Mackay, Isaac and Whitsunday Regional Plan

Planning for a resilient, vibrant and sustainable community

February 2012

Queensland Government

Mackay, Isaac and Whitsunday Regional Plan (MIW Regional Plan)

Prepared by the Honourable Paul Lucas, Attorney-General, Minister for Local Government and Special Minister of State in accordance with the *Sustainable Planning Act 2009*, section 27 and 58.

With assistance from the Department of Local Government and Planning.

In consultation with the Mackay, Isaac and Whitsunday Regional Planning Committee.

Queensland Government

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Back cover: Left – Pine Islet lighthouse, Mackay Marina *Courtesy of Ray Cash*, Right – Clermont train mural *Courtesy of Dean Whitling*

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Night street scene, Mackay
Courtesy of Ray Cash Photography

Part A Introduction

Purpose

The *Mackay, Isaac and Whitsunday Regional Plan* (the regional plan) establishes a vision and direction for the region to 2031. It provides certainty about where the region is heading and provides a framework to respond to challenges and opportunities that may arise.

The regional plan does this by providing strategies to inform future decision making, which aim to:

- address regional economic, social and environmental issues
- identify strategic infrastructure and service needs and priorities
- support economic prosperity and employment opportunities
- highlight and respond to climate change concerns
- recognise environmental values
- support consolidated growth within established regional centres and townships
- focus public, private and community sector responses to key regional issues
- align efforts across agencies and all levels of government.

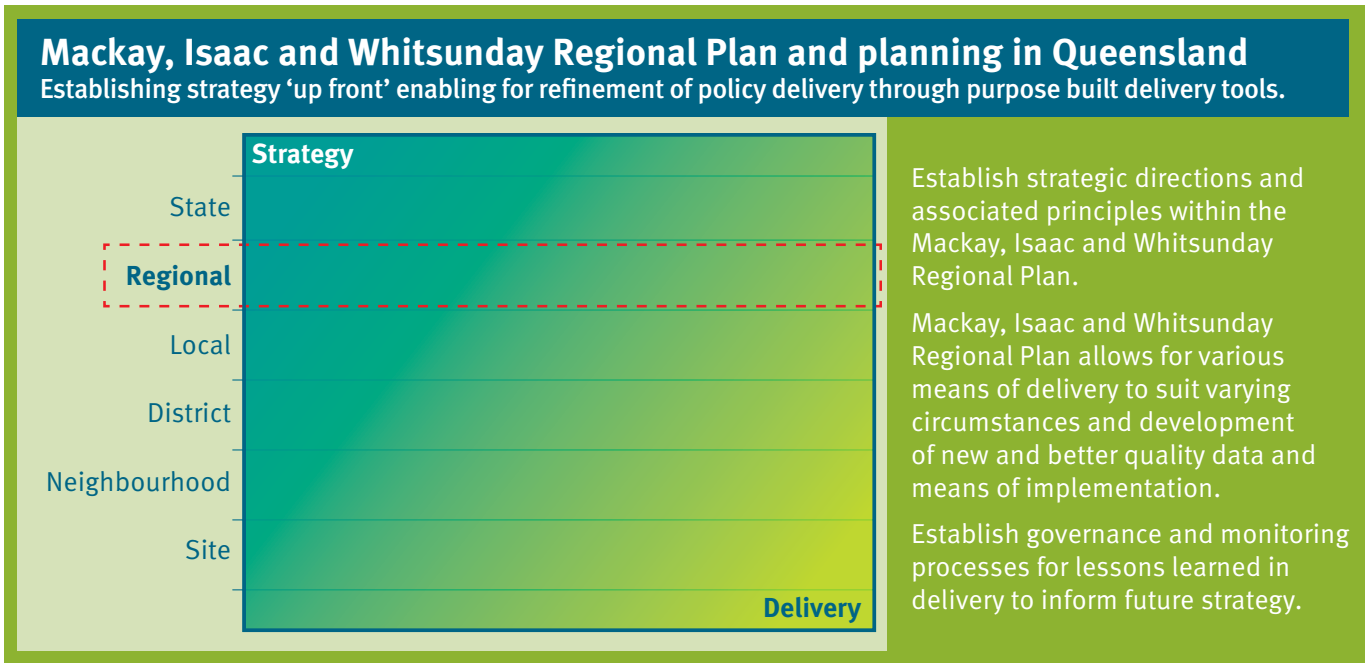
As the pre-eminent plan for the region, the regional plan takes precedence over all planning instruments and provides context for local level planning. The regional plan will be implemented by the coordinated actions of state and local governments and the community to achieve this shared vision for the future.

The regional plan identifies the regional framework (in Part B) and desired regional outcomes (in Part C) for the Mackay, Isaac and Whitsunday region (the region).

However, the regional plan is a whole-of-region document. It is intended the regional framework and desired regional outcomes (DROs) in the regional plan will be further informed and enhanced by more detailed and local assessment of issues by state and local governments and more specific state planning policies (for example, *State Planning Policy 1/03: Mitigating the adverse impacts of flood, bushfire and landslide, and the Queensland Coastal Plan*) and local government planning schemes (see Figure 1: Regional plan and refinement of policy delivery).

The regional plan includes; preparation and implementation (in Part D) and the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012* (in Part E).

Figure 1: Regional plan and refinement of policy delivery



Qplan

The regional plan is a vital component of Qplan—Queensland's planning, development and building system. Figure 2: My Street. Our State, illustrates how the regional plan, and various other plans, programs and legislation relate to the state, region, town, local area and street level.

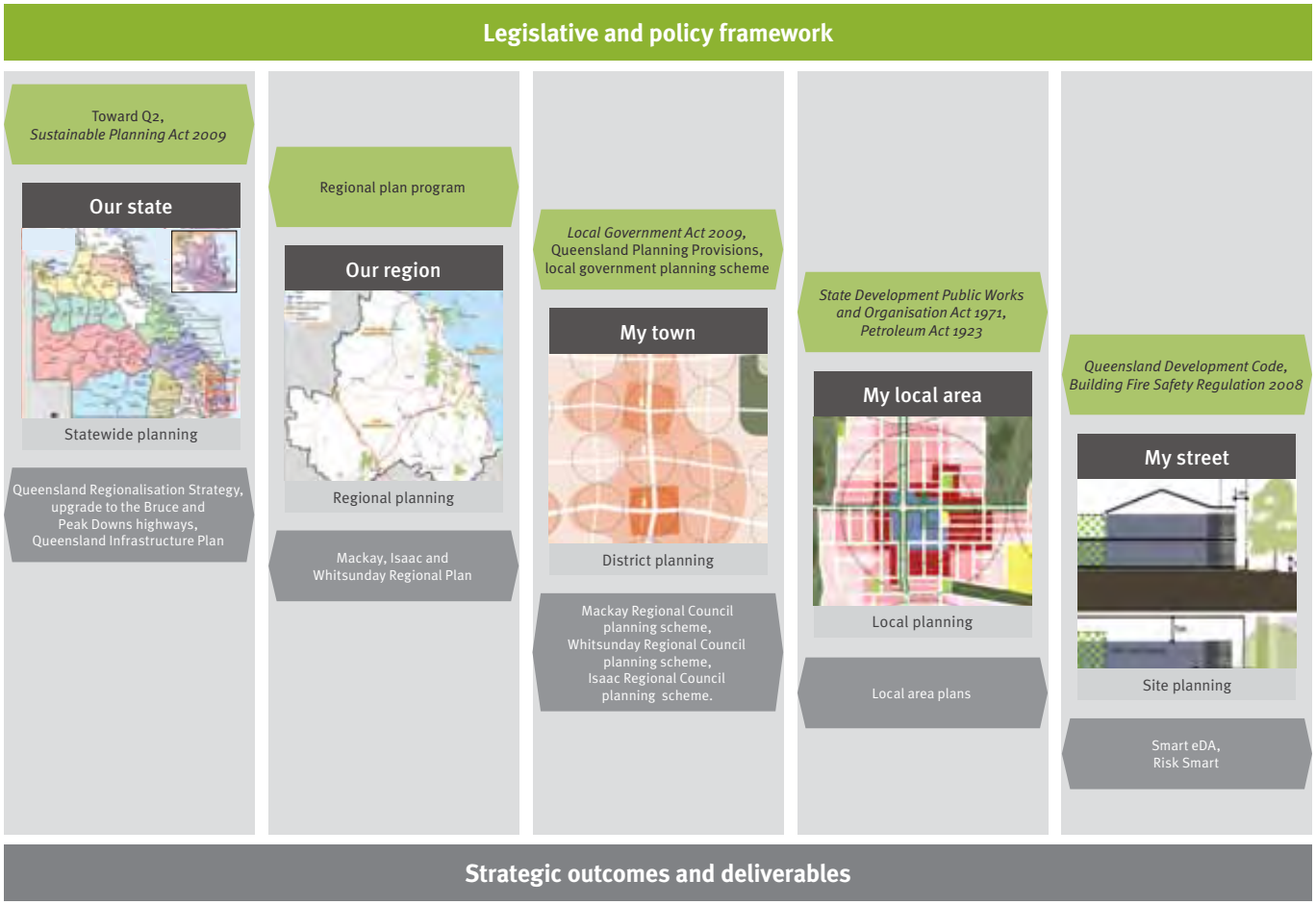
This approach to key planning activities for the region connects the regional plan with infrastructure and planning initiatives including the *Queensland Regionalisation Strategy* (QRS), the *Queensland Infrastructure Plan* (QIP) and specific regional action plans (such as '*My Mackay, Isaac and Whitsunday: Actions for a stronger region*').

The QRS is focused on building stronger regions and ensuring growth and economic opportunities are shared throughout Queensland. It provides a vision for Queensland's regions and provides a strategic framework for regional policy and planning.

The QIP has been developed alongside the QRS to ensure that Queensland has the infrastructure to respond to prosperity and quality of life needs as the state's population and economy continue to grow.

Combined, these policy positions support the diversification of the economic base and strengthening of the region for its residents, businesses and visitors as well as protecting the natural environment and social infrastructure. These strategies and plans will help prioritise and sequence infrastructure investment to support economic activity and population growth, while improving liveability, sustainability and the resilience of the region to natural disasters and changing trade and industry markets.

Figure 2: My Street. Our State



Structure

Part A – Introduction

Summarises the purpose and context of the regional plan, including what the plan intends to achieve.

Part B – Regional framework

Defines and describes the regional vision and summarises the strategic directions taken within the regional plan to achieve this vision.

Describes the desired regional settlement pattern and outlines the strategic intent for each subregion.

Part C – Desired regional outcomes

Expands on the regional vision and strategic directions through the use of principles and policies to inform future planning decisions.

Identifies programs to assist in enhancing planning decisions, monitoring and review.

Contains non-statutory 'notes' to provide additional context and examples of current or proposed plans, strategies or programs to assist in the delivery of regional plan. 'Notes' are not intended to establish policy.

Part D – Preparation and implementation

Outlines the operation and implementation of the regional plan and its relationship with other planning instruments including local government planning schemes.

Outlines governance arrangements and relationship to other planning undertaken outside the scope of the *Sustainable Planning Act 2009* (SPA).

Part E – *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012.*

Operation

For the purposes of the SPA, this document contains:

- the *Mackay, Isaac and Whitsunday Regional Plan 2012* (Parts A–D, excluding the 'Notes' in Part C)
- the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012* (Part E)
- non-statutory notes ('Notes' in Part C).

The notes in Part C are not part of the regional plan. They provide guidance on regional plan policy to assist the interpretation of the regional plan. The notes also include examples of plans and strategies that can assist in its delivery.

Developing the plan

The regional plan builds on the vision and content of the previous non-statutory *Whitsunday, Hinterland and Mackay Regional Plan 2006* and subsequent work undertaken in the development of the *Draft Mackay, Isaac and Whitsunday Regional Plan 2011* (draft plan).

The regional plan has been developed with advice from the Mackay, Isaac and Whitsunday Regional Planning Committee (RPC), which includes representatives from local and state governments, peak state and federal bodies, industry and community sectors. The function of the RPC is to advise the regional planning Minister on the development and implementation of the regional plan. The RPC is established under the SPA.

As part of the initial development of the draft plan, consultative workshops and meetings were held with federal, state and local government, industry, community sector, private sector and Aboriginal and Torres Strait Islander representatives in order to gain input and advice.

The draft plan and *Draft Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2011* (draft SPRP) were released for public comment on 31 May 2011. During the three-month consultation period, public information sessions were held across the region. This gave the community, industry and local governments the opportunity to review the draft plan and draft SPRP, ask questions and make submissions on how the plan and its policies could best support the vision for the future of the region. The public consultation period ran from 31 May 2011 to 9 September 2011 with 146 submissions received. Issues raised within these submissions were considered when finalising the regional plan and the State Planning Regulatory Provisions. A consultation report detailing the themes of the submissions and the response was released with the finalised regional plan and can be viewed at www.dlgp.qld.gov.au/miw.

What the plan aims to achieve

The regional plan aims to respond to the variety of distinct challenges facing the region over the next two decades to 2031. It seeks to guide and support projected growth. The plan recognises the region's accelerated growth over the past five years. The impacts associated with the resources boom have further highlighted the need to sustainably manage development and resources and to plan effectively for essential infrastructure services, such as transport, community, and social services. The plan also recognises the need to prepare for, and appropriately respond to, the anticipated impacts of climate change.

Regional overview

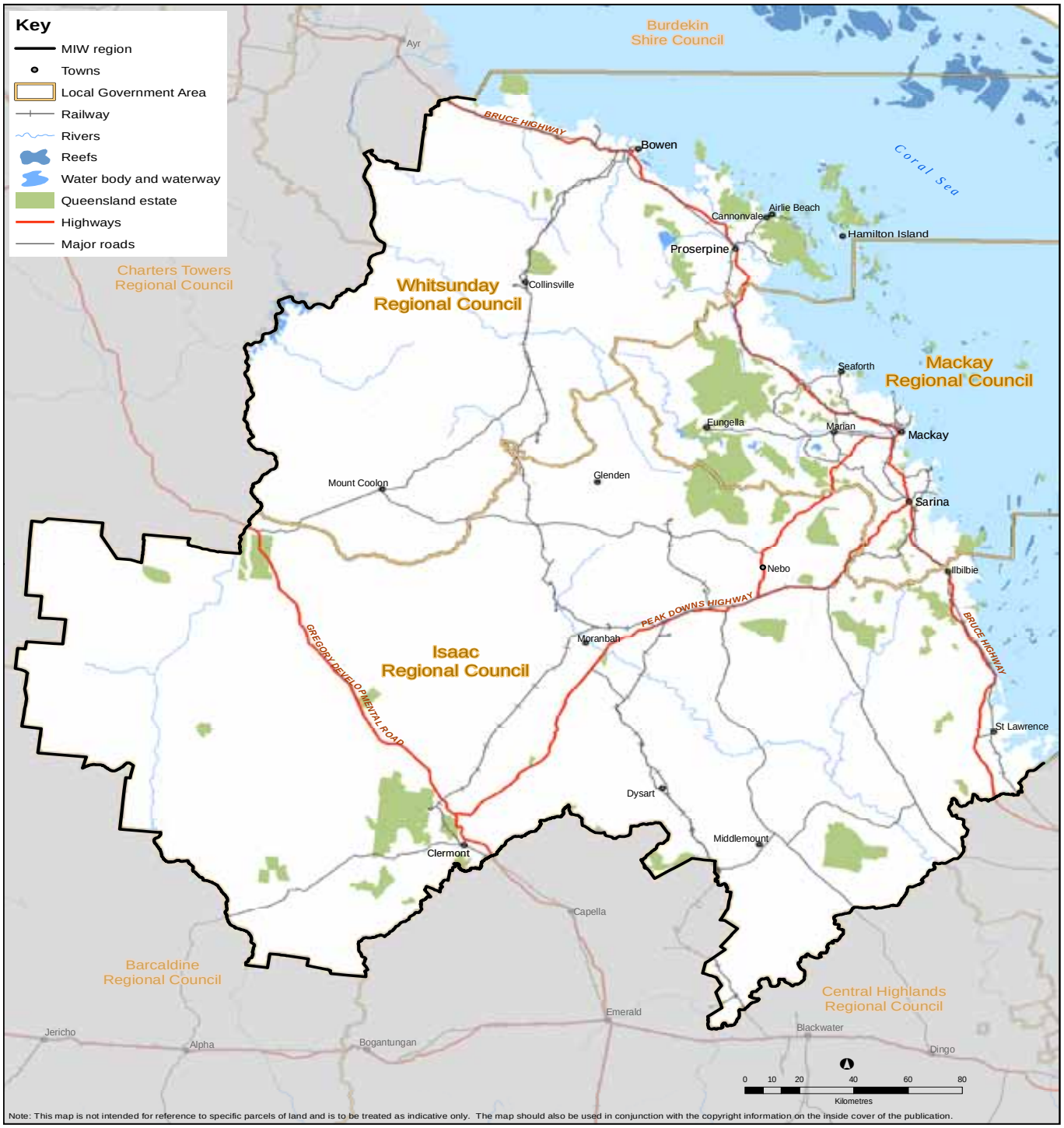
The the region has a total area of approximately 90 000 square kilometres.

It encompasses the area from Bowen in the north, to St Lawrence in the south, east to the Whitsunday Islands and west to the Belyando River.

The region includes three local government areas and adjacent Queensland waters, as shown on Map 1:

- Mackay Regional Council
- Isaac Regional Council
- Whitsunday Regional Council.

Map 1: The Mackay, Isaac and Whitsunday region



Cattle farm, south of Bowen *Courtesy of Ray Cash Photography*

Over half of the region's population reside in the Mackay Regional Council area, which includes the Mackay urban area, the principal centre in the region. Other major regional centres include Bowen, Moranbah, Proserpine, Sarina, Airlie Beach and Cannonvale, and each play different roles, as well as servicing the surrounding community.

The development of the region's eastern coastal areas is distinct from areas in the west, where different economic drivers have influenced land use and shaped the region's towns and rural communities. For example, the significant influence of the tourism industry in Airlie Beach compared with the establishment of mining resource towns such as Moranbah and Dysart.

The role of various agricultural activities in the region, such as the pastoral and sugarcane industries, agricultural processing and fishing, have also shaped development of the region.

The region is situated approximately halfway between Brisbane and Cairns. Townsville is less than two hours by road from Bowen. State and nationally significant road and rail networks link centres such as Mackay and Proserpine to other regional centres along Queensland's east coast. In addition, the expanding rail and road network serving agricultural and resource activity in the Central West links into the region, while its airports and ports connect with national and international markets.

The region borders three other regional plan areas: the Central West, Northern, and Central Queensland regions. Links with the Central West and western areas of the region are strong, due to its common economic base (agriculture and mining). Also, the connectivity of road networks allow communities such as Clermont to provide services to parts of the Central West region.

The relationship with the Northern region is dominated by Townsville, which provides tertiary-level services within reasonable proximity of the northern part of the region.

The southern areas of the region use services available in the Central Queensland region, located in larger centres such as Rockhampton and, to a lesser extent, Emerald.

Major factors involved in planning for the region do not stop at the borders, such as transport networks, water catchments and economic drivers. Implementation and review of the regional plan will require ongoing consultation with adjacent regions to assist in making fully informed decisions.

Growth in the region

The current population is approximately 180 000, with an estimated 100 000 additional people expected to be living in the region by the 2031. The coastal areas of the region have to date absorbed the vast majority of growth, primarily in the Mackay urban area, Sarina and the Whitsundays. This increase in population will generate demand for 152 100 additional jobs.

The distribution of growth in the region is predominantly located in the Mackay local government area and is characterised by relatively low-density development. The majority of the remaining population resides in the Whitsunday (Bowen, Proserpine and Airlie Beach) local government area, with Moranbah the major growth centre within the Isaac Regional Council area. The population increase projected over the next 20 years requires an additional 43 300 dwellings in the region.

The Mackay urban area will absorb the majority of the future population growth, with an expected population increase of approximately 66 000 people by 2031 (almost two-thirds of the region's growth).

Communities in the Bowen Basin continue to face significant growth pressures from residential and non-residential population growth, the latter as a result of the increasing fly-in/fly-out, drive-in/drive-out and bus-in/bus-out workforce, largely associated with the resource sector. This phenomenon can place greater pressure on these communities and the services required to support them.

The Queensland Government recognises that growth within the region is placing pressure on the environment, open spaces, productive rural land, infrastructure and social support services, particularly in the major centres and resource communities.

Demographics

The median age (35.3 years) of the region's population is lower than the Queensland average of 36.2 years which reflects the influence of the current resource boom in the region. It also includes a lower proportion of residents aged 65 and over compared with the Queensland average.

The projected growth presents opportunities and challenges in economic development, infrastructure and service delivery, as well as the availability of a suitable range of housing.

The retention of young people (aged 15 to 24) within some parts of the region has emerged as a significant demographic challenge. This is particularly evident in rural areas and towns, as young people choose to leave the area for education, life experiences and employment diversity. The region has slightly lower proportions of young people with post-school qualifications than the state average.

The region had a slightly higher population of Aboriginal or Torres Strait Islander peoples, at 3.6 per cent, when compared with the state average of 3.3 per cent at the time of the *Australian Bureau of Statistics 2006 Census*. The majority of the Indigenous population is located in Mackay (71.8 per cent), followed by Whitsunday (20.6 per cent) and Isaac (7.6 per cent). The region also includes community of Australian South Sea Islander peoples.

Based on the 2006 Census, from a spatial and socioeconomic perspective, the region is acknowledged as one of the more advantaged in Queensland. This takes into account regional characteristics such as qualifications and education, income and employment figures.

While the resources boom has contributed to economic prosperity, the region's economy remains dynamic, and other demographic and social issues continue to have an influence.

Environment and natural resources

The natural environment provides the foundation for the regional economy and lifestyle enjoyed by its residents. The region's biodiversity includes a variety of ancient, rare and threatened plants and animals. The diversity of ecosystems and habitat include coral reefs, forests, streams, and wetlands. This includes a variety of ancient, rare and threatened plant and animal species. Prominent natural resources supporting the region include productive agricultural land, freshwater resources, forests, minerals and marine waters.

The region is renowned for its natural environment, in particular its proximity to the Great Barrier Reef and lagoon system, and numerous coastal islands and national parks that have international, national, state and regional environmental significance. The island national parks comprise beaches, coral reefs and remnant vegetation and are part of the Great Barrier Reef World Heritage Area.

The region contains substantial, high-quality natural resources, particularly mineral resources and productive agricultural land. The Bowen Basin has Australia's largest coal deposit and is one of the nation's largest coal producers. Coal mining is the major industry in the region and the largest employer. The sugar, horticulture, cropping and grazing industries benefit significantly from the region's productive agricultural land.

These resources provide a diverse range of ecosystems that underpin the wellbeing of the community in addition to supporting industries that rely on their quality and accessibility.

The environment and natural resources of the region face many challenges in the future, including ensuring sustainable management to meet growing energy and water demands, adequate protection of environmentally valuable areas, restricting encroachment of urban development into agricultural lands, and land fragmentation.

Population growth and the anticipated impacts of climate change present challenges to the region's environment and natural resources. This includes loss and fragmentation of important agricultural land and natural habitats, impacts on water quality entering wetlands, waterways, estuarine systems, the Great Barrier Reef lagoon, and the spread of invasive pest weed and animal species.

The regional plan is based on the sustainable management of the environment and natural resources and provides the framework for how it will be protected and enhanced for the prosperity and enjoyment of future generations.

Economy

The region has one of the fastest growing economies in Queensland. In recent years, the regional economy has grown at an average rate of 5.5 per cent per annum, significantly higher than that of the Queensland average of 2.3 per cent.

The recent growth of the regional economy has largely been a result of growth within the resources sector. An increase in global demand has lifted commodity prices and subsequently boosted levels of extraction, processing and export of coal from the region.

However, the region's more traditional industries of agriculture, fishing and tourism continue to contribute significantly to the regional economy. The geographic diversity of the region has strongly influenced the nature of the industries' development. Open cut and underground coal mines, livestock grazing and cropping of wheat and sorghum dominate the western areas of the region, while the region's coast is dominated by sugar, horticulture and tourism.

A significant challenge for the region is to develop greater industry diversification to create resilient communities. While the region will continue to extract and export resources, principally coal, there is potential to diversify into sub-industries with value-adding potential, such as technology, innovation and mining services.

Strengthening the economy through diversification and long-term planning will build a more robust economic base and provide a wider range of employment and economic opportunities, improving the long-term economic sustainability of the region.

Local walkers at Eimeo, Mackay at Sunset *Courtesy of Ray Cash Photography*

Broadening tourism opportunities will also help to diversify the regional economy. For example, there are opportunities in many historic mining towns to capitalise on history and heritage and its relationship to the broader region through mining and heritage walks. Other diversification opportunities available in the region include improving use of the freight network, value-adding and expanding primary industries such as aquaculture and agriculture and expanding the capacity of marine services.

Emerging opportunities that may help to strengthen the region and build resilience to these challenges include maximising the region's geographic location, which includes the resource rich Bowen Basin in the west and the iconic tourism destination of the Whitsundays in the east.

A focus on infrastructure development, economic expansion and value-adding to industry will also enhance the region's capacity to contribute to state and global economies.

Communities

The region is made up of many vibrant local communities and places, each with its own unique character and identity. The region's diverse culture is a mix of Aboriginal and Torres Strait Islander and Australian South Sea Islander communities, descendants of early European settlement, agricultural and mining foundations, as well as the structural heritage retained in many townships.

The region's heritage is a unique and diverse resource which connects the community to its past and strengthens its regional identity. Conservation of heritage values and its integration within new and evolving communities is a critical aspect of sustainable planning and development.

The cultural heritage of the region is well represented in historic towns, such as Bowen, St Lawrence and Eungella.

The non-resident population of the region, comprising non-resident workers, is not recognised in official resident population estimates. This poses a challenge in planning for the growth of the region, where non-resident populations place further demand on existing community services and infrastructure.

Other demographic factors that are acknowledged as influencing the social wellbeing of the region's residents include limited access to services and a lack of public transport to support the highly dispersed settlement within the region. A growing income gap between the proportion of the population on low incomes and those on above-average incomes is also an emerging trend which places pressure on the availability of affordable housing and housing diversity.

Able Point Marina,
Airlie Beach
Courtesy of Darren Jew

Part B Regional framework

Regional vision

The Mackay, Isaac and Whitsunday region (the region) is a vibrant, progressive region where the values of the community and industry are respected and in balance with the natural environment. The region's natural assets and abundant resources will be responsibly managed for the benefit of residents, visitors and future generations. It achieves its potential with a range of industries, employment and learning opportunities for everyone. The region has a resilient and inclusive community that respects and offers diversity and choice, and where residents and visitors enjoy a healthy, active and safe lifestyle.

The regional vision is the foundation of the Mackay, Isaac and Whitsunday Regional Plan (the regional plan). It defines the community's long-term aspirations for the region and presents a view of what the region values now and how it would like to be in the future. It seeks to balance the recognised lifestyle values of the region with the establishment of a strong and diversified economy, while recognising that long-term regional prosperity is reliant on sound management of natural resources, the natural environment and ongoing viability of the agricultural sector.

In seeking a liveable and sustainable region, the regional plan will support:

- a balanced, high-quality lifestyle with diverse housing, employment and recreation opportunities
- building resilient and cohesive communities with a distinct character based on its people and culture
- the retention of regionally unique built and natural environments
- a robust and diverse economy built on its natural and human resources, and growth and employment opportunities
- infrastructure and services that meet the region's needs to support the economy, accessibility, and healthy, active communities
- the management of cumulative social impacts on the local communities that result from development, particularly mining projects.

The regional vision was developed in consultation with the Mackay, Isaac and Whitsunday Regional Planning Committee, and reflects the aspirations of regional communities, as well as key regional stakeholders and industry sectors.

The vision is consistent with the Queensland Government's 2020 vision (Toward Q2: Tomorrow's Queensland), which sets out targets around five ambitions for Queensland communities:

- **Strong:** Create a diverse economy powered by bright ideas.
- **Green:** Protect our lifestyle and environment.
- **Smart:** Deliver world-class education and training.
- **Healthy:** Make Queenslanders Australia's healthiest people.
- **Fair:** Support a safe and caring community.

The regional framework establishes how the regional plan seeks to achieve the vision and includes the following components:

- The **strategic directions** further express regional vision while describing the current situation and the desired outcomes for the region.
- The **regional settlement pattern** narrative describes how the region will grow and develop. It tells the history of the region, and expresses the features of the settlement pattern that will contribute to the regional vision.
- The **subregional narratives** apply the features of the settlement pattern and the desired regional outcomes to each local government area that makes up the region, the narratives describe each subregion's historical context and role in advancing toward the regional vision.

Bike riders, Mackay *Courtesy of Ray Cash Photography*

Strategic directions

The strategic directions outline the broad policy framework for the region. They identify the important aspects involved in planning for the region's long-term development. These strategies will be achieved through management of the region's natural resources and environmental assets, and mechanisms that support a strong economy.

The following strategic directions support the regional vision and inform the principles and policies identified in the desired regional outcomes (DROs).

Sustainability, climate change and natural hazards

The principles of sustainability underpin the direction of the regional plan. This includes its response to dealing with projected growth. The regional plan aims to balance biodiversity, urban development, community identity and the economy. In order to achieve this, improvements to existing social, ecological and economic systems need to be identified and implemented.

Another consideration is the anticipated impacts of climate change. Scientific evidence indicates climate change is already impacting on all communities and will continue to do so. Building the region's resilience to such implications requires a coordinated response.

The impacts of climate change in the region are likely to include a rising sea level, higher temperatures, decline in average rainfall, an increase in extreme weather events such as cyclones, and increased risk of storm tide inundation. These changes are likely to affect the communities and industries throughout the region, and will require management.

International and Australian research indicates that there are significant benefits to immediately reducing the emission of greenhouse gases and adapting to climate change impacts.

Adapting to and mitigating climate change impacts will mean that communities and supporting infrastructure need to be planned, designed and located to avoid natural hazards where possible, and to reduce greenhouse gas emissions. The promotion of a compact urban form, a mix of residential densities, and access to services and employment can limit urban sprawl and greenhouse gas emissions by reducing the distance that people have to travel, and allow for the efficient provision of infrastructure and services.

Interrelationships between climate change and sustainability exist with other regional priorities, and this will require consideration as part of all the DROs.

Natural and man-made hazards also pose a significant threat to the region, including flood, bushfire and coastal hazards. Future development should not be located in areas of risk from natural hazards, and should be designed to mitigate risks to life and property.

Environment

The natural environment underpins the economy and lifestyle enjoyed by the residents of the region. Many of these environmental values are recognised at national and international levels, including the Great Barrier Reef World Heritage Area.

The region is one of the most diverse in Australia. It encompasses both wet tropical and dry tropical climates in coastal and mountainous areas, to a grassland climate in the far western areas of the region. The areas contain representative species from each of these climates, including some that are unique to the region.

Some native animals are recognised as endangered, with small isolated populations across the region, including the Northern Hairy-Nosed Wombat, Proserpine Rock Wallaby, Yellow Chat (Dawson) and the Eungella Day Frog. There are also endangered ecosystems in the region, including brigalow and bluegrass downs in the western parts, and microphyll vine forest in some coastal dune areas.

Some landscapes of the region are internationally recognised as places of aesthetic and scenic significance, particularly the large number of islands adjacent to the coast in the Whitsundays. Protection and sustainable management of the natural environments and regional landscapes will ensure the quality and diversity of tourism and outdoor recreation destinations.

The health and resilience of the environment will be improved through managing impacts on areas of ecological value, encouraging sustainable management practices, and limiting urban encroachment and rural residential subdivision. Connectivity will also be achieved through identifying and preserving areas of high ecological significance, protecting and restoring waterways and expanding and linking green space across the region, which allows increased public use and accessibility.

Regional landscapes

Regional landscapes include the Great Barrier Reef; continental islands, rocky headlands and fringing reefs; coastal plains; cane fields; the Connors and Clarke ranges; the western coalfields around Moranbah, Dysart and Nebo; bluegrass downs; inland river systems such as the Suttor and Belyando; and the desert uplands at the western boundary of the region. These landscapes are the basis of the social, economic, tourism and cultural values of the region.

Natural resource management

The region's plentiful natural resources include productive agricultural land, freshwater systems, air, native plants and animals, minerals, and marine waters. These resources underpin the region's economy, and support the diverse range of industry and business opportunities that rely on their quality and accessibility. Population growth places stress on the continued quality and availability of these natural resources, highlighting the necessity for their sustainable management.

Water sustainability is integral to the future of the region's industries, particularly agriculture and mining. Effective management of this resource is essential to ensure that it continues to be available for both industrial and non-industrial purposes. Water resources will play a significant role in building resilience and providing water security for the region.

Productive agricultural land in the region is at risk from development. The continued loss of good quality agricultural land and strategic cropping land has the potential to reduce the future capacity and viability of the agricultural industry and associated rural support industries. The main pressures include encroachment and fragmentation caused by urban and rural residential development on the coastal plain and competing interests such as mining in hinterland areas and industrial growth around Bowen.

The identification and sustainable management of the region's vast mineral and extractive resources, including associated buffers and transport corridors, will provide protection from incompatible development and use for future generations. Future planning will also need to consider opportunities for exploration and development of new resources in appropriate areas.

Strong communities

The region is made up of many local communities, each with its own unique character and identity. The region is growing rapidly, and significant growth is projected to continue over the next 20 years. This presents challenges in managing the implications of growth, while continuing to support the prosperity of local communities. For example, the provision of essential community services needs to be planned and paced in preparation for projected population growth and must be adaptable to regional demographic changes. These services should be provided in locations accessible to public transport, residential areas, and employment and activity centres. Ensuring access to key essential community services for all residents will ensure that liveability of the region is retained and improved.

Strengthening the region's communities will occur through consolidating and improving built environments, understanding the unique character and identity of place and the needs of individual groups, working in partnership with communities to guide planning and decision-making processes, and ensuring access to key essential community services by all residents. This will ensure that the liveability of the region is retained and improved.

Rural residents rely on larger centres for essential community services. The dispersed settlement pattern in the region results in many residents travelling some distance to access health and education services, business and employment opportunities, and social and cultural experiences. Other factors, such as a lack of timely and affordable transport options, further inhibit access to such services.

Historically, the demographic profile of resource communities has been traditional or nuclear families. Recent trends include an increase in drive-in/drive-out (DIDO) or fly-in/fly-out (FIFO) employees, who are housed in temporary accommodation or non-resident workforce accommodation for the period of their shift. This trend has triggered a range of social and demographic changes and challenges across the Bowen Basin. The region's existing communities have indicated a preference for towns that promote social and economic opportunities and choice, and a mix of housing products that provide people with the option to live permanently in the region.

The active involvement of Aboriginal and Torres Strait Islander people, including Traditional Owners, in planning and decision-making processes is imperative, particularly given the high number of cultural sites and artefacts to be identified and considered across the region.

The culture of Aboriginal and Torres Strait Islander people is unique and offers many economic and cultural advantages. Similarly, the importance of connection to Country should not be underestimated, as it is this connection that underpins the wellbeing of Aboriginal and Torres Strait Islander communities.

Strong economy

Economic viability is a key element in ensuring the region's sustainability and growth. The principal drivers for attaining sustainable economic development include population growth, business and industry opportunities and diversity, a skilled workforce and good environmental management.

The region has a strong economic base, underpinned by agriculture, tourism and resource activities. Agricultural activities such as sugar production and livestock grazing contribute 9.5 per cent of Queensland's agricultural production. Tourism relies heavily on the region's natural environment and coastal features, attracting more than 1.2 million visitors in 2009. Growth in the resources sector, and supporting services, has become valuable to the region's economy, employing 11.7 per cent of the population, in 2006.

Diverse employment opportunities will assist in attracting and accommodating current and future residents and retaining young families in rural areas. Appropriate opportunities need to be available to enable employment related development to occur.

Economic development and population growth will support the expansion of higher order services within the regional centres, contributing to lifestyle factors that will also help attract and retain skilled workers within the region.

The region is well positioned to broaden its economic base and develop resilience to boom and bust cycles associated with each of its major industries. Expansion of mining activities in the Bowen and Galilee basins, the development of the Abbot Point State Development Area (APSDA), and upgrades to existing airport and seaport infrastructure will present further opportunities for economic growth within a range of industries.

Managing growth

The region's settlement pattern currently consists of several diverse and well-dispersed communities. This presents many challenges to economic growth, accessibility, and the provision of infrastructure and services across the region.

During the last 30 years, the resident population has grown significantly, particularly in the region's coastal communities. Similar levels of growth are anticipated over the coming two decades.

View of Airlie Beach developments and lagoon
Courtesy of Ray Cash Photography

Recent growth patterns in the region indicate a trend to locate urban development (i.e. residential, industrial, commercial) on the urban fringe. The continuation of high-value primary production activities will be safeguarded through the establishment of regional policy, which will identify strategically located and recognised productive agricultural land.

Providing a more compact urban settlement pattern focusing on existing towns and cities will provide better levels of accessibility, and cost-effective provision of infrastructure and services. These strategies will assist in limiting the loss of valuable resources, such as agricultural land, and environmental values of the region.

Mackay will continue to provide higher order services in the future and support expansion, due largely to its existing infrastructure, diverse economies and available water and land supplies.

Bowen, Proserpine, Cannonvale, Sarina and Moranbah are important centres that will continue to supply services and facilities to surrounding coastal and rural communities, in addition to the resident population. Airlie Beach will further its role as a tourism-focused centre. Each centre needs to overcome individual environmental and infrastructure constraints in order to facilitate growth. They will provide a range of retail services, local and state government administration, and important economic, industry, health, education, cultural and entertainment facilities to meet the everyday needs of local and regional residents.

The coastal settlements provide limited opportunities for additional growth. Consideration of the management of the coastal environment and protection against natural hazard risks will be critical for new development, as well as safeguarding these locations and their existing residents. Coastal development will be contained within existing settlements to ensure efficient use and provision of services and infrastructure. Limited services and infrastructure exist at coastal locations due to the cost of providing and maintaining infrastructure and services.

Urban form

Towns and cities are the focus for further growth in employment, housing and the provision of services. How and where this growth is accommodated can affect accessibility, the character of a place and the economic sustainability of the region. A priority of the regional plan will be to contain growth in existing urban areas or those immediately adjacent to urban areas.

Changes to household structure and a reduction in average household size will mean the percentage of growth in housing demand will continue to be higher than the population growth rate. A diverse housing supply, providing suitable options for a range of circumstances, will also need to include affordable housing alternatives that respond to current and future resident needs, as well as making more efficient use of available land for urban development.

The built form should respond to the region's climate with tropical design principles incorporated into development at all stages of the planning and construction cycle. This will assist in maintaining and enhancing the character and heritage of the region.

Infrastructure and servicing

The resources boom, coupled with the dominance of Mackay as the major mining service centre for the Bowen Basin, and high rates of population growth across the region, present many challenges to the timely provision of well-located infrastructure.

Successful long-term infrastructure planning and coordination must consider capacity, and the implications of climate change.

A coordinated approach will deliver infrastructure that supports the preferred settlement pattern of the regional plan. It contributes significantly to strong economic gain and employment opportunities for the region, and allows communities to maximise existing infrastructure before needing to invest often limited funds in augmenting or building new networks. Funding for new infrastructure needs to be timely to meet growth demand, while simultaneously considering whole-of-life costs to ensure benefit to current and future users. Innovative partnerships to facilitate effective joint funding options may be required.

Planning will ensure that the identification and coordination of infrastructure is efficient and timely to support predicted population growth. The provision and funding of infrastructure will be in line with land-use planning and decision making to significantly improve the region's ability to cater for future development needs and meet capacity demands.

Any growth in the region will inevitably add pressure to existing water supply and wastewater limitations and critical ecological habitat. Electricity, communication and road infrastructure will need to be progressively upgraded across the region, and the capacity of education, health and other community facilities will need to be increased.

The preferred settlement pattern seeks to minimise adverse impacts and deliver cost-effective and efficient infrastructure services. Further investigation and planning will be needed to ensure development proceeds in a logical and sequential pattern, supported by the timely delivery of appropriate communications, social and transport infrastructure.

Transport

Integration and coordination of land-use planning, infrastructure provision and economic activities significantly improves the efficiency and sustainability of providing for future community needs. Implementation of an integrated transport network throughout the region will result in communities becoming better connected and more accessible.

Establishing a more compact urban form will improve the effectiveness and efficiency of transport. Containing urban development and encouraging higher density residential development in close proximity to activity centres and employment nodes will enable people to live, work and play in the same area. This results in less dependency on motor vehicles, and a stronger emphasis on walking and cycling to destinations.

DIDO workers who commute to and from mines in the region must meet the needs of the community in terms of safety and efficiency. Organised transport options may improve safety and lessen the reliance on private motor vehicles.

Underpinning integrated transport is the development of transport corridors, not only for motor vehicles but also for rail, bus, heavy vehicles, cycling and pedestrians. It is important that the region recognises, protects and manages major transport corridors to enable general vehicular and personal movement, and the safe and continued movement of freight throughout the region, while recognising the need to ensure that areas of ecological significance are avoided.

View to town jetty and marina, Bowen
Courtesy of Ray Cash Photography

Regional narratives

Mackay, Isaac and Whitsunday Region

Estimated population in 2011: 180 000 people

Indicative planning population 2031: 280 000 people

Forecast additional dwellings by 2031: 43 300

Projected population increases to 2031	
Mackay	66 000 people
Isaac	14 000 people
Whitsunday	19 750 people
Estimated additional dwellings by 2031	
Mackay	27 300
Isaac	5800
Whitsunday	10 200
Employment	
2031 forecast	Demand for an additional 152 100 jobs

The regional settlement pattern has a central role in achieving the intentions of the regional plan. It is relevant to all aspects of the plan, as it outlines the spatial distribution of activity and associated growth.

Growth within the region's major towns has traditionally been through low-density development, including housing on relatively large lots. This has led to the outward spread of low-density urban areas and dispersion of activities which were traditionally found in a town centre.

While a significant cluster can be found within proximity to Mackay, economic attractors such as resource extraction and agricultural lands has resulted in a far more dispersed settlement pattern to the west.

Unprecedented growth in the resource sector has seen towns such as Moranbah and Dysart go from decline to levels of growth.

As a result, the settlement pattern is already well established. Existing communities will be the backbone for accommodating future growth. The settlement pattern will do this by focuses on achieving greater self-containment of communities and towns, protecting environmental values and productive agricultural land, and using and reinforcing the existing network of communities and infrastructure.

The regional settlement pattern is heavily influenced by existing land-use patterns, particularly the location of centres, transport networks, ports and airports, rural activities and tourism attractors. The settlement pattern will also continue to be significantly determined by the natural features and topography that characterise the region.

Consolidation of urban development will contribute significantly to making the best use of existing and future infrastructure investments, and improve the liveability and attractiveness of residential and tourist areas. Importantly, the preferred regional settlement pattern will ensure communities have the opportunity to grow in a sustainable way and achieve self-containment appropriate to the resident and business communities' needs.

Meeting changing residential pressures in the future will rely on the provision of diverse and affordable housing options. Supporting the development of a broad range of styles and forms of housing choices will assist in creating diverse communities and preventing social polarisation and displacement. It is important that affordable housing is well located in relation to transport, community facilities and services, open space and recreation, and education and employment opportunities.

Residential growth should be underpinned by a strong focus on delivering education, commercial and industrial activity for the community. Growth is supported in rural towns, and rural sustainability will be promoted by encouraging diversification and using existing infrastructure and services.

Established towns and centres will be the focus for commercial, retail, employment and community services within towns across the region. Providing a mix of uses and activities in centres is desirable, including residential development. Providing higher densities of residential development in and around activity centres will further promote containment. The regional settlement pattern reinforces the roles of centres, primarily through the consolidation and containment of key attractors within each centre. Consideration of the role of each centre is to be applied when making decisions about the location of significant development and the siting of government and community services.

As the population of a town or city increases with time, so too does the range of speciality services and infrastructure it provides, and the relative catchment area that centre supports. There are seven key centres of commerce and urban activity—Mackay, Proserpine, Bowen, Airlie Beach, Cannonvale, Sarina and Moranbah.

These important growth locations will provide for sustainable residential and employment growth due to good accessibility and a network of established communications, social and transport infrastructure. Consolidation of growth will help sustain the provision of social and community services and facilities across the region, including culturally specific events and activities. A consolidated settlement pattern will encourage broader diversity in housing styles that take advantage of existing infrastructure and services. Focusing growth within centres will also have a positive impact on the environment by reducing trip length and travel time, while building on opportunities for public and active transport.

