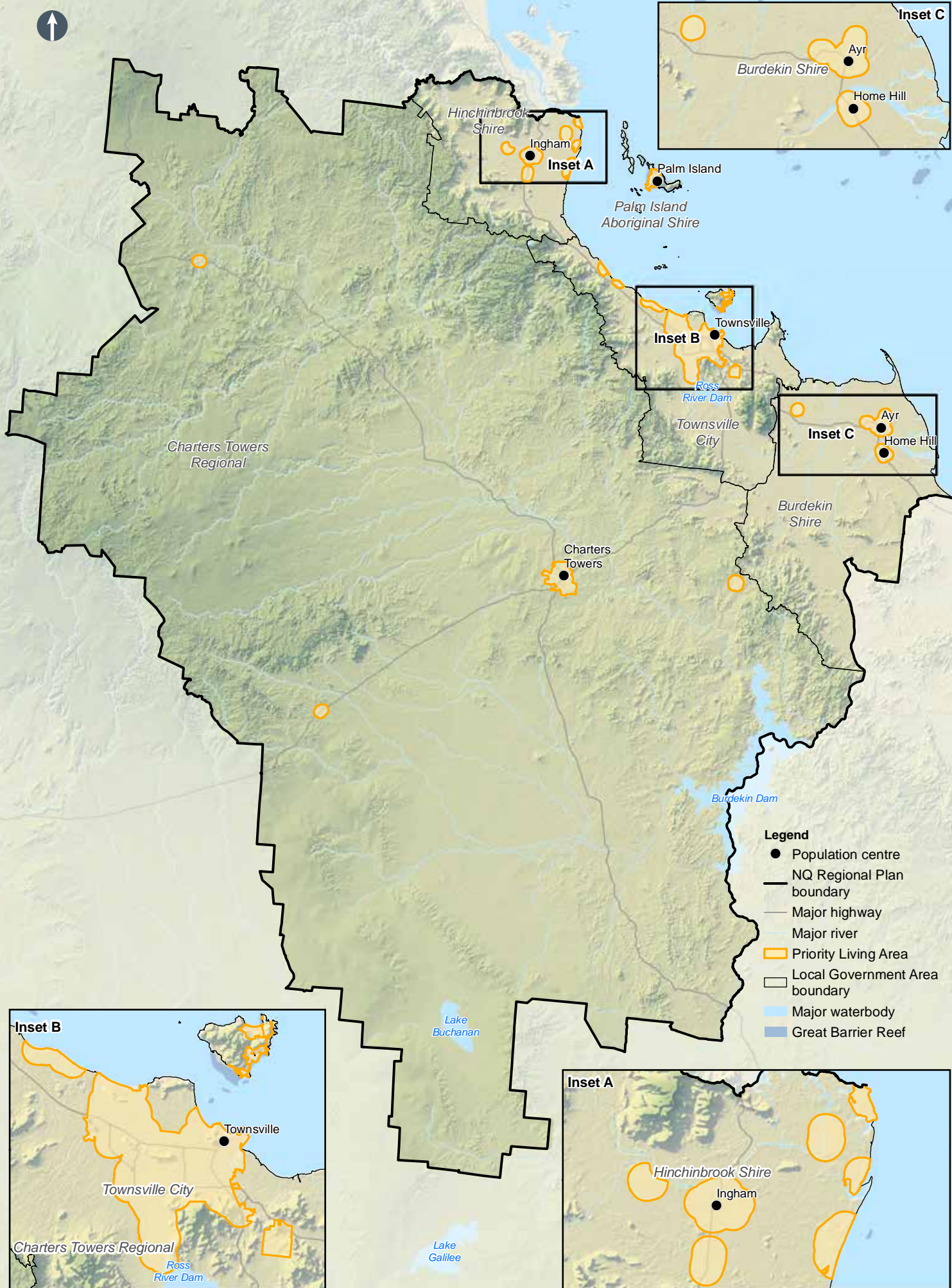
Regional policies

- 1.7.1** Support future resource extraction and allied industries in the region, including technical minerals and rare earths, where appropriate environmental and social outcomes will result.
- 1.7.2** Protect mining and petroleum industries (and allied infrastructure corridors), where production permits have been granted, from incompatible land uses, such as the encroachment of urban development.

- 1.7.3** Protect the region's extractive resources, including locally identified extractive resource areas, to ensure the operational requirements of extractive industries are not compromised by the encroachment of incompatible land uses, including the protection and functionality of connecting infrastructure corridors.
- 1.7.4** PLAs are safeguarded from resource activities unless it is demonstrated that the location, nature and conduct of the proposed activities meet the communities' expectations, as determined by the relevant local government.

Ravenswood Gold Mine, Charters Towers





Map 3: Priority Living Areas (detailed maps are in Schedule B)

GOAL 2: A rich and healthy natural environment



Jourama Falls, Hinchinbrook, Queensland – Courtesy of Tourism and Events Queensland

GOAL 2

A rich and healthy natural environment

The North Queensland region contains an array of valuable natural environmental assets. The region relies on these assets and their continued ecological functionality, to support biodiversity, healthy communities, and a sustainable economy. The protection and management of the region's natural environment into the future is a critical component of the NQ Regional Plan.

The environmental policies contained in the plan are intended to complement and balance the identified economic opportunities, acknowledging that the future viability of the regional economy is inherently bound to the health of its natural assets.

Natural assets

North Queensland contains terrestrial and marine environments of national and international significance.

This includes the southern extent of the Wet Tropics of Queensland World Heritage Area and the Great Barrier Reef World Heritage Area. The region is also home to an internationally significant Ramsar wetland in Bowling Green Bay National Park.

The region's biogeography is a key natural asset as it comprises a unique convergence between four of Queensland's 13 bioregions. These bioregions, the Wet Tropics, Einasleigh Uplands, Desert Uplands and Brigalow Belt (shown in Map 4), are acknowledged as being highly productive and richly diverse, and as having high levels of rare and threatened species. Two of these regions, the Einasleigh Uplands and Brigalow Belt, are also listed on Australia's top 15 hotspots for biodiversity.

Other valuable natural assets within the region include nationally significant wetlands, wet and dry tropical rainforests, ranges, rivers, coastal plains, estuaries, bays and islands. Some of these are protected as national parks, state forests, nature refuges, declared fish habitat areas and dugong protection areas.

Protecting these natural assets is the linchpin maintaining biodiversity and the outdoor lifestyle valued by residents and visitors to the region. Activities that are dependent on natural economic resources, such as agriculture, mining and extractive resources, forestry and fishing, are all dependent on the sustainable management of these resources.

Environmental challenges

Like many parts of the world, North Queensland will continue to face environmental challenges over the next quarter of a century and beyond. These challenges include biodiversity and habitat loss, impacts from poor water quality and increasing pressures resulting from climate change.

The region's biodiversity and landscape values, including key corridors and habitats, have over time, been impacted by fragmentation and degradation from development. In some areas, this has resulted in a decline of species-richness and increased issues such as salinisation and erosion.

The health of the Great Barrier Reef Marine Park also continues to face challenges. These include poor water quality from nutrient and sediment loading, and increased warming of global oceans. Important ecological functions in the region's coastal areas have also been impacted by urban development, agricultural activities and coastal infrastructure.

Climatic changes are being felt by North Queensland's biodiversity and natural habitats. The region has seen rainfall rates drop significantly over the past 15 years and this trend is projected to continue over the coming decades. This is coupled with forecasts for greater intensity and volatility of natural hazards.

These challenges will affect future development and infrastructure provision across the region, and will require insightful planning and decision-making to ensure positive outcomes for environmental health and community resilience.

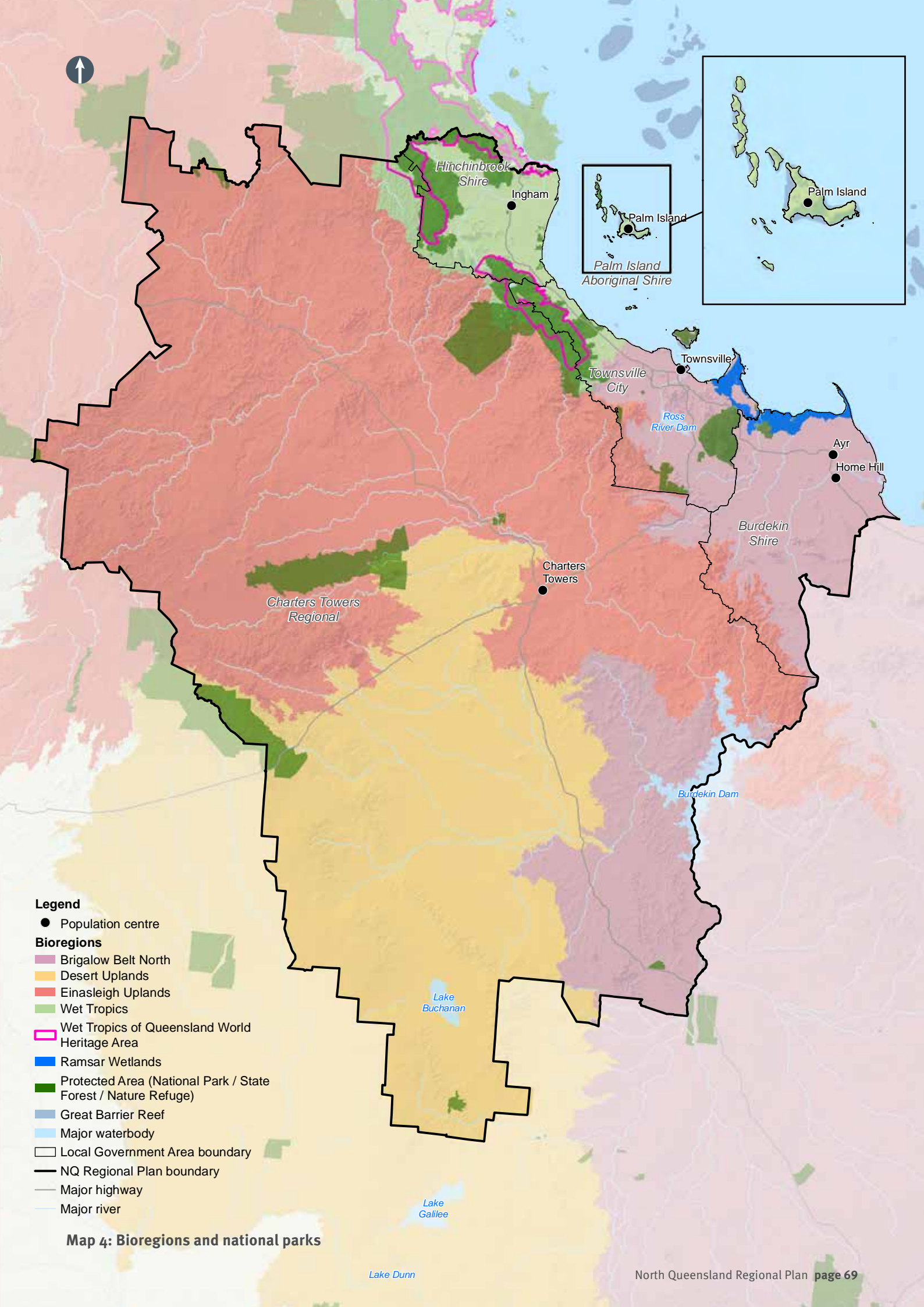
Cultural heritage

Aboriginal and Torres Strait Islander peoples, in particular Traditional Owners, have the longest and deepest connection with country and continue to have a shared living culture with their environment. Consequently, Indigenous cultural heritage knowledge holds important information for sustainably managing the natural environment. Incorporating this knowledge meaningfully into planning practices is essential for the continued vitality of our natural environment and shared history.

Culturally significant sites are also an essential part of region's heritage. These sites exist in places, seascapes and landscapes across the region and are elements of the deep relationship between landscape and culture. The NQ Regional Plan will assist in acknowledging, valuing and protecting these sites, so that Indigenous cultural heritage values can be sustained for future generations.

Seascape, Palm Island





- Legend**
- Population centre
 - Bioregions**
 - Brigalow Belt North
 - Desert Uplands
 - Einasleigh Uplands
 - Wet Tropics
 - Wet Tropics of Queensland World Heritage Area
 - Ramsar Wetlands
 - Protected Area (National Park / State Forest / Nature Refuge)
 - Great Barrier Reef
 - Major waterbody
 - Local Government Area boundary
 - NQ Regional Plan boundary
 - Major highway
 - Major river

Map 4: Bioregions and national parks



Biodiversity and landscape values

The North Queensland region has many areas of high ecological value. These areas exist because of the unique co-location of multiple biodiversity features, topographical, hydrological, geomorphic and climatic influences.

Though some of these areas are protected (national parks, state forests etc.), many are facing future risks to their ecological integrity. Management of these important areas is critical to maintaining the region's biodiversity and landscape values into the future. Threats to the North Queensland region's rich biodiversity include:

- habitat loss from incremental urban, resource and agricultural expansion
- species decline resulting from habitat loss
- declining water quality and land conditions associated with poor land management practices
- weeds and pests
- climatic impacts.

Strategies to address possible threats, at regional and local levels, must be implemented to ensure the natural environment and current and future generations continue to benefit from the region's biodiversity.

Identifying values

Policies and mapping in the NQ Regional Plan consider important biodiversity and landscape values, that are not mapped as Matters of State Environmental Significance (MSES). This includes strategic environmental areas, regional biodiversity values, regional biodiversity corridors and regional landscape values. Landscape values are those that provide social, environmental, cultural and economic benefits to the region, such as culturally significant places, scenic amenity areas and important recreational areas.

Strategic Environmental Areas

Strategic Environmental Areas identified in the NQ Regional Plan will assist in protecting and managing impacts on regional biodiversity. Elsewhere in the region, the appropriate consideration of biodiversity and landscape values will allow for the sustainable development of the region's natural resources, for economic or community activities without significantly affecting the broader ecological values.

Areas outside of the identified SEAs also contain biodiversity values that need to be considered during planning and development assessment. In these areas, the broader consideration and application of the biodiversity state interest of the State Planning Policy (with the principles of avoidance, mitigation and offsetting of development impacts) must still be integrated with other state interests.

Revegetation and rehabilitation

Revegetation and rehabilitation programs, including environmental offsets, should be focused on environmental areas, including those within the regional biodiversity network, that can best contribute to the ecological functionality of the region. For example, rehabilitating wetlands, improving riparian corridors, expanding bushland areas, and providing links between urban green spaces.

Strategic Environmental Areas

The North Queensland SEAs include areas of high ecological value where multiple biodiversity features are co-located with the landscape's topographical and hydrological features (shown in Map 5).

The SEAs include specific designated precincts, which identify locations where the Queensland Government considers there to be the greatest ecological risks associated with certain development activities. Designated precincts are to be afforded the highest level of protection in the SEA, with some activities identified as unacceptable uses under the RPI Act and consequently will be prohibited.

Outside designated precincts, development (including resource activities such as mining) can be supported in the SEA where the proposed development can co-exist with and does not risk widespread or irreversible impacts on the area's ecological integrity.

While SEAs are defined under the RPI Act, their use in the NQ Regional Plan to identify geographic areas with specific values applies for the purposes of both the RPI Act and the Planning Act, to achieve a consistent planning outcome. The planning outcome sought for the North Queensland SEA is established through regional policy.

Regional outcome

- 2.1 Ensure the region's areas of high biodiversity and landscape value, and the ecological processes that support them, are identified, protected and sustainably managed.**

Regional policies

- 2.1.1** Protect the biodiversity and ecological integrity of SEAs from incompatible development.
- 2.1.2** Protect and enhance the biodiversity and ecological integrity of regional biodiversity corridors and regional biodiversity values (Map 5) to optimise biodiversity conservation outcomes.

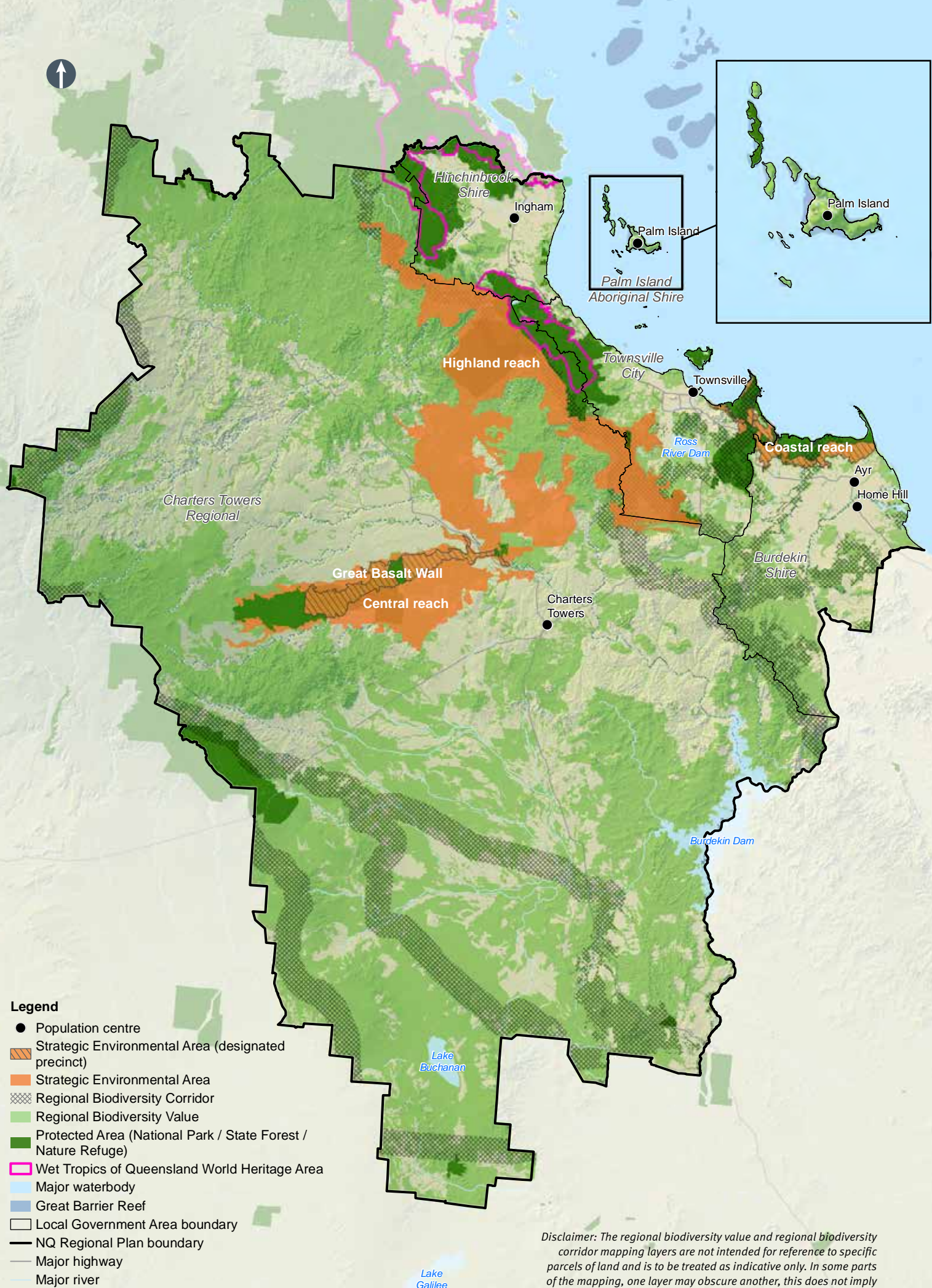
- 2.1.3** Protect regional landscape values and functions to sustainably manage and provide social, environmental, cultural and economic benefits to the region.