Areas of significant ecological value, or subject to environmental constraints, will need to be protected from development pressures to ensure a successful future for the region.

Mackay has historically been the dominant centre in the region, containing the most diverse concentration of urban activities, and accommodating a significant proportion of the resident population, services and community facilities for the region. Mackay will continue to provide higher order services in the future, due largely to the capacity of its existing infrastructure, diverse economies and available water and land supplies.

Other important centres of Bowen, Proserpine, Cannonvale, Sarina and Moranbah will continue to supply services and facilities to the surrounding coastal and rural communities and local residents. Airlie Beach will further its role as a tourism-focused centre. These regional centres are generally fairly accessible with moderately diverse economies (with the exception of Moranbah). Each centre needs to respond to individual environmental and infrastructure constraints in order to facilitate growth. They will provide a range of retail services, local and state government administration, and important economic, industry, health, education, cultural and entertainment facilities to meet the everyday needs of local and regional residents.

The coastal settlements have limited opportunities for additional growth. Management of the coastal environment and protection against natural hazard risks will be critical for new development, as well as safeguarding these locations and their existing residents. Coastal development will be contained within existing settlements to ensure efficient use and provision of services and infrastructure. Limited services and infrastructure exist at coastal locations due to the cost of providing and maintaining infrastructure and services.

Mackay Regional Council

Estimated population in 2011: 121 400 people

Indicative planning population 2031: 187 400 people

Forecast additional dwellings by 2031: 27 300

Residential areas	
Broadhectare	Northern beaches (Rural View, Eimeo, Blacks Beach), Shoal Point, Richmond, Ooralea
Existing urban areas	Mackay urban area, Walkerston, Marian, Mirani, Sarina
Employment areas	
Industrial	Paget, Mackay Harbour, Sarina, Farleigh, Racecourse, Rosella
Health, education, technology	Ooralea (education and technology) West Mackay, North Mackay (health)
Development areas	
Richmond, Ooralea, Rosella	
Identified growth areas	
Rosella	

In 2011, the estimated population of the Mackay Regional Council region (the subregion) was approximately 121 400 people with an average annual growth rate of 2.6 per cent for the period 2006 to 2011. Mackay is the dominant city in the region with smaller towns such as Sarina, Mirani, Marian and Walkerston providing district and local services. Over the life of the regional plan, the population is expected to grow to 187 400, an increase of 66 000 people by 2031. This will result in the need for approximately 27 300 additional dwellings, with approximately 85 per cent of these in the Mackay urban area.

The subregion offers significant regional landscape and natural environmental values, including the Pioneer Valley up to Eungella National Park, protected areas, extensive forested areas, agricultural land, rural towns, wetlands, sandy beaches and offshore islands. The area is characterised by an extensive low-lying coastal plain and riparian areas that require management of their ecological value. These natural features are the foundation for an established, localised tourism industry in Mackay and support a growing employment network. With the growth in the mining and resource sector and the projected population increases it is likely that the tourism industry in Mackay will see significant expansion and further generate local employment through development and operation.

The subregion's economy is driven by the mining in the Bowen Basin and support industries, including export ports, agriculture with a predominance of sugarcane production and milling, and retail and commercial activities. With the further expansion of the coal industry in the Bowen and Galilee basins, the subregion's economy will continue to grow to support this expansion.

Mackay urban area

The Mackay urban area, with an estimated population in 2011 of 78 200 people, is the major centre for the region and the Mackay Regional Council subregion. It is the centre of government administration, retail, commercial and specialised personal and professional services and includes major employment opportunities, high-order services and functions, including a university campus, base hospital and the region's main air and seaports. It is also a significant centre for services relating to mining activities, agricultural industries and tourism.

Mackay was established as a pastoral area in the early 1860s, but within a few years sugar became the dominant industry which remains a significant contributor to the landscape and economy in the subregion. The development of the Port of Mackay was also an early impetus for the city's development and served the developing agriculture industries.

The settlement pattern of the Mackay urban area is characterised by the major employment nodes of the city centre and Paget industrial area and approximately one-third of the residential development located south of the Pioneer River. The remaining majority of the residential development is located north of the Pioneer River, with limited dispersed employment nodes.

The Mackay urban area attracts the majority of new residents to the region. The subregion grew by 17 166 people between 2004 and 2009, representing an average annual growth rate of 3.3 per cent, in contrast with the state's growth rate of 2.6 per cent.

The Mackay urban area has the capacity to accommodate a significant proportion of projected growth. Effective planning and management will support higher levels of self-containment, walkable communities, shorter and fewer vehicle trips and more efficient transport services including public transport. This will be achieved through improving the integration of land uses and encouraging infill and redevelopment, particularly within close proximity to the city centre and other district and neighbourhood nodes, and areas with high accessibility to major transport networks.

Urban expansion to the east is limited by physical constraints on the coastal side of the city, including the potential for coastal erosion, storm tides, and consequent flooding and inundation.

Three development areas have been identified to provide for future residential, retail and heavy industrial developments. These development areas are at Ooralea and Rosella, south of the Pioneer River, and Richmond north of the Pioneer River. They will be subject to further detailed planning. Of particular note for the Ooralea area is the future bypass road, which may lead to changes to the western boundary of this area.

The Mackay city centre is the region's hub for business, administration, retail, hospitality and entertainment activities. The city centre is located along the south bank of the Pioneer River, with the principal retail centre for the region located at its western end. The built form is a mix of historic art deco buildings, retail centres and multi-level accommodation high rises. Over recent years there has been a significant investment in public infrastructure in the city centre including the Mackay Entertainment and Convention Centre, art gallery, swimming lagoon and BlueWater walking trail along the river bank.

The focus for the city centre is to maintain and strengthen its role as a principal centre of the growing region, while maintaining and enhancing its distinct, diverse, attractive and sustainable urban environment, for people to live, work and play.

Challenges for the Mackay urban area are to increase the employment opportunities north of the Pioneer River and increase residential development south of the river to locate housing closer to employment opportunities and the efficient provision of infrastructure and services.

Sarina

Sarina, approximately 35 kilometres south of Mackay, had an estimated population of 3550 people in 2011. It is the service hub for southern parts of the subregion. Sarina serves as a commercial and community service centre, with capacity for residential expansion and some opportunity for extension to industrial activity.

Within Sarina, the major employers are the Plane Creek Sugar Mill, Jilalan Rail Yards and the Port of Hay Point. Sarina's town centre and main street, located on the Bruce Highway, is the focal point for retail activity in the community with higher level services provided in Mackay. The consolidation of retail and commercial activities along the main street will assist in the long-term reinforcement of its role as the focal point for activity in the town.

Residential development during the life of the regional plan will occur on land to the north and north-east of the town. The existing rural residential area to the east of town has potential to be redeveloped for urban purposes. There are limited infill opportunities within the existing urban area. Development of these opportunities should encourage a range of housing types, including multiple dwellings, dual occupancy, and small lots in addition to traditional lot sizes. A new industrial area has been identified to the north of town adjacent to the Bruce Highway to service the local community and local sugarcane industry. Due to the scale of activities at the Port of Hay Point, further residential development in close proximity to the port is not supported.

Marian and Mirani

Marian, approximately 25 kilometres west of Mackay, relies on Mackay City to provide district and regional level services. Historically, the town developed around the sugar mill, which continues to be a major employer for the town. The residential areas adjoining the mill were established to provide housing for workers.

Marian has grown significantly in recent years, increasing in population to approximately 2180 people in 2011. Its role has changed from a support centre for the sugar mill and Pioneer Valley to a commuter suburb of the Mackay urban area. Further planning will be required to respond to this change and consider how employment and services can be enhanced in Marian to achieve greater self-containment.

Growth is occurring on the outer edges of Marian and Mirani and typically comprises larger residential lot sizes. Additional infrastructure and services, such as community, commercial and recreational facilities, as well as trunk infrastructure, are required to adequately service projected population growth. Further development in Marian and nearby Mirani is constrained by good quality agricultural land and areas subject to flooding.

Mirani, with a population of approximately 940 people in mid 2011, is another five kilometres further west of Marian. It is the administrative, recreational and educational centre of the Pioneer Valley. Mirani contains a library, sporting facilities and offers schooling from Prep to Year 12. Mirani's commercial and light industrial businesses also service the residents of the town and rural areas of the Pioneer Valley.

Walkerston

Walkerston has the capacity to be the commercial, business and service hub for the south-western areas of the subregion. In 2011, it had an estimated population of 3300 people.

Walkerston is located 12 kilometres west of Mackay on the Peak Downs Highway, linking the Isaac subregion and associated resource areas to Mackay. Historically, the town developed to service agricultural activities (sugarcane and cattle). With its sustained residential growth over recent years, Walkerston's role has changed from a support centre for the surrounding area to a commuter suburb of the Mackay urban area. The growth of Walkerston is constrained by GQAL and areas subject to flooding.

Coastal towns and southern Whitsunday islands

Small coastal townships include Midge Point, St Helens Beach, Seaforth, Haliday Bay, Ball Bay, McEwens Beach, Campwin Beach, Sarina Beach and Grasstree Beach. Several of these towns were established as small fishing and holiday settlements with typically limited services and infrastructure. These townships provide for a range of accommodation needs with a mix of permanent residences and holiday homes but have limited local convenience services.

These coastal towns have grown at a slower rate than established towns and urban areas due to limited urban services, infrastructure, environmental constraints such as flooding, and limited employment opportunities. Over the next two decades, significant residential development in the coastal towns is not anticipated due to these constraints. Development is constrained in some areas of northern coastal suburbs, such as Eimeo and Dolphin Heads, by steep slopes and landslide risk.

The exception to this is Seaforth. Its significant level of community infrastructure, to Mackay and available unconstrained land means it will experience moderate growth to the south. This growth area is away from the coastline and subsequent impacts of climate change and sea level rise. The lot sizes will need to be determined having regard to sustainable wastewater treatment systems.

A growing tourism sector will generate significant economic benefits to coastal communities. Tourism development will be supported, provided it is reflective of the character and scale of the area, can be serviced and is sympathetic to the existing residential amenity and the natural environment.

Smaller townships, including Eungella, Finch Hatton, Walkerston, Calen, Farleigh, and Koumala, provide local services to their residents. Many residents drive to Mackay for work, commercial, retail, sporting and recreation opportunities.

Airlie Beach welcome sign *Courtesy of Ray Cash Photography*

The subregion contains many offshore islands including the southern Whitsunday Islands. The majority of the islands are uninhabited and are part of Queensland's protected area estate; however, tourist accommodation and facilities have been developed on Lindeman, Brampton and Keswick islands.

Rural residential

Rural residential activity within the subregion is generally fragmented and can be found within the Mackay hinterland, Bloomsbury, Habana, Devereaux Creek, and east of Sarina. These areas are of adequate size to cater for the rural living needs of residents in the region for the life of the regional plan.

Further development of these areas is not encouraged and consolidation of rural residential development in defined areas will provide for a more efficient provision of services and facilities.

Economy and employment

The Mackay urban area is the primary employment and industrial location within the region. The sugarcane industry is of traditional importance to the regional economy through sugar production and emerging opportunities for future diversification into energy production, biofuels, and other products such as those in development at Racecourse and Plane Creek mills.

Mackay continues to serve as an agriculture support services centre, primarily for the sugarcane industry in terms of processing, servicing, research and development, and transport logistics. The subregional economy has grown rapidly with a gross subregional product in excess of $5.8 billion, based on agricultural production, mining support industries, tourism, retail, commercial and associated support services.

The sugarcane industry has a significant investment of infrastructure, including four operational sugar mills and the largest bulk sugar terminal in the world. Sugar (raw and refined) is the current key export trade through the Port of Mackay, with trade levels, or throughput, currently totalling close to two million tonnes per year.

Recent economic growth within the subregion has been led by activities associated with coal mining in the Bowen Basin (including manufacturing, transport, logistics and coal exports). The subregion also benefits from a strong and diverse tourism industry. Continued growth in these industries will add to Mackay's solid economic base. Mackay will continue to develop a now-established role as the central location for activities supporting the region's mining sector over the next 20 years. This provides significant opportunities to expand and diversify the economic and employment base within the subregion.

Port facilities at Dalrymple Bay and Hay Point export the majority of coal from Central Queensland, principally from the northern area of the Bowen Basin. Mackay Harbour is currently the export point for sugar and entry point for petroleum to the mining sector and marine services.

There is potential to further expand the types of commodities being traded through the Mackay Harbour. The marina at Mackay Harbour also provides anchorage facilities for recreational and tourist charter boating in the subregion.

Within Mackay, the main industrial employment area at Paget has a majority of businesses involved in mining related industries. There is sufficient undeveloped land at Paget to meet short-term industry demand. Further opportunities for industrial growth have been identified directly south of Paget and south of Bakers Creek at Rosella. The need for additional land to accommodate regionally significant, large-footprint industrial uses will require ongoing supply to meet demand.

The expansion of the Paget industrial area to the south will be given priority as the location for shorter term industrial needs. Large-scale industrial uses, particularly large mining equipment servicing, may not be suitably located within the Paget due to site requirements and road access constraints.

If demand for this type of facility continues, development at the Rosella Development Area may need to proceed ahead of the full development of the Paget Industrial Estate.

The Rosella Development Area within the subregion has the potential to accommodate industries servicing the expanding mining industry and resources sector in the Bowen, and potentially the Upper Surat and Central Galilee basins. The extension of industrial development will require further detailed planning and will be sequenced to ensure capacity within Paget is fully used. This planning may lead to modifications of the boundaries of this area, particularly to the north.

The greater Rosella area also includes an Identified Growth Area (IGA) located west of the Bruce Highway. With potential for development in the longer term to support major industrial development, this area could accommodate a regional intermodal freight facility and associated industrial uses. The Rosella industrial IGA will be considered for development beyond the life of the regional plan, or if supply in Paget or Rosella development area cannot satisfy projected demand. Further investigations are required to confirm its suitability for development. In the interim, the IGA is located within the Regional Landscape and Rural Production Area designation under the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012* to prevent pre-emptive development.

Opportunities for further employment-related activities at Richmond and Ooralea should be considered subject to further planning. Development in the Richmond area should include a range of residential, commercial and industrial uses, at varied densities and providing local employment.

As the primary location for business and commerce, the Mackay city centre, and smaller affiliated activity nodes, such as Mount Pleasant and Rural View, will provide additional employment opportunities. Greater diversification and provision of higher order services will stimulate further economic growth, including greater retail spending retained within the region.

Tourism

The tourism industry in the subregion is predominantly focused on the business and drive markets, with the major accommodation precincts located within Mackay City, near Mackay Harbour, or on Brampton and Lindeman islands.

Keswick Island also has existing approval to accommodate significant tourism development. Further consideration will be given to changes to this approval where resulting in improved environmental and servicing outcomes and not resulting in any increase in scale of activity or the introduction of further residential development.

Coastal communities also offer low-key, small-scale tourism and recreational opportunities. Tourism development will be considered in smaller coastal communities, provided it is reflective of the scale and character of the area, can be serviced and does not result in environmental degradation.

Residential

Residential development will continue to be concentrated in the Mackay urban area, with additional but limited capacity provided within coastal and rural towns. The estimated 2011 population was 121 400 people, primarily accommodated in the urban areas of Mackay, Sarina, Marian and Mirani.

Between 2001 and 2011, the majority of new residential development was in Mackay north of the Pioneer River, in locations such as Eimeo, Rural View, Bucasia, Blacks Beach and Shoal Point. South of the river, Ooralea has grown significantly.

To accommodate further growth, infill development of vacant land stocks and redevelopment of existing premises is required, as is the development of the areas of Ooralea and Richmond, which are identified as development areas in the subregion.

Broadhectare residential development is concentrated at the northern beaches and the Ooralea and Richmond development areas. The two development areas will primarily serve medium- to long-term housing needs by providing approximately 12 500 dwellings.

Taking into account existing development approvals, supporting infill development and IGAs, future growth projections can be accommodated within areas identified for this purpose. Enabling higher density residential development options in appropriate locations including existing developed areas, centres and transport corridors will play a significant part in this. Further detailed analysis is required to determine the locations and forms of higher density development.

Diversity in the range of residential options will also include short-term accommodation for tourism and business travel, and will attract high-density development along the Pioneer River frontage, retirement age accommodation and a mix of other dwelling types to provide housing choice and diversity.

The Ooralea development area is an expansion of the existing Plainland and Ooralea area to the south of Mackay City. The area's proximity to the Central Queensland University, urban infrastructure, major transport corridors and Paget industrial area make it suitable for development incorporating a mix of densities and land use types. The issues to be considered in developing this area include drainage, proximity to the abattoir and the sewerage treatment plant, localised flooding from Bakers Creek, good quality agricultural land, cane tram corridors, and internal and external road connections to the Bruce and Peak Downs highways.

The Ooralea development area also includes land in close proximity to the Racecourse Mill. Land within this area may be suitable for low impact industrial activities, and could function as a transitional buffer to the adjoining residential area. This area is not intended to be used for residential development.

The western boundary of the Ooralea development area may be subject to change, depending on the final location of the bypass road which will need to be considered during the detailed planning for this area.

The Richmond development area is located between Glenella, Mount Pleasant and the northern beaches. Factors to be considered in the development of Richmond include flooding and the function and capacity of the Mackay–Bucasia Road, cane tram corridors and the interface with adjacent agricultural and resource extraction activities from the existing key resource area to the west. To a lesser extent, steep slopes and landslide risk constrain development in some areas of Richmond.

It is anticipated the Richmond development area will not be required in the medium-term (next 10 years), but full development may go beyond the life of the regional plan.

Community services

Population growth within the subregion has occurred primarily within the Mackay urban area and surrounding towns of Sarina, Mirani and the Pioneer Valley.

Mackay, as the major centre, has a wide range of community infrastructure and services. Sarina also has a range of medical services that enable it to meet community needs in line with expected growth of the town.

Playground in Mackay *Courtesy of Ray Cash Photography*

The future provision of social facilities and community services will be focused around the Mackay urban area and Sarina. This will include a mix of higher order community centres, aged care facilities, community health services, libraries, fire and rescue and state emergency services, housing support and youth services.

Residents of rural and coastal towns and their surrounds will be required to travel to larger centres to access higher order community services.

Infrastructure

In the context of projected population growth, trunk infrastructure will be required to support urban growth, including infill development, and the orderly extension of the Ooralea and Richmond development areas. Major road upgrades, including road links between the seaports and industrial areas, will strengthen the transport network. Within the Mackay urban area, transport investment is focused on improving connectivity between the ports and industrial areas to meet the service demands of the mining industry.

Well-planned, sequenced, and cost-effective infrastructure, which also maximises the use of existing infrastructure networks, is required to support orderly development across the subregion. The efficient sequencing of broadhectare development infrastructure, particularly in areas identified to accommodate significant growth, such as Ooralea, Richmond, Paget, Paget South, Rosella East and the Rosella IGA, is required to meet ongoing future development needs.

Specific attention is to be given to developing walkable communities with open and green space networks, as well as cycle ways and pathways. The growth in the Mackay urban area will be supported by timely investments in infrastructure focused on improved roads, water, sewerage, and electricity.

Considerable investment toward infrastructure in Mackay has recently included the Forgan Bridge duplication over the Pioneer River, redevelopment of Mackay Base Hospital, the new Mackay South Water Recycling Facility, redevelopment of the Nebo Road Water Treatment Plant, the new state high school at Rural View and the continued development of the Mackay Trade Training Centre at the Central Queensland Institute of TAFE.

Additional water treatment infrastructure is required to supplement the existing water supply. Several wastewater treatment plants have reached capacity, and new sites will need to be identified as part of any future wastewater treatment plant upgrade. The timing, capacity and staging of these new or upgraded facilities is yet to be determined.

The majority of coastal communities in the local government area are not serviced by reticulated sewerage and are unlikely to be over the life of the regional plan.

Isaac Regional Council

Estimated population in 2011: 23 000 people

Indicative planning population 2031: 37 000 people

Forecast additional dwellings by 2031: 5800

Residential areas	
Broadhectare	Moranbah township, Clermont, Dysart and Nebo
Existing urban areas	Moranbah, Clermont, Dysart, Middlemount, Glenden, Nebo, Coppabella
Existing coastal communities	St Lawrence, Carmila, Clairview, and Green Hill/Ilbilbie
Employment areas	
Industrial	Moranbah, Nebo, Clermont
Mining activities	Northern Bowen Basin mine operations (including Goonyella, Newlands, Hail Creek, Peak Downs, Coppabella)
Health, education	Mining skills centre at Moranbah Hospitals at Moranbah, Clermont and Dysart

Isaac Regional Council (the subregion), located in the western and southern parts of the region, comprises a land area of approximately 58 860 square kilometres. The population of the subregion is approximately 23 000 people, and is projected to increase by 61 per cent to around 37 000 people by 2031. The subregion includes the towns of Moranbah, Clermont, Dysart, Middlemount, Glenden, Nebo and smaller coastal communities of Carmila, St Lawrence and Clairview.

Agricultural industries, particularly grazing and dry land grain cropping, have historically underpinned the economy of the subregion. However, the resource sector has subsequently emerged as the leading employment industry.

The subregion contains a substantial portion of the Bowen Basin coal reserve, which is the largest in Australia and a significant contributor to the national economy. The Bowen Basin accounts for 83 per cent of all coal production in Queensland. A number of large coal mining projects are also proposed for the Galilee Basin, within the council area as well as to the south in the adjoining Central West region. The impacts of the future development of these reserves will also be felt across the broader region, particularly communities in close proximity to mining industries and associated infrastructure.

The subregion contains areas of significant environmental value including national parks, state forests and wetlands, including Epping Forest National Park, which is the recovery habitat for the endangered Northern Hairy-Nosed Wombat.

Prior to the recent expansion of the coal industry, urban development was concentrated predominantly in Clermont and St Lawrence. Towns established to support nearby mines such as Moranbah, Middlemount and Dysart have experienced more recent growth. As a result, Moranbah has become the largest community in the subregion.

Managing the cumulative social and economic impacts from major mining and industrial projects is critical for the future of the subregion. To enhance the liveability and attractiveness of living in resource communities, significant and timely investment in social and community infrastructure will be required.

Moranbah

The majority of Isaac's population growth to 2031 will be accommodated in Moranbah due to the availability of employment opportunities and increasing levels of urban services and infrastructure. Moranbah has become a significant centre within the region, and has the largest population in the subregion (approximately 8530 people).

Moranbah was established in 1971 to house miners and their families employed at Goonyella and Peak Downs mines. It has grown into a community now providing local and district services, including a shopping centre, civic centre, education facilities, a hospital and a range of sporting and entertainment facilities and clubs. The town also has a network of open space, parkland and nature reserves that provide recreational opportunities for residents and visitors.

Moranbah has the potential to expand its role in the mining industry through continued mining exploration, development, processing and other value-adding activities. The growth of the town relies heavily on the availability and affordability of residential and industrial land, and the continued viability of the mining sector, including the availability of skilled employees for the broad community.

Current mining leases that surround the town to the north, east and south limit opportunities for urban expansion in those locations. Accordingly, undeveloped land to the south-west of the town is expected to accommodate a significant proportion of projected growth. This land will require detailed planning to manage constraints such as mining leases, dust and flooding, and the coordinated provision of urban infrastructure.

The Urban Land Development Authority (ULDA) has declared an urban development area in the south-west of the town centre. The site will provide a mix of residential development types to diversify and strengthen the housing market. It is intended to provide additional housing options for those employed in the Moranbah area and assist in alleviating housing supply and affordability pressures.

Moranbah also has the capacity to accommodate a significant proportion of growth through infill development. Appropriate locations for infill should be identified and subsequent planning undertaken to accommodate a range of housing types. Higher densities should be located within close proximity to the established town centre.

Retaining a significant percentage of workers as permanent residents will assist in generating demand for improved service delivery, further enhancing the local economy and encouraging community involvement.

Clermont

Clermont, located on the southern bank of Sandy Creek near the junction of the Gregory and Peak Downs highways, has a current population of approximately 1960 people. Clermont has a significant history as a cattle grazing and grain producing community with potential for ongoing development of these industries, and has since diversified as a service centre supporting the expanding mining industry. Coal mining has become a leading employer alongside agricultural activities. In addition, the town remains a service centre for the surrounding district.

Infill development will be encouraged in Clermont to provide additional capacity, housing choice and diversity. This includes encouraging new development within the town centre.

Subject to further local planning, greenfield land to the south-east and south-west of Clermont has the potential to provide additional urban land supply. Further detailed planning will also need to determine the infrastructure requirements for this area.

Clermont is characterised by a range of recreation and open space facilities, as well as its diverse range of community services. It has the capacity to accommodate further industrial development at the intersection of the Peak Downs and Gregory highways. Further improvements to Alpha–Clermont Road will promote additional industrial growth in the town linking to the Galilee Basin. This additional supply should provide large lot sizes to suit demand with good access to the major road network.

Middlemount

Middlemount, the third-largest settlement in the subregion, was established to service Foxleigh and German Creek coal mines. The local rural industries include cattle grazing and crop production. It is expected that growth in Middlemount will be moderate over the next 20 years, but may be subject to fluctuations dependent on resource activity near the town. Expansion of the town is limited by surrounding productive rural lands and mining leases. However, capacity for further residential development to the north (south of the airport) is anticipated. In addition, land to the south-west has the potential to accommodate further industrial development and, possibly, a second entry to the town from Middlemount Road.

Further industrial development is supported and residential land within the north-eastern area of the township, with a mix of residential densities is also supported.

Dysart and Glenden

Dysart was established in 1981 to service the nearby Norwich Park and Saraji coal mines, as well as grazing properties in the district. While growth is expected to be moderate, there is capacity for some development to the north of the town.

Increases in housing density are supported in Glenden, Dysart and Middlemount to support additional growth recognising constraints on further expansion due to productive rural land and mining leases adjacent to the town. Further industrial development is supported in these towns to service surrounding mining industries.

Coppabella

Coppabella was designed to service the junction of two railway lines and workers employed by Queensland Rail. Although still a railway maintenance village, Coppabella's recent significant growth has been generated by the establishment of an adjacent large-scale mining accommodation village. Further growth in Coppabella is not anticipated, however current services should be retained to support the existing population.

Nebo

Nebo was established to service the agricultural and grazing industry in the 1860s. It has an estimated population of 340 people. Nebo's economy was originally dominated by sheep and wool but has since been replaced predominately by cattle grazing. Nebo will continue to service the surrounding agricultural and mining industries with opportunities for growth in residential, commercial and industrial activity.

Nebo Creek defines the western edge of the town. The preferred settlement pattern for Nebo focuses on the consolidation of development within the established township and encourages a mix of housing types.

Coastal towns

St Lawrence, Carmila and Clairview, the predominant coastal communities in the subregion, have historically developed around agricultural and tourism activities. They provide a limited range of community services for surrounding residents who rely largely on Sarina, Mackay and Rockhampton for higher order administrative, retail and commercial services as well as community service needs.

St Lawrence, originally established as a cattle port, was the administrative centre of the former Broadsound Shire. The town now services the surrounding rural community.

Power upgrades or an alternative renewable energy supply is required to maintain a reliable power supply to St Lawrence. A connected service network between Mackay and Rockhampton or other alternative means of consistent supply is vital to improve the level of existing service.

Carmila was originally established as a service centre for surrounding cane growers. The town will continue to provide local services to surrounding rural industries in conjunction with small-scale tourism opportunities, such as recreational fishing.

Clairview will remain the largest coastal tourist settlement in the subregion. Further expansion of Clairview is not supported due to land constraints, lack of infrastructure and relative isolation.

Greenhill and Ilbilbie are small villages with limited services. These areas, surrounded by grazing, cane farming and a national park, lack the infrastructure to support significant growth.

While local service should be retained, the range of urban services in these communities will be at a scale appropriate to the needs and size of the catchment area, environmental constraints and potential impacts from climate change. Expansion and growth opportunities in these villages are limited due to lack of infrastructure services, prohibitive costs of service provision, environmental constraints such as flooding and the distance to major centres.

Economy and employment

The economic drivers of the subregion are largely associated with the mining industry, construction and support services, as well as continued agricultural production activities.

The subregion has a very strong employment profile (an unemployment rate of 1.4 per cent compared to Queensland at around 5 per cent), but limited employment diversity. Its economy is largely driven by mining, which is also the leading employer within the subregion, followed by construction and the agricultural industry, which includes sugar, beef and grain production.

The area's world-class rail and port connections are a future asset for transporting products to ports and creating diversity in the economy.

Attracting and retaining workers, particularly those in service industries not related to mining, will require skills development programs for local residents in order to maximise the proportion of skilled workers sourced locally. Diversification of the economy, plus maintaining and value-adding to existing primary industries, will allow the region to become increasingly resilient during economic downturns.

Tourism

Tourism is recognised as a potential growth sector and a means of diversifying the subregion's economy. Tourism opportunities include heritage and mining trails, national parks and state forests. Further development of tourism products and infrastructure is encouraged and should be investigated, particularly in the areas of heritage, industrial and ecotourism. Clermont will continue to develop its tourism industry, including the potential expansion of historical tourism and water sports activities.

Community events and regular participation at recreational facilities such as Lake Elphinstone, Teresa Creek Dam and Boondera Dam are considered vital links to aquatic recreation and seasonal tourist visitation to the region. The development of the Connors River Dam will also bring potential tourism development opportunities. Strong recreational fishing participation in coastal communities is also important to future tourism visitation in coastal areas.

Agriculture

Strategies to capitalise on agricultural activities should be promoted and expanded through agribusiness, value-adding activities and agritourism. Grazing industry sale yards in Nebo and Clermont are vital in maintaining market opportunities for local producers and ensuring long-term viability of the industry.

Further opportunities to produce biofuels and grow renewable energy crops across the subregion will support present and future industrial and mining development.

A sustainable and diverse economy will ensure communities are able to withstand periods of economic downturn. The protection of GQAL will assist in maintaining and strengthening the capacity of the rural sector in achieving this goal.

Mining

In the subregion, 38.9 per cent of the workforce was employed in the mining industry, compared to the Queensland average of 1.7 per cent, in 2006. Economic reliance on the resource industry may make the subregion subject to market volatility over time.

Growth in the subregion will be driven by coal mining, gas resource activity and associated infrastructure development. Further resource development in the northern Bowen Basin and possible future development in the Galilee Basin will provide more growth opportunities and challenges.

Coordinated sequencing of land use and future infrastructure is essential to ensure suitable areas can be used for industrial purposes. The need for integrated infrastructure such as consolidated rail corridors is of importance to the subregion. Poor integration of such facilities may limit optimal planning outcomes. Opportunities for new industrial activities may be accommodated, in Moranbah and Nebo particularly, to service mining activities in the Bowen Basin and substantially reduce travel times to similar facilities in Mackay. Similar opportunities may occur in Clermont if resource development proceeds in the Galilee Basin.

Residential

Housing affordability has become an issue across the subregion, particularly in Moranbah, Dysart, Clermont, and Nebo. This is due to the limited availability of unconstrained land, lack of housing choice and very strong demand for housing. Residential land availability in Dysart is extremely limited with the last residential allotments being available in the mid 1990s. High price levels create pressures on households with lower incomes, families, single households, young people and non-mining sector businesses seeking labour.

A range of housing options assists in attracting long-term residents and building sustainable communities. Ensuring a range of housing options (e.g. non-resident worker accommodation, townhouses and low-density dwellings) provides the community with housing diversity to cater for transition from non-resident workforce accommodation to low-density dwellings or other types of housing if demand for permanent accommodation increases.

To achieve affordable housing across the subregion, an adequate supply of land must be available to accommodate a wide range of lot sizes and dwelling types. Consideration can be given to residential densities of 30 to 60 people per hectare in some communities such as Moranbah and Dysart to further alleviate market supply pressures. Subdivision and housing design will need to contribute to the quality of each community and incorporate sustainability principles and good urban design.

Housing development is to be sensitive to the local climate and reflect dry tropical and subtropical designs to maximise energy efficiency. Good urban design will facilitate walking and cycling and the use of alternative transport rather than the car in local communities.

Community services

There is a need for a broader range of social infrastructure, such as health and community services, in the subregion to serve the growing population and to assist in attracting new residents to live permanently in resource communities. Some social infrastructure is at capacity with further investment required to support population growth. This includes investment in state emergency services.

In 2009, the Office of Economic and Statistical Research (OESR) found that approximately 20 000 non-resident workers were located in the Isaac local government area. Although this non-resident population is not accounted for in official resident population estimates, it places significant pressure and demand on existing services and infrastructure. The provision of community services must include planning and associated investment in infrastructure and operational capacity to meet the needs and demands of the non-resident population in mining communities.

Clermont Hospital *Courtesy of Ray Cash Photography*

There are limited opportunities for further education after secondary school. Dysart has a declining student population. The region has technical colleges that offer a limited number of courses and programs that tend to lead to employment in the mining industry. This is seen as an opportunity for enhanced training programs to meet local needs.

The subregion has limited other tertiary education opportunities, with the exception of external or distance education or travelling to Mackay. Improvements in the delivery of education services need to be investigated, including those generated by the development of the National Broadband Network. The absence of choice in post-secondary education can result in young people being limited to obtaining employment in the mining industry or leaving the subregion.

Further diversification of the subregional economy is required to ensure future generations remain in the region or return to the region with qualifications to support the community. With a strong, younger demographic compared to other rural and regional areas in Queensland, the subregion seeks to build a diversified community profile, retaining third-generation families after retirement to value-add to social and community integrity.

Infrastructure

Timely infrastructure provision is necessary to underpin the future growth of the subregion to ensure social wellbeing, economic growth and the ability to attract and retain residents. Provision for a sustainable and affordable water supply for Moranbah and Nebo needs to be considered in the context of mine expansion in the northern Bowen Basin. Opportunities also exist to cater for the use of infrastructure if mining activity declines through well-planned substantial infrastructure such as dams, roads and rail, to support the sustainable needs of the subregion.

The road network is vital infrastructure in the subregion. The roads are heavily used for short and long distance travel, with many workers travelling long distances to their place of employment. Reliance on roads as the primary mode of transport access means road management and maintenance is of great importance.

The Peak Downs Highway traverses the subregion and joins Mackay to Clermont, passing through Nebo and bypassing Moranbah. This highway is used to transport mine employees, mining equipment and fuel to the mines. The increase in heavy vehicles from mining-related activities, in addition to transport associated with the agricultural industry, such as cane haul out and tourist vehicles all contribute to an increase in potential safety issues along the route.

Commercial air travel into the subregion is limited to an airport located five kilometres south of Moranbah. There is a likely need for a substantial upgrade of the airport and terminal to deal with the projected large-scale increase in aircraft and passenger usage. The airport primarily caters for direct flights to and from Brisbane. There are other airports in the subregion, which are likely to be upgraded, including Nebo, with private facilities at Middlemount and Dysart. These facilities service local and regional needs of these communities.

Water and sewerage treatment and reticulation networks will require progressive upgrades to cater for increases in population. Waste management facilities will also require upgrading to cater for the anticipated population growth.

Water supply is a challenge for Moranbah, Dysart, Middlemount and Glenden as these communities are highly reliant on industry allocations of water to support the local population. Nebo relies on groundwater for agricultural and residential supply, which will affect the capacity of the town to accommodate future growth. Additional capacity, supply allocations, education and awareness regarding water use will be required to improve reliability. Water supplies for coastal communities are also limited by the lack of infrastructure, distance from existing networks and topographic constraints. Further consideration may be required for the potential to supplement water supply through infrastructure projects such as the Connors River Dam.

The Connors River Dam is a vital infrastructure component in providing water supply security to the Isaac subregion's growth into the future.

Reliable telecommunications services are also vital, encouraging social participation and inclusion, particularly across rural and remote communities. Access to the proposed National Broadband Network will be an opportunity to enhance the communities' communication needs.

Sarina rail station *Courtesy of Ray Cash Photography*

Whitsunday Regional Council

Estimated population in 2011: 35 750 people

Indicative planning population 2031: 55 500 people

Forecast additional dwellings by 2031: 10 200

Residential areas	
Broadhectare	Bowen (Whitsunday Shores), south of Proserpine, Cannon Valley
Existing urban areas	Bowen, Proserpine, Airlie Beach and Cannonvale, Collinsville
Employment areas	
Industrial	Abbot Point, Proserpine, Bowen
Health, education	Bowen and Cannonvale (education) Collinsville, Bowen and Proserpine (health)
Tourism	Bowen, Whitsunday Islands, Airlie Beach, Abel Point Marina, Shute Harbour Marina

In 2011, the estimated population of the Whitsunday Regional Council area (the subregion) was approximately 35 750 people, primarily accommodated in the centres of Proserpine, Bowen, Airlie Beach, Cannonvale and Collinsville. Proserpine and Bowen support surrounding agriculture activity and benefit from direct access to the Bruce Highway and proximity to regionally significant transport facilities, including airports on Hamilton Island and south of Proserpine. Airlie Beach and nearby Cannonvale provide access to the Whitsunday Coast and Islands, with Airlie Beach now a significant tourist destination. The subregion's population is projected to increase to around 55 500 people by 2031.

The Bruce Highway is the major transport corridor running north–south through the subregion, to Mackay in the south and Burdekin and Townsville to the north. The subregion covers an area of 23 871 square kilometres.

Historic development around Bowen is attributed to agriculture, fishing and development of Port Denison. Further south, Proserpine's existence is attributed to agriculture, processing of raw materials such as timber, and beef cattle and sugar milling. Settlement at Airlie Beach and surrounds has been a result of its position, as the gateway to the Whitsunday Islands and Great Barrier Reef. Development of Airlie Beach and the tourism sector has led to the expansion of Cannonvale as a residential and retailing service centre, housing and servicing needs of local workers.

The larger communities in the subregion, such as Proserpine, Bowen, Airlie Beach, Cannonvale and Collinsville are all expected to grow significantly.

The subregion contains regional landscape and natural environmental values of national and international importance including the Whitsunday Islands, national parks, protected areas, riparian areas and sandy beaches that require protection for their ecological and scenic value.

Proserpine

Proserpine serves as the rural, civic, social and administrative hub for the southern part of the Whitsunday local government area. Major employers include the Proserpine Sugar Mill, the Proserpine Hospital and Whitsunday Regional Council.

Proserpine's town centre and main street are characterised by local-level and district-level retail and commercial services. Higher order retail needs of residents will continue to be met by services provided in Cannonvale and Mackay.

Existing housing stock is predominantly detached dwellings. Future residential development will occur on broadhectare lands to the south of the township, and through infill opportunities within the existing community. Development of a broader range of housing types and densities is encouraged to meet the needs of existing and future Proserpine residents.

The town provides a range of social services and community infrastructure facilities to the wider area, including services for the rural residential areas of Mount Julian and Dittmer, as well as regional-level social and recreational services catering for Cannonvale and Airlie Beach. These services include a hospital, aged care, expanding education facilities, a large cultural centre and recreation facilities, e.g. motor sport tracks, equestrian facilities, a swimming pool and sports ovals.

Economic development of Proserpine over the next 20 years is reliant on the sustainability of agriculture, with diversification of the sugar industry and opportunities for agribusiness development as the cornerstones.

Bowen

Bowen is the most populous town in the subregion, with a population of approximately 8730 in 2011. It is the business, service and administrative hub for the local needs of the northern part of the subregion.

Current facilities and services in the town include a public hospital, aged care, primary and secondary schools, tertiary education facilities and sport and recreation facilities. The TAFE college can provide tertiary training to mining and associated industries in the subregion. A range of retail, commercial and professional services together with light industry and service trades are located near the town centre.

Currently, Bowen's local economy is based on a nationally significant horticulture industry, commercial fishing, aquaculture and a major salt processing facility. Emerging economic opportunities for Bowen and its surrounds are linked to the APSDA and the Port of Abbot Point (approximately 20 kilometres from Bowen). These opportunities include export of bulk commodities, large-scale industrial development, freight and logistics.

Projects within the APSDA and the expansion of port facilities are expected to generate significant employment opportunities over the next 20 years for Bowen residents.

The APSDA provides for the establishment of large-scale industrial development, including infrastructure corridors and essential infrastructure, while recognising and protecting environmental, community and cultural values.

Other economic opportunities for Bowen township include supporting industries for the port and the APSDA as well as potential of both land and sea based aquaculture.

Horticultural activity in the Bowen area attracts transient workers, including a significant proportion of backpackers, further diversifying the needs of the community.

As further growth occurs, coordinated housing strategies will be required to accommodate significant growth within the community, to ensure continued housing supply while maintaining affordability for future and existing residents.

Expansion of Bowen is limited by its coastal location, impacts of flooding from the Don River and proximity to highly productive rural lands. The historic settlement pattern in Bowen is dominated by detached dwellings on relatively large lots. Subject to further local planning, intensification of development in parts of Bowen may be accommodated, increasing residential density and housing choice.

Depending on growth pressures in the long-term, further investigation may be required into the long-term viability of the adjacent salt-processing facility with the town and the capacity for growth to the south.

The impacts of flooding and storm tide inundation, as well as the projected effects of climate change, need to be considered through planning for both in the existing developed areas, and areas subject to further investigations. Water supply and sewerage facilities are also development constraints for the town. In addition, the need for protection of good quality agricultural land limits potential urban expansion.

Airlie Beach

With a permanent population of approximately 3550 in 2011, Airlie Beach is a popular tourist destination of international significance. It provides a tourism related entertainment and recreational district focused around a palm-fringed foreshore area. The town centre has a retailing, dining, café and nightclub precinct used by locals and visitors. Airlie Beach's foreshore features extensive parkland, a swimming lagoon and public open spaces for barbeques and gatherings. Nearby Jubilee Pocket is a lower-density residential community, which also has sporting facilities and low-intensity tourist facilities.

Airlie Beach is the gateway to the Whitsunday Islands and parts of the Great Barrier Reef, with nearby Abel Point and Shute Harbour marinas providing regular ferry services to the islands. A small tourist-based airstrip is located in the nearby Flametree area that also has a small adjacent residential development. The recently constructed Port of Airlie will add to Airlie Beach's marine infrastructure.

Important considerations in planning for Airlie Beach over the next two decades includes the protection and enhancement of coastal resources such as the scenic amenity of foreshore areas, coastal wetlands, marine waters, dunes and coastal processes. These coastal values and the significant geotechnical and topographical constraints will be recognised in planning for the community. The existing capacity of the local road network, particularly Shute Harbour Road, is likely to require substantial upgrades to cater for projected growth.

The urban area of Airlie Beach is limited to a thin strip of land between the coast and the Conway Range. Further development at the foothills of the range will be limited by topography, scenic amenity and environmental values such as the critical habitat of the Proserpine Rock Wallaby.

Cannonvale

Cannonvale had a population of approximately 4990 people in 2011. It is the major business and commerce hub for the subregion. The consolidation of retail and commercial

activities with higher density residential development within Cannonvale will assist in the long-term formation of a focal point for activity within the town.

Cannonvale's local employment opportunities are varied with marine industry and professional services near retail outlets. Tourist accommodation in Cannonvale is generally centred on the family-based market.

A range of community facilities and services are used by the local community along with Airlie Beach, Jubilee Pocket and surrounding rural residential areas. This includes the Barrier Reef Institute of TAFE campus, schools, swimming enclosures, community, recreation and sporting facilities, parks and bikeways and the Whitsunday Botanic Gardens.

Growth is constrained by steep slopes and critical habitat for the Proserpine Rock Wallaby, good quality agricultural land to the west and a fragmented rural residential and rural settlement pattern.

Development over the next 20 years will include opportunities for a range of housing types, including higher levels of residential development.

Coastal towns and islands

The tropical islands which make up the Whitsundays are a major drawcard for the region. Most are uninhabited and are part of Queensland's protected area estate. Tourist accommodation and facilities have been developed on Hamilton, Hook, Hayman, Long, Daydream and South Molle islands. There is limited permanent residential development on some of the resort islands, principally to cater for the island's workforce.

There is limited residential development currently in place or approved in the islands of the Whitsunday coast. Taking into account the servicing costs, significant environmental values and the projected impacts of climate change, no additional permanent residential development will be required on the islands for the life of the plan.

Hamilton Island is the most developed island with significant tourism accommodation and facilities and permanent residential development. Growth is to be limited to the existing footprint with large areas of the island preserved by environmental constraints. The island is a major transport hub for the subregion, with direct flights between the island's Great Barrier Reef Airport and Cairns, Brisbane, Sydney and Melbourne, and connections onto other domestic and international destinations. Facilities for banking, postal, educational and other social services are also located on the island.