- 2.1.4** Identify and manage priority rehabilitation areas to enhance biodiversity values and ecological functionality using local environmental offsets, landcare programs or other environmental improvement initiatives.

- 2.1.5** Provide opportunities for the co-location of environmentally sensitive commercial, recreational and community activities in and around SEAs and the regional biodiversity network, where they complement the area's natural values and have no impact on the function of these areas.

Mt Stuart, Townsville





Water quality



Healthy waterways, wetlands and a vibrant Great Barrier Reef are all vital to the environmental and economic health of North Queensland. These features support life, tourism, industry and underpin the enviable outdoor lifestyle enjoyed by residents and visitors.

Improving water quality has been an on-going challenge within the region. Declining water quality has been attributed to increased urban growth, historical farming and grazing practices, as well as a changing climate with associated sediment, nutrient and pesticide run-off being major contributors.

In recent years, water quality improvement plans have guided major funding programs in grazing and farming areas to help rehabilitate land and improve farm management practices. Whilst technology, environmental science and agricultural practices have all improved, the demand to expand agricultural and urban development presents an ongoing challenge for managing water quality.

This is highlighted in recent reef report cards, which are released annually by the Australian Government to measure the progress of the Reef 2050 Water Quality Improvement Plan targets. Results in the report cards indicate that the rate of water quality improvements must accelerate in order to meet reef water quality targets.

Regional outcome

- 2.2 New or changing land uses do not adversely affect long-term water quality in North Queensland waterways, including the waters of the Great Barrier Reef.**

Regional policies

- 2.2.1** The potential for adverse water quality impacts is considered a key locational criterion when assessing the appropriateness and capacity of land for new, intensified or expanded intensive agriculture, including irrigation.
- 2.2.2** Identify and manage priority rehabilitation areas within riparian and wetland areas to enhance biodiversity values and ecological functionality and improve water quality, using local environmental offsets, land care programs and other environmental improvement initiatives.

Managing water quality in reef catchments

The Reef 2050 Water Quality Improvement Plan (Reef 2050 WQIP) guides how industry, government and the community will work together to improve the quality of water flowing to the Great Barrier Reef. The plan is a joint commitment of the Australian and Queensland Governments working in partnership with Traditional Owners, landholders, natural resource managers, industry, research and conservation groups. The scope of the plan reflects its position as a nested plan under the Reef 2050 Long-Term Sustainability Plan. It addresses all land-based sources of water pollution including run-off from urban, industrial, agricultural and public lands. The Reef 2050 WQIP sets ambitious but achievable targets for improved water quality and land management practices and identifies actions to improve the quality of water entering the reef.

TYTO Wetlands, near Ingham, Queensland – Courtesy of Tourism and Events Queensland





Crystal Creek, Townsville

Climate change



Climate change is a global issue experienced on a regional scale. The Queensland Government's Future Climate Dashboard identifies that median temperatures in North Queensland are increasing, with forecast predictions for:

- an increase in hot days
- declines in annual rainfall
- rising sea levels
- worsening of natural hazard events, such as more intense tropical cyclones and extreme fire behaviour.

These changes increase the risks for communities, the economy and the natural environment.

Building resilience

Although natural hazards cannot be prevented, steps can be taken to better understand the risks associated with them. This knowledge can be used to implement targeted measures to effectively mitigate hazard-related impacts, safeguard communities, reduce reconstruction costs and speed up recovery. Continuing to increase the region's resilience to natural hazards will ensure adverse impacts are planned for and managed, such that risks to our natural and built environments from flooding, cyclones, bushfires, heatwaves and storm surge events are reduced. Building resilience must be an ongoing process of learning, adjustment and adaptation.

Climate change adaptation

Strategies used throughout the plan to increase the region's resilience to the effects of climate change include:

- improving the viability and resilience of natural assets, to help them better cope with climate changes and act as buffers to nearby communities
- incorporating climate-responsive design principles into planning and development assessment for buildings, streetscapes and urban spaces
- applying disaster risk management planning to avoid development in high-risk areas and minimise vulnerability to climatic hazards
- ensuring new infrastructure is planned to be resilient to extreme weather events and the expected impacts of climate change.

Response to climate change

Climate change cannot be appropriately addressed by any single policy approach. Climate change adaptation and mitigation strategies have therefore been integrated throughout the NQ Regional Plan. The Queensland Government is continuing to work with councils to develop and implement these strategies.

Climate change mitigation

Strategies used throughout the plan to reduce or prevent the emission of greenhouse gases include:

- ensuring urban development patterns decrease reliance on private transport and increase active transport opportunities, thereby reducing greenhouse gas emissions
- promoting and facilitating development within the renewable energy sector and allied technologies, to diversify the economy and reduce reliance on fossil fuels
- incorporating affordable renewable energy options, low emissions technology and energy efficiency measures in buildings, communities and transport options
- protecting natural 'carbon sinks' that capture and store carbon dioxide, thereby reducing greenhouse gases already in the atmosphere.

Regional outcome

- 2.3 Respond to the impacts of climate variations in land use planning and natural asset management decision-making.**

Regional policies

- 2.3.1** Incorporate regular reviews and updating of climate change scenarios and modelling into planning for future growth, environmental conservation and management, and agricultural development proposals.
- 2.3.2** Minimise the region's vulnerability to natural hazards through disaster risk management planning and adaptation strategies, including the avoidance of areas at high risk from natural hazards.
- 2.3.3** Facilitate opportunities for carbon farming that can assist in improving ecosystem functions and land management practices.

Bridge, Charters Towers, Queensland – Courtesy of Tourism and Events Queensland



Aboriginal and Torres Strait Islander cultural heritage



It is important that Indigenous cultural knowledge, which embraces intergenerational sustainability and resilience, is protected for future generations. The *Aboriginal Cultural Heritage Act 2003* and the *Torres Strait Islander Cultural Heritage Act 2003* are the principal pieces of legislation that address conservation and management of Indigenous cultural heritage values in Queensland. These Acts require anyone who carries out a land-use activity to exercise a duty of care to take all reasonable and practicable measures to ensure their activity does not harm Aboriginal and Torres Strait Islander cultural heritage.

Changes in land use and certain development types can threaten culturally significant landscapes. However, incorporating Aboriginal and Torres Strait Islander people's traditional ecological knowledge into strategic decision-making and during on-ground works, maintains their strong connection to country, and assists in the protection and management of the region's natural resources. At the same time, the presence of cultural heritage values can help guide new development, particularly where these such values can be capitalised on to enhance local character and the sense of identity of a place.

Regional outcome

- 2.4 Identify, protect and manage the region's unique Indigenous cultural heritage, including places, seascapes and landscapes of cultural significance.**

Regional policies

- 2.4.1** Indigenous cultural heritage knowledge and connection to land and seascapes are included in planning for communities and sustainable management of culture and natural resources.
- 2.4.2** Identify Indigenous landscapes, heritage, cultural assets and values that can provide guidance on appropriate environmental and built form outcomes for new development.

Palm Island Jetty





White Mountain National Park



GOAL 3

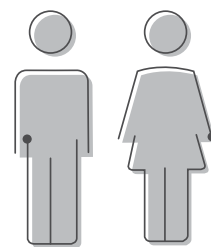
Liveable, sustainable and resilient communities that promote living in the tropics

North Queensland is home to a diverse set of communities that are highly resilient to change. Communities range from the expansive Townsville city, to the important regional centres of Ayr, Charters Towers, Home Hill, Ingham and Palm Island, to smaller rural and coastal settlements across the region. These communities span a diverse landscape and have unique identities, built on social, cultural, economic and environmental attributes. Supporting and enhancing the sustainability of the communities is critical to maintaining and improving the vitality and success of the North Queensland region into the future.

Planning for change

North Queensland has experienced significant growth and change in population. The region's population increased by 30 per cent between 2000 and 2020. By 2045 the region's population set to reach 340,264 people. Townsville, as the largest city in northern Australia, is expected to see the most substantial population growth over the next 25 years, with year-on-year growth keeping pace with the Queensland average of 1.5 per cent. Accommodating and planning for an additional 104,000 residents over the next 25 years will have implications for Townsville's urban area as well as the broader region.

Without natural barriers, growth within Townsville has historically seen an extended pattern of low-density residential development, punctuated by commercial and community infrastructure. This pattern of urban growth is placing significant pressure on the cost and provision



**NQ Population
increase to 2045**

↑ 103,823

236,441 2018 340,264 2045

Queensland Government Statistician's Office

of infrastructure and urban services, as well as the environment. As the expected impacts of climate change increase, the frequency and severity of natural hazards are expected to worsen which will be magnified if growth is not more effectively considered and planned for.

Assisting the Townsville CBD to evolve into a more cosmopolitan and bustling urban heart, will benefit both the city and the region – and is critical to building the region's profile on the national and international stage.

Planning for growth in the regional centres is equally important. Whilst some townships and communities are only expected to see modest growth, changing demographics and lifestyle trends will need to be considered, planned and provided for.



The Village, Townsville

Responding to change

To support the region's growth, the NQ Regional Plan reinforces the need for more consolidated, efficient and sustainable urban patterns. These patterns will improve the resilience and liveability of communities and neighbourhoods, promote increased housing options and better manage the cost of living. Townsville City is expected to experience the most significant growth in the region. To manage future urban residential growth within the city, an urban area boundary has been established. The purpose of this boundary is to contain future urban residential development within the mapped area (refer to Map 6), which is identified to have sufficient capacity for growth well beyond the life of the plan.

In creating more diverse and resilient communities across the region, new residential development must be well planned and designed to support a mix of housing types and styles, with improved access to services and infrastructure. Greater emphasis on planning at the neighbourhood level will enable the establishment of more integrated infrastructure and open space networks

across the region, and extend place making beyond the bounds of individual subdivisions and streetscapes. Getting this right will result in more diverse and affordable living options, active transport and lifestyle opportunities and promote more attractive and enjoyable places to live and work.

The region will also benefit from raising the collective standard of urban design and creating more functional and attractive built form within its communities. To enhance its distinct tropical character, the design of urban environments should support more flexible buildings, streets and spaces that are capable of adapting to user needs over time. This will continue to support the region's resilience and varying wet and dry tropical climates.



Urban form and land supply

Although the predominant urban growth is centred in Townsville, other regional towns and communities within the North Queensland region are also expected to experience growth over the next 25 years. It is important that all regional centres have land available for future development, that is appropriately located and not compromised by incompatible land uses. How land supply is planned for will significantly affect the region's quality of life, environment, social sustainability and infrastructure systems.

Urban form

To support more sustainable and resilient communities, development should contribute to a more consolidated urban form. This will enable new and existing development to be more efficiently serviced by infrastructure and protected from natural hazards.

Several regional centres have new urban development opportunities earmarked. Future development in Ayr, Charters Towers, Ingham and Palm Island should contribute to a more consolidated urban form that supports the viability and vibrancy of existing town centres.

New development should reinforce the primacy of administrative and commercial functions in existing town centres, and complement the character and distinctive elements that make these places unique.

Palm Island has seen a growing population and high dwelling occupancy rates. Though these growth rates are expected to ease, legacy growth pressures (such as water supply, infrastructure and residential land supply) are evident and new residential opportunities are required. Issues with available land supply on the island include

topographic constraints, suitable tenure and exposure to natural hazards. Whilst investigations to address land supply are continuing, greater housing diversity will also be needed to satisfy residential demands.

In Townsville, the urban form has developed from a historic pattern of low-density residential growth that has graduated steadily to the north and west. With the emerging development of Elliot Springs, a third development front has opened to the south of the city. This urban pattern has made servicing the city with utilities, public transport and essential services (emergency, health, education) inefficient and expensive. Though commercial and industrial development have played their role in sprawl, expanses of new residential development have often been the driver.

To prevent this pattern of development from continuing, the plan establishes an urban consolidation policy. This policy supports Townsville's urban residential growth within the bounds of a mapped urban area, within which Townsville's urban residential growth needs can be accommodated. The mapped Townsville Urban Area is based on the existing extent of land zoned for urban purposes in Townsville's planning scheme, land adjoining these zones that has been approved for urban purposes and aligns with the priority infrastructure area in the Local Government Infrastructure Plan. It is acknowledged that not all land within the Townsville Urban Area is in an urban zone and direction for the development of these sites is established in the planning scheme.

Land within the Townsville Urban Area may be unsuitable for urban residential purposes for other reasons, including environmental constraints. The plan relies on Townsville's planning scheme (Townsville City Plan) to determine the most suitable zone for each land parcel within the mapped urban area.

Residential land supply

Residential land use analysis undertaken by Townsville City Council, identifies that the Townsville City Plan provides sufficient zoned land to cater for urban residential growth well beyond 2045. The analysis identified that the existing greenfield supply alone, could largely support expected demand beyond the planning horizon of the NQ Regional Plan. Rural residential growth within the Townsville local government area can also be met within the large areas of land already zoned for rural residential purposes, which are also supplemented by existing stock within smaller coastal and rural communities.

Based on the existing land supply capacity, residential development does not need to continue outside Townsville's existing urban areas. Such development would exacerbate existing infrastructure inefficiencies. To promote a more consolidated, efficient and resilient growth pattern for the Townsville Urban Area, new urban residential development is to be contained within the identified Townsville Urban Area (refer to Map 6), where also supported under the planning scheme.

Regional outcome

3.1 The development pattern for the North Queensland region delivers consolidated and efficient growth for urban areas.

Regional policies

- 3.1.1** Urban development in regional centres contributes to a consolidated and well-integrated urban form that supports existing town centres and the efficient delivery of infrastructure and services.
- 3.1.2** Support the viability of regional towns and urban areas by providing sufficient land and infrastructure for population and employment growth.

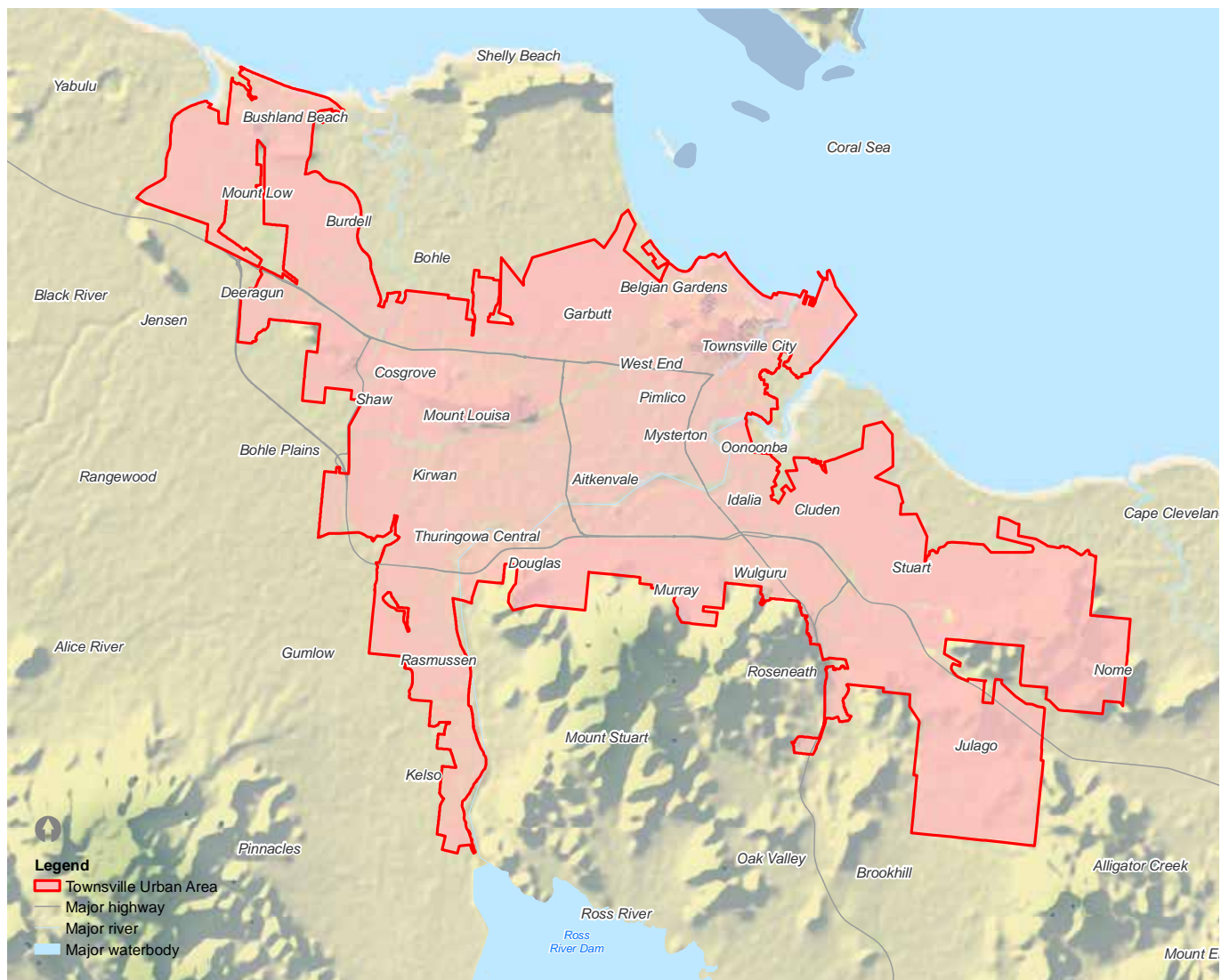
- 3.1.3** Provide for new residential land supply on Palm Island and consolidate development, with different housing types in existing areas at lower risk from coastal hazards.
- 3.1.4** Ensure medium and higher density development is located in areas that are well-integrated with public transport, employment opportunities and services to help revitalise existing urban areas.
- 3.1.5** Townsville's urban residential development is to be contained within the Townsville Urban Area. Urban residential development within the Townsville Urban Area does not occur outside land identified for these purposes.
- 3.1.6** Townsville's rural residential development is to be contained in existing rural residential zoned areas.

Note:

- Regional Policy 3.1.5 refers to urban residential development for the Townsville urban area. Direction on the location of residential development for all other areas in the Townsville local government area is established in the Townsville City Plan.
- Regional Policy 3.1.6 refers to rural residential development within the Townsville local government area only. Direction on the location of rural residential growth within all other local government areas is established in the relevant planning schemes.
- Regional policies 3.1.5 and 3.1.6 refer to residential development only. Direction on the location of non-residential urban development within the regional plan area is established in Townsville City Plan and where varied, by other sections of the NQ Regional Plan.

Residences, Palm Island





Map 6: Townsville Urban Area

Townsville Urban Area principles

The Townsville Urban Area:

1. is cadastral based and establishes a boundary that represents Townsville's most significant urban growth area
2. is based on the existing extent of land zoned for urban purposes in the Townsville City Plan (2014), the priority infrastructure area under the Local Government Infrastructure Plan and land adjoining these zones that have been approved for urban purposes
3. is not used to recognise existing or approved urban activities outside the urban area, or reflect urban zoning on Magnetic Island and the coastal townships (such as Balgal Beach and Rollingstone).



Liveable communities

Catering for population growth in a consolidated manner will see new communities created and existing communities revitalised. Given the region's emphasis on lifestyle, it is essential that these communities respond to North Queensland's unique environment and are developed as great places to live, work and visit.

New living requirements are emerging across the region, driven by an ageing population, technology and lifestyle trends. These changes are headlined by a reduction in the median household size and increase of single-person households. By 2031, the dominant household type in Townsville will have transitioned from a couple-with-children to a couple-only household structure. Conversely, Palm Island currently has an average household size of 4.3 persons, almost double the average of the region, and has the highest rate of multiple family households (16.9 per cent). Although varied, trends across the region underscore the need for greater housing diversity, tailored to specific community needs.

Housing diversity

While detached houses will continue to be the region's most common housing option, increased and affordable housing choice is vital to support ageing communities and attract new population. Promoting greater housing

diversity for North Queensland does not mean support for high-rise apartments or small-lot subdivisions in all locations. Rather, the concept of consolidation promotes the development of greater housing mix in those locations that are most appropriate. This includes their location around activity centres (town centres and commercial precincts), where increased residential development can help activate spaces, whilst enjoying easy access to services, public transport and amenities.

Across all centres, there are also opportunities for more intensified development to support more varied housing product, without dramatically changing the scale and overall feel of neighbourhoods. For example, low-rise development such as dual occupancies, row houses and smaller walk-up style apartments. These gentle density increases can be applied within and around existing centres, with opportunities to graduate building types and streetscapes from higher-density locations back into lower-density neighbourhoods. Figures 11 and 12 are examples of how housing density and diversity can be supported in existing communities.

Housing typologies

- | | |
|---|--|
| ① | New detached house on a larger lot |
| ② | Existing house with possible consolidation housing at rear |
| ③ | Small lot detached house (typically two storeys) |
| ④ | Duplex with rear lane access |
| ⑤ | Rowhouses and walk-up apartments |



Figure 11: Streetscape scales gradually increasing to a higher density



Nelly Bay, Magnetic Island

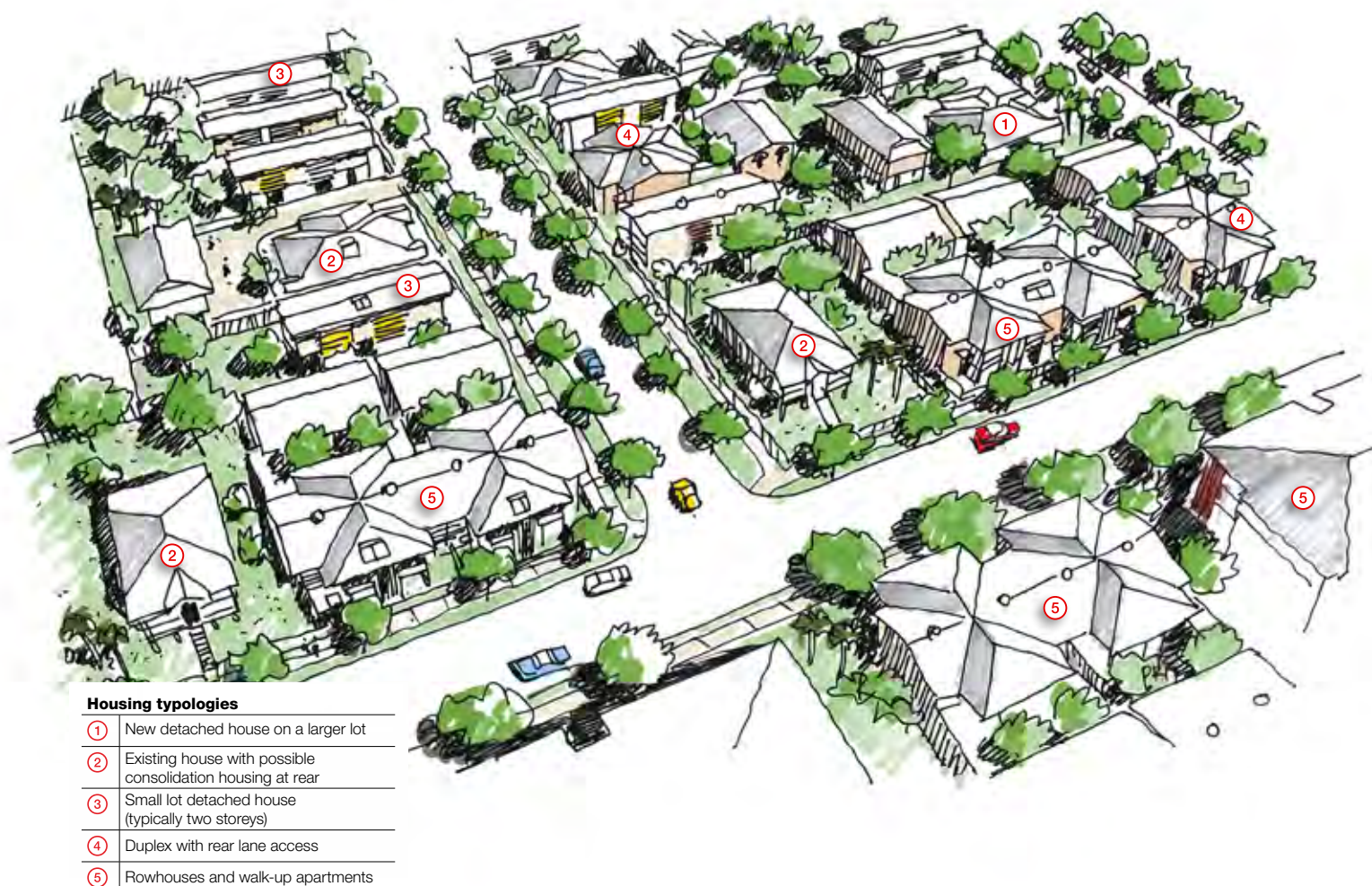


Figure 12: An example of gentle increases in urban density and greater housing diversity in a neighbourhood setting



City Lane, Townsville CBD

Neighbourhood planning

Neighbourhood planning can also create more complete and inclusive communities that respond to the changing needs of the region. Good neighbourhood design will create cohesive places in the region where people want to live and work, are safe to walk around and have good access to open space, public transport, community facilities, schooling and employment.

The advantages of developing more consolidated communities and improved neighbourhood design as opposed to low-density residential subdivisions, include:

- maximising the use of existing infrastructure which reduces the cost of providing and operating infrastructure and services, thereby reducing the cost of living
- allowing for a variety of activities in close proximity, which encourages more efficient public transport services and promotes active transport options (walking and cycling), thereby improving public health outcomes and lifestyle options
- providing a greater range of housing choices to meet changing lifestyle needs of residents, which supports ageing-in-place and increases the diversity and social cohesiveness of the community
- promoting improved streetscapes and happier neighbourhood environments that increase community vitality and safety
- promoting the urban character and design of areas, to more appropriately reflect a sense of place
- integrating greenspace and vegetation into the urban fabric to assist in creating vibrant and healthy communities and working with the local landscape character and ecology to provide high-quality public spaces and outdoor recreation opportunities
- encouraging greater variety in built form through sustainable design options, to reduce energy and water use as well as heat impacts from urban environments, which will result in more comfortable living environments and help reduce the cost of living
- the ability to preserve natural floodplains and rainwater storage areas which help to increase resilience and mitigate impacts of climate change
- the ability to maintain and protect existing natural environments to support the region's identity
- supporting equitable access to community infrastructure, including social and health care services.

Regional outcome

- 3.2 Create communities that achieve consolidated and connected urban settlement patterns, with diverse housing and design choices that maximise safety, use of established infrastructure and create a strong sense of place.**

Regional policies

- 3.2.1** Offer improved choice, mix and diversity of residential, commercial and community uses within communities, to create walkable and socially diverse areas to live and work.
- 3.2.2** Support innovative design solutions in housing to cater for a diverse range of community needs and to support residents ageing-in-place.
- 3.2.3** Support opportunities for new housing (particularly social and affordable housing) close to existing services, jobs and public transport.

- 3.2.4** Ensure medium and higher-density development is located in areas that have good integration with public transport, employment, and community services.
- 3.2.5** Protect and enhance greenspace networks to capitalise on the region's outdoor lifestyle and optimise healthy recreational opportunities for the community.
- 3.2.6** Maintain and improve natural assets that can mitigate risks associated with natural processes and hazards such as flooding, salinity and bushfire, while promoting healthy outdoor opportunities.
- 3.2.7** Use avoidance of high-risk areas, adaptation strategies and disaster risk management planning, to minimise vulnerability to development constraints and natural hazards.

Cotters Markets, Townsville





Tropical urbanism

In promoting housing diversity and more liveable communities, the how is as important as the where. The success of housing and all other urban development, at an individual and neighbourhood level, is measured by how well it meets the needs of the user and how well it contributes to a broader sense of place. In North Queensland, this includes a functional response to the tropical climate for comfort and respite, together with a promotion of the region's unique tropical character and identity.

Buildings and spaces need to be designed with thoughtful and equitable access, considering access location, set down areas, mobility needs, shade and seating. This is particularly pertinent for the redevelopment of heritage buildings or existing urban landscapes, where specific building code provisions may not apply.

Urban design

Tropical design principles provide the basis for new built environments to meet both of these criteria. An opportunity exists for the North Queensland region to raise the collective standard of urban design, consider its tropical climates and build on the relationship between healthy lifestyles and landscape values.

Responding to the regions varying dry and wet climates will require consideration and thought from planning through to design. Separation, setbacks, siting and orientation, building size and landscaping and are all factors of built form necessary to create good spaces and liveability.

Embracing tropical urbanism will provide an urban environment that is designed to reflect placemaking principles and has the potential to reduce energy, water and whole-of-life costs. It will also contribute to improved urban spaces and promote healthier and happier lifestyle opportunities for the community.

Figures 13 and 14 depict tropical design principles within a residential and mixed-use setting.



Figure 13: Tropical design done well (tropical neighbourhood context)

Tropical urbanism

Tropical urbanism is the integration of landscaping and tropical design elements into the built environment. Development that expresses tropical urbanism incorporates:

- shelter from sun and rain
- a contrast of light and shade
- sufficient spaces around and between buildings
- minimisation of radiant heat from buildings and impervious surfaces
- air circulation, breeze permeation and passive cooling
- generous outdoor living spaces with large windows and balcony openings
- generous floor to ceiling heights
- high quality landscaping
- quality public and private spaces that enliven the urban form
- passive design that responds to the tropical climate.

Character and sense of place

Architecture and design are key elements in creating the distinct character of different centres across the region. The sense of place evoked by this character goes to the history and values of the local communities. Protecting these elements of the urban landscape is important for local tourism and in attracting new population. In regional centres, new development should complement existing character and urban form, but avoid the artificial reproduction of important heritage or character elements.

Where possible, built form should also be linked to well-planned open space networks designed around natural assets. Open space networks are important in creating more walkable and enjoyable urban environments, that are synonymous with the region's lifestyle. North Queensland has an array of natural open space areas including, coastal waters, rivers, bushland and rainforests that all contribute to amenity. These areas should be maintained and better linked to urban environments to support healthy and active communities.



Figure 14: Tropical design done well (mixed-use centre context)



Townsville cruise ship terminal

Regional outcome

- 3.3 Promote built environment and urban place-making outcomes that respond to the region's varying tropical climates and create a unique sense of place.**

Regional policies

- 3.3.1** Ensure new development is designed to contribute to the quality and character of the streetscape with a focus on active transport.
- 3.3.2** Incorporate best practice sustainable building and climate-responsive design principles (e.g. Q Design), adapted for local variations in climate, into planning and development assessment mechanisms for buildings, streetscapes and urban spaces.
- 3.3.3** Ensure built form incorporates elements of landscaping and reflects the qualities of tropical urbanism.
- 3.3.4** Ensure new development, including the redevelopment of existing urban spaces, is designed to support equitable access and mobility.
- 3.3.5** Integrate open space networks with the region's natural assets to help strengthen the region's sense of place and reduce heat from buildings and impervious surfaces.



Sports reserve, Townsville

GOAL 4: A safe, connected and efficient North Queensland



Silverlink Bridge, Home Hill

GOAL 4

A safe, connected and efficient North Queensland

The continued growth of the region is dependent on efficient, reliable and resilient infrastructure and transport networks. Significant networks in North Queensland include road, rail, seaports, airports, digital communication, energy, waste and water.

Resilience and adaptation

Infrastructure and transport networks are often critical in the coordination, evacuation and restoration of communities, before, during and after natural disasters or major events. It is therefore important that the region's infrastructure and transport networks are designed to be resilient to changing climatic patterns and intensified weather events.

New and upgraded infrastructure must prove itself capable of enduring the climatic realities of the region, with utility operators continuing to improve the response and recovery ability of networks and service teams.

Infrastructure will also need to be adaptive to the changing population, employment and lifestyle trends. Networks must be flexible and multi-purposed, acknowledging that roles, function and demand may change with time. It is important that infrastructure planning be partnered with effective land use planning. This will ensure logical

and sequenced development maximises existing assets, rather than the more costly alternative of building and maintaining new infrastructure.

Technological advancement

New and emerging technologies will continue to influence how infrastructure and transport networks are planned for and operate. Low and zero emission transport, autonomous vehicles, improved digital connectivity, more flexible renewable energy and high-tech farming practices are all examples of emerging infrastructure advancements currently being implemented and practiced in the region. In some cases, the delivery of new infrastructure, such as renewable energy generation or waste recycling and reuse, can also provide new economic opportunities for the region. The popularity of new transport services, such as on-demand transport and car sharing, is another emerging trend.

Decision-makers in North Queensland must remain agile, and responsive to these technological advances. Whilst some of these technologies are already being adopted across the region, others may require further investigation. This provides an opportunity for the region's decision makers to be bold in their planning and investment and drive future innovation or early adoption of such emerging technology.



Road train, Ingham

Connectivity

The transport infrastructure network is a critical element from a regional land use planning perspective. This includes important connections within and beyond the region (see Figure 15), throughout Queensland and to national and international destinations. The plan recognises the importance of identifying and developing appropriate solutions to infrastructure issues within the region related to energy, water, waste and digital connectivity networks. The geographically dispersed nature of the North Queensland region, particularly rural and remote communities such as Palm Island, Greenvale, Mount Fox, Dalbeg and Ravenswood, presents challenges to providing efficient and cost-effective infrastructure networks and associated services.

Collaboration and partnerships

One of the key elements in building more adaptive and resilient infrastructure will be increased collaboration and knowledge sharing between government and industry. Increased collaboration at the planning phase will be necessary to respond to change and can best marry emergent or embryonic technological advancement, with local and regional expertise. This increased focus on collaborative planning can also allow for a more comprehensive assessment of potential challenges and demands across the life of assets.

The NQ Regional Plan supports partnership opportunities between government and the private sector to operate and deliver infrastructure. Long-term planning will also need to identify opportunities that require an infrastructure solution. This will inform the State Infrastructure Plan and other funding mechanisms.

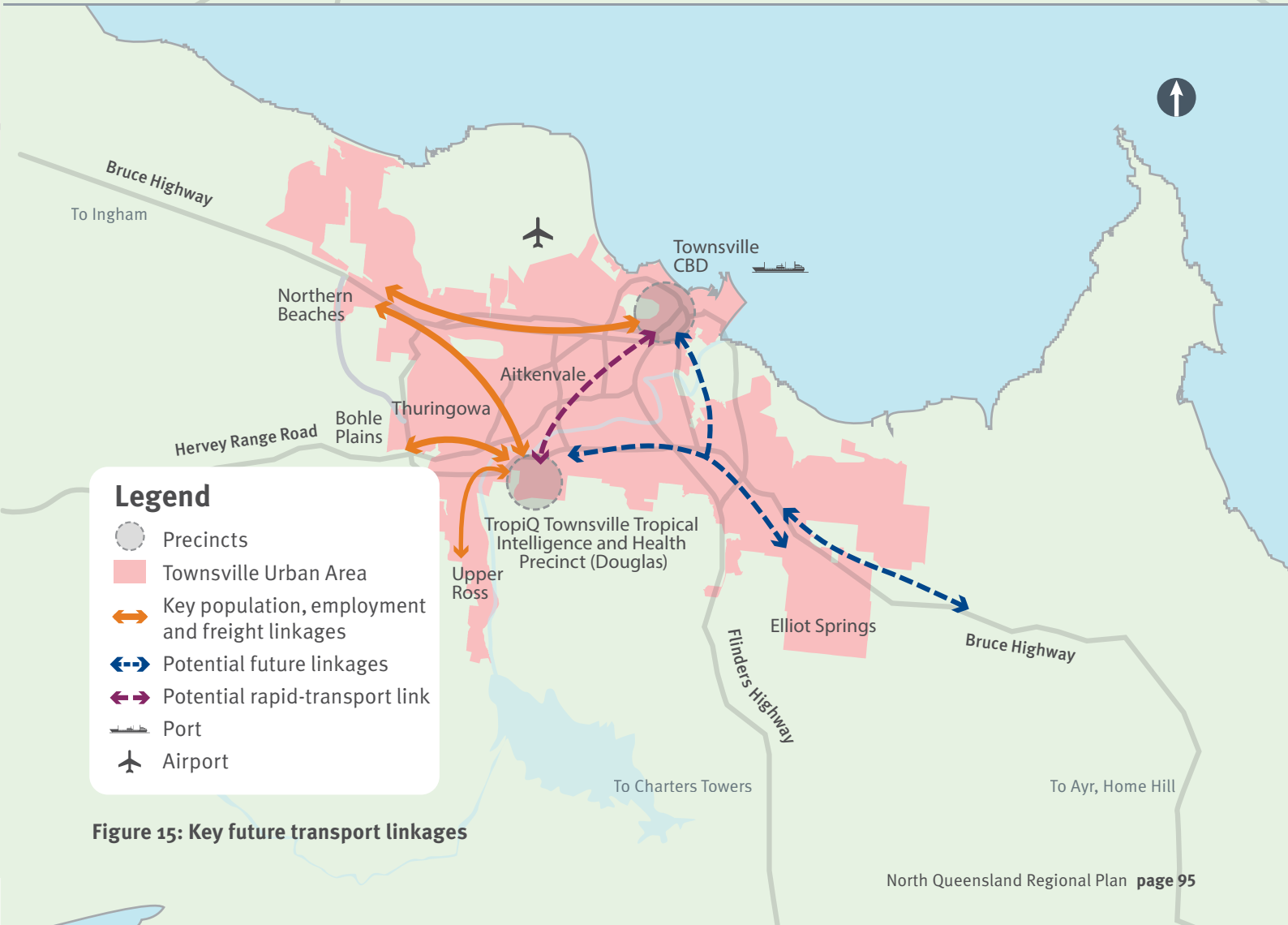


Figure 15: Key future transport linkages



Infrastructure networks

As the region grows and adapts to new industries and technologies, there will be greater demand on existing infrastructure assets. This will require investment to upgrade and deliver new infrastructure in a timely manner, ensuring excellent service outcomes that support the region's future prosperity.

Energy networks

At present, most of the region's power supplies are drawn from the National Electricity Network, with the exception of Palm Island, which has its own power generation on-island. As the region grows, energy consumption will also increase. The region is well placed to capitalise on the emerging renewable energy sector in solar and wind power, as well as biofuels. The abundance of sunny days and a high UV rating make solar energy generation an attractive proposition. Opportunities for expanded wind generation are also supported, where important landscape values can be protected.

Many of the economic opportunities presented in the plan, including renewable energy, are dependent on an effective and resilient infrastructure network to link generation to users. The plan supports ongoing investigation and development of key infrastructure that better link the region, including expanded connections to the north and west.