A wide range of tourist accommodation and facilities exists on the inhabited Whitsunday Islands. These range from family-friendly accommodation options, ecotourism opportunities, budget accommodation for backpackers to 5-star resort accommodation and facilities.

The location of additional tourism-oriented accommodation and associated facilities on the islands may be supported where type and extent of development is suitable, taking into account environmental values, infrastructure capacity and costs of servicing.

Coastal townships such as Brisk Bay, Hydeaway Bay, Dingo Beach, Conway Beach and Wilson Beach are generally small-scale fishing and holiday villages. The communities have limited infrastructure and urban services.

Growth in these coastal towns and islands over the next 20 years is expected to be restricted in line with the capacity to provide urban infrastructure and services. Planning for these communities also needs to carefully consider the physical constraints of the land such as topography, flooding and projected impacts of climate change such as storm surge and sea level rise.

Collinsville

Collinsville is a historic mining and agricultural town in the hinterland south-west of Bowen. Collinsville services the needs of the local community and surrounding district, providing business, administrative, health and educational facilities and services. The multipurpose health facility caters for aged care and primary health care needs, regional health services and private practice clinics. This is reflective of the ageing demographic within the township. Three schools service the educational needs of Collinsville, with a primary school also located in Scottville.

The Collinsville economy is reliant on coal mining operations to the south of the township and the power station. A shortage of industrial land has also been identified. The capacity to accommodate further employment will be considered as part of local planning for lands to the south of Collinsville, north of the airport.

Expansion of Collinsville is limited by adjacent mining tenures, proximity to the Newlands rail line and other constraints, such as flooding. Maximising the use of existing land within the township will be important in accommodating growth. In addition, land to the east (west of Pelican Creek) will be further investigated to determine capacity to accommodate residential development. However, this will need to take into account potential impacts of local flooding.

Rural settlements

A number of rural residential areas and small rural townships such as Gumlu, Guthalungra, Strathdickie, Mount Julian and Lethebrook are also located in the subregion. These areas provide basic rural services and community facilities to their immediate surrounds. They will continue to rely upon larger communities for retailing and urban service needs.

Mackay Entertainment and Convention Centre *Courtesy of Ray Cash Photography*

Economy and employment

The economy of the subregion is characterised by tourism, horticulture, sugarcane production and mining-related activity. Other economic opportunities are transport related industries, small-scale manufacturing, and construction industries.

Because the leisure-tourism industry will continue to strengthen and grow across the subregion over the coming decades, especially around Bowen, Airlie Beach and the Whitsunday Islands, strategies are needed to ensure opportunities for business tourism increase as other industries expand. These strategies will also ensure tourism development is sympathetic to the environmental values and amenity that attracts domestic and international tourists.

The relaxed lifestyle of smaller coastal and rural communities will continue to be a drawcard for visitors, including 'grey nomads'. Identifying and developing tourist nodes that cater for a variety of visitor needs and experiences, and packaging a range of tourist circuits in the Whitsunday area, will encourage longer stays and link opportunities throughout hinterland and coastal areas.

Horticulture and agriculture industries will maintain their prominence. The subregion supports a multimillion dollar horticulture industry, predominantly within the Bowen area. It supplies a significant proportion of Queensland's tomatoes, capsicum, green beans and sweet corn, and is well known for its high-quality mangoes. The diversification of the sugar industry is key to achieving long-term sustainability in the agriculture sector. Further development of associated industries such as biofuel production are also expected.

High demand for residential land within Airlie Beach and Cannonvale will be balanced with the need to create further opportunities for marine industry services, with industrial development generally limited to low impact activities on smaller lots.

The mining sector is set to expand with the potential for additional coal mines and gold mine developments to be established in proximity to Collinsville and Gumlu. New resource developments within the Galilee Basin and future development within the Bowen Basin, together with extensions to the rail supply chain, will provide further economic growth opportunities and stimulus for the subregion, specifically around Bowen.

Economic growth over the next 20 years will be by large-scale industrial and infrastructure development associated with port expansions at the Port of Abbot Point, and development of the APSDA west of Bowen. This will create additional demand largely associated with transport and logistics. Additional land will also be required for horticultural processing services, local services and heavier industrial activities. It is anticipated that additional industrial land will be required in Bowen in the medium- to long-term, and Collinsville in the long-term.

The Mackay, Isaac and Whitsunday Regional Industrial Land Demand Study, released in 2011, indicates that the subregion will require additional serviced industrial land in the short-term in Proserpine, Airlie Beach and Cannonvale. Demand is strongly associated with transport and logistics particularly for larger lots in locations such as Proserpine with good-quality access to state and regional transport networks. Growth of marine-based tourism will drive demand associated

with marine industry services. High demand for residential land within Airlie Beach and Cannonvale is expected to limit the potential for further marine industry services, with industrial development at limited- to low-impact activities on smaller lots.

Residential

By 2031, it is anticipated that approximately 10 200 additional dwellings will be required to house projected population growth in the subregion. To achieve this, a mix of lot sizes and dwelling types is required.

Land available for residential development is constrained in the subregion by slope, good quality agricultural land, flooding and environmental constraints.

The preferred form of growth in Bowen, Airlie Beach and Cannonvale is containment within the existing designated urban area and for orderly expansion in response to demand. This enables a more efficient use of land, infrastructure, access to services and employment opportunities, and options for different modes of travel, such as walking and cycling. Housing diversity and a mix of dwelling types is encouraged in Bowen, Airlie Beach and Cannonvale to achieve a sustainable settlement pattern.

Development at Airlie Beach and surrounding suburbs is placing pressure on the carrying capacity of Shute Harbour Road. Increased densities at Airlie Beach should be located within close proximity to the Airlie Beach main street or along public transport routes.

The Bowen area has a diverse permanent and transient population, including a significant seasonal workforce and an older-than-average permanent population. This increases the need to provide affordable and diverse housing options together with sufficient aged care accommodation to retain older residents within the community.

The proposed expansion of the Port of Abbot Point and the development of lands in the APSDA, will place additional demands on the Bowen housing market. In response, further infill development and the provision of diverse housing stock including medium-density housing such as duplexes, small lot development, townhouses and apartments is required.

Growth in Proserpine can be accommodated directly to the south of the existing community, which is in close proximity to existing town infrastructure and services. Constraints such as potential flooding and the interface with GQAL and the Bruce Highway will need to be resolved for further development to occur within this area.

Community services

Proserpine has the main public hospital in the subregion and provides a range of medical and allied health services to Airlie Beach, Cannonvale, and surrounding rural areas. Bowen's hospital is predominantly focused on allied health services, however it may have the opportunity to provide a broader range of services as the community and port grow, with higher order services available at both Mackay and Townsville.

There is an entertainment centre in Proserpine, hosting cultural events, civic and business functions, as well as a museum, parks, open space, and sporting facilities.

The swimming lagoon is a vital part of the urban fabric in the Airlie Beach community. The foreshore lagoon enhances Airlie Beach's restaurant and entertainment precinct, providing a focal point for tourists and locals alike.

Barrier Reef Institute of TAFE campuses in Bowen and Cannonvale provide vocational education and training through a range of courses and programs.

Infrastructure

The subregion is well serviced by transport infrastructure. This includes domestic airports catering for domestic carriers, state-significant port facilities, marinas, harbours and a variety of rail corridors that service the needs of the sugarcane industry, tourism and the mining sector of the northern Bowen Basin. However, development of the transport network will be required to accommodate expected growth.

The timely delivery of state and local infrastructure, particularly upgrading and improving existing transport networks and water and sewerage reticulation and treatment facilities, as well as fire and rescue and state emergency services, is essential to supporting the subregion's expected population and employment growth. The focus is on improving existing infrastructure and providing new infrastructure to support the growth of Bowen, Airlie Beach, Cannonvale and Proserpine.

Development within the APSDA, and proposed expansions to the Port of Abbot Point, will significantly increase activity on the Bruce Highway. Improved transport links may need to be considered, depending on the scale and timing of development within the state development area. The *Bruce Highway Upgrade Strategy* includes several infrastructure projects which will support transport infrastructure improvement in the subregion, including the Bowen deviation and Sandy Gully bridge upgrade.

Expansion of the marina facilities at the Port of Airlie will facilitate improved access to the Whitsunday Islands.

Reducing the vulnerability of the Bruce Highway to flood inundation, particularly between Proserpine and the airport and between Bowen and the APSDA, will significantly improve productivity within the subregion.

Mango plantation, Bowen
Courtesy of Ray Cash Photography

Part C Desired regional outcomes

The desired regional outcomes (DROs) articulate the preferred direction for the development and land use outcomes for the Mackay, Isaac and Whitsunday region (the region), and include specific policies and programs to manage the growth of the region over the next two decades.

Embedded within each DRO are a series of principles that seek to achieve the DRO. Detailed policy statements recognise the steps that must be taken for the principles to have effect. These policies are supported by programs, to be implemented over the life of the plan, that identify actions that underpin the achievement of the policies. The programs will not detail all actions that may be required during the life of the plan to achieve the policies and may be added to over time through implementation. Notes have been included with each DRO to explain the policy statements, identify implementation processes, or provide additional relevant information to aid in the understanding of the DRO.

The principles and policies will guide state and local governments in the formulation of policies and planning documents, such as planning schemes. Local government planning schemes and subordinate policies must align with the intent of the DRO, principles and policies.

Programs may be delivered by state or local governments, industry, non-government organisations or community groups.

The DROs are an integrated and holistic set, with no intended priority. They appear under the following headings:

1. Sustainability, climate change and natural hazards
2. Regional landscapes
3. Environment
4. Natural resource management
5. Strong communities
6. Strong economy
7. Managing growth
8. Urban form
9. Infrastructure
10. Transport.

1. Sustainability, climate change and natural hazards

The region grows and changes in a sustainable manner generating prosperity, maintaining and enhancing quality of life, minimising the use of resources, providing high levels of environmental protection, reducing greenhouse gas emissions, and increasing resilience to natural hazards and the anticipated effects of climate change.

Significant environmental, economic and social impacts can occur in periods of intense growth. Minimising these impacts to provide a tenable outlook for future generations ensures the environmental, economic, social and cultural values of the region are preserved and enhanced.

The overriding intent of regional plans is to ensure the region grows and changes in a sustainable way. This underpins the principles contained within each DRO. The DROs achieve this through incorporating environmental, economic and social considerations into strategic policy and decision-making.

Since 1994, sustainable development principles have been included in a range of Queensland's legislative instruments such as the *Environmental Protection Act 1994* and *Water Act 2000*. The Australian Government has produced a National Strategy for Ecologically Sustainable Development (ESD), which defines the goal of ESD as:

> *Development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.*

Ensuring the long-term sustainability of the region underlies the policies throughout the plan. An essential component of this is the inclusion of sustainability principles in relevant decision-making frameworks.

Scientific evidence indicates that human-induced climate change is occurring, primarily due to increasing concentrations of greenhouse gases in the atmosphere. Research indicates that significant benefits are to be gained in responding to the projected impacts of climate change and reducing the emission of greenhouse gases. Urgent action is necessary to stabilise greenhouse gas emissions at a level where the effects of climate change can be avoided.

Designing communities to reduce the need to travel or the distance travelled, incorporating green space, and increasing energy efficiency in buildings are just a few examples of measures that can be taken to reduce greenhouse gas emissions in urban areas.

It is necessary to take a proactive approach to adapting to the potential impacts from climate change. Planning now for change will assist in the formation of strong and resilient communities and reduce the possible future costs of adaptation, defence and retreat strategies.

Strategies to adapt to climate change impacts may include influencing the location and design of urban development and protecting areas at risk, such as coastal areas from sea level rise and greater storm intensity factors. The early reduction of emissions and adaptation to climate change are likely to preserve the economic prosperity and current lifestyle of the region.

Historical events such as floods, landslides, bushfires and other natural hazards have already shaped the way our communities have developed. It is these events, with the additional anticipated climate change impacts, that will shape the future of communities within the region.

Natural hazards will continue to be a major factor in determining the location and form of development in the region. Increasing focus will be on areas potentially at risk from the impact of natural hazards, such as bushfires, storm tides, cyclones, flooding, rising sea levels and more extreme weather events.

1.1 Sustainability

Principle

1.1.1 Decision-making supports ecologically sustainable development.

Responsible decision-making is vital to the region's longevity and protection of the principles of ESD. The challenge of reducing the region's ecological footprint, while enhancing the region's economy and people's quality of life, remains one of the major issues facing the region, now and into the future.

Policies

1.1.2 Decisions contribute to the ecological sustainability of the region by considering:

- integrated and long-term outcomes
- intergenerational equity
- intra-generational equity
- conserving biological diversity and ecological integrity
- internalising environmental costs
- engaged governance.

Programs

1.1.3 Develop targets for sustainability that are aligned to the DROs, and monitor the progression towards achieving the DROs of the regional plan.

1.1.4 Develop and publish a State of the Region report for Mackay, Isaac and Whitsunday to review the progress in achieving sustainability in the region.

Notes (for 1.1)

The intent of the regional plan is to ensure the region responds to growth and long-term shifts towards employment and economic diversification in a sustainable way. The challenge is balancing the issues associated with growth and the environment, while enhancing the region's economy and people's quality of life. The regional plan seeks to achieve this through the DROs to realise social, ecological and economic improvements.

Developing regional targets for sustainability, and monitoring the progression of these targets, will provide valuable information for the review of the regional plan, and measure progress in achieving the DROs.

The regional plan has taken into account environmental, economic and social principles. The DROs work in partnership with other actions, strategies and plans to assist in delivery, monitoring and review of the regional plan. This includes documents such as a natural resource management plan, including associated targets.

Boardwalk at Airlie Beach *Courtesy of Ray Cash Photography*

1.2 Climate change

Principle

1.2.1 The generation of greenhouse gases is reduced through land-use planning and development design, and long-term climate change impacts are considered in planning decisions.

Ensuring that land use, development and infrastructure decisions take into account climate change impacts will help build community resilience and minimise the costs of adaptation.

Implementation of policies to reduce greenhouse gas emissions through planning and design in the region will be achieved by reinforcing activities such as the application of climate responsive design principles, urban consolidation, enhancement of self-contained communities, provision of greater public and active transport, and improved sustainable housing regulations.

Primary producers and other rural industries also have a role in reducing greenhouse gas emissions. The emergence of carbon markets (nationally and internationally) will increase business investment in carbon forestry. Productive agricultural lands in the region also provide opportunities to further enhance bioenergy production.

Policies

1.2.2 Greenhouse gas emissions from vehicle usage are reduced through a consolidated urban structure and an urban form that reduces the need to travel by private motor vehicle and increases active transport opportunities.

1.2.3 Energy efficiency and reduction of greenhouse gases from electricity usage are improved through adjustments to building siting, orientation, design, construction and use of demand-management technologies.

1.2.4 Improved access to renewable energy options and low-emission technology is increased.

1.2.5 Opportunities for carbon forestry are facilitated in the region.

1.2.6 Land management and other planning decisions take account of projected climate change impacts including reduced water availability, as a result of variable rainfall, increased temperature and sea level rise.

Notes (for 1.2)

Almost one-quarter of Australia's total greenhouse gas emissions can be attributed to energy use in residential and commercial buildings. Queensland's climate change strategy, *ClimateQ: toward a greener Queensland*, contains a Marginal Abatement Cost Curve, which compares abatement opportunities within the Queensland economy. It shows improved energy efficiency in buildings as among the lowest cost ways to reduce emissions, resulting in economic benefits. The transport sector also offers opportunities for cost-effective reduction of emissions. Given long-term projections of higher fuel prices, vehicle efficiency measures and alternative fuels offer large greenhouse gas abatement potential, as well as delivering an overall economic benefit.

To assist landowners in Queensland to engage in emerging carbon markets, there is a need for information on carbon market opportunities, business information and technical advice on appropriate areas for carbon forestry. Regional natural resource management bodies, for example Reef Catchments, are well placed to provide information on suitable areas for carbon forestry that complement broader natural resource management and biodiversity outcomes. There are already a number of established companies that provide technical support, brokerage services and finance for the voluntary carbon market.

From 1 May 2010, the Queensland Government introduced a 6-star energy equivalence rating for new houses and townhouses as a minimum requirement in Queensland. This was implemented via the *Building Code of Australia* and the *Queensland Development Code Mandatory Part 4.1 – Sustainable buildings*. More information can be found at www.dlgp.qld.gov.au/sustainable-housing

The contribution of these and other initiatives to the region's sustainability will be strengthened over time by developing performance criteria to assess the contribution of development to reducing greenhouse gas emissions. Such performance criteria would be incorporated into ClimateSmart model codes to assist governments and the development industry to improve the efficiency of the urban form, reduce resultant transport fuel and energy use, and maximise opportunities for the use of low-emission technologies.

These regional initiatives and related programs will help to achieve the target in Toward Q2: Tomorrow's Queensland to cut Queensland households' carbon footprint by one-third, with reduced car and electricity use and greenhouse gas emissions from waste, by 2020. (notes continue on next page)

Sound planning can make a significant contribution to the reduction of greenhouse gas emissions through:

- consolidating urban growth by supporting energy-efficient buildings in well-designed and appropriately located centres
- reducing the length and number of journeys by co-locating schools, shopping centres, other services and major trip generators close to population centres
- increasing accessibility to public transport and improved intermodal transport opportunities
- maximising opportunities and facilities for active transport, including walkways and cycle ways
- increasing the efficient use of energy and supporting the generation of renewable energy and use of low-emission technologies, including solar and wind power or co-generation in key locations
- increasing the sequestration of carbon dioxide by increasing the planting of trees to store carbon
- retaining native vegetation
- identifying opportunities to increase native vegetation coverage
- minimising and re-using emissions from landfill.

Taking climate change projections into account in land use and development decisions now will minimise the impacts and costs for the region in the future.

More extreme weather events projected under climate change will affect the intensity and frequency of natural hazards. The Queensland Government has identified climate change factors to be considered in determining areas at risk from flood and coastal hazards under a changing climate. The recommended climate change factors include:

- a five per cent increase in rainfall intensity for every additional degree of global warming for incorporation into flood studies (refer to the *Inland Flooding Study* at www.climatechange.qld.gov.au)
- temperature increases and planning horizons to support the rainfall intensity factor, specifically 2 °C by 2050, 3 °C by 2070 and 4 °C by 2100
- a sea level rise of 0.8 metres by 2100 and 10 per cent increase in maximum cyclone intensity by 2100 (required by the *Queensland Coastal Plan*).

Adaptation to gradual climate change impacts and more extreme weather events can be achieved through a range of strategies, such as improved building design and construction standards for development and infrastructure, and developing and implementing management plans (e.g. the *Queensland Heatwave Response Plan*).

Biological hazards such as pests and diseases will also be affected by climate change, and will be principally managed through federal, state and local government biosecurity programs. For example, the incidence and distribution of mosquito populations and mosquito-borne diseases (e.g. dengue fever and Ross River virus) are likely to change as a result of changes in temperature and rainfall.

Climate change strategies

The Queensland Government's climate change strategies–*ClimateQ: toward a greener Queensland, ClimateSmart 2050* and *ClimateSmart Adaptation 2007–12*–commit Queensland to making an equitable contribution towards the national target of reducing greenhouse gas emissions to 60 per cent below 2000 levels by 2050.

ClimateQ also contains summaries of climate change projections and impacts for Queensland's regional planning areas, including the Mackay, Isaac and Whitsunday region.

More information can be found ar: www.climatechange.qld.gov.au/whatsbeingdone/climatechangestrategy

Climate change information provided by the Queensland Climate Change Centre of Excellence, Commonwealth Scientific and Industrial Research Organisation (CSIRO) and the Bureau of Meteorology will continue to inform responses that will help minimise the vulnerability of essential infrastructure, natural environments, people and development to climate change impacts.

(notes continue on next page)

Commonwealth initiatives

- *Sustainable Australia – Sustainable Communities, A Sustainable Population Strategy for Australia in May 2011*
- The Sustainable regional development program forms part of this strategy and is relevant to the regional plan
- *Our Cities, Our Future: A national urban policy for a productive, sustainable and liveable future*
- *The Building Better Regional Cities Program*
- *The National Waste Policy 2009*

1.3 Natural hazards

Principle

1.3.1 The resilience of communities, development, essential infrastructure, natural environments and economic sectors to recognised hazards, including the anticipated effects of climate change, is increased.

The preferred approach to dealing with natural hazards is to avoid new or expanded development in hazard-prone areas. Implementation of natural hazard policies will be achieved principally by adopting a risk management approach that avoids development and construction of new critical infrastructure in areas with high exposure to natural hazards, and minimises the vulnerability of communities, development, essential infrastructure, natural environment and economic sectors.

The region's landscape and settlement pattern are characterised by natural features, including the coastline, conservation areas, and many river systems that cross the region. These natural features have brought significant benefits, such as high-quality agricultural lands, good access to water, and scenic values which continue to attract people to the region. With these benefits come risks—the region is vulnerable to natural hazards such as bushfire, landslide, storm tide and flooding. Understanding and responding to natural hazard risk is pivotal to increasing resilience, while accommodating further growth and preparing for the anticipated impacts of climate change.

Flooding has shaped the settlement patterns of many towns in the region. It is important that lessons learnt from past events continue to be a major factor in determining where and how future development occurs in these communities. Improved understanding and investigation of flood impacts will assist in the management and planning of urban environments into the future.

Growth pressure in coastal areas and the projected impacts of climate change have seen coastal hazards such as storm tides become increasingly relevant to coastal communities in the region. Further understanding the implications of, and planning to mitigate and adapt to, natural hazard risks will build community resilience and contribute to the long-term sustainability of coastal communities.

Policies

1.3.2 Areas of high exposure to natural hazards, including the effects of climate change on those hazards, are avoided.

1.3.3 Incompatible development is avoided where its location or form may increase natural hazard risk elsewhere.

1.3.4 Vulnerability to natural hazards and extreme weather events is minimised through adaptive planning and building responses.

1.3.5 Risk to development is reduced through effective management of coastal and riparian environments to minimise alterations to natural systems, such as natural flow regimes and flood plain connectivity.

1.3.6 Development and essential infrastructure is located, designed and constructed to be resilient to natural hazards, including the effects of climate change on those hazards.

Hay Point *Courtesy of Ray Cash Photography*

Programs

1.3.7 Establish a natural hazard risk management framework, incorporating identification, monitoring, review and governance to inform land-use planning, development assessment and disaster management plans.

1.3.8 Undertake whole-of-sub-basin studies to establish reliable flood hazard mapping and defined flood levels within all low-lying areas in order to identify flood-prone areas.

1.3.9 Increase the resilience of at-risk communities by raising their awareness and preparedness for more frequent and extreme weather events. Ensure that disaster response plans, services and community recovery plans take into account the likely increased severity of extreme weather events.

1.3.10 Interpret and implement statutory and non-statutory planning guidance to reduce vulnerability and manage risks from natural hazards.

Notes (for 1.3)

Natural hazards pose a significant risk to communities and infrastructure. Climate change is expected to increase the frequency and severity of extreme weather events that cause these natural hazards.

Natural hazards include:

- flooding
- storm tide inundation and sea level rise
- coastal erosion
- bushfires
- landslides.

Extreme weather events include:

- heatwaves and higher temperatures
- extreme rainfall
- droughts
- tropical cyclones and thunderstorms.

Adaptation strategies can reduce vulnerability through:

- avoiding new development or infrastructure in areas of high or extreme exposure to natural hazards
- improving the design of developments and infrastructure to minimise impacts from natural hazards
- improving community preparedness to respond to natural hazards and extreme events
- enhancing natural systems
- maximising opportunities for rural industries in the face of increasing climate variability
- developing or enhancing local disaster management plans.

The requirement to reflect *State Planning Policy 1/03: Mitigating the Adverse Impacts of Flooding, Bushfire and Landslide* (SPP 1/03) and the *Queensland Coastal Plan* in planning schemes is intended to reduce exposure to natural hazards. The aim of these statutory planning instruments is to minimise unacceptable risks in natural hazard management areas, storm tide inundation areas and coastal erosion and permanent inundation areas, which can all be considered as areas of high exposure to natural hazards.

The region's existing settlement pattern is heavily influenced by proximity to major water courses and the coast. As a result, many communities will continue to be subject to significant flooding risk and coastal hazards. Any further development and infrastructure planning will need to respond to natural hazard risk.

The advancement of flood mapping and management of natural hazards (e.g. as an outcome of the Queensland Flood Commission) will identify how natural hazard policy can be achieved, for example through SPP 1/03. (notes continue on next page)

Planning for the potential impacts of flooding, bushfires and landslides is guided by SPP 1/03, which outlines a framework for local governments to manage the risk associated with land use in natural hazard areas. Specifically, the SPP 1/03 framework requires that local governments identify areas that are hazard-prone and confirm the severity of the hazard. The management of flood hazard areas is also dependent on local governments adopting a flood event as a baseline, in accordance with SPP 1/03, to manage risk associated with development in a particular locality.

Statewide floodplain mapping

Statewide floodplain mapping has been completed for all relevant sub-basins across Queensland. This mapping is currently available at www.floodcheck.qld.gov.au. An overview of the floodplain assessment for the region is provided at Map 2.

This mapping provides a high-level extent of potentially floodable land within the region which may provide sufficient flood information for the majority of the sub-basin. More detailed local flood investigations around and within key settlements should be carried out to adopt a flood event that can satisfy the requirements of SPP 1/03. These studies should be undertaken as part of the process of preparing a planning scheme, particularly the new generation of planning schemes compliant with *Sustainable Planning Act 2009*. It is important to ensure these investigations are undertaken at a sub-basin level, rather than confined to a local government area, ensuring that a holistic approach can be maintained. The *Planning for stronger, more resilient floodplains* guideline prepared by Queensland Reconstruction Authority provides a toolkit where a fit-for-purpose approach to floodplain management can be developed to support land-use planning responses and decision making in future planning schemes.

Planning should ensure development does not occur in a manner that is likely to result in an increase in the extent or severity of flooding. This strategy applies both within and outside Natural Hazard Management Areas (NHMAs). Where feasible, natural flow and inundation patterns should be restored, including connectivity between rivers and flood plains and beneficial flooding of agricultural areas. This will also minimise the concentration of flows and flooding downstream.

Floodplain management

Most of the region's towns and cities are located on floodplains, both inland and coastal. This is an historical fact, principally for reasons associated with water supply, transportation, waste disposal, advantageous points for river crossings, access to productive soils or recreation. Hence, these towns are subject to flooding.

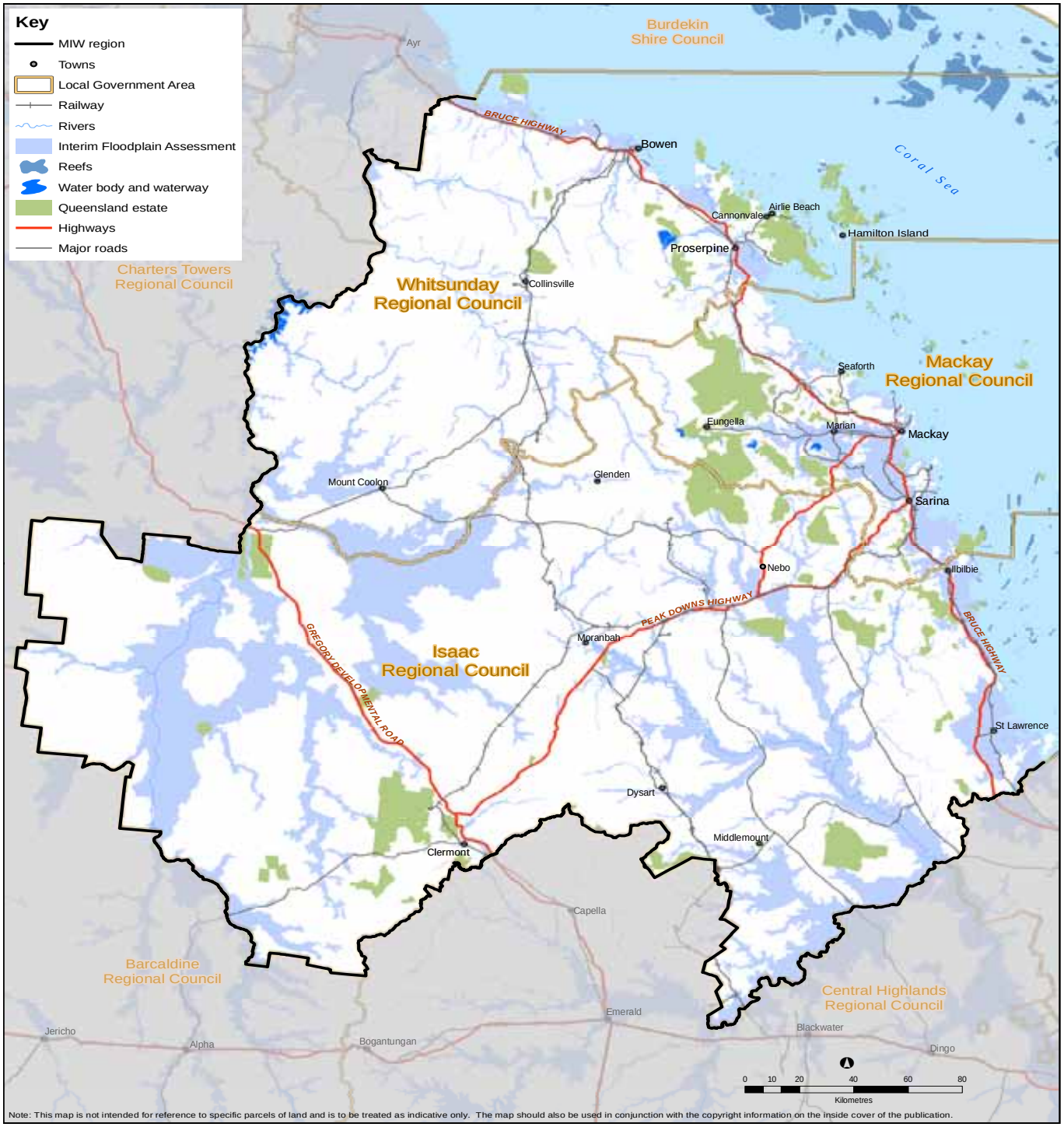
Floodplain management in Australia has evolved through four successive phases:

1. structural works
2. planning
3. flood emergency management
4. all-embracing management.

During the structural phase, predominantly in the 1970s, structural works, typically levees, were used to protect existing properties at risk. Little consideration was given to the use of levees and their potential impact on the environment, risk management planning or even land-use planning. However, in 1974, a series of severe floods in New South Wales, Victoria and Queensland caused widespread and significant damage. The aftermath was that better correlation and regulation of levees was required.

Finally, from the early 1990s, the importance of an all-embracing approach to floodplain management has been apparent. An integrated approach to flood plain management is crucial in mitigating the risks associated with flooding in the Mackay, Isaac and Whitsunday region. (notes continue on next page)

Map 2: Interim floodplain assessment (notes 1.3 continued)



Floodwaters can also be altered by development outside the NHMAs, such as increased run-off from impervious areas as part of urban development, and interference with overland flows as part of agricultural activities. In urban areas, these flow alterations should be managed by applying water-sensitive urban design principles. All development should be assessed to ensure flow alterations are acceptable in relation to flood risk and environmental flows. It is recognised that some existing urban settlements are subject to significant flooding risk. While development in these areas can sometimes not be avoided, measures should be in place to ensure impacts are mitigated where possible.

In light of climate change, it is expected the bar will be raised for managing risk, as emerging trends indicate a need for re-assessment of hazard-prone areas under current and future climate projections. The Queensland Government has provided local governments with advice on how to incorporate the potential impacts of climate change into planning instruments through the *Inland Flooding Study* and *Queensland Coastal Plan*. These documents deal with climate change impacts on riverine flooding and coastal processes.

Increasing Queensland's resilience to inland flooding in a changing climate

A joint Queensland Government and Local Government Association of Queensland *Inland Flooding Study* was completed in November 2010. The study was undertaken to recommend options to increase community resilience to extreme flood events, including:

1. specific policy options for improved flood risk management
2. recommendations for inclusion in the review of the SPP 1/03.

As a result, this *Inland Flooding Study* combines the best available science and planning options to provide clear guidance and practical tools to enhance flood risk management by local governments.

More information can be found at

www.climatechange.qld.gov.au/whatsbeingdone/queensland/inlandfloodingstudy.html

The *Queensland Coastal Plan* identifies minimum assessment factors for determining erosion-prone areas, storm tide inundation areas, and areas of permanent inundation due to sea level rise. These take into account the anticipated effects of climate change, based on the projections of the *Intergovernmental Panel on Climate Change Fourth Assessment Report (2007)*. This includes:

- for development not subject to a development commitment–
  - a planning period of 100 years
  - a projected sea level rise of 0.8 metres by 2100 due to climate change
  - an adoption of the 100-year average recurrence interval extreme storm event or water level
  - an increase in cyclone intensity by 10 per cent
- for development subject to a development commitment–
  - a planning period equivalent to the expected asset life
  - a projected sea level rise as identified, based on the expected asset life
  - an adoption of the 100-year average recurrence interval extreme storm event or water level
  - an increase in cyclone intensity by 10 per cent.

The *Queensland Coastal Plan* provides coastal hazard area maps based on these minimum assessment factors and high-resolution digital elevation models (DEM). The maps identify:

- a default storm tide inundation area
- erosion-prone areas
- permanent inundation areas due to sea level rise.

The maps are available at www.derm.qld.gov.au/coastalplan/index.html

(notes continue on next page)

Digital elevation modelling

To better understand the impacts of sea level rise, storm tide, coastal erosion and flooding in Queensland, the three tiers of government have invested in a high-resolution DEM. This DEM will help local government and other stakeholders to map areas likely to be at increased risk from coastal hazards and flooding. DEM data for the Mackay, Isaac and Whitsunday region is available from the Department of Environment and Resource Management.

National Strategy for Disaster Resilience

In 2009, the Council of Australian Governments (COAG) agreed to adopt a whole-of-nation resilience-based approach to disaster management, which recognises that a national, coordinated and cooperative effort is needed to enhance Australia's capacity to withstand and recover from emergencies and disasters.

This has resulted in the *National Strategy for Disaster Resilience*, which identifies that application of a resilience-based approach is not solely the domain of emergency management agencies; rather, it is a shared responsibility between governments, communities, businesses and individuals. The purpose of the strategy is to provide high-level guidance on disaster management to federal, state, territory and local governments, businesses and community leaders, and the not-for-profit sector. The strategy is the first step in a long-term, evolving process to deliver sustained behavioural change and enduring partnerships.

For a copy of the strategy visit

www.coag.gov.au/coag_meeting_outcomes/2011-23/docs/national_strategy_disaster _resilience.rtf

Hazardous and high-impact industries

Mitigating impacts from hazardous and high-impact industries can be achieved by:

- providing appropriate buffers to protect both the use and adjacent land uses of environmental features
- providing appropriate infrastructure commensurate to the risk (e.g. appropriate water supply, locating out of NHMAs)
- locating hazardous and high-impact industries away from areas likely to be sensitive to the potential impacts of the use.

2. Regional landscapes

Environmental, economic, social and cultural values of the regional landscape are identified and secured to meet community needs and achieve ecological sustainability.

The regional landscape comprises a number of components, each with its own specific values and significance to the environment, economy and residents within the region. These components include core landscape areas, inter-urban breaks, regional green space networks, rural towns, coastal waters and foreshores, biodiversity networks and the natural economic resource areas.

Regional landscape values occur in urban, peri-urban and rural areas, and play a major role in defining the character of the region and providing economic opportunities to sustain growth. The communities across the region recognise that these values influence the character and quality of the places where they choose to live.

To remain attractive and functional, the regional landscape must be responsibly planned and well managed to continue to support values including biodiversity, rural production, scenic amenity, landscape heritage and outdoor recreation.

These landscape values must remain resilient to the pressures from population growth, including the requirements for major infrastructure such as regional power networks, pipelines and transport infrastructure, but also known climate variability and the anticipated effects of climate change.

Planning for resilience requires a better understanding of the current state of landscape values, as well as how to maintain and enhance the capacity of the regional landscape to deliver ecosystem services to all communities in the region. This requires robust and integrated policy and programs which prioritise where, when and how investment can be most effectively targeted to restore and maintain landscape values.

Maintaining these regional landscape values for the benefit of current and future generations is a priority best achieved through a collaborative stakeholder approach to inform planning and guide decision making.

Given the multiple, varying interests and wide range of stakeholders involved, collaboration between state agencies, local government, regional natural resource management organisations, industry, community groups and traditional owners is essential. Wide stakeholder representation and inclusive consultation processes are necessary to gain agreement on evidence-based targets and management practices. These collaborative institutional arrangements are helping to integrate statutory and non-statutory initiatives to deliver better and more coordinated regional landscape outcomes.

Toward Q2: Tomorrow's Queensland establishes targets for environment and lifestyle, economy, education and skills, health and community. It makes a commitment to achieve a statewide target to protect 50 per cent more land for public recreation by 2020. The achievement of other Toward Q2 targets for the economy, health and community will also be assisted by effective protection and management of regional landscape values across the state.

Rose Bay, Bowen *Courtesy of Ray Cash Photography*

2.1 Regional landscape values

Principle

2.1.1 Manage and enhance the values of the regional landscape to optimise their ability to contribute to the region's liveability, lifestyle, health and economy.

The regional landscape contributes significantly to the region's economy and liveability. The community recognises this by taking part in the use and management of these areas. Some of these regional landscape values include:

- biodiversity
- rural production and other primary industries
- scenic amenity
- landscape heritage
- outdoor recreation.

Any part of the regional landscape may have one or more of these identified values. These values exist on different tenures of land, often with no single ownership or authority responsible for their protection or management. For example, highly valued scenic landscapes occur both on private and publicly owned land within the region. Areas of significant biodiversity value, and the biodiversity networks that join these areas, can also be found on privately owned land. It is therefore a responsibility to be shared across all levels of government, non-government organisations, community and industry groups to collectively and cooperatively protect and manage these areas.

Policies

2.1.2 Plan, design and manage development, infrastructure and other activities to manage and enhance regional landscape values.

Programs

2.1.3 Develop a consistent methodology for identifying regional landscape values across the region.

2.1.4 Develop a consistent approach to the assessment, approval and management of rural, nature-based and ecotourism facilities that ensures such facilities do not degrade the values of the regional landscape.

Notes (for 2.1)

To remain a competitive, functional and attractive place, the natural environment qualities of the regional landscape must be maintained to support values such as biodiveristy, rural production, scenic amenity, landscape heritage and outdoor recreation.

Any part of a landscape may have one or more regional landscape values associated with it. These values exist on different tenures of land, with no single jurisdiction responsible for their protection or management. Scenic landscapes, for example, occur both on private and publicly owned land.

It is also important to recognise that landscape values are not limited only to natural environmental features. Rural towns and rural activities, such as cropping and grazing, contribute to the character of the region, and illustrate their importance, not only to the economy, but also to the regional landscape.

Open space and rural lands contribute to a sense of place and to the scenic amenity of the region, and play a role in creating inter-urban breaks. The benefits of inter-urban breaks can be enhanced by compatible land uses and activities. Local government may undertake an investigation into the benefits and contribution of inter-urban breaks which will provide clarity and certainty by ensuring:

- the long-term viability of maintaining inter-urban breaks through effective management and use by supporting appropriate rural industries, including agricultural production, tourism and recreational opportunities
- the clear identification of the important landscape value, planning and management functions of inter-urban breaks.

2.2 Regional landscape areas

Principle

2.2.1 Optimise multiple community benefits through coordinated planning, management and investment in regional landscape areas.

Within the region, particular areas are recognised as having significant value for one or more landscape values – scenic amenity, water catchment, outdoor recreation, rural production and biodiversity. Regional landscape areas can be used to focus planning and management resources to protect and manage particular places for one or more landscape value.

Areas of high scenic amenity are important to both locals and tourists that visit the region. Diverse landscapes and seascapes, including the Whitsunday Islands and Whitsunday Passage, Great Barrier Reef lagoon, Conway Peninsula, the coastal hinterland mountain ranges including Eungella National Park, Broadsound Wetlands, extensive inland plains and other features, define the region.

Farming and other types of rural production (e.g. forestry) create landscapes with aesthetic and cultural value linked to scenic amenity and landscape heritage. Sugarcane farming is a distinctive feature of the rural landscape in some parts of the region. The natural, cultural and scenic values of the region's landscapes and seascapes could be threatened from inappropriate development, and need to be identified and protected to maintain the liveability and tourism values of the region.

Cane farmer, south of Mackay *Courtesy of Ray Cash Photography*

Some landscapes are more sensitive to development than other areas due to their intrinsic values and associated geology, topography, soils and vegetation. Such areas include the Conway Peninsula, which provides the landscape setting for the tourism precinct at Airlie Beach. Vulnerable areas must be protected from inappropriate development.

Regional landscape areas can focus on single or multiple values. Examples of single value regional landscape areas include:

- biodiversity networks
- natural economic resource areas
- scenic amenity areas
- landscape heritage areas.

Examples of multiple value regional landscape areas include:

- core landscape areas
- landscape corridors
- regional offset areas
- regional community green space networks
- catchment areas
- outdoor recreation precincts
- rural, nature-based or ecotourism precincts.

Policies

2.2.2 Regional landscape areas are managed to optimise economic, social, recreational and ecosystem services to the region.

2.2.3 Inter-urban breaks are protected from development that diminishes their function.

Programs

2.2.4 Identify and map regional landscape areas to inform land-use planning and decision-making.

2.2.5 Identify current and potential landscape corridors, including regional and local biodiversity corridors and networks, to connect priority regional landscape areas.

Notes (for 2.2)

The regional landscape is made up of multiple components, each with its own specific value and significance to the environment and residents of the region. These components include:

- core landscape areas—areas of multiple landscape value and ecosystem services such as Whitsunday Islands and Whitsunday Passage, coastal hinterland mountain ranges including Eungella National Park, Conway Peninsula, Broadsound Wetlands, Desert Uplands and extensive inland plains
- inter-urban breaks—areas separating urban development, which can have a variety of uses such as productive agricultural land, environmental reserves, and sport and recreational activities
- regional offset areas—strategically identified areas to manage the offset of negative impacts from development
- regional community green space network—areas of publicly owned land that facilitate community health and wellbeing through physical activity, social interaction, liveability and direct interaction with the environment
- rural towns—scenic amenity of rural towns in rural and natural environs
- coastal waters and foreshores—which provide a significant service and maintain environmental, community and economic integrity within the region
- biodiversity networks—wildlife habitats and associated connecting corridors that are managed to maintain biodiversity values at a regional scale
- natural economic resource areas—sections of the landscape that support agricultural production, extractive industry, forestry, tourism, fisheries and rural industries.

2.3 Green space network

Principle

2.3.1 An integrated green space network caters for a range of community and environmental needs.

Attractive, safe and accessible green space and land for public recreation contribute positive social, economic and environmental benefits, improving public health, wellbeing and quality of life. Green space is a vital part of delivering a sustainable and prosperous state.

The majority of the region's green space network is owned and managed by state or local governments, including national parks, state forests, marine parks, beaches, major waterways, water storage areas and major urban parks. The region has almost 570 000 hectares of protected areas managed by the Queensland Parks and Wildlife Service. The service preserves and protects regionally significant areas for public access, and provides diverse values and uses, including nature conservation, active transport, outdoor recreational activities, forestry production, water catchment management, education and scientific research.

To maximise the multiple benefits of green spaces, it is necessary to integrate, manage and plan green space networks to provide for a range of community and environmental needs, now and into the future.

Policies

2.3.2 Existing green space networks are expanded to meet current and future environmental and community needs.

2.3.3 State, regional and local biodiversity networks are protected and promoted to maintain ecological services, and the intrinsic landscape values and settings provided by the regional green space network.

2.3.4 Development is located and designed to contribute to, and integrate with, the green space network.

Programs

2.3.5 Define, identify and map a preferred future regional green space network that meets community, biodiversity and ecological service requirements.

Notes (for 2.3)

The *Queensland Greenspace Strategy* focuses on the expansion of land for public recreation, where public use and access are the priority, rather than biodiversity values. Green space represents places where people play, recreate and socialise. It includes council parks, public gardens, playing fields, children's play areas, foreshore areas, bushland and linear reserves, national parks, state forests and conservation reserves. The definition excludes roads and marine areas.

As the population increases, retention of land for green space, including for nature conservation and public recreation, will become more important.

Five key planning actions have been identified. These proposed actions are to:

1. promote additional green space
2. introduce better planning processes, tools and instruments to increase green space
3. remove arbitrary barriers that limit public access to state-owned land
4. encourage recreation opportunities on private land
5. investigate the potential to use surplus state-owned land as green space.