Waste networks

Growth will also see the volume of waste increase. Effective reuse, recycling and waste management strategies will help to reduce pressure on existing landfill sites. Palm Island presents an additional challenge due to limited land suitable for waste disposal and significant costs involved in transporting waste to the mainland.

Most recyclable materials are currently transported to South East Queensland for processing, creating a commercial opportunity to adopt a regional waste management approach which in turn will reduce costs and improve environmental outcomes. To support the move towards a circular economy, the Queensland Government developed the Queensland Resource Recovery Industries 10-Year Roadmap and Action Plan. This plan sets out the Resource Recovery Industry Development Program to develop a high-value resource recovery industry in Queensland. Under this program, North Queensland could leverage its transport networks to carve out a major role in creating a hub for recycling and reuse industries that service growth in the northern half of the state.

Yurika renewable batteries, Townsville





Burdekin Falls Dam, Charters Towers

Water supply and management

The security of potable water supply available to the region continues to be addressed at a state and local level. Whilst Hinchinbrook and Burdekin have maintained a reliable supply, Charters Towers, Townsville City and Palm Island have experienced challenges from extended periods of dry weather. A number of initiatives are underway to improve water security within the region. One example is the construction of the Haughton pipeline which will improve water security for Townsville City. Investigations include raising the Burdekin Falls Dam wall, Big Rocks weir and new bulk water storage at Hells Gate in the upper Burdekin. The outcomes of these investigations will have consequences for both potable water security and future economic opportunities linked to agriculture, energy and tourism.

Digital technology

Digital technology is rapidly changing the way people, businesses and governments interact and deliver products and services. Rural and remote communities have historically been disadvantaged by limited access to the internet and digital technologies. Liveability and equality for communities, such as those on Palm Island, are also affected by the limitation of existing digital technologies. Emerging farming practices in the Burdekin, Charters Towers and Hinchinbrook, are also likely to be more dependent on access to digital technology for monitoring crops and the use of automated tractors and drones.

The continued roll out of the National Broadband Network and expanded telecommunication footprint will help provide the region with more reliable internet connectivity. Capitalising on this infrastructure, digital and e-services will play an increasingly key role in the delivery of economic and social services to regional and remote communities. New ways of delivering these services will require technology capable of overcoming challenges presented by long distances. The ability to capitalise on, and expand, the region's higher education, health and smart business opportunities is also dependent on access to high-quality digital technologies.

Regional outcome

- 4.1** The North Queensland region is serviced by resilient, reliable and cost-effective infrastructure networks.

Regional policies

- 4.1.1** The efficiency, functionality and viability of the region's infrastructure networks are protected from incompatible land uses and activities.
- 4.1.2** New infrastructure is planned and sequenced to minimise impacts on biodiversity values and to be resilient to extreme weather events, including the potential impacts of climate change.
- 4.1.3** Regional infrastructure and service efficiencies are maximised through collaborative delivery between the three levels of government and industry.
- 4.1.4** Facilitate development of improved digital communications infrastructure (e.g. mobile phone towers) that will service regional communities.
- 4.1.5** Facilitate viable, cost effective opportunities to develop and expand the long-term water security for up and down-stream catchment areas in the Burdekin to support key regional industries.
- 4.1.6** Facilitate resource recovery, recycling and waste management that supports communities moving towards circular economies.

Cattle sales, Charters Towers





Transport connections

A key challenge for the region's transport network is the geographically diverse and sparsely populated nature of the region, which largely relies on access to Townsville for higher order services. However, public and private transport links to Townsville from Burdekin, Charters Towers, Hinchinbrook are infrequent and relatively expensive, particularly for Palm Island residents. Townsville's urban form and dispersed pattern of development is also a challenge for providing efficient public transport links.

These factors have resulted in North Queensland residents relying heavily on private vehicles as their principal mode of transport. This reliance is supported by relatively short journeys and limited congestion on the Townsville road network, which do not encourage the use of alternative transport modes.

An aim of the NQ Regional Plan is to reduce future reliance on private vehicles and increase the use of public and active transport modes. This means making alternative travel options as cost-effective and efficient as the use of private vehicles.

Greater balance in mode share will reduce parking needs and congestion, improve public health and social outcomes, and allow for the development of more attractive urban spaces.

Transport planning

A key to reducing reliance on private vehicles lies in effectively integrating land use and transport planning. Increasing residential densities and employment opportunities around major public transport nodes will improve access to jobs and services, promote walking and cycling, and increase patronage to improve public

transport viability. The provision of public transport within our regional centres would enable ageing in place and allow our ageing population to access essential services provided within their communities.

Land use planning can also promote improved self-containment within all regional centres, reducing the need to travel to access key services or employment opportunities. However, even with increased self-containment of our regional centres, travel demand to Townsville for accessing specialist services, education and employment opportunities will continue.

Opportunities to achieve better land use/transport integration exist through revitalisation of the Townsville CBD and waterfront including the new Townsville City Bus Station, North Queensland Stadium, and ongoing development of TropiQ. These initiatives provide key opportunities for enhanced walking and cycling networks and improved public transport connections. The Northern Queensland Regional Transport Plan and Queensland Walking Strategy 2019–2029, provide direction for shaping the region's transport system, including active transport modes which support improving health benefits and access to important destinations such as schools, shops and public transport.

A regionally important economic link is the connection between the Townsville CBD and TropiQ. Both locations are linked by an arterial road network. This includes Ross River Road which also traverses important centres including Aitkenvale, the Mater Hospital and Stockland Shopping Centre. The NQ Regional Plan nominates broader outcomes for both the CBD and TropiQ built on a key commitment of the Townsville City Deal to investigate innovative public transport solutions for this key economic corridor.

Another key element of the transport network to Palm and Magnetic islands are ferry services to Townsville. Magnetic Island's closer proximity to and economic



Port of Townsville

ties with Townsville, along with a well-established tourism sector, means the island is well-connected and accessible by two ferry operators. Palm Island is accessible by ferry from both Townsville and Lucinda. However, ferry services are infrequent, and the island community is not accessible by sea every day of the week. This reinforces the geographical remoteness and isolation of the community from health, education, employment and recreational opportunities.

Improved accessibility to Palm Island, from the mainland, will aid growth of the island's tourism and recreational development opportunities and, therefore the island's economy. Greater connectivity to Palm Island and Magnetic Island also has the potential to increase tourism development opportunities for both islands and provide new intraregional connectivity.

Opportunities to grow the region's tourism sector are presented by the port's new cruise ship terminal. In 2017/18, twelve cruise ships visited the region and by 2022 it is expected this will increase to 30 visits annually.

Integrated freight transport

The freight transport network is critical to the region's economic viability. As well as transporting freight within the region, it links North Queensland to the rest of the world, particularly to growing markets in the Asia-Pacific. This network comprises a significant arterial road network, including two national highways, two rail lines, two seaports and an international airport. Together they provide a supply chain for the movement of produce throughout the region. However, this network is vulnerable to extreme weather events and land uses that impact its function and efficiency. As the region grows, the freight network (see Figure 16) must support its economic competitiveness through increased resilience, efficiency and network integration.

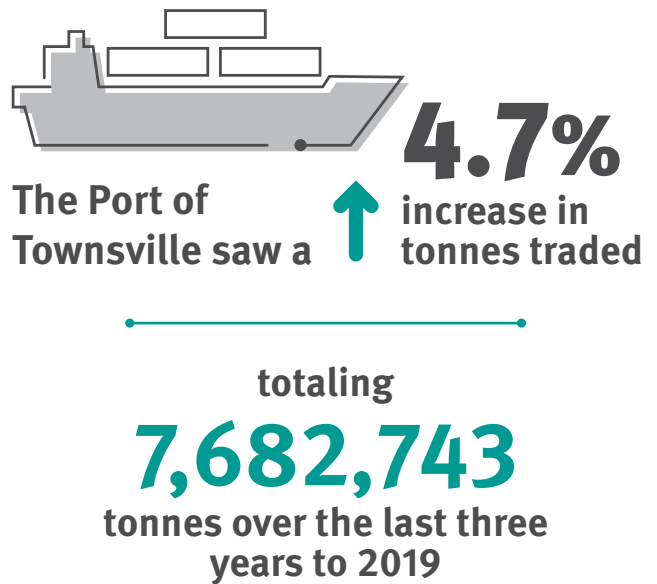
Seaports

The region's two seaports, at Townsville and Lucinda, provide a key link between regional industries and world markets. The Port of Townsville has significant expansion plans to increase capacity, including the development of a new harbour with six new berths to augment the existing Berth 11 (located to the north of the existing harbour). The Master Plan Priority Port of Townsville details the strategic approach to managing port-related development, considering marine and land-based impacts, port and supply chain infrastructure expansion.

The Queensland Government has committed to upgrading capacity of the Townsville Channel and harbour basin to allow access by larger vessels, boosting trade at the Port of Townsville. Cargo terminals and six new berths are also proposed to be delivered. This will increase the capacity of the region's supply chain including agriculture and minerals processing. The port's function as a strategic port for the navy and cruise ship terminal will also benefit from this expansion plan.

As the capacity of the Port of Townsville increases to cater for larger and more frequent vessel movements, transport infrastructure within the region's land-based freight routes will also need to cater for increased demand and be reliable to maintain efficiency of the overall supply chain.

Land use planning needs to ensure that growth of the port is not compromised by incompatible adjoining land uses, while also promoting the port as an attractive gateway for tourists. Land uses abutting supply chains and routes to and from the port should not erode the function and efficiency of the transport network. Activities and land uses dependent on the port, including freight logistics and some industries, should be located in proximity to the port with good connectivity to freight routes.



Port of Townsville, Annual Report 2018-19

Port of Townsville



Airports

Townsville Airport currently operates as a domestic airport and a defence facility. Its major function is passenger transport, and user numbers are expected to continue to increase over the next 20 years to 2.6 million per year (Townsville Airport Master Plan 2016–2036). The airport runway has recently been extended to increase capacity and plans are underway to redevelop terminals and freight handling facilities. As the region's economy diversifies, the airport is well-positioned to respond to any increased demand for air freight and passenger flights to international destinations. Improvements to public passenger transport to support the future expansion of the airport may also assist with leveraging future economic opportunities.

There are several other rural airports and aviation assets across the region located in Ayr, Charters Towers, Ingham and on Palm Island that are smaller in size and under-utilised. They provide potential opportunities for new economic development such as aviation schools, tourism charters, tourism, fly-in fly-out movements and airfreight for agricultural produce. Upgraded building infrastructure may be required for Palm Island Airport if the facility is to play a more significant role in tourism.

Road connections

The region is served by two major highways, the Bruce and Flinders, which provide connections to the west and north–south. Road freight is predicted to increase by 50 per cent by 2030 however, these important corridors feature localised constraints impacting their ability to

cater for growth in freight volumes. These constraints include susceptibility to flooding and weight limits due to road pavement quality, and the design and capacity of structures such as bridges. This affects the movement of freight and restricts the use of larger, more efficient vehicles. Furthermore, as the region's tourism sector grows, particularly self-drive tourism, greater road user conflicts and road safety issues are likely.

The region's freight routes and supply chains traverse Burdekin, Charters Towers and Hinchinbrook and converge at Townsville given the city's regional economic significance of the port, airport and a number of industrial precincts. It is essential that the efficiency of these routes and locations as logistic hubs are protected and, where possible, enhanced.

The Townsville Ring Road, Stage 5 will improve safety, amenity, economic productivity, flood immunity and travel time reliability on the National Road Network. The Queensland Government is also investing in upgrades to the Gregory Developmental Road, Flinders Highway and range of other major links across the region to improve network resilience, and safety and efficiency for all road users.

Many of these routes are also used by defence to transport military personnel and equipment to strategically important assets including the airport, barracks, seaport and training grounds. Land use planning must ensure only suitable land uses occur abutting these routes to safeguard their function, capacity and purpose.

Quayside Terminal, Townsville





Great Northern Line, Woodstock

Rail connections

The rail network is another key element in the supply chain for the region's economy. The Port of Townsville is serviced by the North Coast Line and Mt Isa Line, which provide access to the precious minerals and resources from Mount Isa to the Townsville economic development zone. This transport corridor, including the Flinders Highway and new multi-modal hub in Stuart, is a critical freight link of inter-regional and national significance. There is a need to ensure this corridor is protected and the transport infrastructure enhanced to ensure the efficient and reliable movement of extracted resources and associated commodities.

Investment of up to half a billion dollars has been committed to provide upgrades to the Mt Isa to Townsville line, including reduced access charges,

and the delivery of a new container port in Townsville to boost mineral freight exports.

At present, the capacity of the lines to the Port has been constrained by having to operate through Townsville City and surrounding residential areas. The Townsville Eastern Access Rail Corridor (TEARC) has the potential to provide significant benefits to the operation of the rail freight network by providing direct access to the port, removing restrictions of operating through urban areas, allowing for larger trains and moving traffic off the North Coast Line (see Figure 16). The proposed delivery of TEARC is related to future demand and throughput of the Port of Townsville, with the rail corridor currently being preserved.

Regional outcome

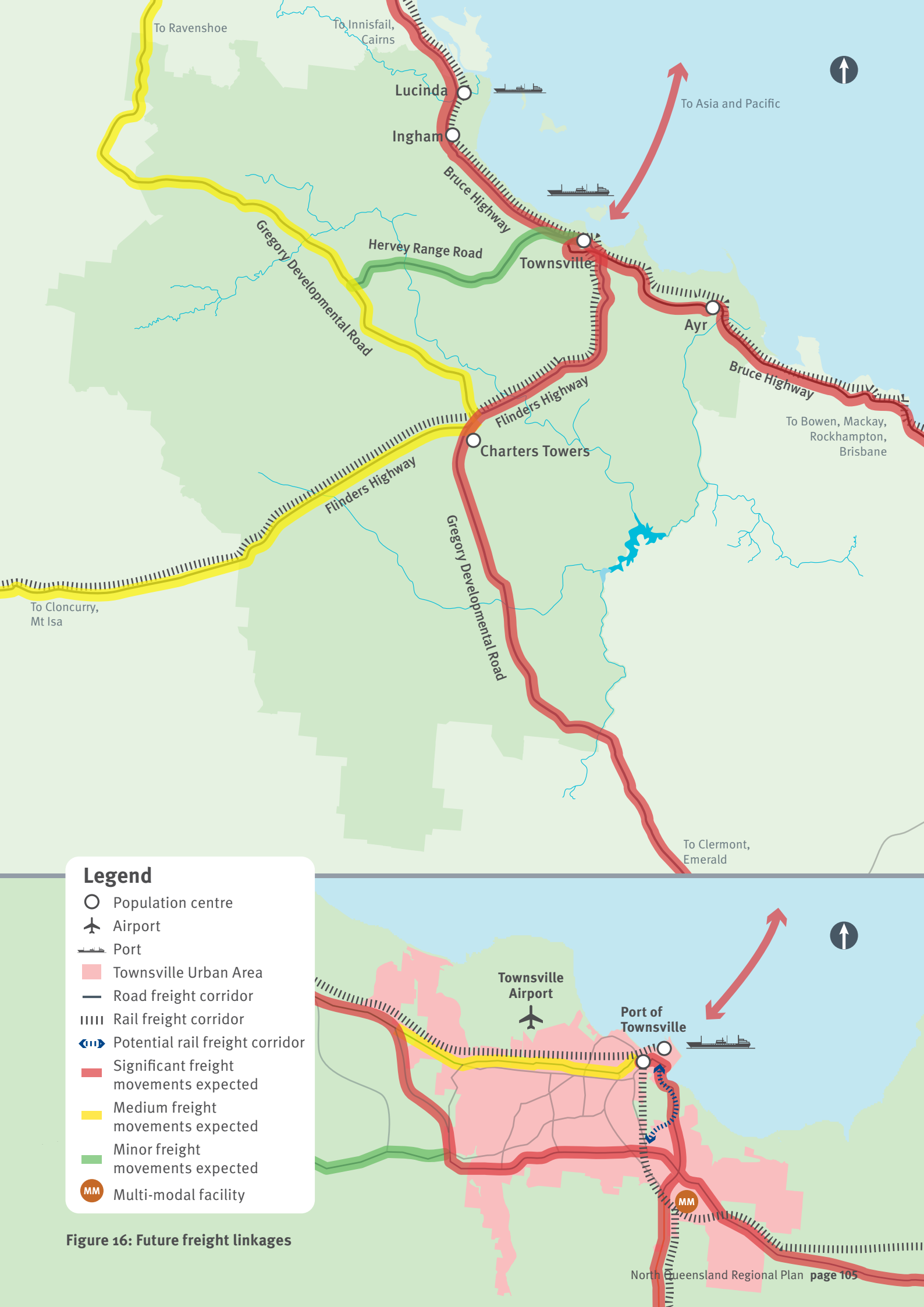
- 4.2** Ensure the North Queensland region is connected by a cost-effective transport network that moves people and freight within and beyond the region with maximum safety and efficiency.

Regional policies

- 4.2.1** Land use planning enhances the connectivity and supports the long-term strategic viability of important inter-modal freight hubs and regional transport terminals, including airports and ferry terminals to key destinations.
- 4.2.2** Promote opportunities for the growth of logistic, freight and other complementary land uses in strategic locations, along key freight routes in close proximity to the Port of Townsville whilst protecting the port's ongoing function as a cruise ship terminal.
- 4.2.3** Improve tourism infrastructure and services to help access and strengthen connectivity, recognising the importance of the Townsville Airport, Port of Townsville cruise ship terminal, ferry terminals, and the region's road network.
- 4.2.4** Plan for, and support the development of transport orientated development, co-locating future public and active transport corridors with areas of consolidated urban development.
- 4.2.5** Investigate service improvements between Palm Island, the mainland and Magnetic Island.
- 4.2.6** Ensure connections with the region's islands and mainland meet demand, provide access to essential services and promote economic growth.
- 4.2.7** Maximise the safe and efficient use of transport infrastructure to support community and economic resilience.

Cyclists, Burdekin







Delivery of the NQ Regional Plan

The NQ Regional Plan has a strong focus on delivery and monitoring. This section outlines the program of actions and measures established to ensure the vision of the plan is realised. Ongoing monitoring of the plan will ensure policies remain effective and relevant. It also gives flexibility to the plan, enabling it to appropriately respond and adapt to the needs of the region into the future.

In accordance with best practice regional planning, the delivery of the NQ Regional Plan considers:

- governance arrangements to guide delivery of the plan
- implementation actions that will help apply policies within the plan
- measurable targets to monitor the plan's performance over time
- relationship of delivery actions with other plans and initiatives across all levels of government.

The ongoing monitoring and measuring of the NQ Regional Plan will help determine the effectiveness of policies and in turn, help shape future reviews of the plan.

Governance

Implementing the NQ Regional Plan at a regional scale will primarily be the responsibility of federal, state and local governments. It will also continue to involve a wide range of stakeholders from the community, industry and non-government organisations.

The Minister for Planning is responsible for the preparation, implementation and review of the NQ Regional Plan, convening the NQ Regional Planning Committee and leveraging decision making through the federal government (such as the Townsville City Deal).

Future decisions on amending the NQ Regional Plan will be the responsibility of the Minister for Planning. This will ensure the Queensland Government's range of policy initiatives, and its approach to environmental and resource management, is aligned with the delivery of the NQ Regional Plan.

North Queensland Regional Planning Committee

The NQ Regional Planning Committee (RPC) is established by the Minister for Planning under section 14(1) of the Planning Act. Its membership includes the region's five Mayors and members of parliament. The purpose of the RPC is to advise the Queensland Government, through the Minister for Planning, on the preparation and implementation of the NQ Regional Plan.