Toward Q2: Tomorrow's Queensland

In December 2011, the Queensland Government released the *Queensland Greenspace Strategy* to support delivery of the government's Toward Q2: Tomorrow's Queensland target to protect 50 per cent more land for nature conservation and public recreation by 2020. The policies and programs of the region plan will help achieve this target.

More information can be found at www.towardq2.qld.gov.au

Kings Beach, Bowen *Courtesy of Ray Cash Photography*

3. Environment

A healthy and resilient natural environment supports the region's rich biodiversity and ecosystem services, which contribute to the economic development and social and cultural identity of the region.

The natural environment encompasses all living creatures and plants, as well as naturally occurring processes that cleanse and produce fresh water and clean air. Ecosystem biodiversity includes the different plants, animals and micro-organisms; their genes; and the terrestrial, marine and freshwater ecosystems of which they are a part.

The region encompasses a broad range of natural environments, owing to its distinctive geographic location. Each of the region's local government areas contribute toward the landscapes that make up the region's coastal environs, hinterland and inland environments. Providing valuable services and opportunities to the region and assets to be embraced and protected, these natural environments also bring with them a range of challenges for the region to address over the next two decades.

Some of the region's distinct natural environmental features include:

- Great Barrier Reef World Heritage Area
- a vast array of coastal beach environs, including Whitehaven Beach
- a large number of islands adjacent to the Whitsunday Coast
- the Eungella mountain range including the Eungella National Park and Crediton State Forest
- major river systems including the Gregory, Proserpine, O'Connell, Isaac and Pioneer rivers
- the Epping Forest National Park, one of the last remaining habitats of the endangered Northern Hairy-Nosed Wombat
- significant feeding and roosting locations for migratory birds
- significant dugong populations and seagrass beds
- rich soils and productive agricultural lands
- landscape values of inland and rural areas
- diverse wetlands, including Edgecumbe Bay, Goorganga Plain and Broadsound Wetlands.

Threats to these regionally distinctive and special environmental features include the implications of development, climate change, mining activities and resource demands on the coastal zones, land-use development and management decisions. Such threats may cause adverse impacts on water quality in waterways, estuarine systems and the Great Barrier Reef lagoon, fragmentation of important habitats and the spread of invasive pest weed and animal species.

Balancing growth with appropriate management of these environments and the ecosystem services they provide (such as provision of food, water and energy, climate regulation, cleansing of water and air systems, recreation opportunities and social engagement, as well as scientific contributions) is fundamental to the prosperity of the region. As the population grows, the demands on these natural resources and environments will increase.

While many aspects of the natural environment are protected in conservation areas and national parks, a significant proportion of the region's environment contributes silently to the ongoing success and vibrancy of its communities through its attractive landscapes and tourism appeal.

Population growth and climate change pose immediate and significant threats to the region's natural assets, highlighting the imperative for sustainable management and use. The regional plan provides the framework to address the potential issues resulting from growth and associated development on the region's environmental and natural resource areas and values.

3.1 Biodiversity

Principle

3.1.1 The region's natural assets, biodiversity values and ecological services are protected, managed and enhanced to improve their resilience to the anticipated effects of climate change and other threats.

The region has rich biodiversity values that are to be managed to preserve the integrity of the natural environment into the future. Population growth and accompanying development within the region has delivered economic and social benefits; however, this has also increased pressure on the region's natural environment.

Loss or reduction in the extent of environmentally significant habitat poses a serious threat to the biodiversity of the region. Improper management of the natural environment, coupled with the anticipated effects of climate change and other factors such as population growth, will put the region's biodiversity at risk. It is essential that biodiversity networks and corridors at both regional and local scales are identified and managed to reduce the impact on wildlife habitats. These networks include:

- existing waterway corridors and biodiversity corridors
- existing broadscale areas with biodiversity values.

Policies

3.1.2 Development in non-urban areas maintains the integrity of areas with significant biodiversity values.

3.1.3 In urban areas, impacts from development on areas with significant biodiversity values, where they cannot be avoided, are offset in accordance with established policies, codes and frameworks.

3.1.4 The values of regional biodiversity networks are protected for the long-term through improved ecological connectivity, enhanced habitat extent and condition, and rehabilitation of degraded areas.

Programs

3.1.5 Integrate the identification, rehabilitation and management of local and regional biodiversity networks through coordination mechanisms, in partnership with private and public landholders.

3.1.6 Undertake pest and disease control programs to protect areas with significant biodiversity values.

3.1.7 Prevent and monitor exposure to exotic and introduced pests, weeds and diseases in the region, through the combined efforts of government, industry and landholders.

Notes (for 3.1)

Areas with significant biodiversity values may also be identified in local government planning schemes and natural resource management plans. These documents should be used to inform and guide the application of regional biodiversity policies. Areas with significant biodiversity values may also include terrestrial, freshwater, estuarine and marine ecosystems.

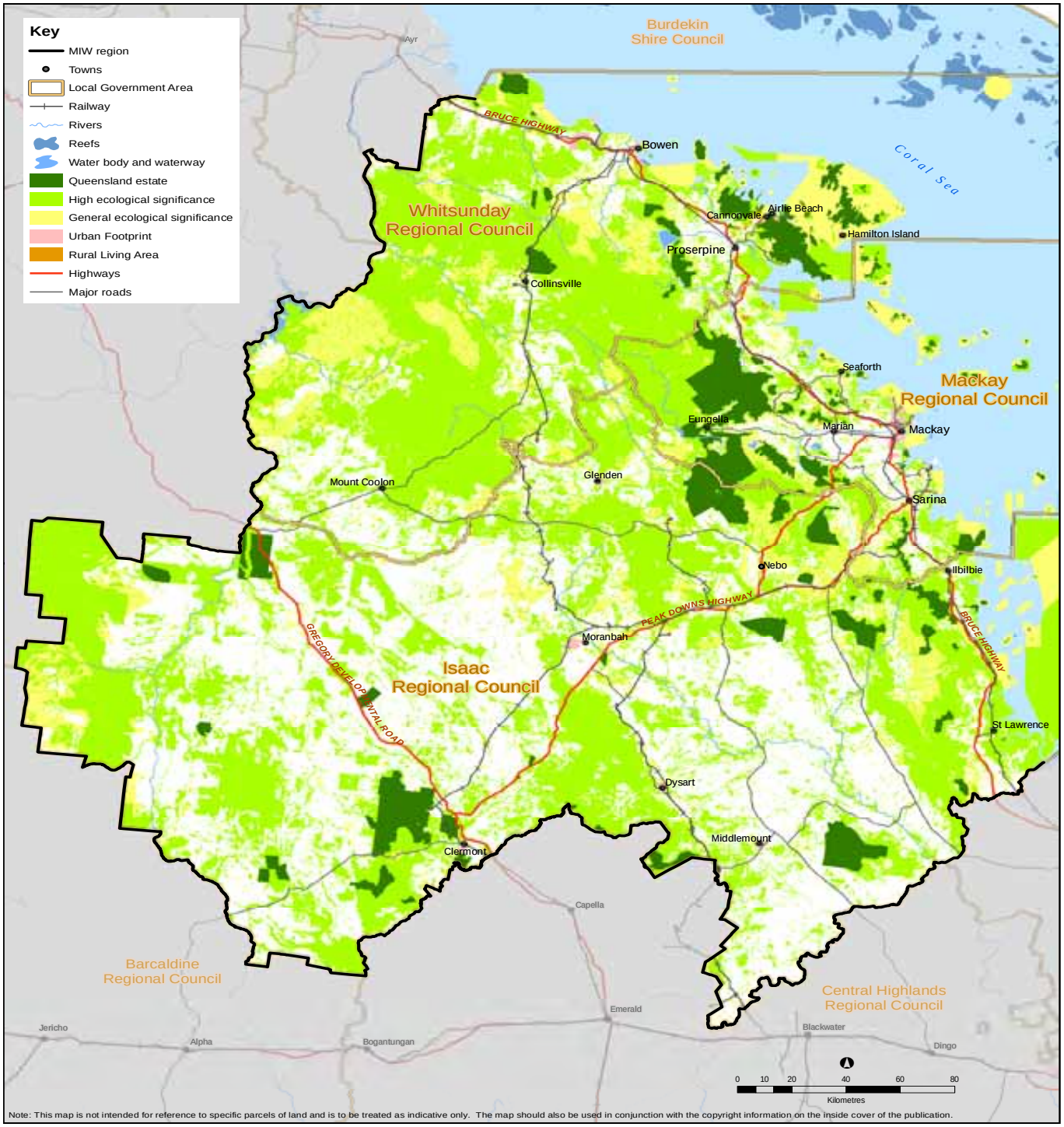
In order to achieve the desired outcomes for biodiversity protection, the overall condition, extent, diversity and connectivity of areas with biodiversity values need to be considered during land-use planning, including the potential on-site and off-site impacts from development. The management of these areas should include protection, enhancement and rehabilitation considerations.

Some habitat areas have been extensively fragmented by past development. The challenge is to reconnect wildlife habitats by identifying and protecting biodiversity networks and corridors at both regional and local levels to repair or improve habitat values. The identification of biodiversity networks should consider:

- existing waterway corridors and biodiversity corridors, including mosaic, contiguous or stepping stone corridors
- existing areas with significant biodiversity values
- future biodiversity corridor and habitat areas that could be identified, rehabilitated and protected to restore connectivity
- buffer development or other activities from riparian areas, national parks, state forests, environmental reserves or other areas of high sensitivity to avoid off-site impacts.

Areas of ecological significance across the region are indicatively shown on Map 3. (notes continue on next page)

Map 3: Areas of ecological significance (notes 3.1 continued)



Mapping areas of ecological significance

Department of Environment and Resource Management has prepared mapping that represents the state's biodiversity interests for statutory planning purposes. Areas which are not afforded statutory protection are most at risk from the impacts associated with urban development. By directing future development outside areas of ecological significance, minimising the impact of development on these areas, or implementing environmental offsets as per the policies of the *Queensland Government Environmental Offsets Policy*, there is the opportunity to maintain and enhance present biodiversity. Of particular importance is the need to identify and enhance critical habitats and strategic wildlife corridors to assist species' resilience and migratory needs in response to longer term threats, such as climate change.

Areas indicatively shown as having high ecological significance on Map 3 represent areas the state recognises to be of international, national, state or regional importance.

Queensland's biodiversity strategy

Science tells us that the state's biodiversity is in decline.

Climate change and population growth will exacerbate the severity of current threats and create new pressures on many ecosystems. The major threats to biodiversity in Queensland result in a reduction in the extent of habitat, as well as affecting habitat health and natural resilience.

Building Nature's Resilience: A *Biodiversity Strategy for Queensland* places the conservation of biodiversity at the centre of the state's conservation efforts, and provides for an integrated and comprehensive conservation strategy.

Queensland's strategic approach to biodiversity conservation covers marine, freshwater and terrestrial environments, and promotes a whole-of-landscape approach to achieve resilient ecosystems.

As a key outcome from *Shaping Tomorrow's Queensland: A response to the Queensland Growth Management Summit*, Queensland's biodiversity strategy provides focus and priority for biodiversity conservation for the whole of Queensland.

Our protected areas form conservation cornerstones, and when well connected in healthy landscapes, provide resilience for species and their habitats to withstand and recover from change.

As a custodian of some of the world's most important and irreplaceable natural treasures, Queenslanders have the responsibility to manage these now and in trust for future generations.

More information can be found at

www.derm.qld.gov.au/wildlife-ecosystems/biodiversity/biodiversity-strategy.html

Strategic expansion, connection and rehabilitation of biodiversity networks will require an understanding of anticipated ecosystem vulnerability to climate change-induced increases in natural hazards (e.g. flooding, sea level rise, bushfire, higher temperatures and heat waves).

Species response and survival will depend on their capacity to adjust or adapt to the anticipated effects of climate change. Species are likely to shift ranges and habitat in response to increased temperature, altered rainfall patterns and sea level rise. Many species are already under severe pressure from development, and many ecosystems are degraded from previous urban and rural land uses and development. Reducing threats and pressure from these land uses will be critical to improving the health and function of ecosystems and increase adaptive capacity.

Environmental offsets may be used to counterbalance negative environmental impacts that might result from an activity or development. The *Queensland Government Environmental Offsets Policy* establishes a framework for using environmental offsets in Queensland. Environmental impacts from development must first be avoided and, if not, then minimised. The policy guides the appropriate use of environmental offsets across terrestrial and aquatic ecosystems, based on the ESD principles.

The prevention of pests is an integral part of managing areas with significant biodiversity in the region. Regional pest and disease management offers an opportunity for coordination of biosecurity risks across a variety of land tenures that are linked to regional natural resource management.

Major rivers provide significant habitat for native plants and animals, and provide valuable corridors for land and aquatic wildlife movement. These river systems also support the region's agricultural industries and various outdoor recreation activities.

Wetlands provide important habitats for native plants and animals across the region and support vulnerable species.

Tourism and outdoor recreation are strongly dependent on natural assets, especially coastal areas and adjacent islands. The sustainable management of the natural environments and regional landscapes will ensure the quality and diversity of tourism and outdoor recreation destinations.

3.2 Water quality, waterway health and wetlands

Principle

3.2.1 The ecological health, environmental values and water quality of coastal, surface, ground waters and wetlands are protected.

Waterways, wetlands and estuaries identified as being of high ecological value and superior quality aquatic environments provide important amenity and environmental services. These water bodies include riverine and dam environments.

Avoiding or minimising impacts on these systems from development within, and close to, waterways and wetlands will help to preserve the water quality, natural hydrological processes, ecological functions and ecosystem services of these landscape elements.

In particular, water in national parks, conservation reserves or remote areas should be protected by minimising urban and other intensive development adjacent to, or upstream from, these systems.

Policies

3.2.2 Development is located, designed and managed to protect the environmental values and water quality of surface water and groundwater, wetlands and their associated buffers and coastal waters.

3.2.3 The quality of raw drinking water supplies is ensured by protecting existing and potential drinking water supply catchments from inappropriate land uses.

3.2.4 Recreational use of the region's waterways and catchments is facilitated and managed to avoid or minimise impacts on the ecological health and consumptive values of the water resources.

3.2.5 Education and marketing campaigns help improve the community's understanding of the interaction between human activities and water quality, and support actions which contribute to improved local water quality.

3.2.6 Strategies to protect, manage and rehabilitate riparian areas and wetlands are incorporated into land-use planning to maintain and enhance their water quality, scenic, biodiversity, ecological, recreational and corridor values.

Programs

3.2.7 Support land management practices that protect waterway health through the voluntary uptake of industry-led programs and incentives.

3.2.8 Develop and monitor regional targets for water quality and waterway health.

Notes (for 3.2)

Impacts on waterways need to be avoided or mitigated to retain waterway health. Specific waterways are identified under Schedule 1 of the *Environmental Protection (Water) Policy 2009*. Legislative and management decisions must take the environmental values and water quality objectives into account when setting detailed objectives for key water quality objectives.

Some of the key natural water assets contained within the region include:

- numerous stocked impoundments throughout the region used for recreational and competition fishing
- waterways of the Gregory, Proserpine, O'Connell, Isaac and Pioneer rivers.

Environmental water quality objectives are currently managed through the:

- *Environmental Protection Act 1994*
- *Environmental Protection Regulation 2008*
- *Environmental Protection (Water) Policy 2009*
- *State Planning Policy 2/02: Planning and Managing Development Involving Acid Sulfate Soil*
- *State Planning Policy 4/10: Healthy Waters*
- *State Planning Policy 4/11: Protecting wetlands of high ecological significance in Great Barrier Reef catchments.*

(notes continue on next page)

Quality of drinking water objectives are managed through the *Water Supply (Safety and Reliability) Act 2008*.

Wetlands and waterway riparian ecosystems play an important role in filtering overland flow waters before they enter receiving waters, effectively reducing the impact from run-off. Intensive development within these areas should be avoided. Where it is unavoidable that infrastructure be built within a wetland or riparian buffer area, impacts should be minimised.

Wetlands

Nine wetlands are recognised in the *Directory of Important Wetlands in Australia*, including Edgecumbe Bay, Goorganga Plains and Broadsound Wetlands. Wetlands in the region support the vulnerable estuarine crocodile, vulnerable water mouse and more than four per cent of national populations of 11 species of wading birds, as well as other more common species.

Section 81A of the *Environmental Protection Regulation 2008* sets out the environmental values that support and maintain the qualities of a wetland as:

- the health and biodiversity of the wetland's ecosystems
- the wetland's natural state and biological integrity
- the presence of distinct or unique features, plants or animals and their habitats, including threatened wildlife, near-threatened wildlife and rare wildlife under the *Nature Conservation Act 1992*
- the wetland's natural hydrological cycle
- the natural interaction of the wetland with other wetlands.

State Planning Policy 4/11: Protecting Wetlands of High Ecological Significance in Great Barrier Reef Catchments (SPP 4/11) regulates development in, or adjacent to, wetlands of high ecological significance in Great Barrier Reef catchments. The SPP 4/11 intends to enhance these values and to prevent the loss or degradation of wetlands and their environmental values.

An assessment of wetlands of ecological significance in the region using an aquatic biodiversity assessment and mapping methodology was completed by Department of Environment and Resource Management in 2010. The result of this assessment spatially identifies natural wetlands of high ecological significance and natural wetlands of general ecological significance.

More information can be found at

http://www.derm.qld.gov.au/wildlife-ecosystems/ecosystems/wetlands.html

Healthy waters

The *State Planning Policy for Healthy Waters* (SPP 4/10), effective from May 2011, will ensure that development for urban purposes under the *Sustainable Planning Act 2009* is planned, designed, constructed and operated to manage stormwater and wastewater in ways that protect identified environmental values under the *Environmental Protection (Water) Policy 2009*. In addition, the *Urban Stormwater Quality Planning Guideline* contains details about stormwater management design objectives.

More information can be found at

www.derm.qld.gov.au/environmental_management/water/environmental_values_environmental_protection_water_policy/urban_water_quality_and_flow_management.html

(notes continue on next page)

Environmental Protection (Water) Policy 2009—Schedule 1: Environmental values and water quality objectives

The *Environmental Protection (Water) Policy 2009* (EPP Water) commenced on 28 August 2009 and replaces the original policy first released in 1997. The explanatory notes for the EPP Water provide additional information regarding the policy.

The EPP Water seeks to achieve the objective of the *Environmental Protection Act 1994* in relation to Queensland waters—to protect Queensland's waters while allowing for development that is ecologically sustainable. Queensland waters include water in rivers, streams, wetlands, lakes, aquifers, estuaries and coastal areas.

This purpose is achieved within a framework that includes:

- identifying environmental values (EVs) for aquatic ecosystems and for human uses (e.g. water for drinking, farm supply, agriculture, industry and recreational use)
- determining water quality guidelines (WQGs) and water quality objectives (WQOs) to enhance or protect the environmental values.

The processes to identify EVs and to determine WQGs and WQOs are based on the *National Water Quality Management Strategy* (NWQMS, 2000), implementation guidelines (1998) and further outlined in the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (2000).

Scheduling under the EPP Water—Fitzroy Basin

In September 2011, the EVs and WQOs for Fitzroy Basin waters were finalised and are now included in Schedule 1 of EPP Water. This followed a process of planning and stakeholder consultation on EVs that ran from 2009 to 2011. The regional plan includes a significant proportion of the Fitzroy Basin.

EVs and WQOs will be scheduled for the Mackay–Whitsunday Region, including all waters of the Proserpine, Whitsunday Island, O'Connell, Pioneer and Plane basins and coastal waters.

3.3 Coastal environment

Principle

3.3.1 Coastal resources are managed while protecting human life and property from the hazards of natural fluctuations in coastal processes.

Coastal resources and values include the foreshore, coastal wetlands, estuaries, marine waters, fringing reefs, dunes and coastal processes. The management of delicate and significant coastal resources and values includes actions such as maintenance, protection, rehabilitation and enhancement.

The region's coastal areas include the Great Barrier Reef World Heritage Area, major river systems, wetlands, mangrove areas and numerous declared fish habitat areas. A distinctive feature of the region is that it has some of the largest tidal ranges along the Queensland coast. There are many human influences, and an escalating demand for residential growth on the coast, that continue to place immense pressure on these values and processes, increasing potential degradation of coastal areas.

Naturally occurring coastal processes may be impacted on by the anticipated effects of climate change. These impacts may include natural hazards, such as sea level rise, storm tide inundation and cyclonic activity, which could increase risks to coastal development, and potentially extend the effects further inland.

Allowing coastal processes to occur naturally, such as the build-up and erosion of beach sands, and the associated migration of plant and animal species within the coastal zone, protects coastal values. The effects of climate change on these processes are unknown, but it is anticipated that significant changes to coastal landforms may result. Land uses within the coastal zone should allow for, or be protected from, this natural fluctuation to assist the protection of human life, marine life, water quality, infrastructure and coastal values.

Policies

3.3.2 Impacts on coastal values and processes are avoided or minimised through the location, design and management of coastal development.

3.3.3 Safe public access to the foreshore and coastal waters is provided, while maintaining maritime security.

3.3.4 Areas that provide for the landward retreat of coastal habitats and species at risk from projected sea level rise are identified and protected.

3.3.5 Erosion-prone areas and storm tide inundation areas are identified, and their associated risks to life and property are managed.

3.3.6 Protect natural coastal resources to accommodate the projected impacts of climate change.

Programs

3.3.7 Identify locations for marine development that avoid or minimise adverse impacts on coastal resources and processes.

3.3.8 Develop and implement regional targets for coastal, estuarine and marine ecosystems and processes.

Notes (for 3.3)

The coastline displays a dynamic and diverse range of values and processes, supporting high levels of biodiversity. Population increase, climate change and a desire to live on the coast have placed pressures on the region's coastal biodiversity. These pressures may increase the risk to development from coastal hazards and potentially extend the effects of these hazards further inland, and result in irreparable damage to these fragile ecosystems. There is a rising potential for degradation of significant areas if appropriate measures are not put in place.

The *Queensland Coastal Plan*

The *Queensland Coastal Plan* proposes to protect biodiversity by identifying significant coastal areas requiring conservation; protecting such areas from the impacts of development; and providing direction for coastal landholders and managers to ensure land-use and management activities are sustainable and rehabilitation works are effective.

The *Queensland Coastal Plan* identifies a sea level rise figure of 0.8 metres by 2100 to guide future decision making about development in areas potentially vulnerable to coastal hazard impacts. This is based on the projections of the *Intergovernmental Panel on Climate Change Fourth Assessment Report (2007)*.

The *State Planning Policy for Coastal Protection* SPP 3/11 will ensure the objectives of the *Coastal Protection and Management Act 1995* are considered in the development assessment and land-use planning process within the coastal zone under the *Sustainable Planning Act 2009*. The identification of erosion-prone areas and storm tide inundation areas will assist in the planning and management of areas at risk.

More information can be found at www.derm.qld.gov.au/coastalplan

Reef Water Quality Protection Plan

The *Reef Water Quality Protection Plan* is a commitment to protect the immense and diverse values of Queensland's coastal and marine environment. It seeks to improve the quality of water entering the Great Barrier Reef lagoon.

The reef plan has two primary goals:

1. an immediate goal—to halt and reverse the decline in water quality entering the reef by 2013
2. a long-term goal—to ensure that by 2020, the quality of water entering the reef from adjacent catchments has no detrimental impact on the health and resilience of the Great Barrier Reef.

The reef plan focuses on broadscale land use in catchments adjacent to the reef. It builds on existing government policies, and government, industry and community initiatives that assist in halting and reversing the decline in the quality of water entering the reef lagoon.

More information can be found at www.reefplan.qld.gov.au/about/rwqpp.shtm

3.4 Air quality and noise

Principle

3.4.1 The environment is protected to maintain the health and wellbeing of the community and the natural environment through effective management of air quality and noise.

Air quality and noise can significantly affect the quality of the natural and urban environment. Protection of communities and individuals from the impacts of air, noise and odour emissions caused by activities such as mining, agricultural spray drift, burning, extractive industries, and industrial and manufacturing sectors will improve their health, wellbeing, amenity and safety.

Policies

3.4.2 Development minimises air, odour and noise emissions and potential impacts of any minor residual emissions on sensitive land uses through its location, design, construction or operation.

3.4.3 Adequate separation distances, amelioration measures or appropriate design ensure more intensive land uses (such as those involving activities that may potentially generate air, odour and noise emissions) have limited impact on sensitive receivers.

3.4.4 Existing regionally significant, noisy outdoor recreational activities are protected from encroachment by sensitive land uses.

Programs

3.4.5 Identify and protect lands suitable for accommodating significant air quality-impacting and noise-emitting activities from incompatible development.

3.4.6 Plan and manage the interface between land zoned for industry and land used for sensitive land use to support and protect industrial land uses in appropriate locations.

Notes (for 3.4)

The quality of air throughout the region directly affects the natural environment and the quality of life, health and amenity for communities. Population increases often result in the encroachment of residential areas into previously established industrial and heavy industry buffers. Conversely, as a result of the resources boom in the Isaac Regional Council area, particularly Moranbah, mining activities are expanding and encroaching on existing towns. In both cases, industry viability and the health and amenity of the community can be threatened. There are a number of significant industrial activities in the region that are located adjacent to existing and identified future residential areas.

Eliminating or reducing the impacts from significant air and noise emissions is not always possible. Separating sensitive land uses such as residential development, schools, hospitals, nursing homes, childcare facilities and shopping centres from these hazards can reduce the impacts on health, amenity, quality of life and the natural environment. Appropriately designed and constructed industrial uses will not automatically have a negative influence on residential and commercial areas.

Air and noise pollution and separation distances are currently managed through state regulation and policy including:

- *Environmental Protection Act 1994*
- *Environmental Protection Regulation 2008*
- *Environmental Protection (Air) Policy 2008*
- *Environmental Protection (Noise) Policy 2008*
- *State Planning Policy 1/92: Development and the Conservation of Agricultural Land*
- *Planning Guidelines – Separating Agricultural and Residential Land Uses*
- *State Planning Policy 2/07: Protection of Extractive Resources*
- *State Planning Policy 5/10: Air, Noise and Hazardous Materials*
- *Environmental Code of Practice for Queensland Piggeries*
- *Separation Guidelines for Queensland Piggeries*
- *Reference manual for the establishment and operation of beef cattle feedlots in Queensland*
- *Draft Queensland Guidelines for Meat Chicken Farms.*

4. Natural resource management

Regional natural resources and primary production areas continue to provide cultural, social, economic and environmental values to the region, while being protected, managed, enhanced and used sustainably.

The region's natural resources include productive agricultural land, fresh water, air, forests, native plants and animals, minerals and marine waters. These resources underpin the region's economy, and support the diverse range of industry and business opportunities that rely on their quality and accessibility.

Population growth can place significant stress on the condition and availability of natural resources. Sustainably managing these resources ensures availability for current and future generations. Natural resources underpin employment and recreation opportunities, and contribute to the liveability of the region.

Kangaroos on beach, Cape Hillsborough National Park *Courtesy of Tourism Queensland*

4.1 Natural resource management

Principle

4.1.1 The management and use of natural resources enhance community, economic and landscape values.

The region derives a significant proportion of its wealth from natural resources, including farming of high-quality agricultural land, mining and extractive industries, native and plantation forestry activities, tourism and fisheries.

Natural resources in the region provide crucial employment and economic advantages for local business and industry, and they must be managed to sustain these advantages.

Many of the region's natural resources are non-renewable. Without consideration of these factors in land-use planning, there are risks to the longevity and utility of the region's resources, which may result in significant economic implications. If left unmanaged, these risks will have implications for the long-term welfare of residents, and for opportunities to realise the region's growth potential.

Policies

4.1.2 Adverse impacts on the region's natural resources are avoided or minimised through the location, design and management of development.

4.1.3 Natural resource management, planning, investment, monitoring and reporting is coordinated to improve the quality and contribution of the resource to the region.

Programs

4.1.4 Develop reporting and mapping systems to implement a strategic and coordinated process for capturing, analysing, managing and monitoring natural resource management information and landholder knowledge.

Notes (for 4.1)

The region's natural resources are experiencing increasing pressures from economic, population and environmental threats. They are increasingly being threatened by climate change, water scarcity, pollution, land clearing, feral animals, invasive weeds, unsustainable farming practices, incompatible land use and development within sensitive areas.

Good management of land, water and native vegetation, and the ecosystems they support, will contribute to the community's future economic and social wellbeing.

Management programs and strategies developed over time to manage the protection and use of the region's natural assets are to be established in a collaborative and integrated manner. Partnerships between all stakeholders, including government, community and industry organisations, as well as landowners and Traditional Owner groups, will deliver benefits for the community as a whole, and for the long-term management of these resources.

Natural resource management plans

The region includes a large number of government, community and industry organisations involved in planning and investing in the local environment and natural resources. By coordinating the priorities and activities of all levels of government and stakeholders, the community will be better placed to deliver positive outcomes throughout the region.

The Environment and Natural Resources Working Group, a sub-group of the state government's Regional Managers Coordination Network, is coordinating the development and implementation of the Framework for Natural Resource Management.

The *Reef Catchments Mackay Whitsunday Natural Resource Management Plan* guides investment into improving land, water, biodiversity, coasts and marine assets from 2008 to 2013. It identifies key areas of significance and outlines key objectives and goals for the sustainable management of the Mackay and Whitsunday natural resources.

The *Central Queensland Strategy for Sustainability – 2004 and Beyond* is the management plan for the natural resources and environments of the river catchments in Central Queensland, developed by the Fitzroy Basin Association. It provides a framework for achieving actions to address critical pressures on the assets of the region, through collaborative partnerships, voluntary action and cost sharing for broad community benefit.

4.2 Ecosystem-dependent economic resources

Principle

4.2.1 Ecosystems are sustainably managed, ensuring their cultural, social, economic and environmental services and values are protected.

The region possesses a diverse array of natural assets that are also linked to economic resource values and contributions for the region. These assets play a role in supporting the social, cultural and settlement patterns of the community. They may also include direct and indirect contributions to the local economy.

The variety of economic advantages gained from the region's natural resources encompass tourism, recreation and amenity benefits, as well as filtering through to business and industry enterprise, agricultural and primary production activities. Where it is deemed appropriate to undertake economic development of these assets, those activities should not unnecessarily use or deplete the landscape values associated with the resource without remediation works.

Management of the region's natural ecosystems is essential to protect the long-term economic and social benefits of these features, and preserve the intrinsic environmental services provided by these assets. These assets include provision of food, water and energy, climate regulation, cleansing of water and air systems, recreation opportunities and social engagement, and scientific contributions.

Policies

4.2.2 The economic resource value of ecosystems is identified and protected from fragmentation, isolation, encroachment and inappropriate land use that may compromise their existing and future viability.

4.2.3 Terrestrial and aquatic ecosystems that generate endemic species products are identified, protected and sustainably managed to preserve their integrity, while recognising their commercial and ecosystem service importance to the region.

4.2.4 Effective management strategies for native ecosystem production values are put in place so that ecosystem structure, species composition and ecological processes are sustained for the long-term use of the resource and maintenance of its environmental values.

4.2.5 Natural resource management frameworks include assessment of multiple-use opportunities and associated benefit objectives for existing and future resource areas.

4.2.6 Fisheries resources and fish habitats are managed in consultation with all stakeholders, including commercial fishers, Traditional Owners, recreational fishers and conservation groups.

4.2.7 Exposure to terrestrial and aquatic pest plants, pest animals and diseases in the region is to be minimised, through combined efforts of government, industry, community and landholders.

Programs

4.2.8 Promote the social, economic and ecological roles natural ecosystems play in the region, and the benefits of ecological sustainability.

Notes (for 4.2)

Primary production based on harvesting and using ecosystems is an integral component of the economy. This includes the existing and potential economic resource value resulting from both natural and modified systems, such as:

- natural ecosystems
  - native forestry
  - wild fisheries (e.g. Basset Basin, Repulse Bay)
  - native plant and animal harvesting
- modified ecosystems
  - plantation forestry (e.g. Cathu Forest)
  - aquaculture (e.g. Guthalungra, Ilbilbie)
  - intensive agricultural production.

These established industries provide a range of value-adding opportunities that will complement the ongoing conduct of plantation timber activities. The *Queensland Timber Plantation Strategy 2020* has an objective of securing sustainable growth in the timber plantation sector to deliver a range of economic, social and environmental benefits to Queensland. This includes strategies to establish timber plantations as a legitimate primary production activity that will result in opportunities for local employment and management participation in the industry, and administration of the sector in a similar manner to traditional cropping activities.

The management and reduction of invasive pest and weed species reduce their impact on the productivity of the primary production sector. Landholders have a responsibility to identify, and where found, eliminate pests and weeds from their properties.

The region is home to five of Queensland's stocked freshwater impoundment fisheries—Peter Faust Dam, Eungella Dam, Teemburra Dam, Kinchant Dam and Theresa Creek Dam. Each impoundment is stocked with native sportfish under the management of community-based fish stocking groups.

Commercial fisheries, operating from Mackay, Bowen and Hay Point, are a significant contributor to the region's economy, and account for 12 per cent of the state's total commercial fisheries catch.

Most of the catch is sold as fresh seafood and in areas where tourism and dining are economic contributors, fresh, locally caught seafood features heavily on menus—an indication of the advantages of tourism for a viable local commercial fishery.

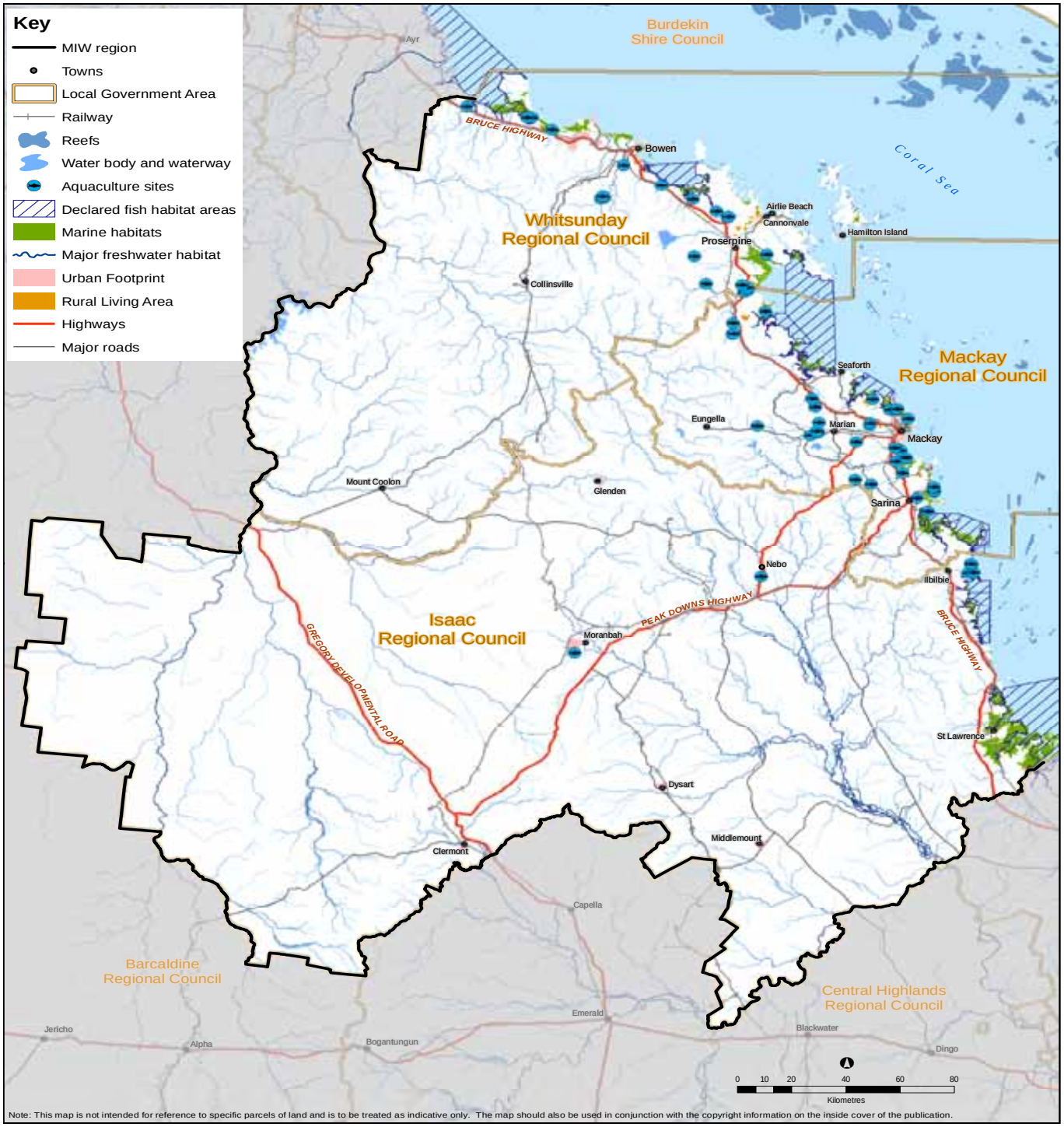
Recreational fishing also plays an important part in the lifestyle and economy of the region. It has many flow-on effects throughout the region's businesses, including tackle stores, boat sales and maintenance, and tourism fishing charter operators, as well as local accommodation and retail shops.

The Queensland Great Barrier Reef Coast Marine Park and Australian Government's Great Barrier Reef Marine Park have been declared over most of the coastal waters in the planning area.

Zoning plans for both areas protect the marine environment and eparate potentially conflicting activities. Recreational use, tourism activities and commercial and recreational fishing in coastal waters are affected by the zoning plan for these marine parks.

(notes continue on next page)

Map 4: Fisheries resources (notes 4.2 continued)



4.3 Mineral and extractive industries

Principle

4.3.1 Mineral, petroleum and extractive resources are managed for current and future use, and their extraction, processing, transport and downstream value-adding continue to contribute to the economy.

Mineral and extractive resource industries are significant components of the region's economy, in particular, coal and coal seam gas. Current mineral production and identified resources also include gold, earthy dolomite, salt, copper, silver, molybdenum and shale oil.

Given the importance of the agricultural industry for the region, it is critical to also consider the implications of the expanding mineral, petroleum or extractive resource industry development on areas of good quality agricultural land.

Steel workers, Mackay *Courtesy of Ray Cash Photography*

Policies

4.3.2 Identified valuable mineral and extractive resource areas within the region are protected from development that might adversely affect current or future extraction.

4.3.3 The operation of extraction and processing activities does not compromise human helath, current and future resource use opportunities, regional landscape values or ecosystem function and services, and must minimise its impact on primary production.

4.3.4 Once extraction ceases, former mining resource areas are rehabilitated to facilitate multiple end-uses of sites, ensuring their continuing contribution to the economic, social and environmental values of the region.

4.3.5 Innovative practices are encouraged, including local processing and value-adding activities for mineral and extractive resources, to maximise eco-efficiencies.

Notes (for 4.3)

Mining and extractive industries often produce significant noise, dust and heavy vehicle movement impacts on nearby land uses. Urban development can impose on existing or identified future extractive industry sites by locating or expanding close to separation areas.

The Bowen Basin is one of the largest coal production regions in Australia. It has over 40 operational mines, with significant reserves to support future activities. The region's hinterland encompasses the northern Bowen Basin coalfields that extend from Collinsville in the north to Clermont in the south-west. Most of the coal mines extract high-quality coking coal, and have resources that will enable production to continue beyond 2025. The extraction of thermal coal is increasing. The western part of the region also includes part of the Galilee Basin, where further thermal coal developments are anticipated.

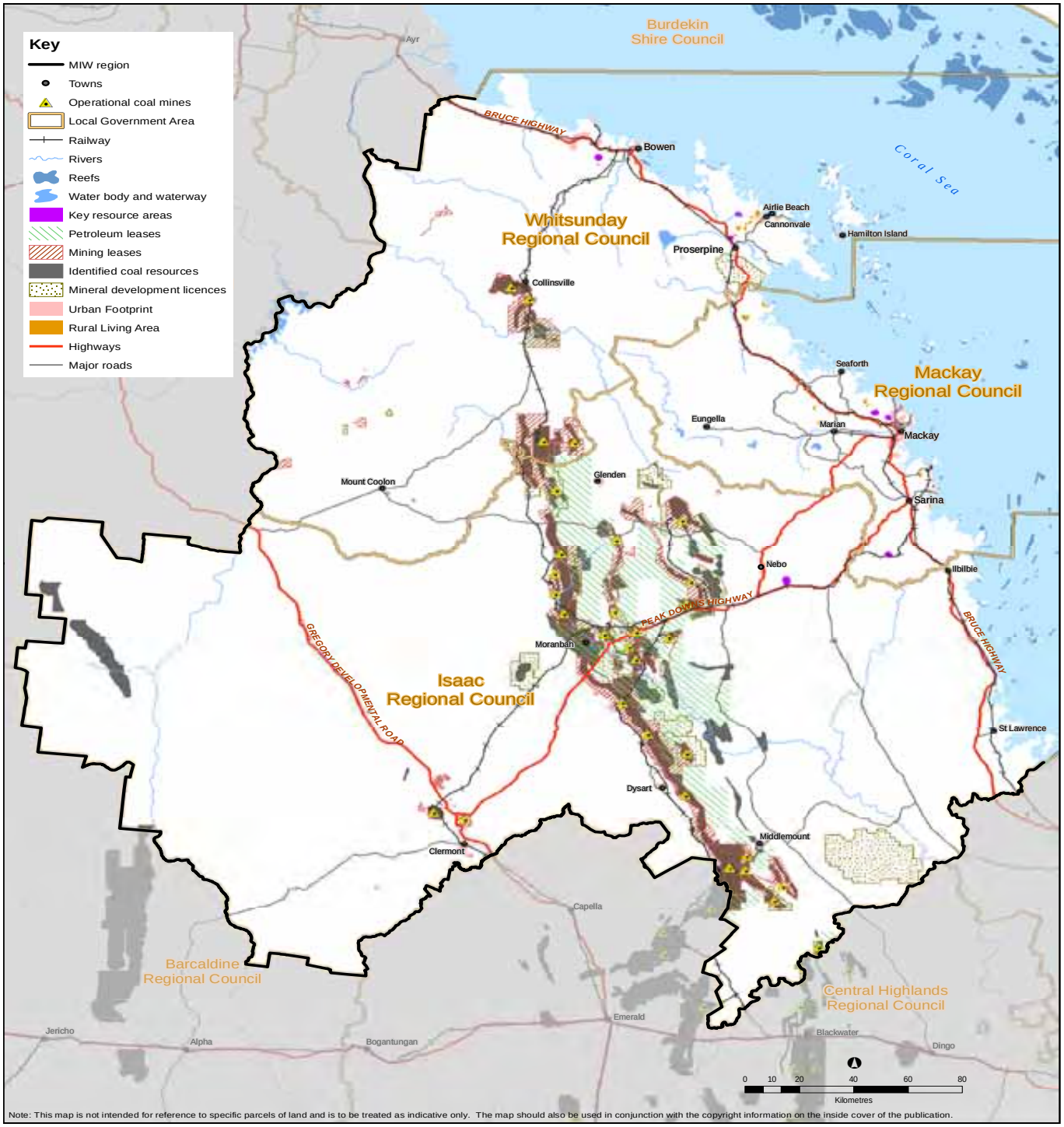
Extractive resource areas that are important for supply of construction materials for local and regional industries include West Euri Creek, Farleigh, The Cedars, Mount Bassett, Waitara, Hatfield, Foxdale and North Gregory.

The region also has important sand and gravel resources located within the Pioneer, Isaac and O'Connell rivers.

State Planning Policy 2/07: Protection of Extractive Resources identifies those extractive resources of state or regional significance where extractive industry is appropriate in principle. The policy aims to protect those resources from development that may prevent or constrain current or future operations. The state government will continue to identify key resource areas throughout the region, and progressively update the statewide database.

Development of the Queensland mining, petroleum and geothermal resources sectors is primarily regulated through the *Mineral Resources Act 1989*, the *Petroleum and Gas (Production and Safety) Act 2004*, the *Petroleum Act 1923*, the *Geothermal Exploration Act 2004* and the *Environment Protection Act 1994*. These provide for grant of tenure and issuing of environmental authorities. (notes continue on next page)

Map 5: Mineral and extractive resources and reserves (notes 4.3 continued)



4.4 Planning and managing agricultural land

Principle

4.4.1 The region's agricultural production areas are protected and sustainably managed to ensure their continuing contribution to the economy, and to mitigate the anticipated effects of climate change.

The region enjoys subtropical and dry tropical climates in coastal and mountainous areas and grassland climate in the far western areas of the region, and has access to water resources and soils suitable to cultivate a wide range of agricultural commodities. It has established infrastructure to support a diverse cropping and livestock sector. Sugarcane, intensive crops of fruit and vegetables, and livestock production make a significant contribution to the regional economy.

Land suitable for agricultural production is a valuable, finite commodity that is to be managed to ensure its long-term protection for future generations. Use of land with both agricultural production values and biodiversity values should seek to achieve a balance between the protection of ecological processes and natural systems, economic development and the wellbeing of communities.

The viability of agricultural production areas is related to the sustainability of rural industries, water resource management and sound land-use planning. Involvement of community and stakeholder groups in planning decisions will impact on the success of land-use management, and will assist in delivering sustainability processes.

Strategic cropping land (SCL) and Good Quality Agricultural Land (GQAL) is a valuable asset to be recognised and protected. Alienation and loss of this resource through fragmentation, urban development, mining or other high-impact development will not be supported, unless there is an overriding need in the public interest for the proposed use, and there are no alternative locations available.

Policies

4.4.2 Land suitable for agricultural production is identified, protected and managed to provide for profitable and sustainable use of the resource. Use and management programs build resilience to, or mitigate, the potential impacts of climate change.

4.4.3 The region's best agricultural land is protected from weeds and pest animals, inappropriate land uses and further fragmentation that lead to its alienation or diminished productivity.

4.4.4 Sustainable land management practices and effective property scale planning are implemented and provide resilience to the anticipated effects of climate change.

4.4.5 Climate change mitigation practices such as carbon offsets, farm forestry and increased efficiencies in production activities are implemented whenever possible.

4.4.6 The contribution of sustainably managed agricultural land to regional ecological services and the social character of the region are encouraged through best practice land management and incentive programs.

4.4.7 Exposure to pest plants, pest animals and diseases in the region is minimised, through combined efforts of government, industry, community and landholders.

4.4.8 The community's ability to manage (and where possible, eliminate) weeds and pest animals, in a manner consistent with pest or biosecurity management plans or strategies, is improved.

4.4.9 Tourism opportunities that are compatible with, and support, sustainable primary production are identified and encouraged.

Programs

4.4.10 Investigate and implement viable options for the restoration of degraded agricultural land.

4.4.11 Undertake a review of current mapping of SCL and GQAL within the region, and improve these systems where necessary to clearly identify valuable agricultural areas, protecting them from fragmentation and inappropriate land use.

Notes (for 4.4)

Identifying, protecting and managing good quality agricultural land is critical to the regional economy into the future. These lands had an historical role in the development of the region's rural areas, and provide support systems through food supply, employment and economic benefits stemming from the supply of goods to areas outside the region.

In addition to farming for food production, forestry is an established agricultural practice in the region. Timber plantations are located in coastal locations across the region where suitable soil types and higher rainfall zones exist.

There is a need to identify and protect land suitable for long-term forestry, having regard to a range of environmental, social and economic factors.

Forestry operations can assist in meeting environmental objectives through reforestation and rehabilitation of natural areas, and sustainable harvesting practices. Importantly, forestry also offers opportunities to reduce greenhouse gas emissions through carbon sequestration. In the context of the *State Planning Policy 1/92: Development and Conservation of Agricultural Land* (SPP 1/92) *State Planning Policy 1/12: Protecting Queensland's Strategic Cropping Land* and (SPP 1/12), plantation forestry projects do not alienate land from other agricultural uses in the future; therefore, plantation forestry is considered compatible with the objectives of the policy.

Invasive weed species and pest animals are a growing concern for rural areas, particularly in the agricultural sector, and reactive management often involves significant expense to land managers in the region. Designing and implementing a coordinated approach to pest management practices can minimise the detrimental effects of invasive weeds and pest animals on the region's agriculturally productive lands.

On 1 January 2010, the *Environmental Protection Act 1994* was amended to enable the Queensland Government to regulate certain activities on cattle grazing and sugarcane properties in the Burdekin Dry Tropics, Mackay – Whitsunday and Wet Tropics catchments. The legislation is designed to encourage and assist the adoption of better practices to manage the quality of run-off entering the Great Barrier Reef lagoon to achieve the actions of the *Reef Water Quality Protection Plan 2009* (RWQPP). The RWQPP is a joint initiative between the Australian and Queensland governments to halt and reverse the decline in water quality entering the Great Barrier Reef lagoon. The RWQPP has two objectives—to reduce the load of pollutants from non-point sources entering the reef, and to rehabilitate and conserve areas of catchment that have a role in removing water-borne pollutants.

The *Delbessie Agreement (State Rural Leasehold Land Strategy)* is a framework of legislation, policies and guidelines that supports the sustainable, productive use of rural leasehold land in line with best practice natural resource management. This strategy outlines how to balance profitable use of land with maintenance of healthy land, vegetation and water, while improving the capacity of land managers to adapt to emerging issues such as climate change.

Approximately 160 000 hectares of land around Mackay, Marian, Mirani, Proserpine and Sarina is used for sugarcane production.

Agricultural production in the region

The total value of agricultural production for the 2009–10 year in the Mackay Statistical Division was $1,066.6 million, representing 11 per cent of the total value of agricultural production in Queensland ($9,137.1 million). The total value of crops (e.g. horticulture, sugar and grains) accounted for $711.2 million, or 70.7 per cent of the region's total value of agricultural production. Livestock processing in the region accounted for $292.9 million and livestock products accounted for $2.5 million (29.1 per cent and 0.25 per cent, respectively, of the total value of agricultural production in Mackay Statistical Division in 2009–10).

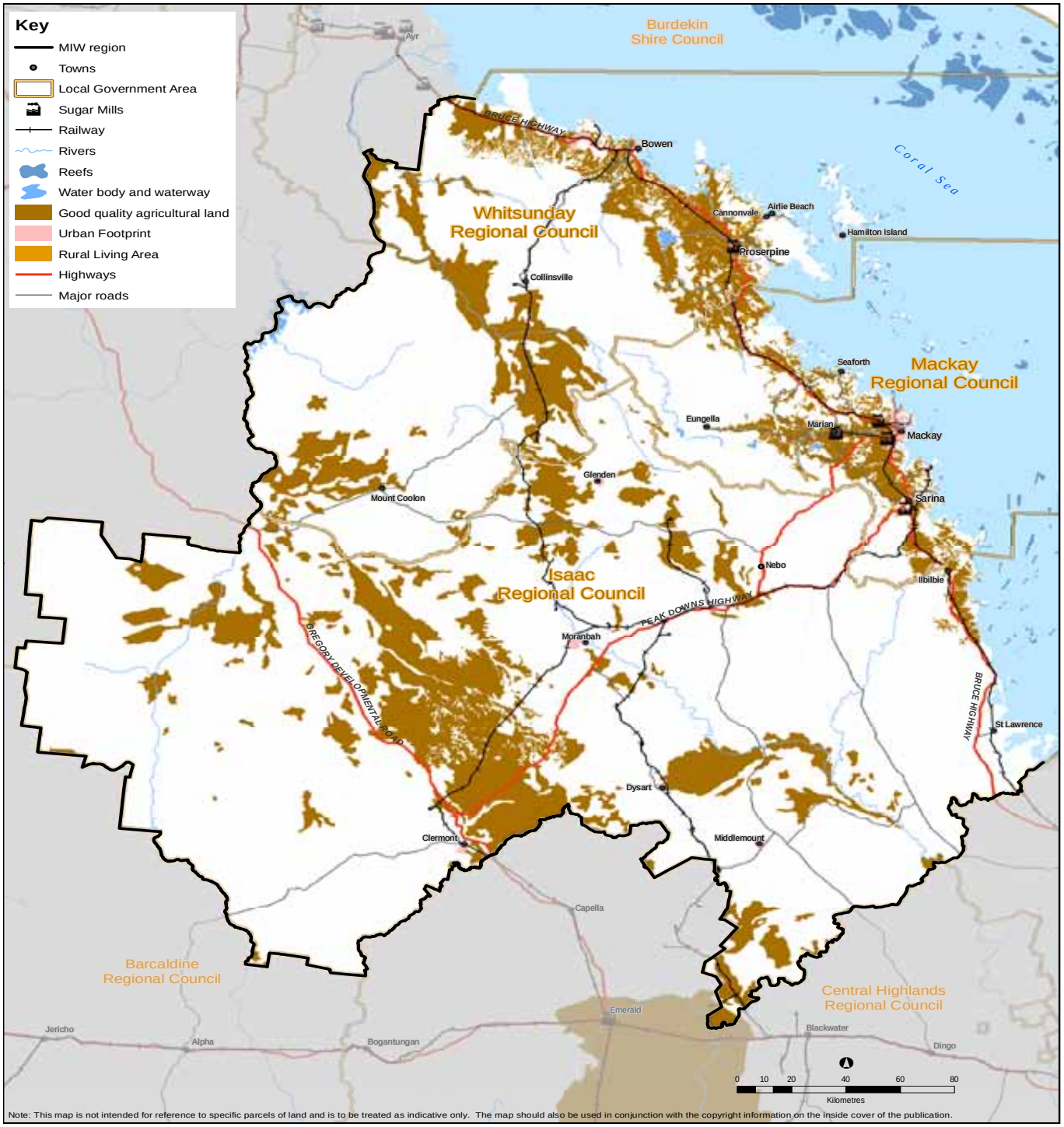
More information can be found at www.abs.gov.au/AUSSTATS

Recent developments in the sugar industry have resulted in the diversification of products from local sugar mills. The production of ethanol, furfural and other fermentation products is occurring at existing mills that formerly only produced sugar products.

The region supports a multimillion dollar horticulture industry, with production occurring predominantly around Bowen. The Bowen industry supplies a significant proportion of Queensland's tomatoes, capsicum, green beans and sweet corn, and is well known for its mangoes.

Agriculture in the western areas of the region is predominantly livestock grazing and broadhectare dry land cropping, such as wheat and sorghum. (notes continue on next page)

Map 6: Good quality agricultural land (notes 4.4 continued)



Notes (for 4.4 continued)

Good quality agricultural land—a resource for the future

There is a range of land suitable for agriculture within the region (Map 6). Among this, Queensland (including the region's) best cropping—SCL—which is an important, finite resource that is subject to competing land uses from the agriculture, mining and urban development sectors. The government aims to strike a balance between these sectors to help maintain the long-term viability of our food and fibre industries, and support economic growth for regional communities.

The Queensland Government has introduced a new legislative framework to protect SCL through the *Strategic Cropping Land Act 2011* and the SPP 1/12.

The legislation will protect SCL for future generations and contribute to sustainable growth and long-term co-existence between Queensland's expanding resources sector and growing urban population.

The Strategic Cropping Protection Area (Central) is located around Emerald and includes the south-western part of the regional plan area. In this area, if land meets the criteria for identifying SCL, it will not be able to be permanently alienated by development, except in limited circumstances.

Coastal parts of the Mackay, Isaac and Whitsunday region are in the Strategic Cropping Land Management Area. In this area, if land meets the criteria for identifying SCL, development will be required to avoid or minimise impacts on SCL. Where this is not possible, and SCL will be permanently alienated, the development proponent will be required to mitigate their impacts.

Land that is already designated to be in an urban area is exempt from the state planning policy. Under the policy, new urban areas should not be designated as SCL as this will cause a permanent impact. However, the policy recognises that towns that are surrounded by SCL may not have any alternative site/s for urban growth.

SPP 1/12 works in tandem with SPP 1/92 which applies to a broader range of agricultural land.

Cattle farm, south of Bowen *Courtesy of Ray Cash Photography*

4.5 Regional water supply planning

Principle

4.5.1 Water, as a valuable and finite regional resource, is planned and managed on a total water cycle basis.

Fresh water is a precious and limited resource, vital for building a strong regional economy and maintaining the health of all living systems. Risks to the region's existing water supply network are related to an increase in demand through population growth, the uncertainty of climate change impact on water reliability, and competing uses for potable supplies. These risks can be mitigated by managing current water supplies and seeking new alternative sources.

Growing community awareness of the importance of water quality and quantity is also a beneficial strategy for local governments and water authorities to employ.

Planning will need to account for the forecast demand of water into the future, ensuring that demand does not exceed the available supply, given the potentially significant delay between the planning and construction of water supply infrastructure.

Catchment-based water resource plans are currently in place for surface water and major groundwater resources in the region (see Map 7).

Policies

4.5.2 Water supply and infrastructure sequencing and delivery respond to planned and actual demand.

4.5.3 Existing and proposed water infrastructure sites and buffer areas are protected from encroachment by development that may compromise their viability.

4.5.4 Development is designed to incorporate best practice demand management, efficiency of use, recycling opportunities and re-use of water opportunities.

4.5.5 Water resource planning and allocation, including the provision of water for the environment, protects the biodiversity values and health of aquatic ecosystems.

4.5.6 Climate change assessments and adaptive strategies for the development and review of water resource plans and regional water supply strategies are integrated with land-use planning to provide resilience against anticipated climate change impacts on water resources.

Programs

4.5.7 Address the region's future water supply–demand balance, through the development, implementation and review of regional water supply strategies.

4.5.8 Address the region's future water allocation, management and use frameworks through the development, review and amendment of water resource plans and resource operations plans that secure access to water entitlements, provide for water trading and ensure water for the environment.

Notes (for 4.5)

The region includes four main river catchments: the Burdekin, Pioneer, O'Connell and Fitzroy basins. There are significant groundwater resources underlying these catchments that support various water uses of the region including supplies for agricultural, mining and town water.

Management and allocation of groundwater is currently addressed through the water resource plans for the Pioneer Valley and the Whitsunday, while in the Fitzroy and Burdekin basins, groundwater is currently managed and allocated under water entitlements granted under the *Water Act 2000*. There are also two declared sub-artesian areas: one to the immediate north of the Whitsunday Water Resource Plan Area, called the Dryander Declared Sub-artesian Area; and another to the immediate south of the Pioneer Valley Water Resource Plan Area, called the Sarina Declared Sub-artesian Area.

There are a number of water storages for potable, industrial and agricultural use within the region. Some of the most significant assets for supplemented water supply in the region currently are Burdekin Falls Dam, Eungella Dam, Bowen River Weir, Peter Faust Dam, Kinchant Dam, Teemburra Dam, Mirani Weir, Marian Weir, Dumbleton Weir and Theresa Creek Dam. The proposed Connors River Dam will add to the region's water storage capacity.

Mackay Whitsunday Regional Water Supply Strategy

In March 2007, the state government launched the development of the *Mackay Whitsunday Regional Water Supply Strategy*. The aim of this strategy is to produce a water blueprint for a secure, affordable and sustainable water supply for residents and industries, and enhance future prosperity in the Mackay–Whitsunday area for the next 50 years. The strategy will seek to optimise the use of existing available supplies to meet future water needs before developing new supplies, and will present preferred approaches to water supply at regional and subregional scales.

The strategy area includes the subregion catchments of Gregory, Whitsunday Islands, Proserpine, St Helens, Pioneer, Plane Creek and St Lawrence. An important goal of the strategy is to ensure that solutions recommended for meeting critical short-term supply shortfalls (drought) do not compromise longer term water supply options. This project is intended to produce an audit of existing supply schemes, identify deficiencies in existing supply schemes, ascertain capacities of existing supply schemes, guide an understanding of when new supply infrastructure will be required and shortlist suitable sites for new high-level water supply infrastructure.

More information can be found at www.derm.qld.gov.au

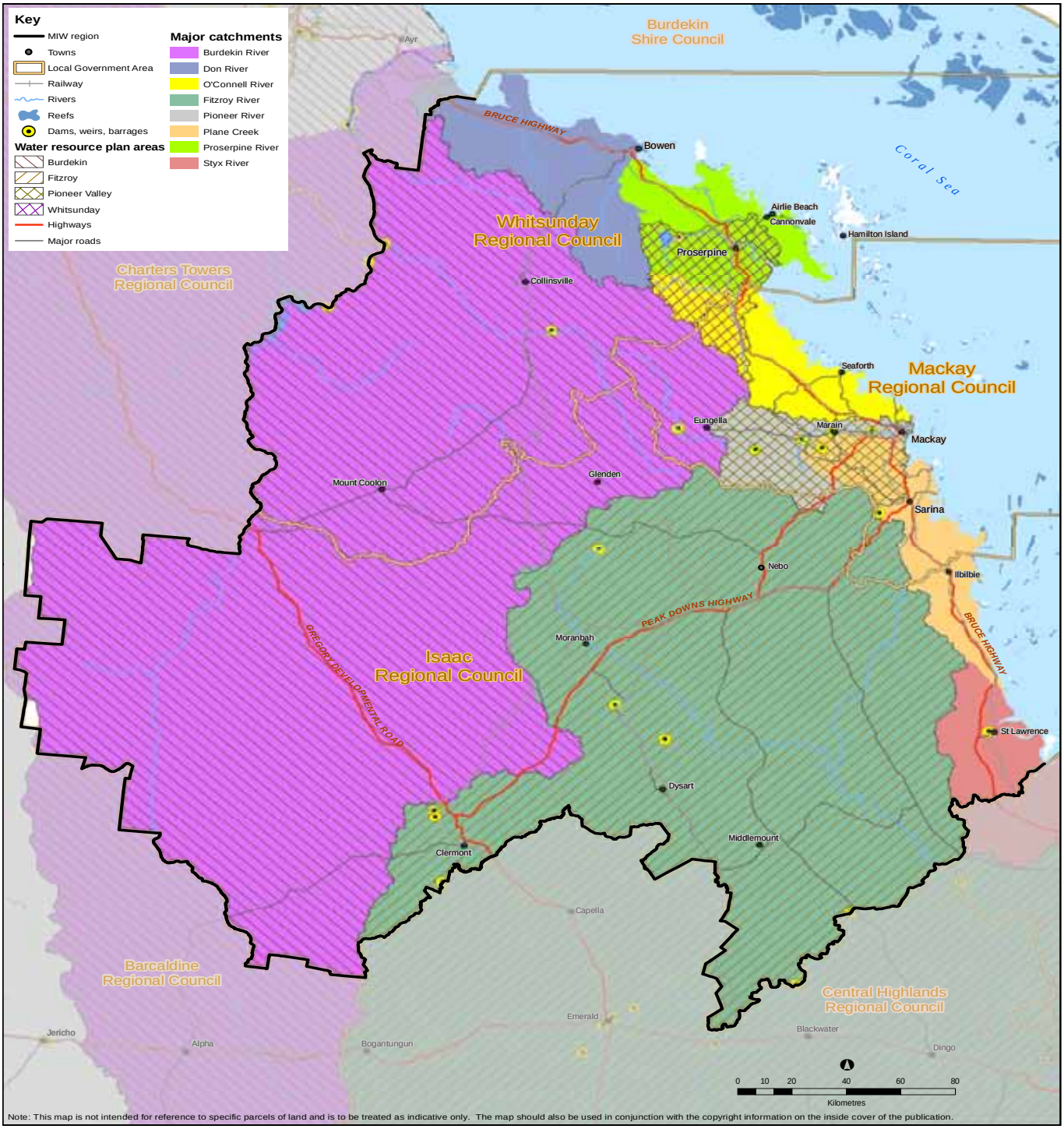
Central Queensland Regional Water Supply Strategy

In December 2006, the state government released the *Central Queensland Regional Water Supply Strategy*. The strategy is an adaptive long-term statement, outlining equitable and timely solutions to the urban, industrial, mining and agricultural water needs of the Central Queensland region. Through a coordinated regional approach, the strategy has been tailored to achieve optimum social, environmental and economic outcomes for the region. The strategy provides the basis for water supply planning over the next 15 years and beyond, and covers the Fitzroy Basin and coastal streams of the Capricorn Coast and Gladstone Region. The northern portion of the Fitzroy Basin, which includes the Isaac–Connors river system, is located within the region. The regional strategy identifies a mix of options for maximising the effectiveness of existing supplies and meeting future water demands through water trading, demand management, more efficient use of water, and additional water storage sites required to meet the water demands of the mining, urban and agricultural sectors.

More information can be found at www.derm.qld.gov.au

(notes continue on next page)

Map 7: Water catchments and water resource plan areas (notes 4.5 continued)



4.6 Total water cycle management

Principle

4.6.1 Water is recognised as a valuable and finite resource which is managed on a total water cycle basis.

Total water cycle management recognises the interrelationships between the human uses of water and its role in the environment. Key principles of total water cycle management include:

- natural cycles—minimising the alteration of natural flow regimes and water quality attributes that sustain ecological processes
- sustainable limits—ensuring the volume of water extracted from a source is sustainable for future generation use and the environment
- demand management—reducing the demand on water supplies by minimising urban water use and losses, and maximising rural water efficiencies and re-use
- diversity in supply—considering all potential alternative supplies of water when new supplies are required, including water re-use, stormwater harvesting and alternative technologies and opportunities, such as desalination plants and coal seam gas water
- water quality—managing the water cycle at all phases to preserve water quality for the community and the environment.

It is important to recognise the role that urban demand management and rural water use efficiency play in reducing the demand on scarce water resources.

Policies

4.6.2 Total water cycle management principles are incorporated in land-use and infrastructure planning decisions.

4.6.3 Water supply infrastructure is planned, designed and constructed to take into account the anticipated effects of climate change.

4.6.4 Demand management principles are incorporated into the planning, design and construction of water cycle infrastructure, including water supply, sewerage and drainage.

4.6.5 The predicted impacts of climate change are incorporated into regional and subregional water management and infrastructure planning, including any water use targets.

4.6.6 The planning, design and operation of diversified supply sources, wastewater and stormwater collection, treatment and re-use, and discharges to receiving waters, use best practice integrated water management principles to protect or enhance environmental values and to meet water quality objectives.

Programs

4.6.7 Develop and implement local total water cycle management plans, incorporating any subregional total water cycle management plan recommendations.

4.6.8 Promote water use efficiency by encouraging water efficient technology and practices through information and incentives.

4.6.9 Investigate opportunities to provide recycled water for rural irrigation.

Notes (for 4.6)

Local governments are required to develop total water cycle management plans under the *Environmental Protection (Water) Policy 2009*. These plans include the management of stormwater and sewerage, and incorporate the principles of water sensitive urban design (WSUD), which integrates total water cycle management into the built form. The aim of WSUD is to minimise the effects of development on the natural water cycle and environmental values, and to address water supply and use.

Where subregional water supply plans are not identified, local governments should consider developing total water cycle management plans that address their core responsibilities for the water cycle, while considering how they integrate with other facets of the water cycle managed by other entities.

5. Strong communities

The region has vibrant, inclusive, safe, active and healthy communities, where a range of social services are accessible by all, and where unique cultural heritage and diversity is acknowledged, valued and celebrated.

Continued population growth in the region presents many challenges in supporting existing local communities and their capacity to deal with change. Demographic factors and the dispersed settlement of the population mean that supporting growth within the region is a complex task.

Community health and wellbeing is influenced by geographic location, access to transport, appropriate and affordable housing, family and social support, adequate income and employment, a quality built environment, community safety and optimal health.

Well-planned growth in a more compact urban form will help reduce social and locational disadvantage. Providing opportunities in employment, education and training will influence and support changes in the demographic age profile, and result in a more balanced social mix, enabling communities to prosper.

The transient nature of a large proportion of populations in communities such as Moranbah and Dysart places increases pressure on the provision of social services, such as emergency and medical services, and reduces the level of community participation in activities and initiatives, including volunteering.

There is increasing concern about driver safety issues in the region, particularly driver fatigue, in relation to non-resident workers travelling long distances to and from work in remote areas on a drive-in/drive-out (DIDO) basis.

War memorial, Sarina *Courtesy of Ray Cash Photography*

5.1 Social planning

Principle

5.1.1 Social planning is incorporated into planning processes to manage and respond to changing communities, and support community wellbeing and quality of life.

The negative impacts of social change in the region over time can be minimised through the use of community focused policies to identify current and future community and social needs, trends and solutions. Important components to the wellbeing of the region include a commitment to monitoring levels of social and locational disadvantage, providing support and services for the changing population, and delivering programs aimed at the attraction and retention of skilled workers, young people and families to the region.

The socio-demographic, geographic, economic and climatic characteristics of the region pose some regionally specific challenges for the community. These include a community composed of geographically disparate and diverse smaller communities, a growing population including mobile and temporary residents, economic reliance on industries subject to market volatility, existing and emerging issues of social disadvantage, and the susceptibility of the region to natural hazards.

The region experiences a high rate of mobility and temporary residents based on the employment patterns of the mining, agri-horticultural and tourism industries. The number of non-resident workers who fly-in/fly-out (FIFO) and DIDO between their location of employment and permanent residence is increasing within the region.

A strong community can have positive impacts on the actual and perceived liveability of the region. Liveability factors have flow-on effects for the local residents by helping to attract new business and migration to the region, and drawing greater diversity of services and community activities.

Policies

5.1.2 Land-use and community infrastructure planning decisions incorporate social and community needs assessments.

5.1.3 Planning outcomes support a diverse range of housing, including affordable housing, retirement and aged care options, and access to services and facilities are actively pursued.

5.1.4 An accessible and high-quality public realm is achieved by allocating or revitalising open space and creating well-designed public spaces.

5.1.5 An evidence-based approach, which identifies social characteristics and demographic trends, is used to inform planning processes.

Program

5.1.6 Profile the social impacts associated with population change and growth.

Notes (for 5.1)

Major considerations for the region include high levels of social and locational disadvantage, an ageing population, attracting and retaining young people and skilled workers, and the influx of seasonal workers into communities. Potential social impacts of growth and change (such as those resulting from mining) can be identified and mitigated as necessary through implementation of social planning principles.

The *Sustainable Planning Act 2009* requires that community wellbeing issues be integrated into the preparation of planning schemes. It states that the cultural, economic, physical and social wellbeing of people and communities is maintained if:

- well-serviced and healthy communities, with affordable, efficient, safe and sustainable development, are created and maintained
- areas and places of special aesthetic, architectural, cultural, historic, scientific, social or spiritual significance are conserved or enhanced
- integrated networks of pleasant and safe public areas for aesthetic enjoyment and cultural, recreational or social interaction are provided.

Social impact

Social impacts, including social change (e.g. the impacts of mining), should be considered in the development of planning schemes and policy decisions. This consideration should be undertaken in partnership and consultation with affected communities and stakeholders. (notes continue on next page)

Toward Q2

The Queensland Government has committed to delivering world-class education and training, making Queenslanders Australia's healthiest people, and supporting safe and caring communities in Toward Q2: Tomorrow's Queensland.

More information can be found at www.towardq2.qld.gov.au

5.2 Addressing social and locational disadvantage

Principle

5.2.1 Social and locational disadvantage in communities is recognised and addressed.

Disadvantage means any unfavourable circumstances or conditions affecting an individual or group of people. The dimensions of disadvantage within the broader community may include a lack of access to affordable, diverse and age-appropriate housing, education and health services, or an inability to participate in, or have access to, a variety of employment, recreation, family support or social network opportunities.

Those people living in rural or fringe areas often find it difficult to access a diversity of services such as health, recreation, education or employment. Barriers preventing community members from accessing these opportunities include a lack of public transport options and availability of desired services in some local areas. In order to reduce the likelihood of further disadvantage occurring as a result of future decision making, social planning principles and strategies that enhance community participation and engagement will be implemented.

Identification of development locations for social infrastructure and services will build on the strength and self-containment of subregional communities. Co-location opportunities for sharing infrastructure and facilities with neighbouring communities will improve efficiencies in providing and operating these services, and will contribute to the reduction of disadvantage.

Social planning can be used to identify current and future community and social issues, trends and solutions in planning and development. Adequate social planning can provide solutions to issues and concerns before they are compounded. For example, consideration needs to be given now to the needs of the ageing population in Bowen and other parts of the region to provide adequate access to required services.

Policies

5.2.2 Social services and community facilities are cost-effective, sustainable, accessible and responsive to community need.

5.2.3 Strategies to respond to identified pockets of social and locational disadvantage are developed and implemented.

5.2.4 Accessible and affordable transport options that enhance connectivity and level of service to remote or locationally disadvantaged communities are investigated.

5.2.5 Co-locate and integrate social services and community facilities to improve service delivery, and form accessible hubs and focal points for community activity in residential development areas.

Programs

5.2.6 Implement and evaluate flexible, integrated, client-driven and sustainable prevention, promotion and early intervention strategies to pre-empt and address social and locational disadvantage.

5.2.7 Establish partnerships across community, government and business to provide more proactive, community-driven, coordinated and sustainable responses to social and locational disadvantage.

Notes (for 5.2)

Many factors influence the degree of social disadvantage experienced by individuals, including relative ease of access to housing, employment, income, education, health facilities and service access. Many residents of the region experience multiple disadvantages, particularly those living in rural areas.

Servicing and support needs in rural communities are quite different to urban areas. Outreach services are the norm for rural and coastal communities; however, higher service demands in larger communities can reduce outreach service provision to these rural and coastal areas.

The development of strong, supportive social networks, the provision of affordable housing, education, health, high-speed and reliable internet access, recreation opportunities and accessible public transport play a central role in responding to regional disadvantage and minimising exclusion.

A strong, socially inclusive community is about all residents being able to fully participate in community life. This can be a significant challenge in some communities (notably rural settlements), as geographic location often restricts social participation and leads to feelings of isolation.

Sustainable community planning outcomes will only be achieved where all levels of government and community stakeholders participate in working partnerships to respond to current and emerging issues of disadvantage.

Positively Ageless—Queensland Seniors Strategy 2010–20

The *Positively Ageless—Queensland Seniors Strategy 2010–20* identifies priority areas and key initiatives that will benefit older Queenslanders (including those living in this region), particularly those who are vulnerable, disadvantaged or socially isolated.

5.3 Healthy and safe communities

Principle

5.3.1 Quality of life is enhanced by offering healthy and safe environments that promote active living and healthy lifestyles, and provide accessible health services.

The relative health of communities is underpinned by a range of considerations, including social disadvantage, population characteristics, social cohesion, access to key social infrastructure, housing affordability, transport, availability of open space, physical activity and climate change.

It is important to recognise that 'health' not only refers to a physical state, but also to mental health and psychological wellbeing. Community-based planning specifically addressing the needs of each community will provide safe, accessible open space and health services to enable the communities to enjoy active lifestyles and participation.

The community will be strengthened by an increase in housing choice and diversity, accessible and reliable infrastructure (including information communication technology), appropriate motorised and non-motorised transport options, and strong and supportive social network prospects.

Policies

5.3.2 Consider the changing needs of the community to improve and sustain the standard of living and health and wellbeing of all members of the community.

5.3.3 Physical activity and healthy lifestyles are supported through appropriate location and design, including facilitating the provision of active transport infrastructure such as pedestrian and bicycle paths, and appropriate sport and recreation facilities.

5.3.4 Crime prevention through environmental design principles is applied to enhance community safety in public areas.

5.3.5 Develop and implement strategies to mitigate the effects of biting insects.

5.3.6 Plan for and provide new areas of open space and public places, and ensure connectivity and access.

5.3.7 Integrate health and community safety considerations into the design and construction of all development.

5.3.8 Implement best practice urban design principles to create built environments and supporting infrastructure that facilitate universal access and active transport, and that increase community safety.

Programs

5.3.9 Develop a collaborative framework that requires multi-strategy and multi-tiered prevention and promotion programs to address community health and safety issues.

5.3.10 Undertake a health service planning program across the region, addressing inpatient and preventative health to provide a coordinated and holistic forward service planning approach which maximises the health and wellbeing of care recipients.

Airlie Beach markets *Courtesy of Ray Cash Photography*

Notes (for 5.3)

Regular physical activity and appropriate nutrition are needed to prevent a range of adverse health and wellbeing issues, including chronic diseases such as obesity and diabetes. Community wellbeing is optimised by providing social infrastructure such as health support services, open space, sport and recreation opportunities, and community connectivity through walking and cycle paths. Incorporating infrastructure and design that makes physical activity and participation safe is an important planning approach.

Biting insects

The health of communities (notably in coastal areas) requires responsive planning and mitigation of the effects of biting insects. This can be achieved by limiting residential developments within insect habitat areas, putting management plans in place to mitigate impacts, and ensuring appropriate waterflow design. Monitoring programs will continue to be important in identifying increases in biting-insect numbers to ensure mitigation strategies are appropriately deployed.

Toward Q2

Making Queenslanders Australia's healthiest people is a key theme in the Queensland Government's Toward Q2: Tomorrow's Queensland.

More information can be found at www.towardq2.qld.gov.au

Crime prevention through environmental design

Urban planning and design policies that incorporate safer design or *Crime Prevention through Environmental Design* (CPTED) *Guideline for Queensland* principles will lead to buildings and public spaces designed to create safer communities. While such principles focus on key aspects of design relating to personal safety from a crime perspective, pedestrian safety from vehicular traffic also needs to be considered. To reduce crime and antisocial behaviour, specific considerations include access and connectivity, links to open space and natural areas, flexibility and adaptability, pedestrian presence and approaches, sight lines, and natural surveillance and lighting.

More information can be found at www.police.qld.gov.au

Healthy Spaces and Places

Healthy Spaces and Places is a national guide for planning, designing and creating sustainable communities that encourage healthy living. This guide provides a range of practical information, including design principles for built environments. CPTED is incorporated into these principles.

More information can be found at www.healthyplaces.org.au

Active, healthy communities

Active, healthy communities: A resource package for local government to create supportive environments for physical activity and healthy eating is a complementary tool, specifically designed for Queensland councils. It provides practical and easy-to-use ideas for councils to consider and incorporate into their various planning approaches.

More information can be found at www.activehealthlycommunities.com.au

5.4 Community engagement, capacity building and identity

Principle

5.4.1 Strong, connected and functional communities exist as a result of grassroots community development, engagement and participation, and maintaining and improving a community's sense of shared identity.

Community engagement refers to the connections between governments, residents and broader social networks on a range of policy, program or service issues. It includes a variety of community interactions, including information sharing, to actively participate in decision-making processes.

In the region, there are a variety of community groups and established networks that have unique needs for interaction, relationship building and social connectivity that differ from other places. The capacity of all residents and community stakeholders (including Aboriginal and Torres Strait Islander people, as well as people from other cultures) to actively participate and have their say in the future of their communities is important to community empowerment and participation.

Capacity building strategies will contribute to the development of the strengths of people and communities to engender a strong regional identity. Actions and opportunities for community members to build additional skills, networks, knowledge, and a sense of belonging will improve the community's ability to meet their own needs, be resilient in times of change, and have the capacity to influence decision making and effect positive change for their region.

An important marker of a strong community is the proportion of residents engaged in volunteering across the region. At the time of the 2006 census, there were 21 016 volunteers in the statistical division.

Volunteers play an important role in building capacity and resilience in communities. Opportunities for enhancing volunteer numbers should be considered where appropriate in future planning activities.

Policies

5.4.2 Local government and community planning activities incorporate, value and build on the unique local characteristics and history of the area to ensure a strong sense of place, belonging and community identity.

5.4.3 The capacity of communities to identify and respond to community need is built through their involvement and engagement in land use decisions, and aligns with evidence relating to community issues, needs and solutions.

5.4.4 Key regional networks are supported and encouraged to participate in, and inform, planning development processes.

5.4.5 Genuine community engagement principles and programs relevant to community and cultural considerations are implemented in consultation programs.

5.4.6 Community organisations and agencies are supported in efforts to increase the numbers of volunteers involved in community activities.

5.4.7 Support communities to build their development resilience and capacity for post-disaster or emergency events and community recovery.

5.4.8 Expand opportunities for local communities to participate in decision-making processes regarding the location of accommodation for non-resident workers.

5.4.9 Promote greater understanding between different industry sectors, government and the community so that the role of each party in contributing to the health and wellbeing of the community is reflected in planning outcomes.

Notes (for 5.4)

Strong, meaningful community engagement leads to greater empowerment of communities that are more willing and able to identify community issues and work toward solutions. The advantage of taking the time to develop relationships with communities leads to positive planning outcomes and program delivery.

An understanding of community engagement principles and the integration of effective engagement principles and practices are essential in planning for communities. For example, techniques for engaging with Aboriginal communities, or people from other cultures, differ to techniques used in other communities. Involving residents in government planning and decision-making is critical to the legitimacy and responsiveness of these processes, the quality of public policies and programs, and the effectiveness of services. As has been evidenced in the region's recent history, the community regularly faces losses caused by natural disasters such as bushfires, floods or storms, which can challenge a population's sense of purpose, identity and future plans. Such events can devastate communities, the economy, infrastructure and the environment. Given the increasing regularity and severity of natural disasters in the region, coordinated and cooperative efforts are required to enhance the region's capacity to withstand and repair following these traumatic events. These efforts should include the recovery of the built and natural environment, as well as the community's general physical and emotional wellbeing.

Recovering from severe natural disasters and meeting the day-to-day needs of particular community groups and individuals relies on the generosity and time of volunteers. Volunteering involves people of all ages, provides opportunities for residents to be active and involved in their local communities, and will become a more critical issue in coming decades. The need for volunteers is a key consideration for this region, however, it is a concern given the growing percentage of temporary residents. It is also recognised that many older people in the region work as volunteers. As they retire or are no longer able to participate in these programs, demand for new volunteering services is anticipated to escalate.

Community plans

The *Local Government Act 2009* requires all local governments in Queensland to prepare a long-term community plan. It is prepared in a community engagement and capacity building framework. Community plans are developed alongside local government corporate and operational plans, and express the community's vision, its aspirations and key priority areas.

The community plan, developed in accordance with a comprehensive community engagement process, will provide the basis and context for:

- local government input to the regional planning process
- local government strategic land-use planning and priority infrastructure planning in accordance with the *Sustainable Planning Act 2009*
- local government corporate plans
- local government long-term financial planning and sustainability strategies.

More information can be found at www.dlgp.qld.gov.au

The Queensland Compact

The Queensland Compact, developed by the Queensland Government, outlines expectations and commitments for government and the non-government sector to contribute to better outcomes for Queenslanders. It commits stakeholders to actions to strengthen working relationships, drives engagement in planning and policy processes, and strengthens sector capacity and service quality.

More information can be found at www.communityservices.qld.gov.au

5.5 Strengthening resource communities

Principle

5.5.1 The long-term viability of resource communities is sustained by enhancing liveability, providing diverse housing and employment options and accommodating the needs of the resource sector.

While traditional communities plan housing, services and infrastructure for the long-term, resource communities are required to plan to accommodate a large and transient workforce. The length and nature of their stay depends on the life of the resource and the operation of the mining activities. This creates substantial challenges for housing, services, infrastructure, liveability and community building. This is exacerbated by the growing predominance of workers camps within, and in close proximity to, existing communities. These workers camps are becoming less transitional in form and nature and provide on-site services traditionally located in a town centre or main street.

The unprecedented economic strength of the resource sector has revived many resource communities which less than a decade ago were in significant decline. Opportunities to capture this growth and invest in advancing the liveability and long-term sustainability of these communities will be a major driver in decision-making for these towns and villages. This includes strengthening other economic sectors such as agriculture and transport services.

Current projections indicate economic stability in the resource sector is likely to continue for an extended period. This, in addition to the extent of resources available in the region, is likely to see continued growth well beyond the life of this plan. Planning to accommodate growth and to develop sustainable and liveable communities to attract further investment and long-term residents will be a challenge.

Recent growth in resource communities has raised various concerns for community cohesion and provision of services. These include:

- lack of access to, and increased pressure on, social infrastructure and services, such as housing and hospitals
- lack of social diversity and demographic balance
- social isolation and psychological stress
- housing affordability
- locational disadvantage
- high population turnover and community fragmentation.

A significant proportion of the region's residents are employed in the mining sector. In 2006, the mining industry was the largest employer in the Isaac Regional Council area, employing 38.9 per cent of the workforce. The mining industry employed 8.3 per cent of the Mackay Regional Council area workforce, and 3.7 per cent of the Whitsunday Regional Council area workforce. Cumulatively, mining accounted for 11.7 per cent of the workforce in the region, compared with only 1.7 per cent of the Queensland workforce.

The *Bowen Basin Population Report 2009* found that the proportion of non-resident workers in the Isaac Regional Council area was 27.9 per cent. Between 2006 and 2009, the proportion of non-resident workers in the full-time equivalent (FTE) population across the Bowen Basin increased from 12 to 13 per cent. Recognising the legitimate interests of communities in maximising the benefits of locally retained and resident workforce should be seen as a key priority.

With the growth of resources industries in the region, government, industry, and community now share many of the concerns about the social aspect of cumulative impacts of resource development. There is a need to emphasise social responsibility and socially sustainable development, in conjunction with effective planning, to provide strong and positive resource communities. This requires active collaboration between all stakeholders, including other resource proponents.

Policies

5.5.2 Project proponents should identify and respond to cumulative impacts in collaboration with stakeholders, including impacts on regional social infrastructure, arising from multiple projects through Social Impact Assessment and/or Social Impact Management Plan processes.

5.5.3 Flexible living arrangements are available and are reflected in housing stock diversity, choice, and affordability; including the needs of FIFO and DIDO workers, while ensuring workers are not disadvantaged based on employment status.

5.5.4 Consider existing and planned infrastructure and its capacity in planning for new infrastructure to accommodate workforces.

5.5.5 Encourage collaborative responses by government, resource companies and the community to the social, economic and environmental pressures associated with large-scale mining and energy resource projects.

5.5.6 Support sustainable, balanced resource communities through integrated planning and delivery of land uses, infrastructure, economic development, environmental protection and housing provision.

5.5.7 Planning for workers' accommodation and infrastructure must address the impacts of the site's eventual closure.

5.5.8 Support local development of economic activities to service resource operations and community members.

Programs

5.5.9 Use and monitor population and demographic data relating to the cumulative social impacts of mining development, implications for other economic sectors and allocation of resources, services and infrastructure to inform sustainable development.

5.5.10 Continue to monitor the number and location of non-resident workforces in the Bowen Basin to assist future social infrastructure provision.

5.5.11 Implement the *Sustainable Resource Communities Policy* to promote equitable and sustainable development of mining communities.

5.5.12 Implement and monitor social impact management plans.

5.5.13 Build on existing Indigenous training and employment programs, or create new programs, to access resource industry employment opportunities.

Notes (for 5.5)

The *Sustainable Resource Communities Policy*, released by the Queensland Government in 2008, identified that resource communities benefit from resource development through the creation of more jobs and stronger economies. However, the experience of the Bowen Basin has shown that major new and expanding mining and petroleum developments can also place significant pressure on social infrastructure, such as housing and community services, and create quality of life issues, such as choice in education services and the availability of health and other services.

Cumulative social impacts that are common in resource regions include shortages in affordable accommodation and housing, skills shortages in trades, difficulties in retaining staff in the non-resource sectors, and pressure on community services such as childcare. Benefits include more employment and economic investment, local business and human capital development, and population increases that can create a critical mass for better services and infrastructure.

Multiple concurrent and overlapping proposals for new and expanded mining developments are creating significant cumulative and regional impacts on resource communities. These impacts must be considered by all stakeholders in decision making and planning in these communities.

Major Resource Projects Housing Policy

In 2011, the Queensland Government released the Major Resource Projects Housing Policy: core principles to guide social impact assessment. This policy aims to support better planning for housing in resource communities and provides the opportunity for government (state and local), industry and community to work in partnership on housing issues. The policy sets out principles to be used by government, industry and community each time a resource project is subject to environmental and social impact assessment under either the *State Development and Public Works Organisation Act 1971* or the *Environmental Protection Act 1994*.

A copy of the policy is available at www.deedi.qld.gov.au

Bowen Basin Population Report

The Bowen Basin Population Report 2009 contains FTE population estimates for all local government areas, statistical local areas of the Bowen Basin towns, as at 31 July 2009. The FTE population measure has two components: the area's estimated resident population, and a count of non-resident workers who FIFO or DIDO to the area.

Trend analysis of all data collected since 2006, included in the 2009 edition, reveals emerging trends between resident and non-resident workforces in the region.

The report can be accessed at www.treasury.qld.gov.au

5.6 Engaging Aboriginal and Torres Strait Islander people

Principle

5.6.1 Traditional Owners and Elders are actively engaged in planning and development processes, and their connectivity with Country is understood, considered and respected.

Aboriginal and Torres Strait Islander people, including Traditional Owners and Elders, are actively engaged in business about their Country, and enjoy high levels of community participation and support.

Aboriginal people are situated within their Country emotionally, spiritually and metaphysically. When Country is well, people are likely to be well. A sense of belonging is vital to an individual's cultural and spiritual identity. Through music, art, dance, laws/lore and creation stories, a living culture is maintained. This is not dissimilar to Torres Strait Islander culture.