The RPC will also play an important ongoing role in the delivery of the NQ Regional Plan and subsequent implementation actions. It will meet annually, or more often if needed, to review progress on delivering the plan.

Planning and economic areas of the Queensland Government

The planning and economic strategy functions of the Queensland Government will lead and work with other state government agencies, local government and stakeholders to facilitate and coordinate the implementation of the NQ Regional Plan. The Queensland Government will manage the monitoring, evaluation and reporting framework for the plan, and will release information about the progress of the region and the plan over time.

Local government

North Queensland councils will play a significant role in delivering the NQ Regional Plan. As key partners in planning for a diverse, liveable and progressive region, ensuring all local planning initiatives are working to achieve common regional goals will be necessary. Each council will be required to ensure their planning scheme reflects the NQ Regional Plan.

The Queensland Government will work with local government and other stakeholders on how regional policies are applied and implementation actions are delivered. Local government will also be responsible in informing the monitoring of the plan.

Community, industry and non-government organisations

Community and industry groups will also play a role in delivering NQ Regional Plan through actions including (but not limited to):

- advocating for their community or industry
- engaging directly with the Queensland Government on the plan and its performance
- delivering high-quality development
- outcomes for natural resource management
- growing established and emerging industries.

Non-government organisations, including regional natural resource management and industry bodies, are encouraged to align planning initiatives with the NQ Regional Plan to ensure a coordinated effort across the region. The Queensland Government will look for opportunities to partner with industry to support the implementation of the NQ Regional Plan.

Delivery program

The NQ Regional Plan's implementation program is divided into 'implementation actions' and 'measures that matter'. Both the implementation actions and measures are identified under the four goals of the NQ Regional Plan to aid the alignment of policy outcomes.

Implementation actions

The implementation actions are listed in Table 1. These actions give effect to the regional policies within the NQ Regional Plan and specify how these policies will be delivered. Each action has a specific purpose and

identifies the responsible entities(s) and the indicative timeframes in which this action is to be completed. This ensures that the application of the regional policies is understood and accounted for.

The implementation actions have been developed with stakeholders and have been the subject of lengthy consultation. Responsibility for overall coordination of actions will remain with the economic and planning department, though individual actions are assigned to different lead agencies. Delivering these actions will necessitate ongoing collaboration with government agencies, industry groups and utility providers.

Measures that matter

Table 2 outlines the 'measures that matter'. These have been developed to gauge the progress of policies in the NQ Regional Plan. The measures represent key indicators based on the regional policies and implementation actions of each goal in the NQ Regional Plan. They provide the basis for identifying trends over time.

The measures outlined are intended to be as simple as possible, to allow the outcomes to be both identifiable and relevant in the North Queensland regional context. The measures will be maintained and reported on as updated data becomes available.

Monitoring the delivery of the plan

Monitoring the effectiveness and performance of policies and actions of the NQ Regional Plan is a key priority. A 'health check' of the NQ Regional Plan will be undertaken by the planning and economic areas of the Queensland government every two years, or as required.

This will include an update on the progress of the plan, including an update on each of the implementation actions. As part of this health check, regional policies, actions and measures may be considered for update or replacement, as appropriate.

Outcomes of the 'health check' will be displayed on the Queensland planning website.

Table 1: Implementation actions

Purpose	Actions	Responsibility	Indicative timing	Link to measures that matter
Leading economy				
To build on North Queensland's established industry and manufacturing base through supporting opportunities to attract, expand and retain smart industries.	<p>Build industry capacity and capability of major project supply chains.</p> <p>Support the transition to advanced manufacturing, including through manufacturing hubs.</p> <p>Explore regional aviation opportunities in infrastructure, services, and training, including to support the development of priority and emerging industries.</p>	<ul style="list-style-type: none"> • Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) • Regional Development Australia (Townsville and North West) • NQ councils 	Underway	EC1
To provide adequate land for long-term industry demands in the region.	DSDMIP to work with NQ councils to help coordinate their long-term industrial land supply planning, to consider supporting infrastructure and established and emerging development opportunities.	<ul style="list-style-type: none"> • DSDMIP and NQ councils (lead) • Queensland Government Statistician's Office (QGSO) • Department of Natural Resources, Mines and Energy (DNRME) 	Ongoing	EC1
To leverage commercial opportunities to establish North Queensland as a prime location for the development of significant defence maintenance, supply and logistics contracts.	Leverage supply chain and service industry opportunities arising from defence initiatives, including the Australia-Singapore Military Training Initiative.	<ul style="list-style-type: none"> • DSDMIP (lead) • NQ councils • Townsville Enterprise Limited 	Ongoing	EC1
To ensure new opportunities for aquaculture and to facilitate aquaculture development in balance with environmental outcomes.	State agencies to work with NQ councils to continue investigating preferred locations of new aquaculture development in the region and facilitate new projects.	<ul style="list-style-type: none"> • Department of Agriculture and Fisheries (DAF) (lead) • DSDMIP • Department of Environment and Science (DES) • NQ councils • Great Barrier Reef Marine Park Authority (GBRMPA) • Office of GBR (Queensland Government) 	Ongoing	EC3
To investigate infrastructure and policy mechanisms that facilitate the establishment of high value agricultural production in suitable upper catchment areas in balance with environmental outcomes.	State agencies to work with NQ councils, infrastructure providers, and the agricultural industry to identify and investigate medium-to-long term opportunities to establish best-practice agricultural production in upper catchment locations, where impacts can be balanced with environmental protections to ensure sustainable long-term investment.	<ul style="list-style-type: none"> • DAF (lead) • DNRME • DES • NQ councils 	2020-2022	EC1, EC3

Purpose	Actions	Responsibility	Indicative timing	Link to measures that matter
Leading economy				
To facilitate opportunities arising from increasing Asia-Pacific demand for agricultural products; and through improved production and productivity.	Investigate new market opportunities in the Asia-Pacific for new and/or higher value crops that leverage key supply chain infrastructure and maximise air and port capacity.	<ul style="list-style-type: none"> • DAF (lead) • NQ councils • DES • Trade and Investment Queensland (TIQ) • DSDMIP 	Underway	EC ₁ , EC ₂ , EC ₃
To develop and implement strategies to facilitate the growth and development of health and knowledge industries in Townsville.	<p>DSDMIP to work with Townsville City Council (TCC), Townsville Hospital and Health Services and James Cook University (JCU) to implement strategies that further support the development of health and knowledge industries, including TropiQ.</p> <p>Attract and develop a highly skilled workforce.</p>	<ul style="list-style-type: none"> • DSDMIP (lead) • Queensland Health (Townsville Hospital and Health Services) • James Cook University (JCU) • Central Queensland University (CQU) • Department of Transport and Main Roads (DTMR) • TCC • Regional Training organisations (such as TAFE QLD) 	Underway	EC ₁
To capitalise on demand from visitors for cultural and nature-based experiences and growth in the events sector while also identifying available capacity in enabling regional tourism infrastructure.	Support the development of new and existing tourism offerings, including cultural and nature-based experiences and regional events.	<ul style="list-style-type: none"> • Townsville Enterprise Limited and Stadiums Queensland (lead) • Department of Innovation and Tourism Industry Development (DITID) 	Underway	EC ₄
De-risk tourism investment in high-value, environmentally sensitive locations.	De-risk tourism investment in high-value, environmentally sensitive locations, including the Great Barrier Reef islands and the Wet Tropics of Queensland World Heritage Area, to facilitate new small-scale, low impact nature-based tourism products.	<ul style="list-style-type: none"> • DITID (lead) • DSDMIP • NQ councils 	Following release of the NQ Regional Plan	EC ₄
To investigate mechanisms that will encourage the development of commercial scale renewable energy facilities in REIAs in balance with environmental outcomes.	<p>State agencies to work with NQ councils on attracting new renewables investment into the region, centred on REIAs and industrial areas.</p> <p>Investment attraction should align with network investigations underway between the Queensland Government and the Australian Energy Market Operator (AEMO).</p>	<ul style="list-style-type: none"> • DSDMIP (lead) • DNRME • NQ councils • TIQ 	Following release of the NQ Regional Plan	EC ₁







Purpose	Actions	Responsibility	Indicative timing	Link to measures that matter
Leading economy				
To realise significant renewable energy potential from emerging energy opportunities such as renewable hydrogen (co-located with industry where appropriate) and to support the enablers of such industries.	<p>Support opportunities for renewable hydrogen industry development and energy storage; facilitating the co-location of complementary activities.</p> <p>Provide project facilitation support for renewable energy projects co-located with industry, where appropriate.</p> <p>Provide support for technological enablers of the renewable energy industry such as battery storage and dispatchable generation technologies.</p>	<ul style="list-style-type: none"> • DSDMIP (lead) • NQ councils • DNRME 	Underway	EC1
Natural environment				
To support regional actions for a coordinated approach to climate change.	State agencies to work with NQ councils to prepare climate adaptation strategies, which incorporate land use policies to address the forecast impacts of climate change (including bushfires and other climate hazards).	<ul style="list-style-type: none"> • DES (lead) • NQ councils 	Following release of the NQ Regional Plan	N.A.
To support a regional approach to enhancing ecological functionality.	State agencies to work with NQ councils to identify and manage regional biodiversity values and regional biodiversity corridors.	<ul style="list-style-type: none"> • DES (lead) • NQ councils • Regional Natural Resource Management (NRM) bodies 	Following release of the NQ Regional Plan	N.A.
	State agencies to work with NQ councils to identify and manage priority rehabilitation areas that will further contribute to the ecological functionality of the region.	<ul style="list-style-type: none"> • DES (lead) • NQ councils • Regional NRM bodies 	Following release of the NQ Regional Plan	N.A.
To support regional approaches to cultural resource management in partnership with Traditional Owners.	Department of Aboriginal and Torres Strait Islander Partnerships (DATSIP) to work with Traditional Owners and NQ councils to develop a Cultural Resources Management Plan.	<ul style="list-style-type: none"> • DATSIP (lead) • Traditional Owners • NQ councils • Regional NRM bodies 	Following release of the NQ Regional Plan	N.A.
Liveable communities				
To ensure there is an adequate supply of residential land within the Townsville Urban Area.	Townsville City Council to work with DSDMIP on reviewing and monitoring residential land supply.	<ul style="list-style-type: none"> • TCC (lead) • DSDMIP 	Ongoing	LC1
To provide a common basis for, and examples of, excellence in tropical and dry tropical design.	Queensland Government Architect to work with DSDMIP and other key stakeholders to implement QDesign and ensure tropical and dry tropical design principles are included in the Q-Companion document.	<ul style="list-style-type: none"> • Queensland Government Architect (lead) • DSDMIP • Queensland Urban Design and Places Panel • NQ councils • Industry 	Underway	LC1

Purpose	Actions	Responsibility	Indicative timing	Link to measures that matter
Liveable communities				
To increase the supply and diversity of residential land and housing on Palm Island.	Resolve land supply and tenure issues on Palm Island.	<ul style="list-style-type: none"> DATSIP (lead) DNRME 	Underway	LC1, CNQ3
	State agencies to work with the Australian Government to resolve the type of new housing to be provided to meet the needs of the community.	<ul style="list-style-type: none"> Department of Housing and Public Works (DHPW) DATSIP Australian Government 	Underway	LC1
	Land capability study to identify new areas best placed for residential development considering the impacts of coastal hazards.	<ul style="list-style-type: none"> Palm Island Aboriginal Shire Council Australian Government 	Underway	N.A.
Connected North Queensland				
To improve the effectiveness of the transport network in moving people and goods within and beyond the region.	Coordinate strategic transport infrastructure corridor plans focused on long-term transport needs for the North Queensland region.	<ul style="list-style-type: none"> DTMR (lead) DSDMIP 	Ongoing	CNQ2
To improve the effectiveness of, and access to, digital technology within the region.	Identify and include service-challenged areas into the Queensland Mobile Blackspot Program within the State Infrastructure Plan, and seek funding to improve coverage via the Australian Government's Mobile Black Spot Program.	<ul style="list-style-type: none"> DHPW (lead) DSDMIP Australian Government NQ councils 	2020-22	N.A.
	QCN Fibre has been established as a new state-owned entity to utilise spare capacity on the government-owned optical fibre network. This will assist companies such as retail service providers and internet service providers in offering faster, more reliable internet to homes and businesses in regional Queensland.	<ul style="list-style-type: none"> DITID (lead) DHPW 	Underway	N.A.

Purpose	Actions	Responsibility	Indicative timing	Link to measures that matter
Connected North Queensland				
Key infrastructure Initiatives that support the vision for North Queensland.	DSDMIP to work with infrastructure providers to align infrastructure planning actions and progress infrastructure priorities in line with the State Infrastructure Plan and NQ Regional Plan.	<ul style="list-style-type: none"> • DSDMIP (lead) • NQ councils • Infrastructure providers 	Following release of the NQ Regional Plan	CNQ3
	<p>DTMR to lead the delivery of the North Queensland Regional Transport Plan, which considers the strategic transport network needs and priorities to support the growth identified in NQ Regional Plan.</p> <p>DTMR to undertake regular review of Principal Cycle Network Plans for North Queensland to guide further planning and design of cycle facilities to support the growth identified in NQ Regional Plan.</p>	<ul style="list-style-type: none"> • DTMR (lead) • NQ councils • Infrastructure providers 	Following release of the NQ Regional Plan	CNQ3

Table 2. Measures that matter

Measure		Explanation and source	Baseline	Preferred future trend
Leading economy				
EC1	Major project investment	To measure construction and investment projects with a gross fixed capital expenditure of \$20 million or more. <i>Source: Deloitte's Investment Monitor (released quarterly).</i>	September quarter 2019, the total value of projects (definite and planned) was \$3.95 billion.	↑
EC2	Increased export of resources	To measure the value and gross weight of overseas merchandise exports by port of loading. <i>Source: REMPLAN & ABS 5368.0 International merchandise exports, Australia.</i>	2018-19 the value of metalliferous ores, metal scrap and non-ferrous metals through the Port of Townsville in was \$5.55 billion. 2018 the region's mining exports were \$382.9 million.	↑
EC3	Productive agricultural land	To measure the change in the extent of agricultural land across the region. <i>Source: Queensland agricultural land classes, Queensland Spatial Catalogue.</i>	2019 total ALC Class A and B agricultural land across the region was 2.1 million hectares.	Maintain
		To measure the gross value-add (GVA) within the agricultural industry. <i>Source: REMPLAN</i>	2018 GVA within the agricultural industry across the region was \$634.5 million.	↑
EC4	Increase in tourism gross regional product	To measure the gross regional product (GRP) of tourism, taking into account direct and indirect flow on effects. <i>Source: Tourism Research Australia, Tourism and Events Queensland.</i>	2018 tourism GRP was \$852 million, across the region. This comprises \$484 million in direct GRP and \$368 million in indirect GRP.	↑ towards Grade A
Natural environment				
NE1	Water quality in the Great Barrier Reef coastal zone	To measure reef and wetland condition-inshore marine condition-water quality for the Wet Tropics and Burdekin reporting areas. <i>Source: Australian and Queensland Government Reef Water Quality Report Card.</i>	2016 Burdekin grade – B 2016 Wet Tropics grade – B	↑

Measure	Explanation and source		Baseline	Preferred future trend
Liveable Communities				
LC1	Housing diversity	To measure the number of separate detached dwellings compared to semi-detached/multi-unit dwellings. Source: ABS, QGSO 2017	Separate houses – 67,086 dwellings across the region Semi-detached/multi-unit – 12,724 dwellings across the region	 proportion of separate detached dwellings
Connected North Queensland				
CNQ1	Mode share across the region	To measure the mode share of vehicles, public transport, and active transport in urban areas (journey to work). Source: ABS and DTMR (based on ABS journey to work data)	Baseline reporting to be confirmed with DTMR. Estimated PT mode share within Townsville is >2%.	 proportion of private vehicle usage  proportion of public transport usage
CNQ2	Freight growth and efficiencies	Baseline to be developed with DTMR utilising heavy vehicle operating costs.	To be developed with DTMR with consideration of NQ Regional Transport Plan.	 decrease operation costs
		To measure freight vehicle numbers to be measures across the region including size of the vehicle. Source: To be developed with DTMR.	To be developed with DTMR with consideration of NQ Regional Transport Plan.	 number of freight vehicles
CNQ3	Transport network resilience	To measure the frequency and duration of unplanned closures on the state-controlled transport network (e.g. due to flooding and other types of incidents). Source: Cat. 131940/QLD Traffic data.	To be developed with DTMR (measure is awaiting adoption of the NQ Regional Transport Plan).	 duration of unplanned closures on the state-controlled network

NQ Regional Plan relationship with other plans and programs

Short term economic initiatives

In addition to regional policies and implementation actions within the NQ Regional Plan, a series of short-term initiatives have been prepared to support the delivery of economic outcomes articulated in Goal 1 of the plan. These projects highlight specific opportunities in a range of industry sectors, drawing on existing initiatives and state government commitments.

These projects are designed to sit outside, but will accompany, the NQ Regional Plan to form a more comprehensive suite of implementation actions.

Future refinements to these projects will be informed by the RPC and other key stakeholders.

State Infrastructure Plan

The Queensland Government's State Infrastructure Plan (SIP) outlines the planning, investment and delivery of infrastructure across Queensland over the short to medium-term (15-year horizon).

It demonstrates the state government's commitment to addressing state infrastructure in a timely, sensible and cost-efficient way. The SIP also highlights innovation and promotes the use of existing infrastructure as an alternative to building new infrastructure.

The NQ Regional Plan provides a blueprint for achieving the shared direction and vision for the region over the

next 25 years. The plan identifies the needs and priorities that are likely to require an infrastructure or service delivery solution. These regional infrastructure and service priorities are identified in Table 3.

The NQ Regional Plan has a significantly longer planning horizon than the SIP, which focuses on more immediate infrastructure delivery. Infrastructure priorities within the NQ Regional Plan move into the SIP's 1-4 year capital program after consideration by relevant agencies and when triggered by community growth and economic development, thereby improving coordination and integration of land use and infrastructure planning and delivery.

Regional infrastructure and service priorities

The following list of priorities has been developed based on feedback from stakeholders during the regional planning process. The listed priorities have potential to help achieve the regional goals that contribute to the overall vision for North Queensland.

This infrastructure is the responsibility of a number of entities, including public, private and all levels of government.

Table 3: Regional infrastructure and service priorities

Water security	<ul style="list-style-type: none"> • Improve the efficiency and sustainable delivery of potable water for Charters Towers and Townsville. • Assess the options for long term supply to meet the region's current and future needs for agricultural irrigation.
Freight transport	<ul style="list-style-type: none"> • Improve transport infrastructure to service and link new industrial areas with the existing freight network and Port of Townsville. • Improve the efficiency of the region's freight network by improving alignments and increasing flood immunity. • Improve rail network efficiencies to the Port of Townsville.
Public transport	<ul style="list-style-type: none"> • Optimise the passenger spine that links the Townsville CBD and TropiQ. • Investigate opportunities to improve ferry services between Palm Island and Townsville. • Improve passenger transport services connecting key regional centres (Ayr, Charters Towers and Ingham) with Townsville.
Active transport	<ul style="list-style-type: none"> • Improve active transport infrastructure between key origin and destination locations with the region's urban areas.
Seaport	<ul style="list-style-type: none"> • Increase the capability of the Port of Townsville to support increases in cruise ship tourism and general freight.
Telecommunications	<ul style="list-style-type: none"> • Deliver a reliable and effective internet connection to the region's rural and remote communities. • Improve mobile phone coverage by delivering additional mobile phone towers to the region's rural and remote communities.
Airport	<ul style="list-style-type: none"> • Increase the capacity of the Townsville Airport's landside and airside facilities, including the passenger terminal building.
Energy	<ul style="list-style-type: none"> • Increase the capacity of major electricity infrastructure to: <ul style="list-style-type: none"> a) support growth of the renewable energy sector within the region b) support opportunities for increased renewable energy generation proximate to industrial areas and other major users.