Aboriginal and Torres Strait Islander people have a proud and long history in the region. Aboriginal and Torres Strait Islander culture has the ability to contribute greatly to the social, spiritual and economic wellbeing of communities. Aboriginal and Torres Strait Islander ways of thinking, working, reflecting and incorporating values, beliefs and priorities are unique, and need to be understood and embraced to safeguard the region's prosperity for all its residents.

Aboriginal and Torres Strait Islander people have a unique connection to their ancestral Country as a result of passing down histories and place awareness through generations. Traditional Owners and Elders are considered the most appropriate stakeholders to identify Aboriginal cultural heritage sites, and early involvement of the members of these communities is critical to community ownership of, and successful participation in, planning and development processes.

The region contains several recognised Aboriginal and Torres Strait Islander communities within Traditional Owner group areas.

Policies

5.6.2 Traditional Owners and Elders are actively consulted and engaged in planning decisions for their Country, ensuring their interests are considered and integrated.

5.6.3 Recognise and respect Aboriginal and Torres Strait Islander people's strong connections to land and sea through engagement in planning processes.

5.6.4 Consult with Traditional Owners and provide avenues for their interests to be recognised in development and planning, including in the identification and preservation of cultural heritage sites and landscapes.

5.6.5 Develop and implement mechanisms to sensitively identify, record, protect and preserve Aboriginal cultural heritage sites and interests.

5.6.6 Support Traditional Owners to engage with government early in planning and decision-making processes in a genuine and respectful manner.

5.6.7 Develop the capacity of state and local governments to genuinely engage and facilitate effective relationships with Aboriginal and Torres Strait Islander individuals and communities.

5.6.8 Seek opportunities across local and state governments to jointly consult with Aboriginal and Torres Strait Islander stakeholders and communities.

5.6.9 Provide training opportunities to enhance the capacity of Aboriginal and Torres Strait Islander peoples to play a more active role in planning and land management processes.

5.6.10 Provide more extensive cultural awareness training to state agencies and local government.

Programs

5.6.11 Identify, record and protect Aboriginal cultural heritage sites and interests.

5.6.12 Identify opportunities for formal partnership agreements to identify and resolve Traditional Owners' and Elders' interests, such as memorandums of understanding or Indigenous land-use agreements.

Notes (for 5.6)

Through regional plan consultation processes, Traditional Owners and Elders have voiced desire that the interests of their people are recognised and addressed in land-use and other planning processes, and that they are actively engaged in such processes.

Consultation with Traditional Owners and Elders is most effective when undertaken in a culturally appropriate, genuine and respectful manner. When entering communities (notably at forums and events), organisations and agencies should recognise and acknowledge Traditional Owners and Elders of Country, or invite a Traditional Owner or Elder to undertake the Welcome to Country.

Robust community engagement and interaction relies on establishing strong communication flows and connections between state and local government, communities and individuals on a range of topics. It can include basic information sharing and distribution, consultation processes, or active participation opportunities.

The approaches and methods that are used to conduct community consultation with Aboriginal and Torres Strait Islander people are unique. Engagement with members of these communities requires an understanding of their interests and connection to Country, and the significant role this plays.

Based on historical policy, contact and decisions made between, and involving, government and Aboriginal and Torres Strait Islander people require particular consideration to ensure genuine, inclusive, respectful, non-tokenistic engagement and relationship building. The importance of taking the time to build trust, mutual respect, reciprocal relationships and true partnerships cannot be underestimated.

Partnerships and negotiation with Aboriginal and Torres Strait Islander representatives are essential given the unique nature of culture and connection with Country. Cultural awareness training is a valuable tool to assist government and community workers in understanding and working toward ensuring that mainstream services are responsive, inclusive and accessible to Aboriginal and Torres Strait Islander people.

Aboriginal and Torres Strait Islander communities have strong family and cultural ties that are closely connected to the land, fresh waters and sea. Maintaining the connection with their land and waters is important for social and cultural wellbeing. Respecting these strong connections are important for the ongoing survival of their culture.

An Australian South Sea Islander precinct exists at the Mackay Regional Botanic Gardens. The precinct includes a hut which is used for community meetings and functions. The centre allows Australian South Sea Islanders to come together as a group for ceremonies and celebrations.

State and local governments, and industry responsible for planning and land management, must gain an enhanced appreciation of the valuable contribution that Aboriginal and Torres Strait Islander peoples can provide. For land-use planning processes to adequately address the needs of the Aboriginal and Torres Strait Island community, they must include appropriate involvement mechanisms that recognise the diversity within this community.

Aboriginal cultural heritage

The Department of Environment and Resource Management is responsible for administering the *Aboriginal Cultural Heritage Act 2003* and *Torres Strait Islander Cultural Heritage Act 2003*, which reinforce and support Queensland's cultural heritage.

The cultural heritage duty of care

The Act requires anyone who carries out a land use activity to exercise a duty of care, that is, they must take all reasonable and practical measures to ensure their activity does not harm Aboriginal cultural heritage.

The duty of care applies to any activity where Aboriginal or Torres Strait Islander cultural heritage is located, including freehold land.

Identifying the cultural heritage values of an area can be difficult. The area may be secret or sacred, incorporated into the landscape or under the soil surface.

The Acts, together with gazetted duty-of-care guidelines, provide guidance on how to proceed.

More information can be found at www.derm.qld.gov.au

Binbi Tok Olgeta

Binbi Tok Olgeta is an inter-agency group with membership from the three levels of government, community services and community groups. The group meets to share and discuss information with the Aboriginal, Torres Strait Islander and Australian South Sea Islander communities in the region. Binbi Tok Olgeta is chaired by the Queensland Government's Department of Communities (Aboriginal and Torres Strait Islander Services).

5.7 Aboriginal and Torres Strait Islander social and economic equity

Principle

5.7.1 Aboriginal and Torres Strait Islander people have equitable access to opportunities that promote a high standard of living, good economic prospects and general wellbeing.

Many members of the Aboriginal and Torres Strait Islander community experience social disadvantage as a consequence of locational or cultural access constraints. Meaningful, responsive change will require commitment and action from Aboriginal and Torres Strait Islander communities, with support from government and non-government sectors and the general community. Breaking the cycle of social disadvantage will only be achieved through combined efforts.

Aspects of disadvantage of specific concern for these community members include low levels of employment, school and tertiary participation, access to appropriate health services, income, home ownership and business ownership. All of these factors limit economic prosperity, social inclusion and general wellbeing. Improvements and access to opportunities in these areas will benefit the individual and wider community.

Policies

5.7.2 Aboriginal and Torres Strait Islander peoples' equitable access to employment and business opportunities, community services and social facilities is improved.

5.7.3 Affordable housing and options for home ownership for Aboriginal and Torres Strait Islander people are readily available.

5.7.4 Youth unemployment issues, in partnership with Aboriginal and Torres Strait Islander people, are actively addressed through apprenticeships, traineeships and employment pathways.

5.7.5 Early intervention and prevention programs to enhance community wellbeing and improve health outcomes for Aboriginal and Torres Strait Islander people are supported.

5.7.6 Partnerships that recognise and address education gaps for Aboriginal and Torres Strait Islander people in the region are encouraged.

5.7.7 The collection and quality of data relating to Aboriginal and Torres Strait Islander people is improved to better inform planning processes and to allow for more effective reporting and monitoring processes (such as reporting on Closing the Gap targets).

Programs

5.7.8 Identify and encourage employment and business development needs for Aboriginal and Torres Strait Islander people through education, upskilling, training and links to employment, market and business opportunities and investment, including exploring opportunities in cultural tourism and cultural products.

Notes (for 5.7)

It is critical that Aboriginal and Torres Strait Islander people have equivalent levels of access to a range of essential services and employment opportunities. Culturally specific services may not always be required, but mainstream services need to be readily accessible to Aboriginal and Torres Strait Islander people. Cultural awareness training needs to be not only undertaken, but outcomes need to be successfully applied to work practices, which will work toward ensuring that mainstream services are responsive, inclusive and accessible to Aboriginal and Torres Strait Islander people.

Levels of employment, school participation, tertiary participation, access to health services, income, home ownership and business ownership are all significantly lower for Aboriginal and Torres Strait Islander people, which limits economic prosperity and general wellbeing. Improvements and access to opportunities in these areas would benefit the individual and wider community, from an economic and social wellbeing perspective.

Closing the Gap

Indigenous reform—and closing the gap in life opportunities and outcomes between Aboriginal and Torres Strait Islander people and non-Aboriginal and Torres Strait Islander people—is one of COAG's key priorities. As a member of COAG, the Queensland Government is committed to addressing the economic and social disparity experienced by many Aboriginal and Torres Strait Islander peoples, while acknowledging and building on the strengths, achievements and capabilities of Aboriginal and Torres Strait Islander community members, leaders and organisations.

A key driver of the Indigenous reform agenda are the six 'closing the gap' targets, which include:

- closing the life expectancy gap within 25 years
- halving the gap in infant mortality rates within 10 years
- ensuring all four-year-old children in remote communities have access to early childhood education by 2013
- halving the gap for Aboriginal and Torres Strait Islander students in reading, writing and numeracy within 10 years
- halving the gap for Indigenous students in Year 12 attainment rates (or equivalent) by 2020
- halving the gap in employment outcomes within 10 years.

More information can be found at www.coag.gov.au

Road contractor, Sarina *Courtesy of Ray Cash Photography*

6. Strong economy

A thriving regional economy that is sustainable, resilient and robust, and advances the prosperity and liveability of communities across the region.

The region is experiencing significant growth, with an average growth rate of 5.5 per cent per annum. The region has one of the fastest growing economies in Queensland (Queensland average economic growth of 2.3 per cent per annum). Current and projected regional economic growth has the potential to provide the foundations for future prosperity and generate long-term benefits for the region.

Recent growth in the regional economy has been largely driven by the resources sector. Increasing global demand for mineral resources has lead to increased levels of extraction, processing and export of resources from the region. However, the region's more traditional industries of agriculture, fishing and tourism continue to contribute significantly to the regional economy.

The geographic diversity of the region has strongly influenced the nature of its industrial development. Open-cut and underground coal mines, livestock grazing and cropping of wheat and sorghum dominate the western areas of the region, while the region's coast, dominated by sugar, horticulture, tourism, commerce and government services, is home to the majority of the resident population.

The region has a number of competitive advantages that can assist in driving future economic activity. These include strong core industries in agriculture, horticulture and tourism, with opportunities for expansion and diversification and abundant high-quality coal resources (particularly coking coal), as well as significant gas reserves, rich agricultural land and fishery resources.

Significant investment in air, rail and sea port infrastructure has occurred within the region. The establishment of the Abbot Point State Development Area (APSDA) provides further capacity to stimulate economic development by providing for large-scale economic development and employment growth in the region. Additionally, the combination and proximity of the world-renowned Great Barrier Reef and other natural features such as islands, coastal hinterland and rainforests have high tourism value.

Mackay Airport *Courtesy of Ray Cash Photography*

The region has a number of challenges that must be addressed to ensure its economic growth is sustainable in the long-term. These include:

- shortages of skilled labour in specific industry sectors
- attracting and retaining workers in industries outside the resources sector, particularly within primary industries
- wage pressures from the mining industry affecting housing affordability and increasing the overall cost of living
- reliance on resources sector growth, which is vulnerable to fluctuating world commodity process and resource availability
- growing infrastructure demands to sustain growth
- fluctuations in the tourism industry due to external factors
- balancing protection of regional agriculture and natural resources with pressures associated with increasing demands from the resource sector and urban development
- defining and strengthening the role of centres and employment nodes.

A broader, more robust economic base will minimise the impacts of outside influences and provide a wider range of employment and economic opportunities for the community. Strengthening the economy through diversification and long-term planning will improve the long-term economic sustainability of the region.

Further economic development will generate additional population growth and further justify the delivery and enhancement of higher order services to the region.

The Australian and Queensland governments recognise the need for strong and robust regional economies to underpin growth and their longer term prosperity. In particular, the Queensland Government is committed to building regional prosperity to enhance liveability and reduce growth pressure on the state's south east. This commitment is outlined in the *Queensland Regional Strategy* (QRS) and associated *Queensland Infrastructure Plan* (QIP). The strategies within the regional plan further enhance and clarify the policy directions provided within the QRS.

A strong and diverse economy will support employment generation and retention, providing greater security to the various communities within the region. Building prosperity will also enhance lifestyle factors, influencing the decisions of individuals and families to move to, or remain within the region.

Coordinated economic, land-use and infrastructure planning will maximise benefits and reduce ongoing costs to the community, and assist in attracting major and catalytic investment within the region. Establishing an integrated economic, land-use and infrastructure planning program will provide greater certainty and confidence in determining investment decisions.

While enhancing investment and growth, economic strategies recognise the importance of environmental values and liveability across the region. In addition they will take into account external influences on the region's economy, while utilising competitive advantages to enhance economic resilience.

The strategic principles for a strong economy include:

- economic leadership and coordination
- integrated economic, land-use and infrastructure planning
- resilient and sustainable economy.

To support and strengthen the policy direction described in these themes, specific direction and policies have been provided to guide the long-term and sustainable growth of key economic sectors within the region, which include:

- primary industries
- resource sector
- tourism.

6.1 Economic leadership and coordination

Principle

6.1.1 Strong economic leadership attracts, coordinates and drives regional economic development, innovation and investment.

Economic leadership is required to ensure the region is well placed to capitalise on investment and economic development opportunities, and ensure that initiatives to capture opportunities for economic growth are effectively coordinated. It will provide business and industry opportunities to:

- share information and identify new and additional opportunities
- respond to changing local, regional and global economic circumstances
- communicate effectively with multiple audiences
- create better or more effective products, processes, technologies or ideas
- attract investment and reinvestment in the region.

A strong region wide economic leadership group focused on stimulating economic development will send a strong message to potential investors that the region welcomes new and expanding employment industries. This needs to be supported by a willingness in the region to seek out investment and to encourage and support potential investors.

Policies

6.1.2 Strengthen the region's economic voice and promote its competitive advantages and assets.

6.1.3 Develop and enhance strategies to encourage and facilitate public and private investment and reinvestment.

6.1.4 Identify and facilitate outcomes that remove growth constraints and impediments to business to encourage new business and investment attraction.

6.1.5 Identify and encourage opportunities to leverage economic growth from adjoining regions, and state, national and international levels.

6.1.6 Ensure collaboration between all sectors of government, business and the community to maximise the socio-economic and environmental benefits of major projects.

6.1.7 Develop and enhance leadership and mentoring programs that promote a culture of innovation and entrepreneurship.

6.1.8 Create and strengthen links with domestic markets, including opportunities to service the resource sector in Bowen and Galilee basins.

6.1.9 Secure investment in science and technology, health, education and training, tourism infrastructure, and allow for expansion of these activities with complementary businesses and services.

6.1.10 Support initiatives that enable new diverse business and industry opportunities within the region.

6.1.11 Encourage partnership programs between research and training facilities and business and industry.

6.1.12 Support existing and emerging clusters of science, innovation, research and development.

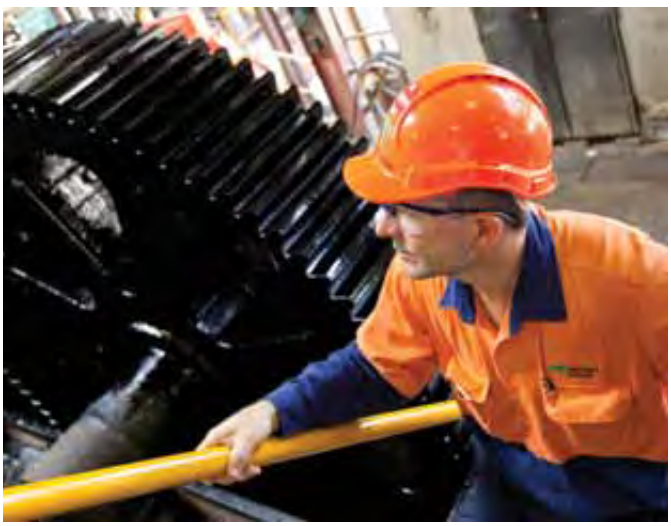
6.1.13 Support and facilitate new industries based on green technology and re-use principles.

Programs

6.1.14 Work to create attractive business environments for science and technology activities that support creativity, innovation, research and development.

6.1.15 Strengthen regional economic leadership through Regional Development Australia.

6.1.16 Prepare the Whitsunday, Hinterland and Mackay Regional Economic Development Strategy.



Steel worker, Mackay *Courtesy of Ray Cash Photography*

Notes (for 6.1)

Providing business and industry with mechanisms to market their products and services enables further development opportunities. Capitalising on these opportunities will drive business and industry growth in the region. There are a number of organisations working to assist and lead the promotion and development of the region's businesses and industries.

The Mackay Whitsunday Regional Economic Development Corporation is the peak economic development organisation for the region. Enterprise Whitsundays is the leading economic development agency for the Whitsunday subregion, which includes Proserpine, Bowen, Airlie Beach and Cannonvale, Collinsville and the Whitsunday Islands.

The Mackay Area Industry Network is an industry association representing mining services, engineering, manufacturing and construction support services in the region. The network provides a range of services to its members, including networking opportunities, administration and management of apprentices, and export opportunities, promotion and assistance.

The region has a strong export market that can be enhanced through strategic partnerships with expanding economies such as those within South East Asia, China, India and the United Arab Emirates. These partnerships will provide opportunities to source new capital to provide for the expansion of economic activity. Opportunities exist to attract new research and development funding to streamline existing business processes and provide additional value in the long-term.

The Queensland Government, through the Department of Employment, Economic Development and Innovation, is preparing the *Whitsunday, Hinterland and Mackay Regional Economic Development Strategy*, which will be a non-statutory framework that supports regional economic development. The economic vision and strategies will identify long-term growth and development opportunities to enhance the growth prospects of the region. The strategy will define, identify and guide future commercial and industrial investment opportunities, and establish measurable targets that are aligned to the regional plan principles, policies and programs.

Toward Q2: Tomorrow's Queensland recognises that research and development, innovation and skills programs improve competiveness and productivity. Toward Q2 aims to increase by 50 per cent the proportion of Queensland businesses undertaking research and development or innovation by 2020.

6.2 Integrated economic, land-use and infrastructure planning

Principle

6.2.1 Suitable land, infrastructure and facilities are available and managed to enable sustainable economic and employment growth in the region.

The settlement pattern supports the protection, expansion and enhancement of existing land and facilities and creates opportunity to accommodate anticipated economic and employment growth.

Strategically located land for existing and future business and industry use should be protected from inappropriate use and the encroachment of incompatible land uses. Any proposal that could erode the future use of such land for business and industry purposes should be reviewed against the long-term strategic needs of the region, and requires significant justification to support its development.

Policies

6.2.2 Employment needs and enterprise land requirements are identified to inform future planning decisions.

6.2.3 A range of integrated, co-located and compatible employment opportunities are incorporated in residential areas to support local economies and local jobs.

6.2.4 Identify, maintain and protect sites and corridors (including disused corridors) for infrastructure that supports economic development.

6.2.5 Strategically located land and facilities are protected from incompatible development for future economic uses.

6.2.6 Attract new rail, port and aviation service providers that support and facilitate existing and proposed industry and provide new services in the region.

6.2.7 Establish and maintain links between town centres, business precincts and key transport, communication networks and other associated infrastructure.

6.2.8 Facilitate the expansion of existing business precincts and key industry sectors such as aviation, manufacturing, aquaculture, agriculture, tourism, mining, extractive industries, bulk exports and mineral processing and marine industry sectors.

6.2.9 Facilitate the provision of world-class infrastructure, including advanced telecommunications, to enhance economic competitiveness.

Programs

6.2.10 Facilitate development of value-added and knowledge-based business and industries with suitable locations and infrastructure.

6.2.11 Monitor, manage and deliver an adequate supply of industrial and commercial land.

6.2.12 Investigate the viability and suitability of sites for mining sector support industries away from residential development and closer to the mines.

Historic bank, Mackay *Courtesy of Ray Cash Photography*

Notes (for 6.2)

The growth of the regional economy depends on a range of factors including improving the competitiveness of business and industry. Business and industry must be able to expand and have access to infrastructure and services of appropriate capacity.

Strategically located land and facilities in areas with good road, sea port, airport and rail access should be secured for business and industry serving the winder region, and importing and exporting goods and services outside the region.

Urban consolidation and growth supports the protection, expansion and enhancement of existing land and facilities supporting business, tourist and industry activity as well as delivering additional land to accommodate anticipated economic growth. Opportunities for new regionally significant employment growth will be further detailed through planning of development areas and Identified Growth Arears (IGAs).

Projected land requirements for urban-based business and industry to 2031 are provided across the region. The urban settlement pattern supports the protection, expansion and enhancement of existing urban land and facilities, and identifies further land to accommodate anticipated economic and employment growth.

Additional business and industry lands have been identified adjacent to the Mackay urban area to support the region's future economic and population growth. This will enable the region to maximise its locational advantages to national and regional transport networks, regional level services, and a ready workforce.

Rosella Identified Growth Area

An IGA is proposed for greater Rosella, which may present opportunities in the long-term for further economic and employment growth. The area is west of the proposed development area of Rosella, south of Mackay. The purpose of this IGA is described in the subregional narrative for Mackay Regional Council (Part B). Further investigation will be required to determine the viability, suitability and sequencing of this type of development at this location, including assessment of constraints such as good quality agricultural land and storm tide inundation.

In planning for growth, analysis of employment needs and identification of local requirements will inform the location of business and industry land.

The *Whitsunday Hinterland and Mackay Regional Economic Development Strategy* will identify areas of opportunity and support economic development strategies already in operation or being developed.

Mackay provides a unique economic role within the region in terms of servicing the mining services sector and agricultural sector, and is strategically positioned to deliver on regional industrial land requirements, given its access to labour and an active industrial land development market. Despite the majority of regional economic output being generated in the Isaac subregion, the majority of industrial activities that support mining operations are sourced from Mackay.

The Abbot Point State Development Area (SDA), which is approximately 16 230 hectares, will provide for the establishment of large-scale industrial development, including infrastructure corridors and essential infrastructure. Development of the APSDA is expected to have a major positive impact on future industrial land demand in Bowen. (notes continue on next page)

Abbot Point State Development Area

In June 2008, approximately 16 230 hectares of land at Abbot Point was declared a SDA to provide for the establishment of large-scale industrial development, including infrastructure corridors and essential infrastructure, while recognising and protecting environmental, community and cultural values.

Located approximately 20 kilometres north-west of Bowen, it offers the following competitive advantages:

- access to an adjacent deep water port facility
- access to transport links such as the Bruce Highway and rail infrastructure
- sufficient distance from urban areas to avoid land use conflicts.

A development scheme has been prepared to manage land use in the APSDA, and will provide for the coordinated establishment of industrial development, infrastructure corridors and essential services.

Further planning investigations have identified key development parcels and a selected multi-user infrastructure corridor in the APSDA.

The establishment of the APSDA as a major industrial hub for large-scale industrial development is a commitment by the Queensland Government to develop mining, mineral processing and industrial development over the next 50 years.

More information can be found at www.deedi.qld.gov.au

Industrial land

The *Mackay, Isaac and Whitsunday Region Industrial Land Demand Study*, undertaken during 2010, provides guidance on the amount, location and type of industrial land likely to be required across the region to support regional economic and population growth. While the study found there is an adequate supply of zoned industrial land at a regional level to meet projected growth in the region in the short- to medium-term, the demand is not transferable, and potential shortfalls may arise in the supply of industrial land at a subregional and local level.

It is projected that significant additional land capacity will be required in Mackay in the medium- to long-term for large footprint industries that provide for the mining services sector and the emerging resource sector in the Bowen and Upper Galilee basins. In addition, current projections estimate a shortage of approximately 350 marina wet berths in the region by 2026.

Outside of Mackay, additional capacity will be needed in the short-term at Airlie Beach and Cannonvale, Proserpine and Mirani, and in the long-term at Sarina and Bowen. Due to the constrained supply of available and suitable zoned and serviced industrial land, shortfalls may emerge ahead of these timeframes across the entire region. These shortfalls may have significant impact on the economic growth of Clermont in the short to medium-term, the provision of industrial land in Moranbah in the medium- to long-term, and the future development of the marine industry sector with the Whitsunday subregion.

Additional land capacity may also be required in Mackay's Rosella area in the long-term to accommodate the establishment of a higher order intermodal facility, and associated industrial uses, to service the growth in regional domestic freight.

There will be a need to monitor industrial land supply and demand, including development in the Galilee Basin, major infrastructure developments within the region, and strategic port locations. Local and state governments may need to investigate further site suitability so that suitable tracts of developable industrial land are designated and can be brought online in the required timeframes to support economic and population growth.

If suitable industrial land is not available within the Urban Footprint, investigations will need to be undertaken to support the delivery of the objectives of the regional plan. Priority will be given to investigating capacity and sequencing IGAs where industrial land demand is not being met.

Strategically located land for existing and future business and industry use should be protected from inappropriate use and the encroachment of incompatible land uses.

High-impact industries often have specific site and location requirements, such as access to adequate road and rail, high-capacity power and water supplies, water frontage or proximity to a port, airport and interstate transport services. Certain industrial activities also require spatial separation from sensitive land uses such as residential areas. This is also relevant for activities with possible off-site impacts, or those which operate outside normal business hours.

6.3 Resilient and sustainable economy

Principle

6.3.1 The economy grows through increasing levels of human-capital, knowledge-capital and natural-capital and is resilient to external factors through multiple strong industry sectors that provide diverse employment opportunities.

Developing and retaining a resilient and sustainable economy requires coordinated investment within all aspects of the economy with a focus on long-term gain. This will be achieved by building on the region's existing strengths and emerging economic opportunities, supporting investment and employment in all sectors, developing and retaining a skilled workforce, using innovation and collaboration to capture growth, and protecting natural capital.

Policies

6.3.2 Attract and retain a diverse workforce to meet current and future needs of the economy.

6.3.3 Identify and protect areas of economic importance (e.g. agriculture centres, industrial areas, port areas, mineral resources and tourism) and support new and continued production in these areas.

6.3.4 Encourage the diversification of industry sectors to facilitate an efficient, resilient and strong economy.

6.3.5 Facilitate the development of high value-added and knowledge-based economic activities in suitable locations.

6.3.6 Maximise opportunities for the development of supply chains to capitalise on economic development within and external to the region.

6.3.7 Identify and protect sites for the development of innovative business and knowledge precincts, and promote the development of world-class facilities.

6.3.8 Skills development is supported and workforce participation increased through improved access to a range of regional education and training opportunities.

6.3.9 Promote further development of specialised educational institutions in the region to meet the requirements of the region's major industries and provide skills development opportunities to support industries.

6.3.10 Raise business competitiveness by using the government's export, business improvement, sectoral development and education skills programs.

6.3.11 Promote partnership programs between research, training and education facilities, business and industry.

6.3.12 Facilitate investment in emerging opportunities, particularly primary industries, bio-industries, intermodal transport logistics hubs, and renewable and clean energy.

6.3.13 Opportunities for clustering complementary businesses and industries are supported, with appropriate locations for future expansion of those activities planned and secured ahead of time.

6.3.14 Develop industry clusters and partnerships, targeting industries relevant to the region's competitive advantages and market opportunities.

Programs

6.3.15 Provide services such as employment preparation and accredited vocational training courses to young people at risk of long-term unemployment and older workers. This includes initiatives to capitalise on opportunities from resource sector industries.

6.3.16 Implement job creation programs, such as Queensland's Green Army, that contribute to natural asset management and boost local industries such as tourism and hospitality.

6.3.17 Develop and promote regional incentives and funding for innovative, sustainable knowledge and high-skill business and industry.

6.3.18 Develop training and skills initiatives that meet and respond to the requirements of business and industry in the region, particularly through Skilling Queenslanders for Work, Productivity Places programs and trade training.

Notes (for 6.3)

Toward Q2: Tomorrow's Queensland sets a state target for Queensland that three out of four Queenslanders will hold trade, training or tertiary qualifications by 2020.

Skilling Queenslanders for Work

The Skilling Queenslanders for Work initiative has built a strong reputation for increasing the workforce participation of vulnerable individuals and communities. Facilitating local employment solutions through partnerships between government agencies, community organisations, employers and education and training providers has resulted in more than 70 per cent of participants in employment or training within 12 months post-participation.

More information can be found at www.employment.qld.gov.au

The region has a strong labour market, with a high participation rate and low unemployment compared to the state average.

The region requires a diverse and skilled workforce for continued economic growth. Labour market skills and education and training need to be aligned with existing and future employment needs.

With skill shortages apparent in most key industries in the region, opportunities exist to improve access and expand program availability at training facilities. This will reduce the requirement to import labour.

Given the region's strength in the mining, agriculture, tourism and marine sectors, there is an opportunity to develop an education and training hub in these disciplines, with the potential to export knowledge and training. Development of specialised training and education services for key industry sectors could focus the region as a centre for best practice.

The region has a wide range of educational institutions, ranging from primary through to tertiary levels and vocational centres. There are over 90 state and independent primary and secondary schools in the region. Mackay has two university campuses—Central Queensland University and James Cook University. The proposed expansion of the Central Queensland University campus in Mackay will be a key element in increasing access to tertiary education and training in the region.

The Central Queensland Institute of TAFE campuses at Mackay and Moranbah, and the Barrier Reef Institute of TAFE campuses in Bowen and Cannonvale, provide a range of programs, courses, trade training and apprenticeships in various disciplines such as arts, hospitality, business and engineering.

Training for those working in rural industries in the region is provided by the Australian Agricultural College Corporation, which is owned and operated by Queensland Primary Industries and Fisheries, a state government entity formed in 2005. Main campuses are located in Ayr and Emerald (outside the region), with delivery sites in Bowen and Mackay.

Given the current and predicted growth in the mining sector, there could be a skills shortage for the industry, both nationally and within the region.

The Coalfields Excellence Training Centre, in the grounds of the Moranbah State School, aims to address this issue by enabling students in and around Moranbah to obtain vocational trade training locally, in turn increasing the availability of appropriately skilled workers for the industry.

The training packages have been designed in consultation with industry to equip students with a working knowledge of risk assessment, hazard management, communication and work procedures to enable them to contribute safely to the general operations of an organisation as soon as they arrive on site.

6.4 Primary industries

Principle

6.4.1 Maintain existing and expand sustainable and economically viable primary industries, and diversify opportunities in the region.

Primary industries are a significant sector of the Mackay, Isaac and Whitsunday regional economy. Activities include agriculture, horticulture, fishing and aquaculture.

The total value of agriculture production in the region in 2005–06 was $823.3 million, representing 9.5 per cent of the total value of agriculture production in Queensland. Significant agricultural activities include:

- sugar production and processing
- wheat, grain and sorghum production
- beef, pork and poultry production and processing
- fruit and vegetable production, including tomatoes, mangoes, capsicum, melons, zucchini, eggplant, cucumber, sweet corn, pumpkin and lettuce
- tree crops such as macadamias
- seafood production and processing.

These agricultural industries will continue to be important for the region into the future; however, diversification and new production methods may be needed in light of projected climate change and changing market needs and competition.

Further opportunities for diversification and expansion of the primary industries sector lie in value-adding, new agribusiness, new agritourism, new crops, timber plantations and farm forestry.

In addition, advances in cropping technology have resulted in an increase in crop rotations, which results in diversified produce, reduced fertiliser use and improved soil condition and environmental outcomes. Diversification and expansion of primary industries should not result in the loss of GQAL and SCL. Land also needs to be identified for future growth of these sectors, and sufficient infrastructure established to support industry viability and development.

Policies

6.4.2 Further develop and diversify existing and potential primary production and rural industries to enhance the contribution to the regional economy and regional landscape.

6.4.3 Support the development of agritourism to diversify and build resilience in both industries.

6.4.4 Expand marine-based transport infrastructure to support the region's commercial and recreational fisheries industries in a sustainable manner.

6.4.5 Identify and protect suitable primary production areas, rural production activities and aquaculture development areas from incompatible development.

6.4.6 Protect, enhance and sustainably manage the region's native and plantation forests.

Programs

6.4.7 Identify and support value-added food processing and manufacturing opportunities, while encouraging the expansion of production and processing of agricultural products within the region.

Notes (for 6.4)

Crops (e.g. horticulture, sugar and grains) accounted for $539.9 million, or 65.6 per cent of the region's total value of agricultural production. Livestock processing accounted for $279.4 million (33.9 per cent).

Sugar production

The region has a long-established sugar industry, with five milling operations and established markets. Sugar (raw and refined) is the current key export trade through the Port of Mackay, with trade levels, or throughput, currently totalling close to two million tonnes per year.

Horticulture

Horticulture is a well-established and strong industry in the Whitsunday local government area, particularly around Bowen. A large range of fruit and vegetables is produced and exported from the area annually. Approximately 36 000 tonnes of vegetables are produced per annum. It is estimated that this regional industry contributes $219 million per annum to the Queensland horticultural industry.

Fisheries

The Queensland Government recognises the importance of fisheries to the state's economic development, and the need for consideration of all resources necessary for the future productivity and growth of the sector. Fishing also contributes to the state's economy through tourism, and through the industries that support fishing, including boatbuilding and maintenance, camping and fishing supplies. In 2007–08, the Queensland commercial fishing sector produced seafood valued at $190 million.

The value of fish caught by commercial fishers in the region and sold domestically or exported during the 2008–09 financial year was estimated at $23.5 million.

Aquaculture

There are numerous small-scale aquaculture industries operating throughout the region with a few large-scale opperations. Current activities are located in Bowen, Whitsunday, Mackay, Sarina and Ilbilbie areas along the coast, with prawns the dominant species produced. The value of aquaculture production for the region is approximately $10 million per annum on average, accounting for approximately 15 per cent of Queensland's total value of aquaculture products.

The Queensland Government is committed to the continued ecologically sustainable development of aquaculture, and has identified aquaculture as a priority sector for the state. Opportunities exist for aquaculture to meet the predicted demand for seafood in the domestic market, and provide significant potential to develop export markets for high-value products.

A number of studies of varying complexity over the past 11 years have identified sites suitable for land-based aquaculture, with many highly suitable potential sites identified in the north of the region.

The Queensland Government has recognised the importance of identifying areas for future development of aquaculture on a strategic basis. The Department of Employment, Economic Development and Innovation is leading a whole-of-government planning framework for both marine- and land-based aquaculture, to proactively facilitate the sustainable development of the aquaculture industry in Queensland. The land-based planning will identify sites potentially suitable for large-scale coastal aquaculture systems (e.g. prawn farms) and streamline the assessment process through detailed planning investigations.

(notes continue on next page)

Livestock grazing

With Australia's largest beef cattle herd, Queensland is the nation's largest producer and exporter of beef. The combined gross value of Queensland's beef production and meat processing sector was estimated to be $4.5 billion in 2009–10.

The main production in the region includes:

- predominantly weaner production by small-scale breeding operations on the central coast, some finishing and some large-scale improved pasture production systems
- brigalow country cattle enterprises that are mainly breeding and finishing Japanese ox production system
- northern spear grass country systems that are mainly large-scale breeding and mixed store/finishing production systems, with some cattle being sold to the live export trade.

The Mackay region has nine per cent of Queensland's beef enterprises, accounting for a regional gross value production of $287 million in 2009–10 and providing for over 1300 FTE jobs. Businesses supply a wide range of goods and services to the region's breed industry. These firms provide off-farm employment for many people, and supporting services add significant value to the regional economy.

In addition to on-farm grazing and production enterprises, the region also has an export abattoir at Bakers Creek, south of Mackay. Established in 1905 and now owned by Nippon Meat Packers, it has been an integral part of the region, becoming one of the first production facilities in Australia to be certified for organic beef production. The abattoir processes organic and non-organic products, specialising in high-quality, chilled, grass-fed beef. It processes more than 750 head of cattle per day, and employs over 400 people.

Forestry

The *Queensland Timber Plantation Strategy 2020* has the overall objective of supporting sustainable growth in the timber plantation sector to deliver a range of economic, social and environmental benefits to Queensland.

The strategy establishes timber plantations as a legitimate cropping activity within Queensland's land planning system and indicates that they should be treated in line with other cropping activities in local government plans and associated technical measures.

New timber plantations are a renewable primary production activity that provides increased local employment and economic diversity.

Hay Point coal terminal *Courtesy of Ray Cash Photography*

6.5 Resource sector

Principle

6.5.1 Manage mining and extractive resources to maximise economic opportunities and other community benefits, while minimising negative environmental and social impacts for present and future generations.

The resource sector, in particular the coal industry, is a key economic driver for the region.

The presence of large, good-quality coal reserves gives the region a major competitive advantage, and has contributed to the development of local expertise and capacity to deliver coal mining supply and support services.

Significant investment in the coal seam gas industry in the region, such as the Bowen Basin, is expected over the coming years to support the Liquefied Natural Gas (LNG) industry in Gladstone, and potentially, Abbot Point. The region's extractive resources (sand and quarry material) also play a significant role in its economy, particularly the local construction industry. The APSDA and the Port of Abbot Point with its proposed multi-cargo facility (MCF), provide opportunities for facilitating mineral exports and mineral processing.

Development of the region's mineral and extractive resources can result in impacts such as surface water and groundwater contamination, alteration in topography, loss of soil fertility and visual amenity, and effects on surrounding land use activities.

Policies

6.5.2 Identify and protect key strategic mineral, energy and extractive resources and haul routes from incompatible development.

6.5.3 Identify and support new sectors that have the potential for future growth associated with the resource sector such as mine rehabilitation and carbon dioxide emissions capture.

6.5.4 Support and develop growth of specialised technology and research-based sectors (tertiary industries) which value-add to the resource sector.

6.5.5 Minimise adverse impacts of resource development on valuable environmental and other economic resources, and ensure appropriate rehabilitation of affected landscapes.

6.5.6 Ensure sufficient supply of minerals, gas and extractive resources are available for future use, and their extraction, processing, transport and downstream value-adding contribute to the local economy.

Programs

6.5.7 Identify and support the development of new technologies and techniques to more efficiently recover mineral resources.

Notes (for 6.5)

In recent years, the resource sector has contributed more than half of the total gross regional product for the region, and is the largest employer of the region's residents. Coal mines in the region directly employ about 18 500 people (as at March 2011). In 2009–10 coal operations produced about 112 million tonnes, or 54 per cent of the state's saleable coal output.

The identification of a suitable post-mining land use of the area and public involvement in decisions relating to mining issues, including rehabilitation, is an important factor in achieving long-term outcomes which are supported by the community.

The resource sector is a significant employer for the region which has resulted in shortages for skilled labour in industries outside the sector. These include local businesses, rural industries and local government within resource sector townships.

The Bowen Basin is a key player in the Queensland gas industry. Significant investment in the coal seam gas industry is expected over the coming years to support the LNG industry in Gladstone, and potentially, Abbot Point. The Bowen Basin in the region's hinterland is home to over 45 coal mining operations. New developments are being proposed and ongoing exploration activities are underway. The significant reserves available are likely to support resource activities well into the future.

The Queensland Government and the mining industry have invested significantly in regional infrastructure, including ports, rail connections, water supply and power. The supply of water to mining operations should be provided at cost to the mine operator.

Coal mined in the region is transported via the Goonyella Rail network system to the coastal coal ports of Hay Point, and via the Newlands Rail network to Abbot Point for overseas markets. More than 155 million tonnes of coal was exported via coal terminals in the region in 2009–10.

More recently, additional mining operations have been proposed in the north-east section of the Galilee Basin, with coal anticipated to be transported through the region for export. Other current mineral production and identified resources within the region include gold, earthy dolomite, salt, copper, silver, molybdenum and shale oil.

Development of the mining industry depends on accessibility to mineral deposits and maintenance of efficient operational and transport infrastructure, without hindrance from land use and other development activity. Maintaining the mining industry's role in the region's economy requires access to the transport and port infrastructure. The provision, upgrade or expansion of this infrastructure should not be constrained by inappropriate or incompatible development.

Growth in the resources sector has also resulted in significant growth in the mining services industry. The mining sector is supported by a well-established mining engineering industry, which supplies customised manufacture, repair and maintenance services. The mining industry is supported by more than 120 mining service and technology firms, with over 200 operating sites in the region.

(notes continue on next page)

A significant portion of the mining services are located within the Mackay urban area, particularly the Paget industrial estate, with other towns offering lower order services (e.g. minor servicing, equipment hire, and transport and logistics operations). Among other factors, a suitable supply of zoned serviced industrial land and transport infrastructure upgrades will be needed if outlying communities are to increase their role supporting the mining services sector.

SPP 2/07 Protection of Extractive Resources

The *State Planning Policy 2/07: Protection of Extractive Resources* seeks to maintain the long-term availability of major extractive resources by protecting them and their main transport routes from incompatible land uses. This is achieved through local government planning schemes and assessment of development located near extractive resources.

Northern Economic Triangle

The Northern Economic Triangle (NET) is a commitment by the Queensland Government to foster sustainable economic, social and community growth through the emergence of Mount Isa, Townsville and Bowen as a triangle of mineral processing and industrial development.

The NET aims to ensure the provision of critical infrastructure that underpins private sector investment in minerals processing and industrial development over the next half century.

The NET integrates activities of each economic centre through the development of strategies to:

- support stronger regional links
- enhance mining and mineral processing
- enhance industrial development.

The NET is a strategic response by the Queensland Government to:

- raise the regional and international profile of North West and North Queensland
- expand mining and mineral processing operations to supply world markets
- recognise the present booming global demand for minerals and metals and the likelihood of demand remaining strong into the foreseeable future
- recognise opportunities for development presented by large international companies seeking locations for value-adding projects on the east coast of Queensland
- promote collaborative solutions for the provision of critical infrastructure and opportunities for private sector investment.

The *Northern Economic Triangle Infrastructure Plan 2007–2012* was released by the Queensland Government on 3 August 2007. The Coordinator-General is responsible for this plan.

The development of a major new industrial precinct for large-scale industries within Bowen is a key strategic objective of the plan and has been initiated through development of the APSDA.

More information can be found at www.deedi.qld.gov.au

Coal Infrastructure Taskforce

The Coal Infrastructure Taskforce leads whole-of-government planning to ensure coal-related infrastructure meets the demands of Queensland's growing industry. The taskforce works with infrastructure providers, mining companies and other government agencies to identify challenges to the development of key infrastructure projects.

The Coal Infrastructure Taskforce is also responsible for the development of the *Queensland Coal Plan*, which will provide details of infrastructure requirements to meet the needs of the Queensland coal industry over the next 20 years. The plan will determine coal demand and production forecasts, identify individual and regional coal infrastructure requirements, determine development triggers and estimate staging of infrastructure provision across regions.

6.6 Tourism

Principle

6.6.1 Continue to develop the region's distinctive and sustainable tourist destinations, which offer a diverse range of activities and unique experiences to attract domestic and international visitors.

Diversification of destinations and experiences throughout the region will broaden visitor experiences, have the potential to reduce visitor pressure on fragile areas, lengthen visitor stays, and spread the community benefits across the region. The sector, to impacts on specific areas, and possible new limits on certain activities as a result of projected climate change.

Investment in tourism product is required for the industry to remain competitive and resilient in a demanding marketplace.

Regional branding, promotion and product development is also required to capture the internationally important and unique features of the region. Establishing and marketing the region's unique natural attractions within the burgeoning ecotourism sector will enable expansion and diversification of the industry, while protecting areas with significant biodiversity values and reducing the impact on the region's resources.

Policies

6.6.2 Identify and utilise the natural environment and natural assets to maximise sustainable tourism and recreation opportunities.

6.6.3 Tourism within and adjoining areas with significant biodiversity values are conducted through management frameworks that protect the values of the area.

6.6.4 Reflect best practice minimal impact and sustainable design when developing and maintaining ecotourism infrastructure.

6.6.5 Identify, develop and market cultural tourism products and opportunities within the region to capitalise on and give value to Indigenous, Torres Strait Islander and Australian South Sea Islander historical heritage and culture.

6.6.6 Ensure the provision of necessary infrastructure and services that are sustainable and environmentally sensitive to support tourism activities, while having regard to the potential future impacts of climate change.

6.6.7 Establish the region as a distinctive and sustainable tourism destination and facilitate a range of accommodation options in the key activity centres to cater for demand.

6.6.8 Encouraged the designation and development of tourist nodes that cater for a variety of visitor needs and experiences.

6.6.9 Facilitate diversification of the tourism industry to actively promote tourism including ecotourism, lifestyle and cultural heritage opportunities.