Townsville City Deal

The Townsville City Deal is a 15-year commitment between the Queensland Government, Australian Government and Townsville City Council, to transform Townsville and drive economic growth. The framework of the original Townsville City Deal is illustrated in Table 4, and identifies the vision, objectives, initiatives, commitments and future opportunities of the deal.

Regional policies and implementation actions within the NQ Regional Plan have been developed to compliment

the current commitments and future opportunities of the Townsville City Deal and help extend economic benefits to the broader region. An example of this is the workforce development plan that can build off identified economic opportunities to identify skill and workforce needs.

Similarly, the NQ Regional Plan can guide future updates or reviews of the Townsville City Deal, to ensure that future economic opportunities identified by local governments and industry are reflected in major project or infrastructure decisions.

Table 4: Framework of Townsville City Deal

Vision	Grow the economy of Townsville by supporting the city to be, by 2050: <ul style="list-style-type: none"> • the economic gateway to Asia and northern Australia • a prosperous and lifestyle-rich city for its community and visitors • a global leader in tropical and marine research and innovation. 					
Objectives	1. Revitalise Townsville, particularly the CBD and Waterfront Priority Development Areas. 2. Activate industry and export growth. 3. Support long term growth of local businesses. 4. Enhance liveability. 5. Improve planning, coordination and governance.					
Initiatives	Capital of North Queensland	Innovative and connected city	Port city	Industry powerhouse for the North	Defence hub	Enabling infrastructure
Commitments	North Queensland Stadium	Development Corporation for Townsville	Channel capacity upgrade	Townsville eastern access rail corridor	Defence industry consultation	Townsville water security, supply and use strategy
	Townsville entertainment and convention centre	Health and knowledge development strategy		Townsville Industrial Development Board		Managing energy cost and boost energy productivity
	International education and training destination	Public transport solutions		Acceleration of the State Development Area		
	CRC for Developing Northern Australia	Smart City Strategy		Woodstock intersection upgrade		
Future opportunities	Townsville workforce development plan	Smart solutions for Townsville city and suburbs	Port expansion	Maximise airport opportunities	Defence investment pipeline	Review and deliver preferred water supply solutions
		Urban renewal and revitalisation		Supply chain prioritisation		Renewable energy innovation
Governance	Local partnerships for better governance					

State Planning Policy

The State Planning Policy (SPP) sets out the Queensland Government's interests in planning and development for Queensland. The NQ Regional Plan refines these state interests to provide the planning and decision-making framework for how the SPP will be applied in North Queensland to achieve regional land use outcomes.

Under the Planning Act, the SPP prevails where there is any inconsistency with a regional plan. The SPP and the NQ Regional Plan perform complementary roles, with the NQ Regional Plan providing a basis for prioritising, qualifying or resolving the state interests in North Queensland.

The NQ Regional Plan advances the SPP in response to the region's growth, values, constraints and community expectations. Where noted through the document, the regional plan contextualises particular state interests in the SPP, providing further direction to local government, the community and industry about how a state interest is to be applied. Where the NQ Regional Plan is silent on an intended outcome the SPP prevails.

North Queensland local government planning schemes

Local government planning schemes (planning schemes) provide local policy and must advance the relevant matters of state and regional significance. Therefore, planning schemes will play an important role in implementing the NQ Regional Plan.

While the NQ Regional Plan provides a regional policy expression about matters of state and regional significance contained in the SPP, it does not deal with every aspect of the SPP. Planning schemes are still required to advance those aspects of the SPP not dealt with by the NQ Regional Plan.

When making or amending a local planning instrument, local government must advance the NQ Regional Plan by demonstrating compliance with:

- regional goals
- regional outcomes to achieve these goals
- regional policies to deliver on these regional outcomes.

A planning scheme must outline whether the Minister for Planning has identified the NQ Regional Plan or aspects of the NQ Regional Plan as being appropriately integrated and those matters that may not be relevant.

Development assessment

The NQ Regional Plan introduces an assessment benchmark for the assessment of proposed development within the Priority Agricultural Area (PAA), where the application is considered to be an applicable development application (see Table 5).

Under the Planning Regulation, this benchmark must be considered by the prescribed assessment manager, in the assessment of any applicable development application (to the extent that the NQ Regional Plan is not appropriately integrated in local planning instrument). This applies to both code and impact assessment.

The NQ Regional Plan also applies as a 'matter to have regard to' under the Planning Regulation, where the NQ Regional Plan or aspects of the NQ Regional Plan are identified as having not been appropriately integrated in a local planning instrument. Matters to have regard to provide the context for the assessment manager in undertaking a development assessment. This applies to both code and impact assessment.

Table 5: Development assessment benchmark for PAAs

Regional outcome: 1.1 Maintain and expand a prosperous and sustainable agricultural sector in the region.	
Applicable development application	<p>In a PAA (identified in Map 1), a development application for:</p> <ul style="list-style-type: none"> reconfiguring a lot, where a new lot is created; or a material change of use for a non-agricultural purpose. <p>This excludes public infrastructure development.</p>
Assessment benchmarks	<ul style="list-style-type: none"> Development does not result in, or contribute to, a net loss to overall agricultural productivity within the PAA. Development does not result in widespread or irreversible impacts to the future use of a PAA for agricultural activities.

Note: A widespread or irreversible impact on the future use of a PAA may occur if:

- Development will cause a significant reduction in the raw product supplied to, for example, a mill or processing facility in the region, to such an extent that the mill or processing facility may become unviable, leading to flow-on effects for other agricultural activities and/or associated land uses.
- Development significantly alters resources that are necessary to maintain the function of existing and future expected agricultural activities within the region. This may include negative irreversible impacts to soil health, water quality and/or availability and landscape features (such as drainage) applicable to agricultural activities.
- Development will constrain, restrict or prevent the ongoing conduct of PALUs or other agricultural land uses on the property or adjacent properties. This includes, for example, everyday farm practices or infrastructure essential to the operation of a PALU or other agricultural land uses.

Development of biomass energy generation, biofuel production and renewable energy generation for on-site usage in support of agriculture is unlikely to result in a widespread or irreversible impact on the future use of a PAA. These uses are supported.

Development areas in North Queensland

Across the region, there are a number of areas not administered by planning schemes, to which the NQ Regional Plan will still apply. For example, the NQ Region Plan (its regional policies and outcomes) will need to be considered when preparing development schemes or master plans.

Priority Development Areas

Priority Development Areas (PDAs) are declared by the Minister for Economic Development Queensland (EDQ) under the *Economic Development Act 2012*.

The use of PDAs remains an important planning instrument to support delivery of the NQ Regional Plan. There are two PDAs in the region at Oonoonba ('The Village') and Townsville City Waterfront. These PDAs have been included within the Townsville Urban Area boundary shown on Map 6.

The Townsville City Waterfront PDA, in particular, can be a catalyst project that exemplifies many of the NQ Regional Plan policies about walkability, good quality urban design, compact urban forms and creating great places.

Townsville State Development Area

The Townsville State Development Area is a clearly defined area established by the Coordinator-General under the *State Development and Public Works Organisation Act 1971* to promote economic development in Queensland.

The Townsville State Development Area is the preferred location in the region for industrial development of regional, state and national significance, where these land uses and supporting infrastructure require direct access to one or more national freight networks, being rail and/or major road networks.

Townsville Priority Ports Area

Master planning for the Port of Townsville is a commitment of the Reef 2050 Plan and mandated under the *Sustainable Ports Development Act 2015*.

The priority port master plan establishes a long-term vision for the port, which enables coordinated planning of port-related land and marine areas. The master plan considers existing and future development opportunities, and relevant environmental and cultural heritage values.

On 4 November 2019, the Queensland Government released the final master plan and master planned area for the priority Port of Townsville developed in collaboration with Port of Townsville Ltd, Townsville City Council, state and federal agencies and other key stakeholders.

Townsville Airport/ RAAF Base Townsville

Townsville Airport is privately operated under a long-term (50-year) lease from the Australian Government, through a Joint User Deed with the Department of Defence.

The airport consists of two distinct areas being the Royal Australian Air Force (RAAF) Base Townsville and Townsville's civilian airport and is administered under the *Airports Act 1996* (Commonwealth). The airport has recently completed the Townsville Airport Master Plan 2016-2036, which will direct future growth and development on the site.

Schedule A

Environmental attributes of the Strategic Environmental Area

Strategic Environmental Areas contain (SEA) regionally significant attributes for biodiversity, water catchments, and ecological function and connection. Management of these areas is to maintain the natural ecosystem functionality of their environmental attributes to ensure the region's significant biodiversity and ecological integrity is upheld.

Strategic Environmental Areas allow for development where uses can co-exist and do not constitute a material risk to the continuation of the area's natural ecosystem functionality. Adverse impacts on natural systems and ecological features and processes are to be avoided or minimised to the greatest extent practicable with natural features such as creeks, gullies, waterways, wetlands, vegetation habitats and bushland being retained, enhanced and buffered from the impacts of uses. Any unavoidable impacts to the attributes are minimised through location, design, operation and management requirements.

Where activities have the potential to cause widespread or irreversible impacts – that is, impacts that are important, notable, or of consequence or intensity to a SEA's environmental attributes – these land uses are unacceptable uses across the entire geographic context of the SEA.

Whether or not an action is likely to have a widespread or irreversible impact depends upon the sensitivity, value and quality of the attribute(s) affected, and upon the intensity, duration and/or magnitude of the impacts on the environmental attribute.

An activity is **likely** to have a widespread or irreversible impact if it:

- permanently modifies, destroys, fragments, isolated or disturbs any habitat or ecosystem components such that a persistent impairment results on the health, functioning or integrity of riparian processes or wildlife corridors; or
- results in a change in water quality (including but not limited to temperature, organic chemicals, heavy metals or other potentially harmful chemicals) that may adversely impact on biodiversity, ecological health or integrity of waters; or

- results in a permanent change to surface or groundwater hydrology for any watercourse or wetland; or
- results in permanent impairment within the SEA to the natural transport, and the erosion and depositing of sediments along a river system to coastal landscapes (e.g. estuaries, beaches), floodplains or wetlands.

An activity is **unlikely** to have a widespread or irreversible impact if it:

- temporarily modifies, fragments or disturbs any habitat or ecosystem components such that a short-term or local reduction in the functioning or integrity of riparian processes or wildlife corridors occurs; or
- results in a degradation in water quality (including but not limited to temperature, organic nutrients, dissolved oxygen, salinity) that only temporarily impacts adversely on biodiversity, ecological health or integrity of waters; or
- results in a local change to surface or groundwater hydrology including for any watercourse or wetland; or
- results in a local disruption within the SEA to the natural transport, and the erosion and accretion of sediments within a river system to coastal landscapes (e.g. estuaries, beaches), floodplains or wetlands; and
- is able to restore the functionality of the environmental attributes impacted to a pre-activity condition so that both the structure and the functions of the system are recreated or able to be recreated in an adequate timeframe (based on the local conditions).

The following dot points describe the environmental attributes associated with the natural ecosystem functionality of the identified areas in Map 5.

Coastal reach – environmental attributes

- Alligator Creek area having a large palustrine wetland with complex activities on the floodplain containing a diversity of wetland types with connectivity with adjacent national parks that is adjoined by one of the few stands of closed paperbark swamp forest in the region.
- Bioregional corridors providing connectivity across the landscape of remnant vegetation along the Great Dividing Range and the eastern ranges.

- Cleveland Bay having high flora assemblages in a wetland environment transitioning from freshwater to saline influences and demonstrating coastal ecological process that have minimal impacts.
- Closed sedge lands regional ecosystems that provide key resources and breeding habitat for a range of waterfowl such as brolgas and magpie geese.
- Coastal mangrove communities that give way inland to the highly saline communities of the salt pans, which in turn lead to the salty and freshwater communities of the lower lying coastal plain further inland.
- Collinson's Lagoon is complex with significant flora assemblages including riparian forest representatives of the delta alluvial landforms and containing a mix of palustrine and riverine wetlands with native macrophyte community.
- Cromarty Wetland/Wongaloo swamp providing significant waterbird breeding and habitat values, high biodiversity, and huge biomass production of vertebrate and invertebrate including frogs, snakes, fish and birds. The wetlands are highly connected from upland areas in the Mount Elliott range, and remain unbroken down to the streams and wetlands prior to reaching the coasts. The good condition wetlands contain limited habitat and hydrological modification. The Wongaloo Fans Aggregations and part of the Wongaloo swamp are highly connected from upland areas and remain unbroken down to the streams and wetlands prior to reaching the coasts, providing important habitats for fish and other aquatic fauna.
- Extensive areas of forest and woodland, and some closed forest, occur on the mountainous areas and the coastal dune system.
- Healy's Lagoon/Ironbark Creek forming a deep-water lagoon system connected to the reed beds, fish nursery swamps (part of the Cromarty wetlands) that is a high-value habitat for catadromous fish. Retains blackwater (natural) water clarity and native macrophyte and riparian forest community including rainforest elements, populations of estuarine crocodiles and provides a connectivity conduit for migratory fish past the fish passage barriers present in the lower Haughton River.
- Horseshoe Lagoon and downstream palustrine wetlands to the tidal limit providing a relatively large coastal floodplain lake well connected by riparian forest to surrounding deep-water lagoons and coastal bulkuru sedge swamp that provides good waterfowl and fish habitat including suitable breeding sites.
- Jack's Lagoon/Sheep Station Creek being one of the lower most deep-water lagoons on the system containing a good native macrophyte communities including lilies and swamp forest.
- Lowland areas whose dominant ecological characteristic is a tolerance of saline conditions.
- Mount Elliott region riverine wetlands containing unique geomorphologic features and floristic assemblages.
- Northern Bowling Green Bay wetlands containing a diverse complex of coastal wetland systems formed on four broad physiographic types (mountainous areas of Cape Cleveland and Feltham Cones, elevated parallel dune systems, coastal plain wetlands and an actively prograding sand spit at Cape Bowling Green).
- Riparian ecosystems including Blue Gum on alluvial floodplains and delta land system; including gilgai landforms and seasonal drainage depressions.
- Saint Margaret Creek being a high-integrity perennial bedrock hosted upper catchment system containing good water quality and natural hydrology that has good intact riparian vegetation including lowland alluvial landform hosted reaches which are typically disturbed elsewhere in region. Saint Margaret Creek also has a unique rainforest community on its distal floodout delta and it adjoins the high value Cromarty wetland complex supporting a thriving fish community including catadromous species.
- Seasonal palustrine/swamps of the floodplain with native macrophyte communities that include native species such as native water lily, ottelia, rice grasses and lisa; and are utilised by water fowl during the wet season.
- Semi-evergreen vine thickets showing a distinct variation in species composition of regional ecosystems.
- Unfragmented patches of continuous remnant vegetation of major indicator of ecological significance as wildlife refugia.

Highland reach – environmental attributes

- Bands of eucalypt forest separating the rainforest of the Wet Tropics from the dry tropical woodlands that characterise the eastern ecotone. The well-developed forests have high-density of hollow-bearing trees acting as significant breeding or roosting sites; operate as wildlife refugia and support a number of species that are endemic to the ecotone or are isolated populations of species more widely distributed in the wet sclerophyll forest of south-east

Queensland. The areas have high species richness; species of disjunct populations and taxa at the limits of their ranges including the northern bettong, eastern yellow robin, yellow thornbill, greater glider, squirrel glider, crested shrike-tit and the yellow-faced honeyeater and tree species that have the major part of their North Queensland distribution in the ecotone

- Artesian springs acting as wildlife refugia.
- Centre of endemism with very high floristic diversity including high concentration of rare and threatened species.
- Coarse biotite granites and associated run-on areas – having a landform of ranges and low hills dominated by torfields and associated fine, deeply weathered jointing patterns, with coarse, shallow, infertile soils. Including some areas with scattered small hills of outcrop surrounded by coarse, deeply weathered soils, and in some areas are fringed by sandy aprons that have seasonal seeps around their margins. Areas characterised by a high species diversity of both flora and fauna (including concentrations of endangered, vulnerable or rare endemic species), and supporting a wide range of currently unidentified taxa.
- ‘Endangered’ or ‘Of Concern’ regional ecosystems with a remaining extent that is greater than 10,000 hectares, remaining in relatively good condition relating to their floristic and structural integrity, the retention of fauna, and the continuation of ecological processes characteristic of the ecosystem.
- ‘Endangered’ or ‘Of Concern’ regional ecosystems with a remaining extent that of less than 10,000 hectares, having a naturally restricted distribution that is susceptible to threats or impacts, to rapid and potentially total loss of natural values. The restricted distribution relates to geomorphic and/or microclimatic settings that are also restricted and unique combination of ecological characteristics, and to the unusual habitat conditions they provide for particular species or genotypes.
- Hervey Range-Reid River Gorge extending from the Pinnacles south to Reid River, along the eastern margin of the bioregion being an area of high geological and ecosystem diversity, and its altitude and higher rainfalls make it a biogeographic refugia for many species
- Hidden Valley/Mt Zero being an extensive plateau area dominated by fine to medium grained biotite granites, continuous with the Wet Tropics and extending westward into the rain shadow areas of the Einasleigh Uplands. Includes high ecosystem diversity along a wide environmental gradient and high species diversity; and healthy and low sclerophyll communities that have disjunct occurrences of taxa at the limits of their ranges as well as a number of endangered, vulnerable or rare species.
- Keelbottom Creek, Star Creek, Little Star Creek and Running River are granite-based pool systems with moderate elevation located on the western side of the range with a very high rainfall catchment area allowing many rainforest elements to occur in the riparian zone.
- Star River/Keelbottom Creek incorporating an area of very high ecosystem diversity and richness with disjunct populations, taxa at the limits of their ranges and unusual variations within regional ecosystems. Dominated by residual Cainozoic deposits overlying a wide diversity of Palaeozoic sediments, with smaller areas of granitic rocks. Dominant systems varying on the Palaeozoic sediments, the older sand sheets, and on the skeletal soils of the stripped sand plain.
- Landscapes of least disturbance due to ruggedness, remoteness or the absence of permanent surface water. These are predominantly areas of very low land capability, with skeletal, infertile and droughty soils, steep slopes and much rock outcrop.
- Limestone karsts having limestone outcrops and associated caves containing specialised habitats that are an important refugia or breeding site for many species and endemic fauna, including obligate cave-dwellers such as relictual stygofauna and other troglomorphic species, as well as other invertebrate species and numerous bat species that roost and breed in the caves.
- Patterson’s Gorge contains ecological processes that provide extremely valuable fauna habitat areas with the bed of the gorge due to unique floristic assemblages and high biodiversity values and also containing perennial upper catchment bedrock hosted pools and fish populations.
- Riparian ecosystems and associated areas that are dominated by open vegetation on shallow or skeletal soils associated with the larger river systems that function as important refuges for many species of flora and fauna because of the relatively high nutrient levels associated with most of these areas, their better moisture balance and generally well-developed vegetation. These mesic ribbons of habitat provide an important seasonal refuge and resources for a variety of species, in particular arboreal mammals, woodland birds, hollow-roosting species and amphibians. Many raptor species preferentially nest in tall riparian trees. These areas are also biogeographically significant habitat as they allow inland incursions of many east coast species into drier areas on the edge of their geographic range.