6.6.10 Encourage global best practice design when developing and maintaining tourism infrastructure.

6.6.11 Safe, reliable and appropriate access provides connectivity to the region's tourism accommodation, experiences and attractions.

6.6.12 Emerging tourism industry sectors that build on the subregional and regional competitive advantages are facilitated and appropriate infrastructure and land area is provided to support new tourism ventures.

6.6.13 Existing and future areas suitable for tourism accommodation, experiences and attractions are identified and protected from incompatible land uses or development.

Programs

6.6.14 Support tourism operators and facilities to prepare management plans in accordance with ecologically sustainable principles and to obtain eco-accreditation.

6.6.15 Investigate opportunities to implement strategic priorities outlined in the tourism opportunity plans developed for the region.

6.6.16 Package a range of regional tourist circuits that encourage longer stays, and link opportunities throughout the hinterland and coastal areas.

Notes (for 6.6)

In 2009, the region attracted more than 1.2 million visitors to the mainland and Whitsunday Islands, generating turnover of more than $514 million and supporting 3400 jobs. Direct flights between the region and Brisbane, Sydney, Melbourne, and regional Queensland, with transfers to other domestic and international centres, provide major growth opportunities in the tourism industry.

The Whitsunday Coast and Islands and the Great Barrier Reef World Heritage Marine Park are the predominant attractions within the region and offer a diverse and unique selection of marine and nature-based activities, as well as a wide range of accommodation, services and entertainment. These areas support a variety of domestic and internationally renowned tourism industries, including ecotourism, sport and recreation tourism, and agritourism that will be key drivers of the region's future growth.

The region has two distinct tourism markets: recreational (including cultural) tourists primarily in the Whitsunday and Isaac local government areas; and business tourism in the Mackay local government area. Economic activity in the Mackay area has led to significant shortages in accommodation available to recreational tourists. However business tourism presents a new opportunity for operators that identify additional activities that suit the demographic of people employed in the resource sector, such as adventure tourism.

Cultural tourism in the Isaac subregion has been traditionally centred in the historical areas of Clermont and Nebo. New tourism initiatives such as the mining trail have extended this activity to the central Isaac communities. Grey nomads and holidaying families are frequent visitors to the Isaac coast for its pristine beaches, fishing, and quality bush camping areas.

The Broadsound Wetlands are a major regional drawcard for environmental enthusiasts. Identifying and encouraging tourism growth and development opportunities in the Isaac subregion will support the wider regional economy.

Accommodation is provided through a wide range of options, from conventional hotels and apartments in the main centres, to small-scale, nature-based tourism ventures focused on the natural environment. The region also has a number of locations for existing and potential nature-based ecotourism accommodation, experiences and attractions, including the Whitsunday Islands and Eungella.

A range of titling and ownership models provides a commercial basis for investment and reinvestment in tourism facilities.

Appropriate land may also be identified for tourism development readily accessible from national, state and regional gateways to encourage development and investment attraction.

Tourism development that includes short-stay accommodation may also be appropriate for locations within, or adjacent to, areas with significant biodiversity values. In considering the appropriate location of these facilities it must be clearly demonstrated that the development will not adversely impact on ecological or regional landscape values. These facilities play an important role in increasing visitor knowledge about the significant biodiversity values of the region and improving the overall visitor experience.

(notes continue on next page)

Mackay Marina *Courtesy of Ray Cash Photography*

Tourism plans and strategies

The *Queensland Tourism Strategy 2006–2016* provides a strategy for growing tourism in Queensland as a whole, and is further refined through regional specific destination management plans such as the *Mackay Region Destination Management Plan 2007–2010* and the *Whitsunday Destination Management Plan 2008–2011*.

Tourism opportunity plans

Tourism opportunity plans (TOPs) (previously known as regional tourist investment and infrastructure plans) identify tourism opportunities within regions. TOPs identify key strategic new tourism products to meet future visitor expectations and demand, as well as infrastructure requirements, and are focal documents for the development of tourism in the region.

The *Mackay Whitsunday Regional Tourism Investment and Infrastructure Plan 2006–2016* provides direction for the sustainable development of tourism in the Mackay and Whitsunday subregions to 2016, and identifies opportunities for tourism infrastructure and product development.

Mackay Region Destination Management Plan 2007–2010

Mackay Tourism Limited's Mackay Region Destination Management Plan 2007–2010 outlines the key strategic issues, vision, goals and strategies for development of the Mackay and Isaac subregions as tourism destinations. Key strategic priorities include:

- market intelligence and insights
- the Mackay region brand
- developing a sustainable Mackay region experience
- planning and coordination
- industry leadership and development
- community engagement
- workforce development.

Mackay Tourism Limited is the peak tourism body for the Mackay and Isaac subregions, covering the city of Mackay and the surrounding areas north to Midge Point, south to St Lawrence and west to Clermont.

Tourism Whitsundays is the peak tourism body for the Whitsunday subregion, from Bowen in the north to Laguna Quays in the south, inland to Proserpine, and to the coast, including Airlie Beach and 74 offshore islands.

Tourism Whitsundays' *Whitsunday Destination Management Plan 2008–2011* outlines the vision, goals and strategies for development of the Whitsunday subregion as a tourism destination.

7. Managing growth

An efficient and sustainable settlement pattern that supports the efficient use and delivery of urban land and infrastructure, housing choice and affordability and well-planned development areas to accommodate further growth.

The region's unprecedented growth is anticipated to result in a population increase of approximately 100 000 by 2031. In addition, greater demands for serviced land for activities associated with the mining sector are changing the composition of various communities across the region.

This presents challenges for the efficient use of land in terms of function, density, location and the provision of infrastructure to meet demand while also enhancing quality of life and ensuring the logical sequencing of development.

The capacity of land available for infill and broadhectare growth inside and outside the Urban Footprint will be determined through local government planning schemes. Consolidated growth within and around urban areas will enable greater diversity of housing forms and density, as well as opportunities for mixed-use development. Detailed analysis and assessment of the relative constraints and opportunities presented by land will be necessary to guide strategic land-use decisions.

The majority of population growth anticipated for the region will be accommodated within existing towns and primarily in the Mackay urban area. Limited growth will occur in coastal communities while hinterland centres such as Moranbah, Nebo and Clermont will continue to grow to meet demand generated primarily by the resource sector.

A significant proportion of projected growth will be accommodated on land already zoned for urban and residential purposes, in local government planning schemes. In addition, large land areas have been designated as Development Areas (DAs) recognising the potential to accommodate urban growth and to protect against fragmentation and inappropriate land use prior to development.

The Identified Growth Area (IGA) included in the plan recognises that this location has attributes that may support long-term growth beyond 2031. Further studies will be required to determine its true capacity to accommodate development, and the form it will take. Further IGAs may be identified during the life of the plan.

Historically, rural residential subdivision has had a significant role in the region. Sufficient land is available to accommodate the projected demands for rural residential development to 2031. It is recognised as offering a lifestyle choice for people in the region, however the plan also identifies the negative implications of further expansion of rural residential development. Planning for future rural residential growth will be primarily limited to providing for a transition between urban to rural activities and in constrained areas that would otherwise be used for urban purposes.

Providing opportunity for a diverse and affordable range of housing will support growth and development in the region. Appropriate residential choice enables residents to remain within their community through all stages of their lifecycle, in familiar neighbourhoods close to existing social networks. This includes affordable housing options created through a diverse range of housing that enables an individual, couple or family to obtain housing appropriate to their life stage and accommodation requirements.

7.1 Efficient use of land

Principle

7.1.1 Land and infrastructure are used efficiently, taking into account costs of servicing, projected demand on/from existing urban infrastructure and employment.

Strategic planning identifies long-term outcomes for land, ensuring that infrastructure will be available to support existing development, as well as future planned expansions. Urban consolidation strategies improve accessibility, self-containment and efficient use of infrastructure. The management of natural resources and environmentally significant areas includes the consideration of potential future urban development.

Urban consolidation contributes to the management of urban centres, and seeks to influence the region's approach to climate change. A consolidated settlement pattern limits the frequency, duration and distance required to be travelled by private vehicles. It also improves the variety of, and access to, alternative transit forms, and reduces local greenhouse gas emissions and financial costs for consumers and the local community.

Existing urban areas in the region are generally well serviced with infrastructure. Potential exists to increase density adjoining urban centres to maximise the use of existing infrastructure capacities before investment in new networks is required. New urban are located to take advantage of existing infrastructure networks.

Policies

7.1.2 Urban growth is consolidated in a compact settlement pattern within areas identified for this purpose.

7.1.3 Development includes a mix of uses in broadhectare and infill areas, while considering infrastructure availability.

7.1.4 Development is located and sequenced to make the best use of existing infrastructure, and ensure efficient and cost-effective investment in new infrastructure.

7.1.5 A mix of uses, including diverse housing opportunities, employment opportunities and community uses are provided to create more accessible and self-contained communities.

7.1.6 Sufficient land for industrial development and other employment uses is identified in appropriate locations, ensuring land use conflicts are minimised and accessibility is enhanced.

7.1.7 Land required for future urban growth is protected from fragmentation and inappropriate land use.

7.1.8 A range of lot sizes and housing types is provided within urban areas to cater to diverse needs, including resident and non-resident workers.

7.1.9 Ensure urban development considers the total lifecycle costs of the development, including consideration of transport costs, costs to the community of servicing, and costs of protecting life and property.

7.1.10 Promote and accommodate growth in areas where existing and planned infrastructure and services can accommodate it.

7.1.11 Encourage higher density redevelopment and consolidation of existing urban areas in Bowen, Moranbah, Proserpine and Airlie Beach to accommodate expected growth, and provide high levels of access to services and employment opportunities.

7.1.12 Identify and address the social and community needs of higher density residential development when preparing plans for activity centres and established urban areas to accommodate additional growth.

Programs

7.1.13 Undertake integrated land-use and infrastructure planning for all urban areas to achieve coordinated outcomes and timely delivery.

7.1.14 Monitor the rates of development in broadhectare and infill areas, and the availability of land stocks on a regular basis.

Notes (for 7.1)

Local planning outcomes include a range of strategies to improve the efficiency of land use, including clear decisions on how housing and other land uses will be accommodated and provided with appropriate infrastructure. This includes strategies to facilitate a range of housing types and densities, and the integration of a mix of land uses in appropriate locations.

Achieving a net dwelling density of 12–15 dwellings per hectare in the Ooralea and Richmond development areas will assist in providing an urban land supply beyond 2031.

Higher densities in and in close proximity to centres will support access to employment and services as well as efficient use of existing urban infrastructure. Constrained land, including areas likely to be affected by the projected impacts of climate change, may have limited development opportunities. A consolidated settlement pattern also caters for the provision of a diverse housing choice and the provision of affordable housing within an established urban fabric.

Some areas within the Urban Footprint are currently used for rural residential purposes. If suitable, measures to transition these areas to urban uses over time should be considered. However, in certain cases throughout the region, the use of Urban Footprint land for rural residential purposes rather than higher density urban uses may be the most efficient and responsive land use form to deliver appropriate development outcomes due to significant constraints on development.

Determinations about the most appropriate use of land will need to be made following rigorous, detailed planning and analysis by the state government, through planning scheme review or the development of structure plans.

Increasing density, encouraging development diversity and accommodating more growth through infill and redevelopment requires commitment from all levels of government, the development industry and the community.

Residential 30—Guideline to deliver diversity in new neighbourhood development

The Urban Land Development Authority's *Guideline No. 01, Residential 30 – Guideline to deliver diversity in new neighbourhood development*, provides a guide to planning and design of mixed-use residential developments. The goals of the guideline are to:

- create diverse and affordable communities
- promote planning and design excellence
- protect ecological values and optimise resource use
- provide economic benefits.

While the guideline was created for use in Urban Development Areas, its principles can be incorporated into planning frameworks across Queensland.

Infrastructure

Infrastructure incorporates all supporting services to a community, including water, sewerage and roads, and social infrastructure like hospitals, schools, community halls, parks and sporting facilities, as well as access to support services. It is important that development is located where physical and social infrastructure can be appropriately sequenced, funded and delivered.

Development that is not considered in planning schemes, or is difficult to service, may be cost prohibitive for the provision of infrastructure, and should generally be avoided.

Broadhectare development

Broadhectare land will accommodate a significant proportion of the region's future residential and industrial growth.

Detailed land-use and infrastructure planning is required to ensure development of broadhectare land results in a high-quality settlement pattern, and provides opportunities to accommodate services commensurate with demand. Planning also needs to consider the efficient delivery and timely provision of infrastructure. (notes continue on next page)

Redevelopment opportunities

Focusing growth in and around centres will reinforce the role of the centre, and provide greater accessibility to services for residents. This reduces the pressures on new broadhectare lands (often located on the fringe of existing towns) to accommodate residential growth. Redevelopment opportunities within existing urban areas will also play an important part in the achievement of a more compact settlement pattern, the efficient use of infrastructure, and the delivery of housing close to existing employment and social activities.

Local government areas may deliver redevelopment opportunities through:

- identifying the capacity of existing urban areas to accommodate additional growth
- identifying appropriate responses to integrate new development
- establishing appropriate policies to accommodate timely delivery and levels of infrastructure.

Access to employment

The suitable location of employment opportunities is fundamental to supporting projected residential growth for the region. Opportunities to locate growth areas in proximity to employment in urban areas should be investigated. Well-planned communities need to respond to the dynamics of change ensuring there is a strong nexus between population growth, access to employment and residential land.

7.2 Planning for growth

Principle

7.2.1 DAs and Identified Growth Areas are secured for delivering medium and long-term growth opportunities, and catering for projected demand requires comprehensive planning and infrastructure delivery.

DAs are fundamental to the delivery of residential lands for future growth. Their identification in the regional plan means that the state government is committed to ensuring they can be delivered through timely planning processes.

Significant growth is projected for the region well beyond 2031. Consequently, additional land is identified in the regional plan to accommodate growth longer-term. It is anticipated that it will not be required within the life of the regional plan, but if required earlier, the Minister may consider earlier release to respond to emerging needs for additional areas to accommodate unanticipated growth. Detailed investigations will be required before it can be considered for urban development.

The IGAs are intended to assist in accommodating regional growth beyond 2031, and are protected for this purpose through inclusion in the Regional Landscape and Rural Production Area (RLRPA) designation under the regional plan's State Planning Regulatory Provisions. Others IGAs may be identified during the life of the plan.

Planning and delivering DAs and IGAs is to be coordinated to ensure that the local environment is protected, land uses are optimally distributed, and infrastructure is provided in an efficient and timely manner.

Policies

7.2.2 DAs and Identified Growth Areas are protected from inappropriate and pre-emptive development.

7.2.3 DAs accommodate regionally significant growth through:

- development that is consistent with comprehensive land-use and infrastructure plans for the development area
- coordinated delivery of DAs, with the provision of infrastructure and services.

7.2.4 Comprehensive investigations and planning are undertaken to determine the suitability and extent of developable area of Identified Growth Areas prior to inclusion within the Urban Footprint.

Notes (for 7.2)

Development Areas

DAs are likely to require infrastructure augmentation, including water, sewerage, drainage, road and public transport infrastructure.

Planning of DAs may be initiated by councils, developers or the state government, as appropriate. It will include analysing the location and its context, considering local, state and federal government policies and requirements, and examining infrastructure needs, staging, timing and funding.

Planning outcomes and requirements will vary in form and content, depending on the scale, intent, infrastructure demands and significance of each DA.

Where possible, identification and planning for state interests will be scoped and resolved in the initial planning stage, reducing the role of the state in subsequent detailed planning processes.

DAs are gazetted by the regional planning Minister, and further details (including boundaries) can be found in the relevant gazette notice and subregional narrative.

Additional DAs may be identified over time. Assessment of additional locations for designation as a DA will consider the following criteria:

- scale of the proposed development, in particular, if it requires specialised planning and investment at a regional or state level
- level of risk to the locality from inappropriate development
- status of comprehensive land-use and infrastructure planning for the area.

Residential development areas have been identified for Richmond and Ooralea. A minimum net dwelling yield of 12–15 dwellings per hectare is set for these development areas to ensure the projected population for the region can be planned for and managed.

Infrastructure provision

Where new major infrastructure is required to lead regional development ahead of full anticipated demand, landowners and developers who will benefit must contribute to infrastructure provision (e.g. through an infrastructure agreement).

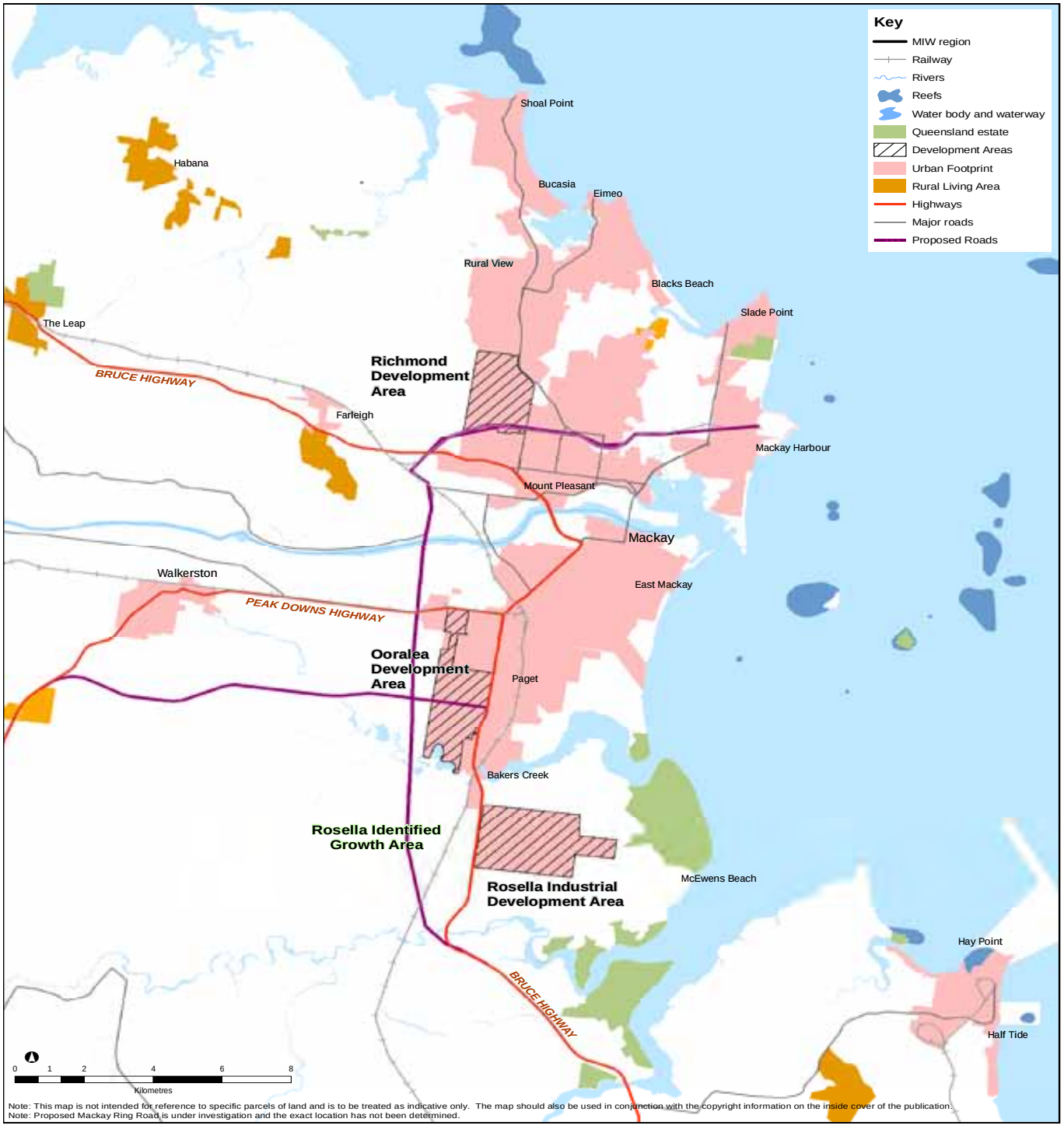
The Queensland Government or local government and developers or landowners will determine whether agreements are required, and negotiate agreements on an area-by-area basis, taking into account the particular circumstances and exact nature of each infrastructure commitment.

Identified Growth Areas

The Rosella IGA has the potential for development, in the long-term, as an expansion area to support major regional industrial development to the south of Mackay, including the potential development of a regional intermodal freight facility and associated industrial uses. Further investigations are required to confirm the viability of the proposed development at this location, and the broad suitability of the area for future industrial development. Development in the interim is not to compromise the future options for the area.

Urban development within an IGA before 2031 may only occur in exceptional circumstances, subject to relevant investigations referred to in the subregional narratives. Any consideration of an IGA for urban development will also take into account proximity to existing and planned urban infrastructure networks, and associated costs of expanding the network to accommodate growth in the IGA. These decisions will be based on the goal of achieving a compact settlement pattern in the region. (notes continue on next page)

Map 8: Development Areas and Identified Growth Areas (notes 7.2 continued)



Note: This map is not intended for reference to specific parcels of land and is to be treated as indicative only. The map should also be used in conjunction with the copyright information on the inside cover of the publication.
Note: Proposed Mackay Ring Road is under investigation and the exact location has not been determined.

Main street, Bowen *Courtesy of Ray Cash Photography*

7.3 Rural residential development

Principle

7.3.1 Rural residential development is planned to ensure efficient delivery of services and infrastructure, preventing further fragmentation of agricultural land, and avoiding loss of areas with biodiversity and landscape values.

Rural residential development is large-lot residential subdivision in a rural, semirural or conservation setting. Allotments usually have sealed roads and power supply, but a limited range of other services. Given the nature and intensity of development in rural residential areas, supporting infrastructure, such as road networks, may not be consistent with urban infrastructure standards. Future rural residential development will be limited to ensure that a range of regional planning objectives can be achieved.

Policies

7.3.2 Rural residential development occurs within the Rural Living Area, rural residential zones identified in local government planning schemes, or within the Urban Footprint, where land is determined to be unsuitable for urban uses.

7.3.3 Rural residential land use is located and developed ensuring:

- accessibility to facilities and services through proximity to existing townships
- efficient use of land and infrastructure
- fragmentation or loss of good quality agricultural land does not occur, or where it does, it does not lead to its isolation or diminished productivity over time
- impacts on natural resource and landscape values are minimised
- impacts on areas with significant biodiversity values are avoided, or where not possible, are minimised and offset
- conflicts with adjoining land uses are mitigated
- areas at risk from natural hazards are avoided.

7.3.4 Rural residential development does not compromise future urban growth by developing on land suitable for urban development.

7.3.5 Rural residential development is provided with appropriate infrastructure, consistent with, and supportive of, a rural locality.

7.3.6 Facilitate opportunities to consolidate existing rural residential development located within the urban footprint and investigate potential to convert rural residential areas to urban use.

7.3.7 Consider whole-of-life costs in planning and developing rural residential areas.

Notes (for 7.3)

The region contains over 4300 parcels zoned for rural residential use, totalling almost 7700 hectares. There are also approximately 5500 rural lifestyle lots throughout the region, covering approximately 10 100 hectares. Rural lifestyle lots are those lots with an area between 0.25 and 5 hectares located in the rural zone. These lots occupy 0.2 per cent of the land area of the region (as at September 2009). The Mackay subregion has the most rural residential lots in the region, 58 per cent, predominantly within the localities of Habana, Sarina and Bloomsbury. Rural residential development, particularly in Bloomsbury, places significant strain on existing service and infrastructure delivery, particularly waste collection. The rural residential stock in Whitsunday is 39 per cent of the regional total, in and around the localities of Cannon Valley and Strathdickie, while the Isaac subregion provides three per cent of the region's rural residential stock.

Rural residential development can be an inefficient use of land. Poorly located, rural residential development creates additional pressure for urban services, resulting in a range of adverse economic, social and environmental impacts. This can lead to:

- higher proportional cost of infrastructure, including road construction and maintenance
- higher transport costs
- fragmentation of land
- potential pollution over time through inefficient on-site effluent disposal
- weed proliferation due to the high cost of land maintenance
- potential cross-subsidisation of services by urban residents
- burden on infrastructure providers and community to fund and provide services
- social inequity due to reduced access to services.

The whole-of-life cost of rural residential development will be a major consideration in the allocation of additional land for it.

The establishment costs of purchasing residential land in rural residential areas can be comparatively cheap; however, costs of travel, provision and maintenance of infrastructure, and access to services will be considerably higher than locations in towns and centres over time.

Rural residential land can be found on lands significantly constrained, or located in small isolated patches, within the RLRPA. Further subdivision in these areas should be avoided to ensure additional households are not established where infrastructure is not readily available. There are also safety concerns in remote locations because of increased natural hazard risks (e.g. bushfire) or reduced access to services.

The Rural Living Area contains some of the existing rural residential zoned lands found in the region. Some areas that are well located for urban services and facilities have alternatively been included in the Urban Footprint. They will be considered for future transition to urban use, where suitable.

The Rural Living Area does not capture all areas that are currently used for, or identified in, planning schemes as rural residential.

7.4 Housing choice and affordability

Principle

7.4.1 Housing meets the needs of the community, considering all lifecycle stages, varying demands, and economic circumstances.

Affordable, safe and secure housing is a basic human need, and a critical component of community wellbeing, labour market efficiency and social cohesion. Many centres in the region suffer from a shortage of affordable and accessible housing, particularly low-income households.

To meet housing needs, flexible land-use outcomes catering for a range of housing options and tenure in locations that are accessible to services, employment and community facilities are required.

Policies

7.4.2 Housing options are accessible, sustainable, respond to demographic characteristics and are adaptable to the changing needs of residents and households over time.

7.4.3 Encourage the incorporation of affordable housing, including suitable housing for entry-level buyers and low-income earners.

7.4.4 Encourage settlement in mining communities by providing sufficient urban land supply and diverse housing stock that can adequately accommodate predicted population growth.

7.4.5 Provide a mix of dwelling types and sizes to attract long-term residents and a sustainable population in resource communities. This accommodates different family types, dynamics and housing needs.

7.4.6 Provide housing and accommodation for temporary residents and employees involved in industrial development, mining and construction, and seasonal work.

7.4.7 Ensure the scale and number of people accommodated by non-resident worker accommodation is compatible with the nearby permanent resident population.

7.4.8 Facilitate the location of non-resident worker accommodation to ensure access to services and community integration, and social cohesion with the existing community.

Programs

7.4.9 Monitor housing prices, land availability and other factors that affect housing costs as part of the *Queensland Housing Affordability Strategy*.

7.4.10 Consider opportunities for affordable housing in the disposal or redevelopment of government property and surplus land.

7.4.11 Develop and maintain local residential profiles across the region to identify specific housing priorities for each area.

Lifestyle developments, Mackay riverfront *Courtesy of Ray Cash Photography*

Notes (for 7.4)

A significant change in housing has occurred in the region, not just with greater demand, but also the need for less traditional types of accommodation, particularly to meet the expectations of people moving to communities to work in the resource sector.

The increase in contractors and changes to employees' rosters in the mining and resource sectors has caused a shift towards temporary accommodation for the period of an employee's shift, rather than traditional permanent residencies. The provision of non-resident workforce accommodation allows employees a broader choice about where they are permanently located. Non-resident workforce accommodation is recognised as a form of housing for workers, such as miners or seasonal workers (e.g. fruit pickers). This form of housing is supported in conjunction with a range of other housing accommodation options, such as units, townhouses, small lot dwellings and low-density dwellings.

The combination of FIFO and DIDO workforces and non-private accommodation is now well established, and provides employers with a flexible means of meeting production expansion. In line with the rapid growth in workforce numbers in 2007–08, single person quarters increased their share of the accommodation market for non-resident workers, due to expanding capacity and improvements in amenity.

The increase in non-resident workers is not consistent across the region. For example, in the Isaac subregion, the number has increased by 2826 since 2006, while the resident population has increased by 1507—an increase of almost twice the resident population. *(Source: OESR Bowen Basin Population Region 2010)*.

Between 2001 and 2006, average house sale prices in Moranbah increased by approximately 700 per cent, while median rent levels increased by approximately 400 per cent. In 2006, the cost of housing in Moranbah was rated as 95.5 per cent higher than Brisbane. These price levels create pressures on households with lower incomes, young people, non-mining sector employees and businesses seeking labour. This can be exacerbated by rental subsidies and incentives to purchase housing, which in turn drives increases in housing costs and rents in those communities.

Ensuring a range of housing options (e.g. non-resident worker accommodation, townhouses and low-density dwellings) provides the community with housing diversity to transition from non-resident workforce accommodation to low-density dwellings or other types of housing as demand for permanent accommodation increases. A range of housing options assists in attracting long-term residents and building sustainable communities.

Non-resident worker accommodation (NRWA) is supported where the scale of the accommodation and the number of people is compatible with the size of the community's population. In Moranbah, there has been an increase in the provision of small lots and unit development, including townhouses. This form of development is supported and encouraged in resource communities. In towns or centres affected by significant construction and operational workforces, this development can help achieve housing product affordability and diversity.

Accessible housing incorporates universal design principles that make buildings versatile and comfortable for a diverse range of people at different stages of their lives.

The location of NRWA is influenced by proximity to the workplace. The capacity for communities in the local area to facilitate NRWA due to infrastructure or land use constraints is a consideration. This issue is further exacerbated where the workplace is remote. Accordingly, the location of NRWA will depend on individual circumstances.

Queensland Housing Affordability Strategy

In 2007, the Queensland Government released the *Queensland Housing Affordability Strategy*. Through the strategy, the Queensland Government established the Urban Land Development Authority (ULDA), a state government planning and development body. The strategy also designated land for housing in regional areas of high demand, and will develop appropriate underused government land for urban purposes.

More information can be found at www.ulda.qld.gov.au

State Planning Policy 1/07: Housing and Residential Development

State Planning Policy 1/07: Housing and Residential Development confirms the need for housing choice to be addressed through planning. It requires local government, in the preparation of planning schemes, to analyse and provide opportunities to respond to the housing needs of the community.

More information can be found at www.dlgp.qld.gov.au

8. Urban form

The towns and cities of the region are accessible and build on their heritage, character and liveability through designs that respond to the natural environment and the provision of high-quality urban green space.

The urban form of the towns in the region provide for a pleasant environment for residents and visitors to live, work and play. It reinforces community identity and contributes to an efficient and sustainable urban structure. New development in the region should be responsive to existing urban environments, community views and aspirations, and identified heritage values. It will reinforce community values, existing infrastructure and green space networks.

Town and city centres underpin the economic and social activities in the region. This role will be reinforced in the physical form of these locations as centres adapt over time to accommodate diverse activities, including residential development with a range of housing forms and aged care. An efficient and responsive urban centre provides greater opportunities for:

- economic growth
- liveability
- social interaction
- use of public space
- development of walkable neighbourhoods
- climate-responsive development
- assisting in reducing greenhouse gas emissions.

It is important that, while accommodating growth in the region, the character of existing towns and cities is protected.

Street scene, Sarina *Courtesy of Ray Cash Photography*

8.1 Urban form

Principle

8.1.1 The form of the region's cities and towns responds to local climate, character and identity, and supports compact, accessible, active and healthy communities.

Urban form differs from place to place, and is relative to its location and function. It includes built streetscapes, public spaces and urban structures and caters for the interrelationship of activities and functions of centres or towns. The region has excellent examples of towns with character and identity where competing needs have been balanced to create functioning urban areas. These areas create a strong sense of place, accessibility, safe public spaces, inviting landscaping and urban green space, and opportunities for social interaction.

New development has the opportunity to contribute positively to the settlement pattern through compact, well-designed development that integrates with the existing urban structure.

Policies

8.1.2 Road and pathway networks cater for walking and cycling and facilitate operation of public transport systems.

8.1.3 Opportunities for travel by public transport, cycling and walking are provided to access major trip generators such as employment nodes, tourism nodes, across urban communities and to schools, community facilities, open space and public transport interchanges, including end-of-trip facilities.

8.1.4 Urban areas have an integrated, high-quality, urban green space network that caters for community and environmental needs.

8.1.5 Ensure suitable buffers are incorporated to minimise potential land-use conflict.

8.1.6 Accessible and transit oriented community principles and development practices are applied to the planning and design of centres, having regard to local circumstances and character.

8.1.7 Complementary businesses and industries are co-located within urban areas to minimise transport demand, freight movements and greenhouse gas emissions, as well as reduce vulnerability to the impacts of oil dependency.

8.1.8 The built form within centres is adaptable, allowing for change in use over time, and assisting in the development of high-quality streetscapes and public spaces.

8.1.9 Provide pedestrian-friendly urban areas, with high levels of accessibility and integration with adjacent neighbourhoods.

8.1.10 Broadhectare planning and development responds to adjacent environments, creating cohesive neighbourhoods identifiable as part of the broader community.

8.1.11 The design and siting of new development responds to the tropical climate of the region.

8.1.12 Centres and adjacent areas are designed to accommodate accessibility and participation of members of the community with limited mobility, such as the aged.

Program

8.1.13 Identify opportunities to provide additional green space for community use on disposal or redevelopment of government property and surplus land.

Notes (for 8.1)

The creation of well-planned, compact, self-contained, diverse and interconnected development nodes is vital for efficient transport systems and walkable, healthy communities. Density, housing choice, urban design and character are key components in delivering these outcomes. An appropriate mix of land uses is supported through planning schemes to achieve broader community aspirations.

An efficient and responsive pattern of urban development provides greater opportunities for social interaction, for instance, through more effective use of public space. A climate-responsive settlement pattern assists in reducing greenhouse gas emissions through various means, including the integration of passive cooling. Rural towns such as Collinsville and Clermont support high levels of walking and cycling. Maintaining and building on the existing character of towns, suburbs and centres is important to retain the identity of the place, particularly where community values are reflective of the location (e.g. rural or coastal). New development will integrate with, or build on, these elements.

The design and inclusion of new green space, public areas and layouts should consider the historic settlement patterns and topography to help retain existing character. Layouts should also consider transportation, both active and passive, and place public areas within nodes or accessible locations.

Integrated land-use and transport planning

Integrating land-use and transport is fundamental for maximising economic, environmental and social benefits for the region. These benefits include:

- enhanced community liveability and amenity, providing safer, healthier and easier access to jobs, schools and services
- improved transport efficiency
- enhanced accessibility and attractiveness for tourism
- reduced congestion and greenhouse gas emissions as higher levels of self-containment limit the need to use a private car
- improved air quality due to reduced reliance on cars
- support for economically productive and energy-efficient land and infrastructure use
- enhanced accessibility to services for the aged population.

Opportunities exist within urban areas to manage the supply of car parking in ways to promote non–car based transport. The location and design of car parking should consider the impacts on the pedestrian environment, ensuring that active uses are located on street frontages, and that vehicle entry points are minimised.

Planning for and integrating infrastructure and facilities to support active transport, such as walking and cycling, also has health benefits. The *Queensland Health and Heart Foundation toolkit, Active, healthy communities*, a resource package for local government to create supportive environments for physical activity and healthy eating, provides model codes for planning schemes to support more physical activity through active transport.

Shaping Up – A guide to the better practice and integration of transport, land use and urban design techniques also provides guidance on incorporating strategies to support public transport, cycling and walking into local planning frameworks and development assessment.

Transit oriented/ready communities

The population of the region is generally dispersed in low-density urban areas. However, the projected growth within the region will provide opportunities for the development of communities that are transit ready to encourage other means of transport for local trips. This is specifically relevant to urban neighbourhoods and surrounding town centres located in larger communities of the region, such as Bowen, Airlie Beach, Cannonvale, Proserpine, Mackay, Sarina, Moranbah and Clermont. Proximity to urban centres will enhance accessibility and support other means of transport for local trips, such as walking and cycling.

The principles of transit oriented/ready communities are identified in Table 2. Applying principles of transit oriented/ready communities is likely to support more efficient and frequent public transport services as demand increases over time.

(notes continue on next page)

Table 2: Principles of transit oriented/ready communities

Theme	Principle
Location	
Level of infrastructure and services	Development is focused on nodes or corridors with higher frequency transit services, and where infrastructure capacity exists or is viable to provide.
Level of development	Development occurs at a higher scale, appropriate to the locality and the local government planning scheme intent.
Land use	
Density	Incorporate higher densities appropriate to the location of the proposed transit oriented/ready community.
Mix	Integrate an appropriate mix of use and services.
Activity	Contribute to greater activity in the location to provide a sense of vitality and security.
Employment	Provide a mix of uses and services that contribute to local employment.
Housing	Provide a range of housing options to meet the diverse needs of the community.
Design	
Adaptability	The built form allows adaptation or redevelopment over time to adjust to changing demands, climate change impacts and greater use of low carbon transport options.
Built form	Incorporate best practice tropical design to promote character and amenity, and maximise energy and water efficiency.
Open space	Create a positive sense of place, promoting social cohesion, interaction and safety.
Parking	Car parking is located, designed and managed in a way that reduces the emphasis on the car as the main form of transport, supports walking, cycling and public transport, and promotes use of more fuel-efficient and low carbon vehicles.
Transport	
Mode share	Facilitate higher mode shares for walking, cycling and public transport.
Transport efficiency	Facilitate connections between transport modes, maximising the reliability and energy efficiency of public transport services.
Process	
Coordination	Planning requires a coordinated effort by all stakeholders, including state agencies, local government and the development industry.
Community engagement	Engage early and throughout the planning process with communities likely to experience change in order to promote a sense of ownership and involvement.
Timeframes	Outcomes are planned well in advance, take time to deliver and mature over time.

(notes continue on next page)

Transit Oriented Development Guide

Growth Management Queensland has developed a *Transit Oriented Development (TOD) Guide*. The guide outlines TOD concepts and encourages good practice for implementation in Queensland. It supports the delivery of a range of government priorities relating to climate change, housing affordability, congestion, health and physical activity. TOD supports the state government's Toward Q2: Tomorrow's Queensland green and healthy aspirations by reducing car dependency, easing pressure to clear native vegetation for urban development, and encouraging walking and cycling.

Non-Resident Worker Accommodation—UDLA Guideline no.3

The ULDA *Non-Resident Worker Accommodation Guideline No.3* intends to assist in delivering high-quality, non-resident worker accommodation for the benefit of the occupants and the towns that host the accommodation.

Its purpose is to:

- outline an approach for the planning and design of non-resident worker accommodation in a way that encourages innovative and high-quality development outcomes
- provide guidance for the interpretation and application of interim land-use plans and development schemes.

Urban green space

Urban green space at regional, district and local levels can be achieved through careful planning and site-responsive design. Urban green space contributes to the legibility, identity and sense of place that helps build and maintain communities. Urban green space can take many forms, such as pathways through neighbourhoods, large trees within the streetscape providing shade and meeting places, and formal sporting facilities.

Other benefits of urban green space include opportunities to improve urban water management programs, passive cooling of urban environments, space for community gardens and community interaction.

There is a growing awareness of the need for urban green space to accommodate an expanding range of outdoor recreation activities that support a range of experiences and uses, including active and passive recreation, play, celebrations, adventures, and recreational pursuits such as walking, cycling, and dog walking.

Urban green space limits the impacts of urban growth on biodiversity, landscapes and natural areas. The biodiversity and scenic values of the region's urban areas support recreation and tourism, and help to define the character of the region. It is important that natural features and conservation areas are retained where possible, with a balance between the preservation of bushland and providing parks for active community use.

Sustainable buildings and tropical design

The design and construction of buildings can be more sustainable and suitable for the region's tropical environment through:

- climate-sensitive design, material selection to minimise waste and greenhouse gas emissions, and efficient use of water and energy
- extensive use of appropriate native vegetation and large shade trees in private and public spaces, particularly along pedestrian and cycling corridors, and retaining existing native vegetation, where possible
- access to open space and outdoor meeting places in the design of buildings and public space to reflect the proximity of nature in tropical environments and the outdoor lifestyle
- incorporating passive cooling and wide verandas or roof overhangs.

8.2 Heritage, arts and cultural development

Principle

8.2.1 The region's unique heritage places and experiences are identified, protected and valued, with further opportunities for arts and cultural development provided.

Cultural heritage relates to those places that have a unique claim on our landscapes, lifestyles, community history and identity. Conserving this heritage protects and builds on an established sense of place and social practices, contributing to a strong and connected community.

The region's heritage is embodied in its archaeological sites, cemeteries, historic homes, landmark structures, streetscapes and landscapes. They are valued features that strengthen and bind the community to their local area, and create a shared sense of the region for all residents and tourists.

Acknowledgment, appreciation and protection of cultural heritage areas, places and artefacts will assist in creating unique places and promote respect for the diverse and rich cultural heritage of the region. Heritage places regional identity and contribute to a vibrant lifestyle. Conservation of heritage places and their integration within new and evolving communities is a critical aspect of sustainable planning and development.

Aboriginal and Torres Strait Islander communities live in the region. The region comprises the traditional lands of several Aboriginal tribal groups, who maintain strong associations with these areas. The region is also home to a significant population of Australian South Sea Islanders, generally accepted as the largest South Sea Islander community in Australia.

Arts and cultural development also plays a key role in community building and reflecting the local identity of an area. Planning and provision of cultural facilities and spaces allow a range of community and cultural activities to take place.

Policies

8.2.2 Heritage places, including Aboriginal and Torres Strait Islander heritage (such as archaeological sites, landscapes, places or objects) are appropriately recognised and protected.

8.2.3 The capacity of government, community and industry is strengthened to identify, conserve and protect the region's heritage.

8.2.4 Accessible public spaces exist for cultural activities, events and festivals.

8.2.5 Arts and cultural infrastructure, facilities and programs are provided to meet community need.

8.2.6 Business opportunities based on culture, heritage and the arts are recognised and promoted to attract investment and diversity to the region.

8.2.7 Historical and contemporary cultural information, artefacts and sites significant to Aboriginal and Torres Strait Islander communities are identified, protected and preserved, including the development of local agreements and protocols, as required.

8.2.8 Provide greater certainty about how heritage is identified, managed, conserved and adaptively re-used.

8.2.9 Develop tools to preserve and protect cultural property and cultural heritage that form part of the region's history, particularly buildings, artefacts, and places of special recreational, aesthetic, architectural, cultural, historic, scientific, social or spiritual value.

Notes (for 8.2)

Many heritage places in the region are listed in the Queensland Heritage Register. Places which are important at a local level, but which do not necessarily meet state heritage requirements, can be recognised by local governments in local heritage registers, or directly in planning schemes.

The major historic themes for the region provide a comprehensive perspective on the heritage of the region, and a guide for assessing heritage significance. The patterns of development within these themes have defined and shaped the region, and encompass important heritage places for the region.

The following should be considered when developing guidelines and identifying heritage places and precincts.

Historic themes:

- pastoral industry (1840s to 1880s)
- settlement from 1880s
- dairy industry
- sugar industry and South Sea Islanders' role in establishing the industry
- timber industry
- mining (including gold)
- secondary industries such as manufacturing, e.g. engineering works, factories and sawmills
- Aboriginal and Torres Straight Islander history.

Some towns have retained significant elements of heritage character over time, including Bowen, St Lawrence and Eungella. A number of other townships have also retained historical places, such as Mackay, Mirani, Nebo and Collinsville.

Local cultural heritage places, areas and values are to be identified and recorded in local heritage registers. Initiatives are developed aimed at raising the profile of the region and enhancing civic pride by increasing awareness of heritage, culture and the arts.

The region's diverse mix of cultural opportunities is provided by entertainment, arts, museums, recreation and leisure pursuits. Multiculturalism and the relocation of new residents to the region enable diversity, and often bring new ventures, cultural and artistic opportunities and energy. Cultural facilities provide public places to hold festivals, events and functions. Existing facilities should be maintained, and new ones established, to ensure cultural and artistic opportunities and avenues continue to stimulate wealth, community spirit and belonging.

Regional initiatives and programs are to be established to support arts workers at local levels.

Mackay Living Arts Project

The Mackay Living Arts Project enables artists and therapists to work together with young people to explore themes of community and connection, and create opportunities for artistic, social, emotional and economic growth within the visual and performing arts. Young people develop their social skills and improve their mental health, attention and concentration, and their ability to express and process emotion. They come to a better understanding of themselves and their place in the world.

The Mackay Living Arts Project is an initiative of Creative Community Solutions, which receives assistance from the Regional Arts Development Fund and Mackay Regional Council.

More information can be found at www.livingarts.com.au

George Street Neighbourhood Centre

The George Street Neighbourhood Centre in Mackay operates a multicultural support program which assists migrants from non–English speaking countries and works to strengthen and celebrate multiculturalism across the region.