- Riparian ecosystems on alluvial floodplains and delta land systems including gilgai landforms and seasonal drainage depressions.
- Springs with high biodiversity value as wildlife refugia and/or associated with disjunct populations of a wide variety of dry vine thickets across a number of different substrates. The vine thickets are refugia for a large number of flora and fauna species, many of which are disjunct populations, or at the limits of their geographic ranges. Species combinations vary with substrate, endangered, vulnerable or rare and other priority species are present in many occurrences and endemism of invertebrate species is common.
- Terrestrial corridors that provide major habitat connectivity across the region identify north/south and east/west links cover higher altitude areas along watersheds and mountain ranges, and areas characterised by a relative continuity of similar or related habitats.
- Tracts and patches of continuous remnant vegetation of major ecological significance as wildlife refugia, having high species richness, containing disjunct populations, centres of endemism, relictual populations and taxa at the limits of their ranges.
- Upper Burdekin/Wet Tropics areas containing distinct special ecological processes providing extremely valuable fauna habitat areas of rainforest streams with 'inland' drainage.
- Upper Reid River Gorge having a unique geomorphology and floristic values (including vine thickets) in a pristine condition retained within fire refugia. The area contains significant populations of red-tailed rainbowfish. The area also has extensive perennial bedrock hosted pools and larger lagoons, gorges and tributary waterfalls.
- Wetlands that have a range of biodiversity values and maintain water quality, protecting downstream aquatic ecosystems, and as part of the wetland ecosystem continuum where they are periodically connected with other aquatic ecosystems. The wetlands act as refugia for many species, and a vital role in the life cycle of others.

Great Basalt Wall – Environmental attributes

- Areas of Eucalyptus woodland to open woodland on sand plains within or directly adjacent to significant wetlands with very high species richness for priority and endangered, vulnerable or near threatened species in complex. Associated well-formed woodlands with many hollow-bearing trees of high fertility and is one of the most significant habitats for fauna in the region.

Refugial habitat for woodland species in areas where clearing is extensive. Important habitat for bird species, many of which have declined further south; and allows inland incursions of many east coast species into the semi-arid zone which are on edge of their geographic range. Fauna of particular note: Capricorn ctenotus, black-necked stork, squatter pigeon, Lewin's rail, square-tailed kite, black-chinned honeyeater, black-throated finch, Australian painted snipe, rufous bettong, brown tree-creeper, wood gecko, spectacled hare-wallaby, white-eared honeyeater, red-capped robin, desert mouse.

- Areas within or directly adjacent to significant wetlands and having very high species richness for priority and endangered, vulnerable or near threatened species; complex, well-formed woodlands with many hollow-bearing trees of high fertility providing significant habitats for fauna in the region. These areas provide biogeographically significant habitats that allow inland incursions of many east coast and south-east species into the semi-arid zone which are on edge of their geographic range.
- 'Endangered' or 'Of Concern' regional ecosystems with a remaining extent that of less than 10,000 hectares, having a naturally restricted distribution that susceptible to threats or impacts, to rapid and potentially total loss of natural values. The restricted distribution relates to geomorphic and/or micro-climatic settings that are also restricted and unique combination of ecological characteristics, and to the unusual habitat conditions they provide for particular species or genotypes.
- The Great Basalt Wall containing a series of wetlands that range significantly in wetland type. Centred on the Toomba basalt flow and its associated wetlands having very high geomorphic values for its lava landforms that support extensive vine thickets, perennial spring fed wetlands, and extensive semi-permanent and seasonal wetlands. The area has outstanding ecological diversity dominated by vine thickets on basalt, the area also includes eucalypt woodlands, wetlands and melaleuca thickets and has a very high diversity of vertebrate fauna, and the seasonal and permanent wetland complex in particular supports a large number of frog and bird species. The area includes the endemic grass species as well as unique geomorphology being one of the youngest basalt flows in Queensland enclosed pockets of older basalts, consolidating the area and increasing connectivity and diversity of ecosystem and species, and to increase the integrity and viability of the area.
- Limestone karsts having limestone outcrops and associated caves containing specialised habitats that are an important refugia or breeding site for

many species and endemic fauna, including obligate cave-dwellers such as relictual stygofauna and other troglomorphic species, as well as other invertebrate species and numerous bat species that roost and breed in the caves.

- Occurrences of Eucalyptus woodland to open woodland on alluvial plains in the Alice Tableland form part of a biogeographically significant landscape, which represents a substantial area of species turnover, refuge and disjunction. Being associated with the Great Dividing Range, this area forms continuous north-south woodland corridor. Fauna of particular note: black-throated finch, little pied bat, brown tree-creeper, painted finch, squatter pigeon.
- Riparian ecosystems and associated areas dominated by open vegetation on shallow or skeletal soils associated with the larger river systems that function as important refuges for many species of flora and fauna because of the relatively high nutrient levels associated with most of these areas, their better moisture balance and their generally well developed vegetation. These mesic ribbons of habitat provide an important seasonal refuge and resources for a variety of species, in particular arboreal mammals, woodland birds, hollow-roosting species and amphibians. Many raptor species preferentially nest in tall riparian trees. These areas are also biogeographically significant habitat as they allow inland incursions of many east coast species into drier areas on the edge of their geographic range.
- Springs having very high biodiversity value as wildlife refugia.
- Melaleuca and/or Eucalyptus woodland along watercourses forming riverine wetlands or fringing riverine wetlands that have very high species richness for birds, high for frogs and mammals generally; and very high species richness for endangered, vulnerable or near threatened species, and high for priority species. Significant refugial and corridor habitat - mesic ribbons of habitat providing an important seasonal refuge and resources for a variety of species, in particular, arboreal mammals, woodland birds, hollow-roosting species and amphibians in areas with a high density of hollow-bearing trees. Many raptor species preferentially nest in tall riparian trees. Fauna of particular note: black-throated finch, Gouldian finch, Australian painted snipe, painted honeyeater, glossy black cockatoo, black-necked stork, grey falcon, square-tailed kite, cotton pygmy goose, freckled duck, two-toed fine-lined slider, rufous bettong.
- Wetlands that have a range of biodiversity values and maintain water quality, protecting downstream aquatic ecosystems, and as part of the wetland

ecosystem continuum where they are periodically connected with other aquatic ecosystems. The wetlands act as refugia for many species, and a vital role in the life cycle of others.

Central reach – environmental attributes

- Areas of Eucalyptus woodland to open woodland on sand plains within or directly adjacent to significant wetlands with very high species richness for priority and endangered, vulnerable or near threatened species in complex. Associated well-formed woodlands with many hollow-bearing trees of high fertility and is one of the most significant habitats for fauna in the region. Refugial habitat for woodland species in areas where clearing is extensive. Important habitat for bird species, many of which have declined further south; and allows inland incursions of many east coast species into the semi-arid zone which are on edge of their geographic range. Fauna of particular note: Capricorn ctenotus, black-necked stork, squatter pigeon, Lewin's rail, square-tailed kite, black-chinned honeyeater, black-throated finch, Australian painted snipe, rufous bettong, brown tree-creeper, wood gecko, spectacled hare-wallaby, white-eared honeyeater, red-capped robin, desert mouse.
- Areas within or directly adjacent to significant wetlands and having very high species richness for priority and endangered, vulnerable or near threatened species; complex, well-formed woodlands with many hollow-bearing trees of high fertility providing significant habitats for fauna in the region. These areas provide biogeographically significant habitats that allow inland incursions of many east coast and south-east species into the semi-arid zone which are on edge of their geographic range.
- 'Endangered' or 'Of Concern' regional ecosystems with a remaining extent that is greater than 10,000 hectares, remaining in relatively good condition relating to their floristic and structural integrity, the retention of fauna, and the continuation of ecological processes characteristic of the ecosystem.
- 'Endangered' or 'Of Concern' regional ecosystems with a remaining extent that of less than 10,000 hectares, having a naturally restricted distribution that susceptible to threats or impacts, to rapid and potentially total loss of natural values. The restricted distribution relates to geomorphic and/or microclimatic settings that are also restricted and unique combination of ecological characteristics, and to the unusual habitat conditions they provide for particular species or genotypes.
- The Great Basalt Wall containing a series of wetlands that range significantly in wetland type. Centred on

the Toomba basalt flow and its associated wetlands having very high geomorphic values for its lava landforms that support extensive vine thickets, perennial spring fed wetlands, and extensive semi-permanent and seasonal wetlands. The area has outstanding ecological diversity dominated by vine thickets on basalt, the area also includes eucalypt woodlands, wetlands and melaleuca thickets and has a very high diversity of vertebrate fauna, and the seasonal and permanent wetland complex in particular supports a large number of frog and bird species. The area includes the endemic grass species as well as unique geomorphology being one of the youngest basalt flows in Queensland enclosed pockets of older basalts, consolidating the area and increasing connectivity and diversity of ecosystem and species, and to increase the integrity and viability of the area.

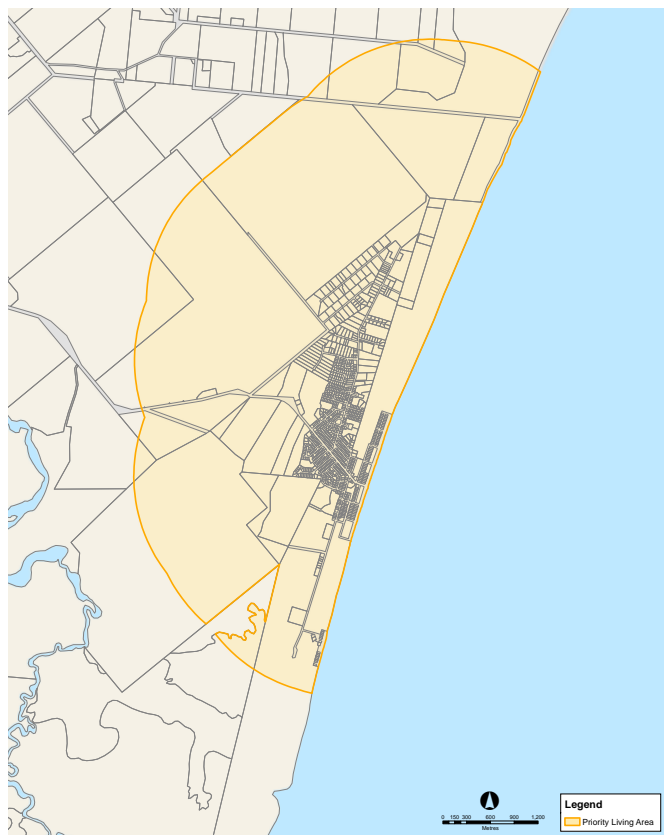
- Landscapes of minimal disturbance due to ruggedness, remoteness or the absence of permanent surface water. These are predominantly areas of very low land capability, with skeletal, infertile and droughty soils, steep slopes and much rock outcrop.
- Limestone karsts having limestone outcrops and associated caves containing specialised habitats that are an important refugia or breeding site for many species and endemic fauna, including obligate cave-dwellers such as relictual stygofauna and other troglomorphic species, as well as other invertebrate species and numerous bat species that roost and breed in the caves.
- Occurrences of Eucalyptus woodland to open woodland on alluvial plains in the Alice Tableland form part of a biogeographically significant landscape, which represents a substantial area of species turnover, refuge and disjunction. Being associated with the Great Dividing Range, this area forms continuous north-south woodland corridor. Fauna of particular note: black-throated finch, little pied bat, brown tree-creeper, painted finch, squatter pigeon.
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woodland birds, hollow-roosting species and amphibians. Many raptor species preferentially nest in tall riparian trees. These areas are also biogeographically significant habitat as they allow inland incursions of many east coast species into drier areas on the edge of their geographic range.

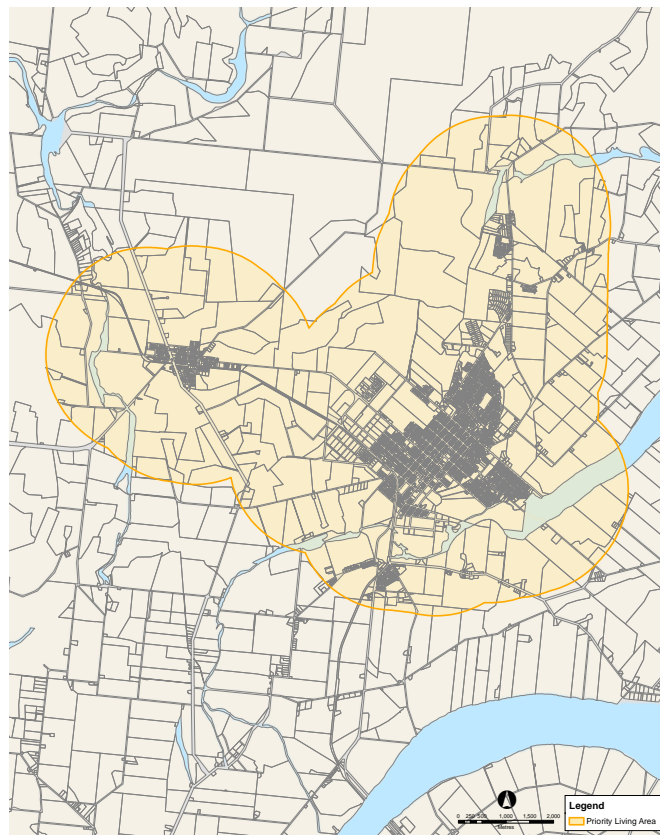
- Springs having very high biodiversity value as wildlife refugia.
- Melaleuca and/or Eucalyptus woodland along watercourses forming riverine wetlands or fringing riverine wetlands that have very high species richness for birds, high for frogs and mammals generally; and very high species richness for endangered, vulnerable or near threatened species, and high for priority species. Significant refugial and corridor habitat – mesic ribbons of habitat providing an important seasonal refuge and resources for a variety of species, in particular arboreal mammals, woodland birds, hollow-roosting species and amphibians in areas with a high density of hollow-bearing trees. Many raptor species preferentially nest in tall riparian trees. Fauna of particular note: black-throated finch, Gouldian finch, Australian painted snipe, painted honeyeater, glossy black cockatoo, black-necked stork, grey falcon, square-tailed kite, cotton pygmy goose, freckled duck, two-toed fine-lined slider, rufous bettong.
- Toomba Lake being a shallow permanent to semipermanent lake containing a diversity of wetland types providing good waterbird habitat and abundances for species such as the freckled duck, the Cotton Pygmy Goose and an endemic grass species. An extensive wetland on a flat plain having unique geomorphology and hydrology being one of the youngest basalt flows in Queensland fed by reliable groundwater from basalt aquifers. The persistence of surface water provides reliable habitats for birds, macrophytes and other aquatic biota.
- Wetlands that have a range of biodiversity values and maintain water quality, protecting downstream aquatic ecosystems, and as part of the wetland ecosystem continuum where they are periodically connected with other aquatic ecosystems. The wetlands act as refugia for many species, and a vital role in the life cycle of others.

Schedule B Priority Living Areas (PLAs)

Please see page 64 (Mining and extractive industries) for details on the purpose and application of these maps.



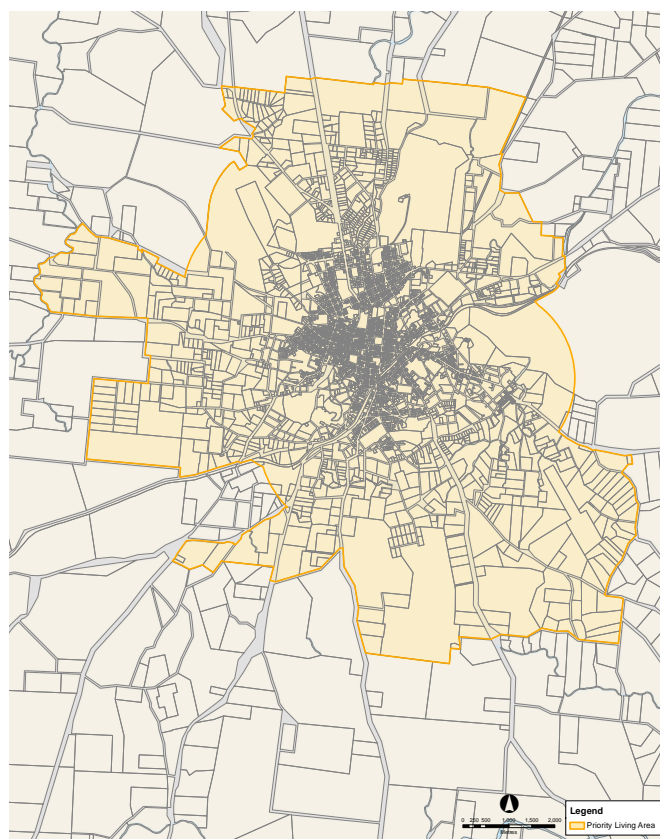
Map A: Allingham (Forrest Beach) PLA



Map B: Ayr / Brandon PLA



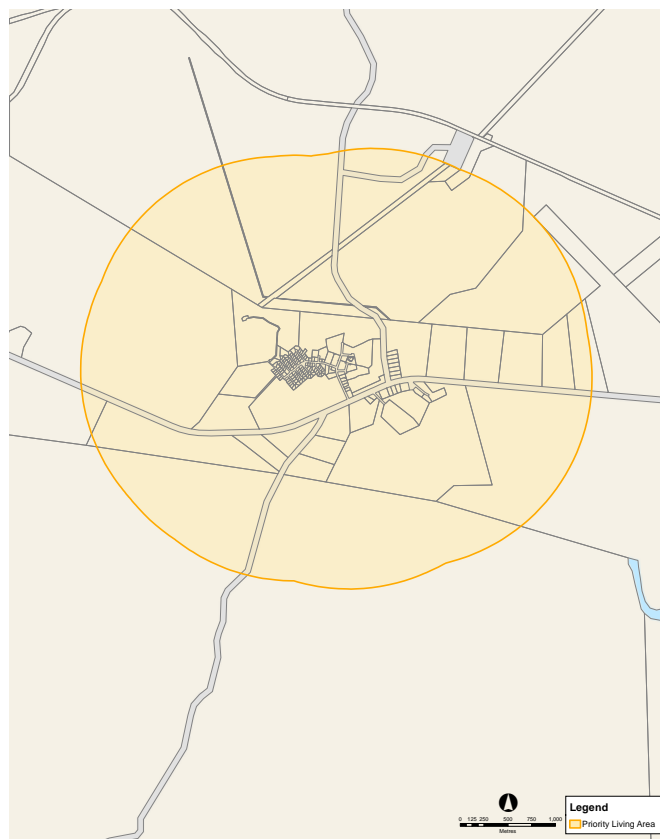
Map C: Balgal Beach PLA



Map D: Charters Towers PLA



Map E: Giru PLA



Map F: Greenvale PLA



Map G: Halifax PLA



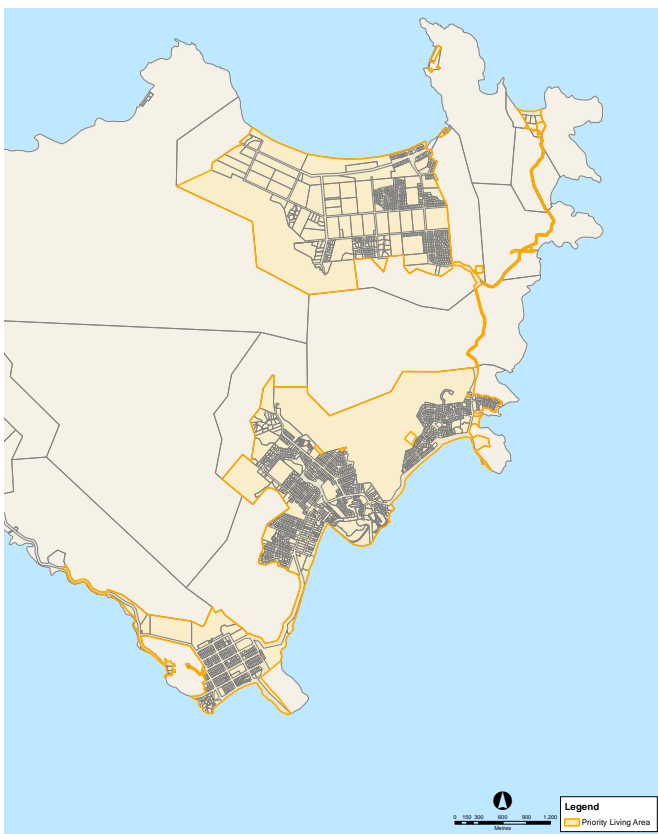
Map H: Home Hill PLA



Map I: Ingham PLA



Map J: Lucinda PLA



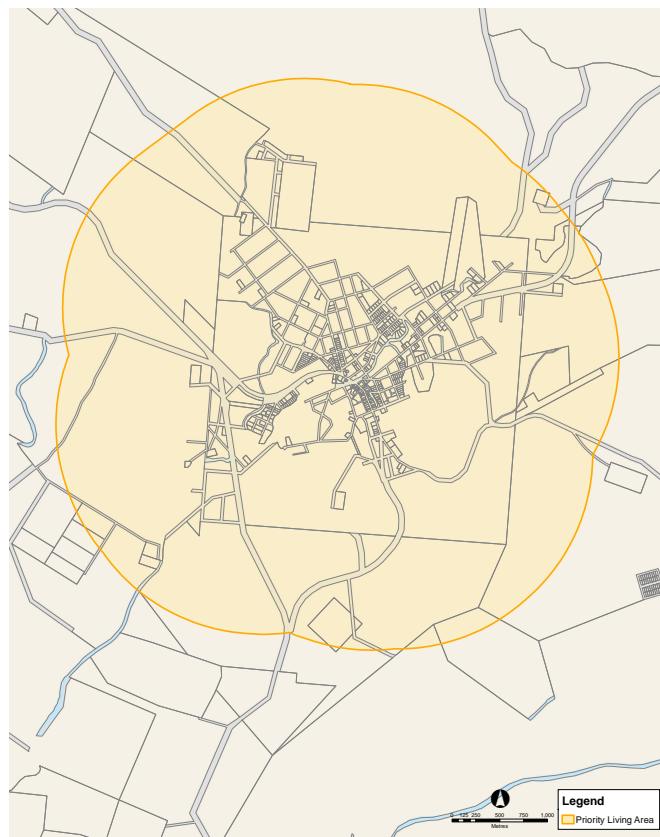
Map K: Magnetic Island PLA



Map L: Palm Island PLA



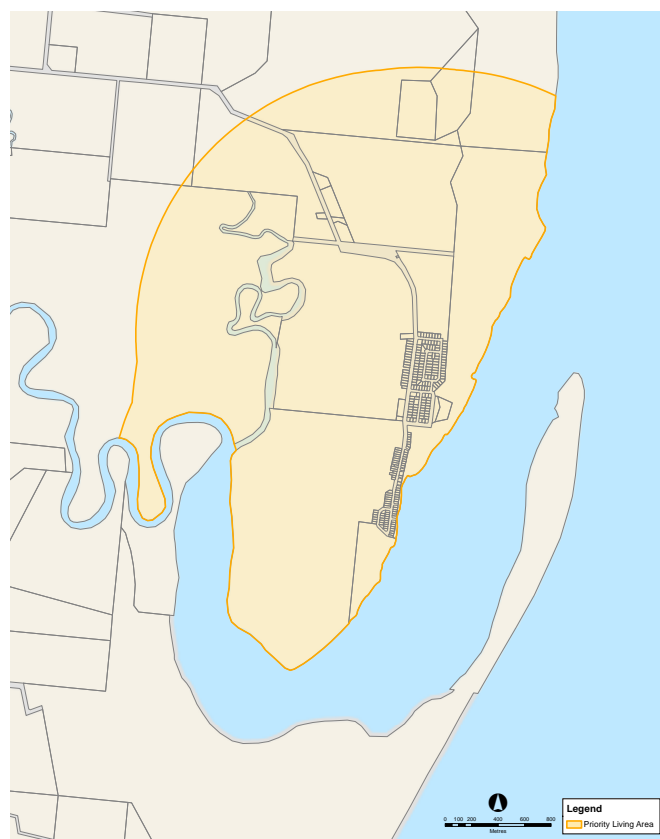
Map M: Pentland PLA



Map N: Ravenswood PLA



Map O: Saunders Beach PLA



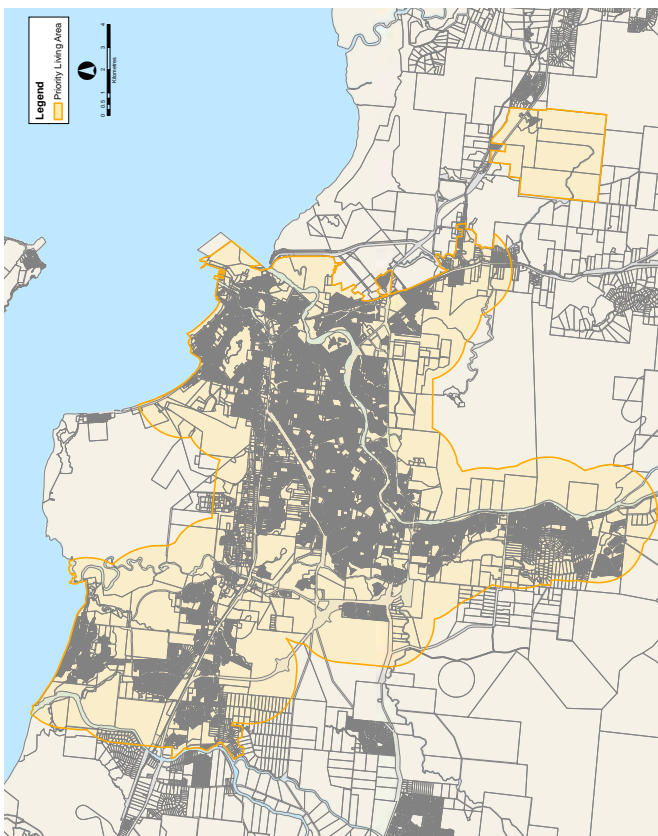
Map P: Taylors Beach PLA



Map Q: Toobanna PLA



Map R: Toomulla PLA



Map S: Townsville PLA



Map T: Trebonne PLA

Appendix 1

NQ Regional Plan and the *Regional Planning Interests Act 2014* (RPI Act)

The NQ Regional Plan identifies areas of regional interest (and associated policies) for assessment applications under the RPI Act in the North Queensland region. The region also contains areas that are part of the Strategic Cropping Area (SCA). However, these parts of the SCA are not included in the NQ Regional Plan as they are mapped independently of the regional plan.

The RPI Act applies to:

- Resource activities (defined under section 12 of the RPI Act) which include:
 - an activity which a resource authority is require; or

- an activity that is authorised under a resource authority or is proposed resource authority.
- Regulated activities (prescribed under a regulation), which currently are:
 - broadacre cropping
 - water storage (dam).

Below is a ‘quick reference guide’ to identify the relevant parts of the NQ Regional Plan for assessment applications under the RPI Act. Reference should also be made to the relevant sections for context and further information.

Area of regional interest:		Priority Agricultural Areas
Regional outcome	Regional policies	
1.1 Maintain, and investigate opportunities to expand, a prosperous and sustainable agricultural sector in the region.	1.1.1 PALUs, within the PAAs shown on Map 1, are protected from resource activities. 1.1.2 Non-agricultural development within PAAs is not supported, unless the proposed use demonstrates net benefits for regional agricultural production or is for public infrastructure. 1.1.3 Maximise opportunities for co-existence of resource and agricultural land uses in PAAs. 1.1.4 The integrity of the stock route network within the region is not compromised.	

Area of regional interest:		Strategic Environmental Areas
Regional outcome	Regional policies	
2.1 Ensure the region’s areas of high biodiversity and landscape value – and the ecological processes that support them – are identified, protected and sustainably managed.	2.1.1 Protect the biodiversity and ecological integrity of landscapes identified as SEAs (Map 5) from incompatible development. Activities that have the potential for widespread or irreversible impacts to the integrity of environmental attributes of the SEAs (Schedule A) are incompatible developments.	

Area of regional interest:		Priority Living Areas
Regional outcome	Regional policies	
3.1 The development pattern for the North Queensland region delivers consolidated and efficient urban areas.	3.1.1 PLAs (Map 6 and Maps A to T in Schedule B) required for the growth of towns are safeguarded from resource activities. 3.1.2 Provide for resource activities to locate within a PLA where it meets the community’s expectations, as determined by the relevant local government.	

The SCA is identified by the SCL trigger map. More information on the SCL trigger map can be accessed at <https://www.business.qld.gov.au/running-business/support-assistance/mapping-data-imagery/maps/strategic-cropping-land>

Glossary

This glossary provides the meaning of some terms used in the NQ Regional Plan. Terms not included in the glossary should be given their ordinary meaning, unless they are defined in the *Planning Act 2016*, *Planning Regulation 2017* or *Regional Planning Interest Act 2014*.

Term	Definition
Active transport	Physical activity undertaken as a means of transport, such as walking or cycling.
Ageing-in-place	Being able to continue to live independently in the community but not necessarily in the family home. It can also mean in a downsized home, rented home (whether public or privately rented) or in alternative accommodation such as a caravan park or boarding house.
Agriculture	As defined in the State Planning Policy.
Amenity	The quality of a location or landscape, which makes it pleasant or agreeable or which contributes to a comfortable and pleasant life.
Biodiversity	As described in the State Planning Policy.
Biofuel	Liquid fuels made from organic material, such as plants and animal material. There are currently two main types of biofuels being produced in Queensland – ethanol and bio-based diesel.
Biosecurity	<p>The protection of the economy, environment and public health from negative impacts associated with pests, diseases and weeds, and involves coordinated efforts to:</p> <ul style="list-style-type: none"> • prevent, respond to, and recover from pests and diseases that threaten the economy and environment • reduce risks that chemical contaminants pose to agricultural food production systems and the environment to ensure continued market access for agricultural products • maintain high standards of animal care and keeping.
Carbon farming	Farming in a way that reduces greenhouse gas emissions or captures and holds carbon in terrestrial vegetation, marine plants and soils.
Climate change	The observed increases in global temperatures due to human activities, such as the burning of fossil fuels (coal, oil and natural gas), agriculture and land clearing. Changes in the climate include increases in global average air and ocean temperature; widespread melting of snow and ice, and subsequent rising global sea level; and increases in concentration of atmospheric carbon dioxide causing ocean acidification (Australian Government, Department of Environment and Energy).
Commercial-scale solar and wind farms	A solar or wind farm where its primary purpose is to feed into an electricity grid and provide electricity for uses not on or related to the land on which it is sited.
Consolidated (form of development)	Development within the existing urban area. Also known as 'infill development'.
Consolidated settlement pattern	The consolidation of urban development, which maximises the use of established infrastructure and services.
Ecological functions/ functionality	Any process or set of processes that can change (over time) an ecological system. An ecological system could be an ecosystem but can be smaller or larger. An ecosystem function is limited to the ecosystem.

Term	Definition
Ecological processes	The physical, chemical and biological processes on which life depends. Ecological processes include decomposition, plant matter production, nutrient cycling, and fluxes of nutrients and energy.
Ecosystem functions	See 'ecological functions' definition.
Ecosystem services	Refer to the goods and services provided by ecosystems that benefit, sustain and support the environmental, social and economic well-being of people. These include provisioning services such as food and water; regulating services such as regulation of floods, drought, land degradation, and disease; supporting services such as soil formation and nutrient cycling; and cultural services such as recreational, spiritual, religious, and other non-material benefit.
Environmental attributes	For the purposes of the regional plan, means an attribute of the environment identified in schedule A.
Expansion (form of development)	Development of previously undeveloped land. Also known as 'greenfield development'.
Health and knowledge precincts	Precincts that create a critical mass of skilled health and knowledge industries.
Incompatible land uses	Development that is incompatible with existing land uses or the land use intent for the area.
Incompatible development	Regulated activities under the RPI Act that have the potential for widespread or irreversible impacts on the environmental attributes of the SEA (Schedule A).
Infrastructure networks	Major infrastructure networks in the region including water supply, wastewater, energy, telecommunications and transport.
Key Resource Areas (KRAs)	An area that contains extractive resources of state or regional significance and is shown on the SPP Interactive Mapping System. This term includes the resource/processing area for the key resource area, the separation area for the KRA and any associated transport route and transport route separation area.
Knowledge industries	Trends and activities that increasingly depend on knowledge, information and highly skilled personnel and organisation, meeting an increasing need for ready access to all these by business and public sectors.
Landscape integrity	A landscape's naturalness and capacity to continue delivering ecosystem services and landscape values, or its inverse, the level of human modification and its impact on ecosystem services and landscape values.
Matters of State Environmental Significance (MSES)	Matters of state environmental significance (MSES) as defined by the SPP. <i>Note: Where possible, MSES is indicatively shown on the SPP Interactive Mapping System.</i>
Natural economic resources	A variety of natural resources that sustain economic development and provide value or benefit to society.
Planning Act 2016 (Planning Act)	The Planning Act provides for an efficient, effective, transparent, integrated, coordinated and accountable system of land use planning and development assessment to facilitate the achievement of ecological sustainability.
Precision Farming	Application of technologies that enable better decision-making on farms, leading to improved productivity and profitability.
Priority Agricultural Area (PAA)	As defined in the RPI Act.

Term	Definition
Priority Agricultural Land Use (PALU)	<p>A land use included in the following classes under the Australian Land Use and Management Classification Version 7, May 2010 published by the Department of Agriculture, Fisheries and Forestry ABARES, Australian Government:</p> <ul style="list-style-type: none"> • 3.1 – Plantation forestry • 3.3 – Cropping • 3.4 – Perennial horticulture • 3.5 – Seasonal horticulture • 4 – Production from irrigated agriculture and plantations • 5.1 intensive horticulture • 5.2 – intensive animal husbandry
Priority Living Area (PLA)	As defined in the RPI Act.
Ramsar wetland	<p>Wetlands that are representative, rare or unique, or are important for conserving biological diversity. An area that has been designated under Article 2 of the Ramsar Convention or declared by the Minister (Commonwealth) to be a declared Ramsar wetland under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). Ramsar wetlands are recognised as a matter of national environmental significance under the EPBC Act. Consequently, an action that has, will have, or is likely to have, a significant impact on the ecological character of a Ramsar wetland must be referred to the Minister (Commonwealth) and undergo an environmental assessment and approval process.</p>
Regional biodiversity network	<p>Natural assets that contribute to the maintenance of ecological processes and biodiversity at a regional scale that are critical for the environment, society and economy. The relationship between these assets forms an important ecological network that contains MSES as well as regional biodiversity values, reflecting NQ's status as a highly biodiverse region. The natural assets that make up this network consist of the following components.</p> <p>Regional biodiversity corridors – regional biodiversity corridors connect or improve connectivity through targeted rehabilitation of natural assets, including between existing areas of MSES or regional biodiversity values; they are important for the resilience of the region. These corridors are to be investigated and refined by local government for protection as matters of local environmental significance (MLES) where MSES does not already exist.</p> <p>Regional biodiversity values – biodiversity values that are critical at a regional level to enable the protection of interacting ecosystem functions and their associated species and diversity. These values are to be investigated and refined by local government for protection as MLES where MSES does not already exist. This is in addition to protecting those areas identified as having MSES. These areas are important as they contribute to an ecologically sound and resilient regional network of habitats and corridors.</p>
Regional landscape values	<p>Areas with the highest co-location of landscape values (such as culturally significant places, scenic amenity areas and important recreational areas) and ecosystem services.</p>
Regional Planning Interest Act 2014 (RPI Act)	<p>The RPI Act manages the impact of resource activities on areas of the state that contribute, or are likely to contribute, to Queensland's economic, social and environmental prosperity.</p>

Term	Definition
Resource activity	As defined in the RPI Act.
Rural residential development	Development of lots generally between 1–5 hectares used for private residence, and not primarily associated with agriculture.
Service industries	Premises used for industrial activities that have no external air, noise or odour emissions from the site and can be suitably located with other non-industrial uses.
Site density	The number of dwellings or single dwelling lots, or a combination, divided by the area of the residential lots.
State Planning Policy (SPP)	As defined in the Planning Act.
Strategic Cropping Area (SCA)	Strategic cropping area (SCA) is identified by the strategic cropping land trigger map, which can be accessed at www.dnrm.qld.gov.au/land/accessing-using-land/strategic-cropping-land .
Strategic Environmental Area (SEA)	As defined in the RPI Act.
Tropical urbanism	The integration of landscaping and tropical design elements into the built environment.

End notes

- i. Source: REMPLAN, Economic profile: Townsville North Queensland. Based on ABS 2016 Census Place of Work Employment (Scaled), ABS 2016 / 2017 National Input Output Tables, and ABS June 2018 Gross State Product.
- ii. Source: ABS 2018/2019 Value of Agricultural Commodities Produced, All commodities by Australia, state/territory and SA4 regions, Australia.

Acknowledgements

A large number of individuals and organisations have contributed to the development of the NQ Regional Plan. These invaluable contributions are acknowledged and appreciated.

The ongoing contributions of the following stakeholder groups are acknowledged:

- Traditional Owners, including representatives from:
 - Bindal People
 - Birriah People
 - Gudjala People
 - Gugu Badhun People
 - Guranbilbarra Wulgurukaba People
 - Jangga People
 - Juru People
 - Manbarra People
 - Nywaigi People
 - Warrgamay People
 - Warrungu [Warrungu] People
 - Yirendali People.
- Industry, community and environment working group
 - North Queensland Conservation Council
 - Environmental Defenders Office of Northern Queensland
 - Planning Institute Australia
 - Urban Development Institute of Australia (Townsville)
 - Property Council of Australia
 - AEC Group
 - Townsville Enterprise Limited
 - Regional Development Australia
 - Mount Isa to Townsville Economic Development Zone (MITEZ) Inc.
 - Townsville Airport
 - James Cook University
 - Agforce
 - Queensland Farmers Federation
 - Queensland Resources Council
 - North Queensland Miners Association
 - Australian Petroleum Production and Exploration Association
 - Ergon
 - Sunwater.
- Local government working group
 - Burdekin Shire Council
 - Charters Towers Regional Council
 - Hinchinbrook Shire Council
 - Palm Island Aboriginal Shire Council, represented by Department of Aboriginal and Torres Strait Islander Partnerships
 - Townsville City Council.
- Queensland Government agencies, and:
 - Department of Defence
 - Port of Townsville Ltd
 - Great Barrier Reef Marine Park Authority
 - Australian Institute of Marine Science
 - Wet Tropics Management Authority.

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