More information can be found at www.georgestreetnc.org.au

Queensland Heritage Strategy

The *Queensland Heritage Strategy: A ten year plan*, establishes a framework for managing Queensland's heritage over the next 10 years to allow for growth and development of the state, while preserving its valuable heritage places.

More information can be found at www.derm.qld.gov.au

(notes continue on next page)

The Burra Charter

The Burra Charter is a nationally accepted standard for conserving places of cultural significance. It outlines best practice principles necessary to identify, care for and manage heritage places.

More information can be found at www.derm.qld.gov.au

Queensland Heritage Act 1992

The *Queensland Heritage Act 1992* provides for the conservation of the state's cultural heritage by protecting all places and areas entered in the Queensland Heritage Register. This Act requires local governments (unless exempt) to keep a local heritage register.

Cultural heritage register and database

Under the *Aboriginal Cultural Heritage Act 2003*, a cultural heritage register and database have been established, which assist in making preliminary assessments when planning a development or other activity over an area of land.

The database can be accessed through a cultural heritage search request, made via the Aboriginal and Torres Strait Islander cultural heritage request form available at www.derm.qld.gov.au

8.3 Centres

Principle

8.3.1 Regional centres and towns are the focal point for the provision of retail, commercial and community services, economic growth and diversity.

Centres are the local and regional hubs for trade and economic activity, social interaction and administrative function. Each town and city may have one or more centres of activity, where commercial, administrative or employment activities occur. Regional centres are often characterised by a primary centre, as well as specialist activity nodes, e.g. industrial or service precincts, and a series of neighbourhood centres.

Centres include:

- a mix of land uses
- suitable locations for government investment in public transport, active transport, health, education, cultural and entertainment facilities
- integrated land use and transport to encourage walking, cycling and public transport options
- focal points for community and social interaction and tourism
- higher density residential development, employment and trip-generating activities
- development that supports and reinforces the centre's communal and heritage values and settings (i.e. the aesthetic, architectural, historical, scientific and social significance).

Reinforcing established centres within each town and city as the focal point for commercial, retail, government services, tourism and civic activities will ensure they remain vibrant and sustainable. This is further enhanced by increasing the centre's capacity to accommodate residential development in various forms, including mixed use development.

Policies

8.3.2 A wide range of employment opportunities and services are accommodated within centres to assist in long-term sustainability to attract future investment.

8.3.3 Development supports and responds to the ongoing roles of centres as the primary providers of services to the region.

8.3.4 Major employment and trip-generating activities, including higher density residential development, are primarily located in centres.

8.3.5 The centre of each town is the focal point for community interaction, tourism, commerce, social services and administration; it represents the identity of each town, caters for a wide range of compatible activities, and is characterised by a high-quality and robust built form.

8.3.6 Land required for future growth of centres is protected from inappropriate fragmentation and land use.

8.3.7 Develop centres of appropriate type, diversity, scale and form suitable for the size and need of its catchment.

8.3.8 Out-of-centre development is not supported as it may detrimentally impact on the role and function of defined activity centres.

8.3.9 Encourage street fronts that provide interest and interaction and allow for informal surveillance.

Programs

8.3.10 Locate new regional-level state government facilities for health, education, justice, community, administration and employment activities predominantly within the Mackay City Centre.

8.3.11 Locate new subregional-level state government facilities for health, education, justice, community, administration and employment activities predominantly within the town centres of Mackay, Bowen, Sarina, Proserpine, Cannonvale, Moranbah and Clermont.

Public bus stop, Caneland Central Shopping Centre, Mackay
Courtesy of Ray Cash Photography

Notes (for 8.3)

Centres will enhance the sense of community and provide a positive environment for people to live, conduct business, learn and play.

For example, the Mackay City Centre is well established with a variety of government offices, community uses, businesses and other uses, including residences. There is also a significant shopping centre, and a range of businesses in adjacent areas.

Local planning frameworks will be consistent with centre policies by:

- spatially defining the boundaries of individual centres
- identifying the roles, functions and capacity of centres and townships
- identifying the types of centre activities that will be supported in each centre
- ensuring an appropriate mix of land uses is supported
- ensuring the provision of centres with sufficient capacity to accommodate local demands, and enhancing the role of the town centre as the primary location for commerce, tourism, social activity and regional services.

The traditional centres in most large regional communities have been affected by out-of-centre development, including the decentralisation of retail, industrial and government services. Further decentralisation is not supported. Out-of-centre development can undermine the role and function of a centre, diminish the vitality of activity centres and detract from economic growth by diluting public and private investment in centre-related activities, facilities and infrastructure.

Centre activities should be located within defined centres, only allowing them to occur outside of centres where:

- there is demonstrated public need and sound economic justification for its location outside a centre
- there are no alternative sites within the centre
- there would be no adverse impact on the economic or social function of the existing centres, or on the urban infrastructure network (particularly road network)
- it does not consume land identified for commercial or industrial uses, including its buffers
- the site is readily accessible by a range of transport modes, including public transport (where available), walking and cycling.

Enclosed retail formats are generally not supported, as they connect poorly to the surrounding urban environment. Development in centres should address the street frontage, integrate with other surrounding public spaces, and minimise visual and pedestrian accessibility impacts of vehicle parking and manoeuvring areas.

Future development of centres should also include adequate provision for small businesses, expansion of existing businesses, and new business and industry that best serve the needs of local residents.

8.4 Rural communities

Principle

8.4.1 Rural communities benefit from growth and are serviced by appropriate levels of infrastructure and support services.

Rural towns have historically been the local centres for services and social activity for rural communities. Their long-term sustainability is integral to the viability of rural communities.

Towns such as Nebo continue to support the surrounding rural community. Larger centres such as Bowen, Proserpine and Clermont are also key employment hubs, with established industrial enterprises that support growth in local employment and tourism opportunities.

The rural tourism sector is attracting more visitors, which supports growth in local employment and service provision. There is a need for out-of-area labour at seasonal times of the year, which is filled by the region's visitors, including fruit and vegetable picking and packing at Bowen. Strategies will be developed to help rural communities capitalise on rural character and local attributes to generate economic growth and diversity.

The number of seasonal workers and backpackers in some rural communities can be significant. Many of these short-term residents have a variety of support requirements, such as affordable accommodation and health services, which need to be considered in forward planning. New or improved public open space and sport, public transport, recreation and community facilities in rural areas will help enable opportunities for greater community activity and healthier lifestyles. The diversity of people moving around and into communities needs to be recognised in service planning and delivery across the region.

Policies

8.4.2 Growth is supported by an appropriate mix of land uses and housing types that ensure the viability and liveability of rural towns.

8.4.3 Development does not detract from the established character and role of rural towns.

8.4.4 Identify, maintain and protect sites and corridors for infrastructure that support the ongoing operation of agricultural activities and rural industries.

8.4.5 Rural townships incorporate open space, and sport and recreation opportunities that facilitate community interaction and healthy lifestyles.

8.4.6 Avoid fragmentation of agricultural land in the regional landscape and rural production area to maintain economically viable farm lot sizes.

8.4.7 Encourage opportunities for value-adding to rural production within the rural communities.

8.4.8 Reinforce the role of rural towns to provide local and subregional services to the broader rural community.

8.4.9 Accommodate opportunities for economic growth and diversification in rural towns.

8.4.10 Rural towns accommodate levels of growth reflective of their function in the region, with consideration of the provision of efficient and supportive infrastructure and the intended roles of the town.

Programs

8.4.11 Provide alternative options to maintain local access to primary health, social and educational services.

8.4.12 Encourage opportunities for value-adding to local rural production being undertaken within the local community.

8.4.13 Provide opportunities for, and encourage rural communities to participate in, planning for the region.

Bowen sign *Courtesy of Ray Cash Photography*

Notes (for 8.4)

It is recognised that the population of many rural and resource communities in the hinterland will continue to grow and this growth will be accommodated within lands designated for this purpose. Some communities, such as Calen and Kuttabul, are not included within the Urban Footprint, as growth is expected to be limited and able to be accommodated with lands identified for this purpose under relevant local government planning schemes.

Planning for human services in a region with a dispersed settlement pattern requires varying approaches to suit circumstances, including projected future population of individual communities. Rural communities generally have reduced access to infrastructure services and employment opportunities compared to larger urban communities. Considerable distances to major centres and a lack of public transport compound this situation.

Working in partnership, and under the principles of community engagement, will achieve better flexibility, coordination and efficiency in service planning and delivery. Initiatives that would benefit from such partnerships include:

- assisting rural communities to respond to changing primary production, agricultural and other rural activities, industries and economic circumstances
- improving community involvement and capacity to contribute to planning and other regional engagement processes
- investigating alternative strategies for economic development and growth in rural communities
- identifying and implementing flexible, accessible, locally based prevention and early intervention programs, to address social issues in rural areas.

Strategies to attract private and public investment and reinvestment in rural communities are important for the continued health of the region, and investment partnerships could identify and target:

- opportunities to strengthen existing enterprises and industries
- development of new enterprises and industries
- exploring export development options
- product and market innovation opportunities for investment attraction.

ClimateQ

The Queensland Government has commenced the *ClimateQ: toward a greener Queensland* initiative to help primary producers adapt to climate change. This initiative provides information and tools to help primary producers in Queensland manage climate change risks and take advantage of emerging opportunities.

More information cn be found at www.climatechange.qld.gov.au

Sarina Sugar Shed *Courtesy of Ray Cash Photography*

9. Infrastructure

The region's communities have access to well-planned, coordinated, accessible, sustainable and reliable infrastructure.

Infrastructure is the physical and organisational structures which underpin social and economic activity. Effective and timely infrastructure provision is required to cater for the region's current and future needs, and to promote sustainable growth. It includes all transport, communication, social and energy networks and assets, and waste and recycling facilities. Sustainable infrastructure planning considers funding and delivery of new infrastructure, and maximises the use of existing networks and efficiencies.

The region's settlement pattern is characterised by a number of constraints, including flooding and environmental values. In addition, communities are located in close proximity to natural assets and resources, which underwrite their economy. This has led to a dispersed settlement pattern and challenges to providing infrastructure and services across the region.

Key challenges for regional infrastructure planning and coordination include:

- recognising and taking full advantage of the capacity of existing infrastructure instead of building new networks
- exploring more efficient ways of prioritising, coordinating and working in partnership to plan and deliver infrastructure
- seeking new, innovative opportunities for funding infrastructure
- considering climate change impacts and energy efficiency in planning, locating, designing, building, maintaining and operating infrastructure
- responding to changing demographic needs and economic development within the region to ensure infrastructure investments are appropriate
- building resilience to the impacts of oil dependency
- avoiding, minimising or mitigating against the impact of infrastructure on areas with significant biodiversity values and other regional landscape values.

Consolidating urban growth within established communities will help provide a more efficient and effective network of infrastructure and services for the region. Well-planned partnership approaches to the delivery of infrastructure will support existing development and the preferred settlement pattern. This can contribute significantly to strong economic growth and increasing employment opportunities.

Expansion of the region's major industries of agriculture, mining and tourism rely on the provision of safe, reliable, sustainable and cost-effective infrastructure. This includes delivery of state and nationally significant developments such as transport networks associated with the resource sector and APSDA.

Water infrastructure is predominantly considered in Section 4.5.

9.1 Infrastructure planning

Principle

9.1.1 Efficient, well-planned infrastructure supports population growth, economic opportunities and service provision in a sustainable manner.

The region's growth, including the realisation of further economic opportunities, relies on coordinated and timely planning of infrastructure.

Growth should be prioritised to urban areas where infrastructure capacity exists, or where upgrades or new infrastructure can be provided in a cost-effective manner. Infrastructure supporting rural activities is designed at a scale appropriate for use. The effective and efficient planning and provision of new infrastructure, upgrades and maintenance will be achieved through improved coordination, collaboration and innovation. To achieve this, a shared level of understanding of issues and priorities between all levels of government and private infrastructure providers is required.

Lack of connectivity and ageing road assets can limit opportunities for desired local, subregional and regional interaction and self-containment.

Policies

9.1.2 Infrastructure is planned, coordinated, sequenced and delivered in a timely manner to support regional growth.

9.1.3 Growth is managed to maximise the use and benefits of existing infrastructure, and minimise the need for new infrastructure or upgrades.

9.1.4 Mechanisms and agreements for funding and charging for infrastructure are efficient, appropriate, realistic and transparent.

9.1.5 Infrastructure is located and designed to avoid or mitigate impacts from major catastrophic events such as cyclones, flooding and storm surge, and the projected impacts of climate change.

9.1.6 Demand management processes are designed and implemented to modify consumer behaviour, and support the transition to a carbon constrained and climate-changed future.

Programs

9.1.7 Monitor and review infrastructure capacity to inform future infrastructure provision.

9.1.8 Develop, upgrade and maintain programs for managing existing infrastructure, and provision of new networks in a timely manner.

9.1.9 Identify funding and delivery mechanisms for infrastructure projects.

9.1.10 Identify opportunities for co-locating infrastructure services, sites and corridors with the aim of reducing the need for new sites.

Notes (for 9.1)

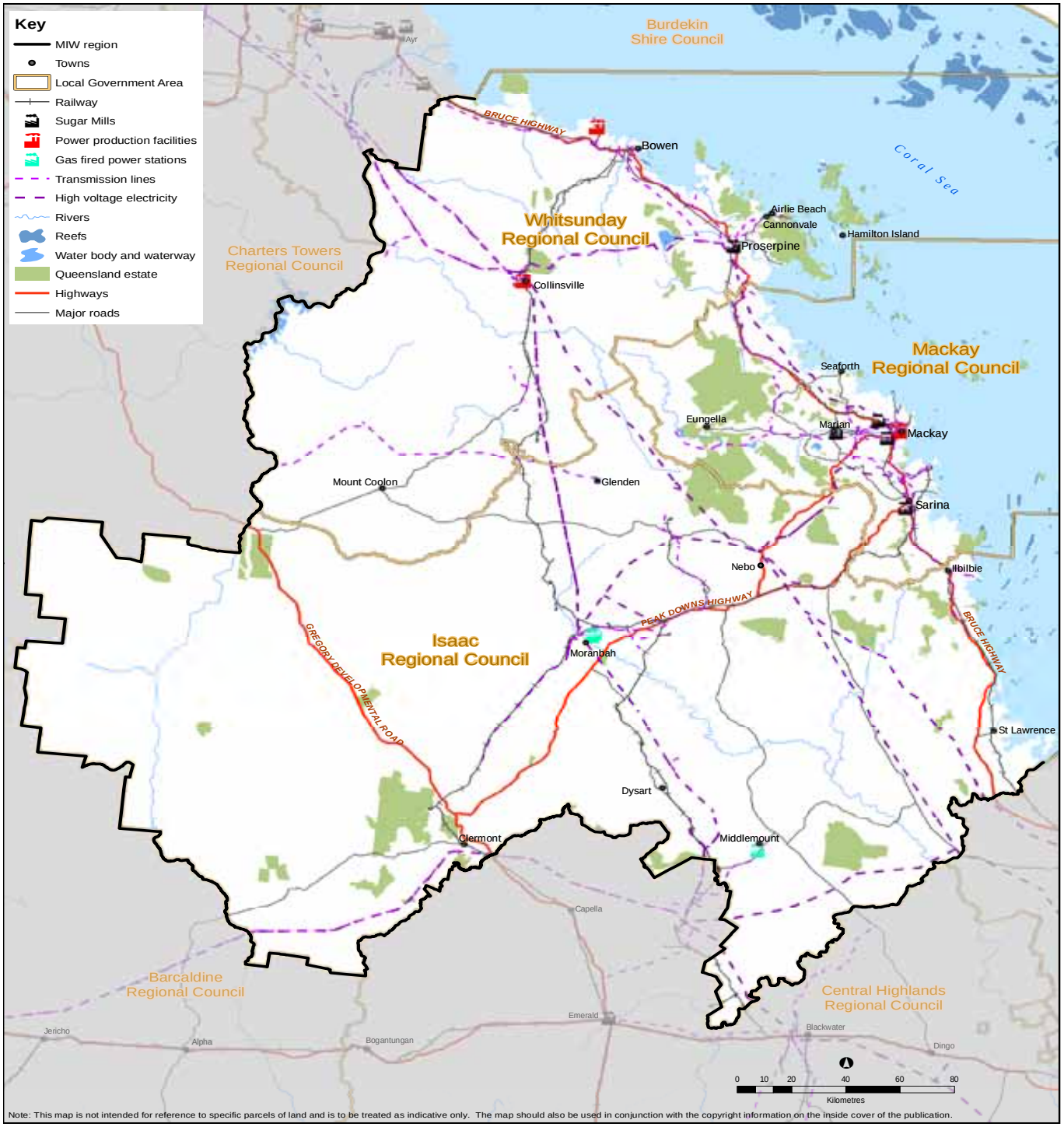
Efficient and timely provision of infrastructure commensurate with growth and demand will enable the region to benefit from greater prosperity, sustainability and liveability. To achieve this, infrastructure in the region needs to be monitored to confirm whether there is a shortfall in infrastructure provision to meet current and projected population, industry and business demands. The capacity and opportunities for effective use of present infrastructure also need to be identified and considered. New infrastructure or upgrades may not always be the most effective solution in an environment of finite resources.

There is a need for a coordinated approach by all levels of government to ensure timely provision of essential new infrastructure to service major commitments such as the APSDA.

Appropriate location of future development, and managing demand, should maximise use of current infrastructure influencing consumer behaviours, rather than directing finite resources to new facilities or upgrades. Demand management initiatives can include community education, use of technology, or pricing measures that reflect use.

Major infrastructure and transport corridors in the region are depicted on Map 9, 10 and 10a. (notes continue on next page)

Map 9 – Infrastructure (notes 9.1 continued)



Note: This map is not intended for reference to specific parcels of land and is to be treated as indicative only. The map should also be used in conjunction with the copyright information on the inside cover of the publication.

Priority infrastructure plans

Priority infrastructure plans are an integral part of the Queensland Government's vision for the future—Toward Q2: Tomorrow's Queensland—making sure infrastructure is planned, funded and provides for anticipated growth.

In preparing priority infrastructure plans, local governments should consider Queensland Government infrastructure priorities. A priority infrastructure plan is the key tool in a planning scheme for integrating land-use planning and infrastructure planning. It assists in planning infrastructure in a coordinated, efficient and orderly way that encourages urban growth in areas where adequate infrastructure exists or can be provided efficiently.

More information can be found at www.dlgp.qld.gov.au

Shaping Tomorrow's Queensland

Shaping Tomorrow's Queensland is the government's response to the Queensland Growth Management Summit.

In November 2011, the Queensland Government released, the QIP, a key initiative under Shaping Tomorrow's Queensland. The QIP sets out Queensland's infrastructure needs for the next 20 years and provides a clear link between infrastructure delivery and population and economic growth.

The QIP focuses on identifying infrastructure to support Queensland's economic zones, providing a clear outline of short-term infrastructure projects, as well as forward planning for the longer term infrastructure needs of growing regions.

Further infrastructure planning for the region will provide a key mechanism for implementing the regional plan, and will inform future updates of the QIP.

More information can be found at www.dlgp.qld.gov.au

Northern Economic Triangle

The *Northern Economic Triangle Infrastructure Plan 2007–2012* was released by the Queensland Government on 3 August 2007. The plan covers a portion of the region, including Bowen and the APSDA, and aims to ensure that critical infrastructure is provided to support the establishment of large-scale industrial development.

Gordon street, Mackay *Courtesy of Ray Cash Photography*

9.2 Protecting key sites and corridors

Principle

9.2.1 Current and future infrastructure sites and corridors are identified, protected and managed.

Sites and corridors for infrastructure such as transport, electricity, hospitals and schools need to be identified well in advance to ensure they are available as required. These potential sites and corridors, and associated buffer areas, need to be recognised, preserved and/or acquired, where necessary, early in the planning process to reduce overall costs.

Policies

9.2.2 Key infrastructure sites, related corridors and buffer areas are identified and protected.

9.2.3 Infrastructure planning seeks to avoid or, where not possible, minimise and offset, impacts on areas with significant biodiversity values and biodiversity networks.

9.2.4 Co-location of infrastructure is promoted where it will advance the efficient use of land, reduce construction and maintenance costs and limit environmental impacts.

Programs

9.2.5 Identify opportunities for co-locating infrastructure, with an aim of reducing the need for new sites when new infrastructure is required.

Notes (for 9.2)

Co-locating infrastructure sites and corridors can potentially reduce the need for additional sites, and therefore reduce overall costs.

Infrastructure sites and corridors required for IGAs will be considered as part of detailed investigations for these areas, and once identified, protected for future use.

9.3 Energy

Principle

9.3.1 Energy is reliably provided to support growth in an economically and ecologically sustainable manner.

The region's energy requirements are escalating due to population growth, industrial development and economic growth, particularly in the resources and manufacturing sectors. Changing consumer practices, such as the use of air conditioners, televisions and other high-energy use items, are also adding pressure. Long-term planning is required to meet the future energy needs of the population and enable economic growth.

Some rural and remote settlements in the region do not have a reliable power supply. Providing a consistent energy supply, including alternative renewable sources of energy, is required to ensure demand is met. In addition, the design and upgrade of energy networks should ensure, where possible, that the impacts of severe weather events are minimised.

The region has significant electricity generation and transmission infrastructure from power stations and high-voltage lines. The QIP identifies two energy projects within the region, including the reinforcement of supply to Airlie Beach and the Bowen Basin. Both projects are currently in the preparation phase.

Opportunities for co-generation of electricity exist within the region that may contribute to waste-reduction strategies and respond to rising energy demands, including potential generation at sugar mills and waste disposal sites.

Policies

9.3.2 Existing energy infrastructure and facilities are identified and protected.

9.3.3 Potential major energy infrastructure sites and corridors, which are to be explored as options for co-location, are identified, preserved and acquired.

9.3.4 The use of gas distribution networks are optimised and expanded, and, where viable, the use of gas as an additional energy source is encouraged for new developments.

9.3.5 Alternative energy supplies, including low emission and renewable energy, are supported.

9.3.6 Methods of ensuring the efficient use of energy in residential, commercial and industrial developments by influencing consumer behaviours are developed.

9.3.7 System capacity is monitored to ensure the use of network infrastructure does not exceed levels generally accepted as good industry practice.

Programs

9.3.8 Identify areas with significant potential for renewable energy including solar, wind, geothermal and biomass generation.

Notes (for 9.3)

Energy efficiency, source substitution programs and increasing use of solar hot water is currently reducing emissions generated by electricity use across the state. Queensland has significant renewable energy resources, including geothermal, solar thermal, wind and biomass co-generation, which will potentially play a role in reducing the region's greenhouse gas emissions.

Electricity supplied by natural gas produces around half the greenhouse gas emissions of electricity conventional coal-fired generation. Gas will therefore remain a key transitional fuel source for energy in Queensland.

In addition, the region's standing as one of the state's largest sugarcane producers provides incentive for existing mill facilities to invest in co-generation technologies to harness renewable energy from existing waste products, while decreasing operating costs.

Since June 2009, the Queensland Government has been working to deliver its *Queensland Renewable Energy Plan*. The plan aims to leverage the federal Renewable Energy Target (RET) to grow the renewable energy sector in Queensland, create 3500 jobs, leverage $3.5 billion of investment under the RET, and reduce greenhouse gas emissions by more than 40 million tonnes by 2020. More information can be found at www.cleanenergy.qld.gov.au

Mackay sugar's co-generation project

Mackay Sugar Limited has received funding from the Queensland Renewable Energy Fund for the construction of a new co-generation power plant at Racecourse Mill that will have the capacity to generate more than 36 megawatts of electricity from sugarcane waste throughout the year. It will export approximately 27 megawatts annually to the local grid which is equivalent to about one-third of the Mackay region's annual electricity requirements.

The system will use a new steam turbine generator to burn the bagasse more efficiently, with lower emissions to the atmosphere. The power plant will add to the sugar industry's viability by providing a second source of income and a buffer to fluctuating sugar prices.

The new co-generation power plant is expected to be commissioned in early 2013. The project offers a significant opportunity to drive the growth of renewable energy use and production in the sugar mills of regional Queensland.

Sustainable housing

The Queensland Government is also investigating a number of ways to make homes more energy efficient, such as the use of on-site solar generation, energy efficient fixtures and fittings, natural ventilation, outdoor and indoor connectivity, and other design features. The 6 star (or equivalent) energy efficiency standards for new homes and townhouses took effect in May 2010 across Queensland. More information can be found at www.dlgp.qld.gov.au/sustainablehousing

The sustainability declaration has been required under the *Building Act 1975* since January 2010. A checklist must be completed by the vendor when selling a house, townhouse or unit. It identifies the property's environmental and social sustainability features, such as energy, water, access and safety.

ClimateQ: toward a greener Queensland

ClimateQ: toward a greener Queensland presents the next phase in Queensland's response to the challenge of climate change. The revised strategy presents investments and policies to ensure Queensland remains at the forefront of the national climate change response.

More information can be found at www.climatechange.qld.gov.au

Renewable Energy Plan

The Queensland *Renewable Energy Plan* aims to attract investment in renewable energy generation to Queensland under the Australian Government's Renewable Energy Target.

More information can be found at www.climatechange.qld.gov.au

9.4 Information and communication technology

Principle

9.4.1 All communities in the region are provided with modern, reliable, accessible and affordable information and communication services.

Access to reliable mobile, internet and digital communications varies greatly throughout the region. Levels of service are higher around larger communities in the east of the region, while areas in the west have less consistent levels of service. The region's telecommunications are an essential part of the lives of the community. Opportunities to link specialist services (e.g. health and education) to the region, and the ability for the community to stay in touch, are necessities to promote liveability, economic growth and safety. Isolation and other elements of locational and social disadvantage are reduced through access to reliable communications. The design and upgrade of telecommunications infrastructure should ensure, where possible, the impacts of severe weather are minimised.

Policies

9.4.2 Residents and visitors have access to reliable connectivity, coordination and delivery of the digital network, including telecommunications such as mobile access, throughout the region.

Programs

9.4.3 Coordinate and deliver the installation of telecommunication cabling in developments when installing utilities such as underground water or electricity.

Notes (for 9.4)

The delivery of reliable telecommunication services strengthens the ability of regional areas to be innovative and compete globally across all economic markets. It plays a fundamental role in supporting regional areas to connect, encouraging social participation and inclusion.

The installation of telecommunication cabling needs to be planned for, alongside other complementary utilities such as electricity.

The quality of telecommunications infrastructure provided will help shape future living standards and international competitiveness, and minimise greenhouse gas emissions. It is vital that today's infrastructure decisions provide flexible options to accommodate advances in communication technologies.

The Australian Government has primary responsibility for the policy and regulatory environment for telecommunications.

National Broadband Network

On 7 April 2009, the Australian Government announced the establishment of a new company to build and operate a new super-fast National Broadband Network (NBN).

Under the NBN, every house, school and business in Australia will get access to affordable fast broadband.

From 1 January 2011, the Australian Government implemented new arrangements to accelerate the installation of fibre cabling in new developments.

More information can be found at www.dbcde.gov.au

9.5 Waste and recycling

Principle

9.5.1 The region's waste is minimised, re-used or recycled, and promotes energy recovery.

Population and economic growth in the region will increase the generation of waste. Waste minimisation, higher levels of recycling, are important in responding to increasing demands for waste management.

The selection of appropriate waste and resource recovery sites and the management of regulated waste remain challenges for the region. Securing investment in waste recovery and maximising transport efficiencies will play a vital role in the improved management of waste and will require commitment by both the public and private sectors.

Waste re-use and recovery of recyclables as well as greenhouse gas reductions will assist the region in responding to waste management demands.

An opportunity exists to educate consumers about waste management, minimisation and recycling activities.

Policies

9.5.2 Sites for future waste facilities and resource recovery precincts are identified, preserved and acquired.

9.5.3 Waste minimisation, including the use of the waste hierarchy and good waste management principles, inform all land-use and waste management policies.

9.5.4 Greenhouse gas emissions are minimised by diverting green and organic waste from landfill, and by implementing capture and re-use of landfill gas.

9.5.5 A regional integrated and coordinated system for waste management and resource recovery is developed and implemented to ensure efficiencies, economies of scale and innovation, and to recognise the total cost of waste management.

Programs

9.5.6 Use demand management and education to encourage better industry and community waste management practices.

9.5.7 Establish a coordination mechanism to improve regional information sharing and collaboration to produce more effective planning outcomes and to deliver an integrated response to waste.

9.5.8 Adopt integrated regional solutions for waste management and resource recovery, except where local facilities are more appropriate.

Notes (for 9.5)

Continued growth places pressure on the ways local governments manage waste.

The Queensland Government's waste reform program will help drive investment in new technology in Queensland, and bring waste management in Queensland into line with other states in Australia.

The *Environmental Protection (Waste Management) Policy 2000* and the *Environmental Protection (Waste Management) Regulation 2000*, which were developed in consultation with local governments, provide legislation for safer disposal practices and cost savings from improved planning and management of waste services.

Waste reform policy

The *Waste Reduction and Recycling Strategy 2010–2020* is part of the Queensland Government's waste management reform and includes new legislation covering waste avoidance and resource recovery, and an industry waste levy. The strategy provides a vision for a low waste Queensland, and is also a 10-year plan to halve the amount of waste sent to landfill by 2020.

Draft State Planning Regulatory Provision–Particular Waste Management Activities on Existing Landfills

State planning regulatory provisions are being proposed to facilitate consistent, proportionate and timely assessment of development in relation to lawfully operating landfills. They will enable them to meet their obligations in relation to waste levy and assist in achieving the objective of the *Waste Reduction and Recycling Act 2011* and the goals and targets of the strategy.

Preferred waste management hierarchy and principles for achieving good waste management

The waste hierarchy moves from the most preferred to the least preferred methods of refuse management–waste avoidance, waste re-use, waste recycling, energy recovery from waste, and waste disposal. It also outlines principles for achieving good waste management practices, including:

- 'polluter pays principle'–all costs associated with waste management should, where possible, be met by the waste generator
- 'user pays principle'–all costs associated with the use of a resource should, where possible, be included in the price of goods and services developed from the resource
- 'product stewardship principle'–the producer or importer of a product should take all reasonable steps to minimise environmental harm from the production, use and disposal of the product.

9.6 Sewerage

Principle

9.6.1 The provision and management of sewage treatment infrastructure is planned, timed and managed, and is protected from encroachment by incompatible development.

With unprecedented growth in various parts of the region, planning and providing sewage treatment infrastructure to meet growing demand will be a significant challenge. This includes pressure on the retention of adequate treatment plant buffers.

Planning for the provision of sewage treatment infrastructure will also need to cater for projected growth for the life of the network, taking into account management costs and upgrade of existing, and construction of new, facilities.

The rapid expansion of the resources sector and influx of non-resident workforces into some of the regions continues to place a significant strain on sewage treatment infrastructure facilities. When planning for sewage treatment infrastructure, population growth assumptions need to account for the non-resident workforce to ensure capacity requirements can be met.

Long-term planning also needs to ensure existing or proposed sewage treatment infrastructure sites are identified and appropriate separation distances to sensitive uses applied. Providing separation distances between sewage treatment plants and sensitive uses serves to reduce impacts from odour and noise on amenity and the quality of life of the community, and protect the significant investment and potential expansion opportunities.

Policies

9.6.2 Identify sites and buffer areas for existing and future sewage treatment infrastructure and protect from encroachment by sensitive uses.

Programs

9.6.3 Investigate funding opportunities for the upgrade and provision of new infrastructure.

9.6.4 Implement planning mechanisms that identify the future need and timing for upgrade or construction of new sewage treatment infrastructure.

9.6.5 Seek ways of optimising the full life of assets and ensure that existing sewage treatment infrastructure capacity is maximised.

9.6.6 Investigate the viability of, and implement best practice technologies for, re-use of sewage treatment by-products in power generation.

9.6.7 Investigate opportunities for treated effluent re-use, particularly for agricultural and industrial purposes.

Notes (for 9.6)

The operation and management of sewage treatment plants is the responsibility of local governments, with licensing and regulation undertaken by the state government.

The licensing and regulation of certain-sized sewage treatment plants is undertaken by the Department of Resource Management under the *Environmental Protection Act 1994*. There has been a change in recent years to encourage the re-use of effluent rather than its disposal into waterways. This is particularly relevant given the potential impacts on the Great Barrier Reef.

The Department of Local Government and Planning administers a number of grants, funding and community partnerships programs for not-for-profit and community organisations, as well as Queensland councils. Balancing global economic pressures and the need to keep delivering infrastructure to build a strong Queensland, the current State Budget has committed funding for councils to support a range of essential community infrastructure to enhance water delivery and sewage treatment.

To further support local governments, the Queensland Government has developed a new Local Government Grants and Subsidies Program (LGGSP). Since July 2011, this program has targeted councils that have limited capacity to meet their priority infrastructure needs and capital works projects. LGGSP provides local governments with 40 per cent of the approved project costs of developing major infrastructure in their communities, and includes sewage treatment plant upgrades. LGGSP is available to those councils that demonstrate a limited capacity to fund major infrastructure in their communities.

9.7 Social infrastructure

Principle

9.7.1 Social infrastructure is planned and located, accessible, adaptable and responsive to demographic change.

Social infrastructure refers to the community facilities, services and networks which help individuals, families, groups and communities meet their social needs, maximise their potential for development, and enhance community wellbeing and safety. It provides universal facilities and services, lifecycle-targeted facilities and services, and targeted facilities and services for groups with special needs.

Population growth requires investment in the region's social infrastructure for the health, wellbeing and economic prosperity of communities. Service provision, facilities and physical infrastructure, such as art galleries and sporting facilities, enable people to be brought together and develop social capital, maintaining quality of life and developing skills and resilience essential for strong communities.

Key issues for social infrastructure planning and provision in the region include:

- maintaining existing facilities (such as health or emergency service facilities) in rural locations
- ensuring accessibility of social infrastructure, which covers both physical access and transportation to the facility
- ensuring that present and new social infrastructure can adapt to changing demographic needs
- maximising efficiencies through partnerships, collaboration and joint funding arrangements
- responding to communities with differing needs, such as resource communities, isolated rural communities and urban communities
- overcoming complexities with supporting a dispersed pattern of settlement.

Policies

9.7.2 Social infrastructure is well located and accessible in relation to where people live or visit, and the location of their transport, jobs and education.

9.7.3 Social infrastructure is planned in sequence with development, growth and demographic characteristics.

9.7.4 Appropriate sites for development of social infrastructure are identified, preserved and acquired in a timely manner.

9.7.5 Multipurpose community hubs are provided, in a manner that enables co-location and integration of community facilities and services, and provides a focal point for community activity.

Programs

9.7.6 Engage in collaborative partnerships with private, public and non-government stakeholders to plan and deliver cost-effective and timely social infrastructure.

9.7.7 Develop and promote improved infrastructure and service access for those members of the community who are disadvantaged (including locational and social disadvantage).

9.7.8 Use and monitor population and demographic data relating to the social impacts of mining projects on resource communities and implications for the allocation of resources, services and infrastructure.

Notes (for 9.7)

Social infrastructure should be responsive to population growth, changing demographics and community needs. Alternative models for the use of, and access to, existing and proposed community facilities and services may be required to maximise community benefit. Measures such as clustering services, facilities and infrastructure, joint funding and planning, outreach servicing, capacity building and more collaborative planning efforts are all helping to ease this issue.

The provision of timely, adaptable, efficient and coordinated social infrastructure which is safe, conveniently located and accessible is necessary to address social infrastructure challenges in the region. Collaboration with stakeholders regarding the provision of new or maintenance or upgrades of existing infrastructure will assist in identifying and responding to social infrastructure needs of communities.

Changing community demographics associated with the transient nature of a large proportion of the region's population remains an important aspect of social infrastructure provision, particularly in rural communities.

Ensuring that future growth is predominantly located within, or adjacent to, key centres and promoting opportunities for the co-location of infrastructure will assist in the consolidation and efficient use of land within the region.

The provision of social infrastructure is shared between local governments, Queensland Government agencies, Commonwealth agencies and non-government organisations, with interest from others, including private sector service providers and developers. Coordination of planning and delivery between the range of responsible agencies and financiers is critical to the timely provision of social infrastructure.

Collaborative partnerships across government, community and private sectors are increasingly required to fund, manage and deliver social infrastructure.

Community Services Information System

A strong evidence base is needed for planning effective community services and infrastructure, as it helps to identify, prioritise and address unmet needs, and to target disadvantaged individuals, families and communities. The Department of Communities has released a Community Services Information System (COMSIS) as a free, publicly available resource for this purpose. Data topics available in COMSIS include demography, education, employment, family, housing, income, remoteness and disadvantage.

More information can be found at www.communityservices.qld.gov.au

10. Transport

An integrated and efficient transport system and network that supports and responds to growth consistent with the intended settlement pattern, economic development and community needs.

Quality of life requires an effective and efficient transport system to connect the region's communities with goods, services and employment, and to provide links to other communities and localities, both within and outside the region. A planned and coordinated approach to the provision and protection of transport infrastructure, networks and corridors will ensure the system can sustain and respond to anticipated growth in the region.

Safe and efficient transport of freight and passengers on the highway system is critical to the region's prosperity. There is currently a heavy reliance on the highways and the subordinate road network for transport of people and goods other than coal and cane. The effective integration of roads with rail, ports and airports is essential to support the competitiveness of industry and business for sustaining economic growth, as well as strengthening the resilience and diversity of the region.

Public and active transport needs to be integrated into the system to provide access for the whole community, including those who do not have access to a private vehicle or who choose not to drive. The extension of active transport networks within communities, such as walking and cycling routes, will provide flexibility, as well as significant health and environmental benefits.

Roads

The Bruce Highway is the major road in the region, transporting northbound and southbound freight and passenger traffic. The Bruce Highway passes through Sarina, Mackay and Proserpine, bypasses Bowen, and connects to the major northern centres of Townsville and Cairns and the southern centres of Rockhampton, Gladstone and Brisbane.

The Peak Downs Highway is the major transport route servicing hinterland townships in the Bowen Basin. Commodities travelling to the Bowen Basin include petroleum, heavy machinery and equipment, and temporary structures for accommodation. Extensive passenger traffic also uses this route to access employment opportunities in the Bowen Basin.

Motor vehicle use is the dominant mode of transport, comprising 82 per cent of all journeys to work in the region. In major centres such as Mackay and outlying suburbs, some alternative public transport, walking and cycling networks are available. However, daily travel is predominantly car dependent (usually with a single occupant). A heavy reliance on private motor vehicles as the principal mode of transport is usually accepted as a consequence of living in the region.

Rail

The rail network in the region supports the transport of passengers and freight on the coastal line and the transport of coal from the Bowen Basin to the coastal seaports of Hay Point and Abbot Point. There are two major coal rail networks in the region—the Goonyella system to the Port of Hay Point, and the Newlands system to the Port of Abbot Point. Work commenced in 2010 for the 69 kilometre Northern Missing Link to connect the Goonyella system to the Newlands system. The completed Northern Missing Link now allows coal to be transported from the Bowen Basin (south of Goonyella mine), and possibly the Galilee Basin, to the Port of Abbot Point.

Rail access is also available to the Port of Mackay.

10.1 Integrated transport and land use

Enhancing the integration of transport and land-use planning is essential to ensure efficient land-use and infrastructure outcomes are achieved. An integrated transport system includes the identification and promotion of transport hubs that have appropriate strategic transport links, land-use requirements and industry relationships; and promote the integration and performance of individual transport modes. These benefits will ensure strong economic and social wellbeing for the community.

Land-use planning outcomes that reduce reliance on motor vehicles is supported. The percentage of people who walk or cycle to work is comparable to other regional centres outside South East Queensland. Only four per cent of the region's population use public transport for journeys to work. An increase in mass movement transport should be considered for mine workers through the provision of buses to and from mine sites to lessen the impacts, particularly on safety, for DIDO workers.

The reliance on motor vehicles can expose residents to financial stress. The consequence of settlement pattern and transport choices is that the population in regional Queensland is more exposed to rising fuel costs than city counterparts. Generally, urban localities that are remote from main employment and service hubs are likely to have increased transportation costs, which may increase to 25 per cent of household expenditure in locations removed from urban centres. As Mackay develops, it is essential that public transport and active transport infrastructure, such as functional cycle and walkways, are an integral part of the road management system.

The range of users and the distance between origin and destination is a challenge for integrating transport links in the region. The challenges are compounded by a dispersed settlement pattern, and by the structure of many of the routes in Mackay that do not provide direct service to destinations. An appropriate transport hierarchy and network is required to support the settlement pattern. The network for the region needs to accommodate and support journey to work trips, recreation and health activities, haulage routes to cane mills and processing plants, and dedicated haulage routes to natural resource deposits, as well as protect the values of the important scenic routes to major attractions in the hinterland.

Integration of transport and land use prioritising the use of existing infrastructure networks will provide opportunities for a balance between transport system capacity and performance. This approach will also provide opportunities for increased accessibility, self-containment and active transport options.

A comprehensive transport network is one which caters for the appropriate modes of transport relevant to trip demands and distances. Areas which will generate significant employment or visitors should be well serviced by active transport and public transport, where suitable.

Not all centres in the region provide a full range of community services and specialist facilities. Ensuring the region has connected communities is a key consideration in the provision of transport infrastructure and services. Alternative transport options, such as public and active transport, should be provided, where possible.

Principle

10.1.1 Provide highly connected transport networks to facilitate strong links within and between communities and activity centres to enable high levels of accessibility, route and mode choice.

Policies

10.1.2 Planning and development of urban areas supports walking, cycling and public transport, where the size of the urban area has the potential to generate sufficient demand.

10.1.3 Towns and sub-catchments enable employment diversity, self-containment and local community services to reduce the need for residents to travel to other centres for jobs and services.

10.1.4 Coordinate the planning, sequencing and location of infrastructure, industry and urban development.

10.1.5 Augment, reprioritise or expand existing transport infrastructure, where possible and appropriate, before building new projects.

10.1.6 Protect the efficiency of transport networks, infrastructure and corridors from incompatible land uses.

10.1.7 A multimodal transport network connects new and existing development and provides sustainable transport options.

10.1.8 Protect the capacity for stock to continue to travel on hoof by maintaining the connectivity of those parts of the road network declared as stock routes.

10.1.9 Facilitate improved efficiency of existing transport terminals and develop new terminals at key locations to support a range of business, industry, tourism and recreation purposes.

10.1.10 Maximise existing transport assets, services and network capacity through effective investment, demand management and use of new technologies.

10.1.11 Focus transport system planning and design on the needs of the community.

10.1.12 Transport corridors avoid areas of significant biodiversity values and are located and designed to be resilient to potential impacts of climate change.

10.1.13 Align transport plans, policies and implementation programs at regional and subregional levels.

Programs

10.1.14 Investigate alternative infrastructure networks as a potential alternative strategy to transport freight throughout the region (e.g. particularly to and from the mines to the coast).

10.1.15 Investigate bus network and service planning for the region's centres to refine the public transport service and inform future bus services.

10.1.16 Investigate options to provide appropriate public transport services to assist access to health services.

Notes (for 10.1)

Travelling is often difficult for people who need to access health services outside of those provided in their local area and who cannot use, or have difficulty accessing, public or private transport. Transport disadvantage is more likely to affect patients who are also experiencing socioeconomic and health disadvantage, or who live in rural or remote communities.

Ports

The imports and exports of goods at the Mackay Port have implications for freight networks in the region, with a heavy reliance on road transport. Significant expansion of the coal terminals at Abbot Point and the Port of Hay Point are proposed to meet increased demand for export coal. Proposed expansion at the Port of Hay Point, including Dudgeon Point, will contribute to regional development by increasing export capacity for bulk commodities from the region.

Abbot Point will become a major area for industrial development in Queensland with the state government establishing the APSDA. To service the APSDA and long-term port needs, North Queensland Bulk Ports (NQBP) is well advanced in planning for development of the MCF. The MCF will allow the Port of Abbot Point to realise its full potential, including facilitating bulk exports and large scale industrial development.

The proposed MCF will provide for imports and fulfil the role of a reliable marine gateway for trade, which is important for industrial development at the APSDA. The ports in the region rely heavily on efficient road and rail networks. As the range and volumes of exports and imports increase, the types of transport networks required in the future may change. Regardless, the protection of these facilities and related transport networks from encroaching and incompatible land uses must be ensured.

Opportunities may exist for the establishment of multimodal freight facilities at the Port of Mackay to service regional growth in imports and exports. Growth in domestic freight may further provide opportunity for the establishment of such a facility in Mackay in the long-term to service the region's domestic freight requirements.

There is a need for a coordinated approach by all levels of government to ensure coordinated planning of infrastructure requirements to service proposed industrial areas such as the APSDA.

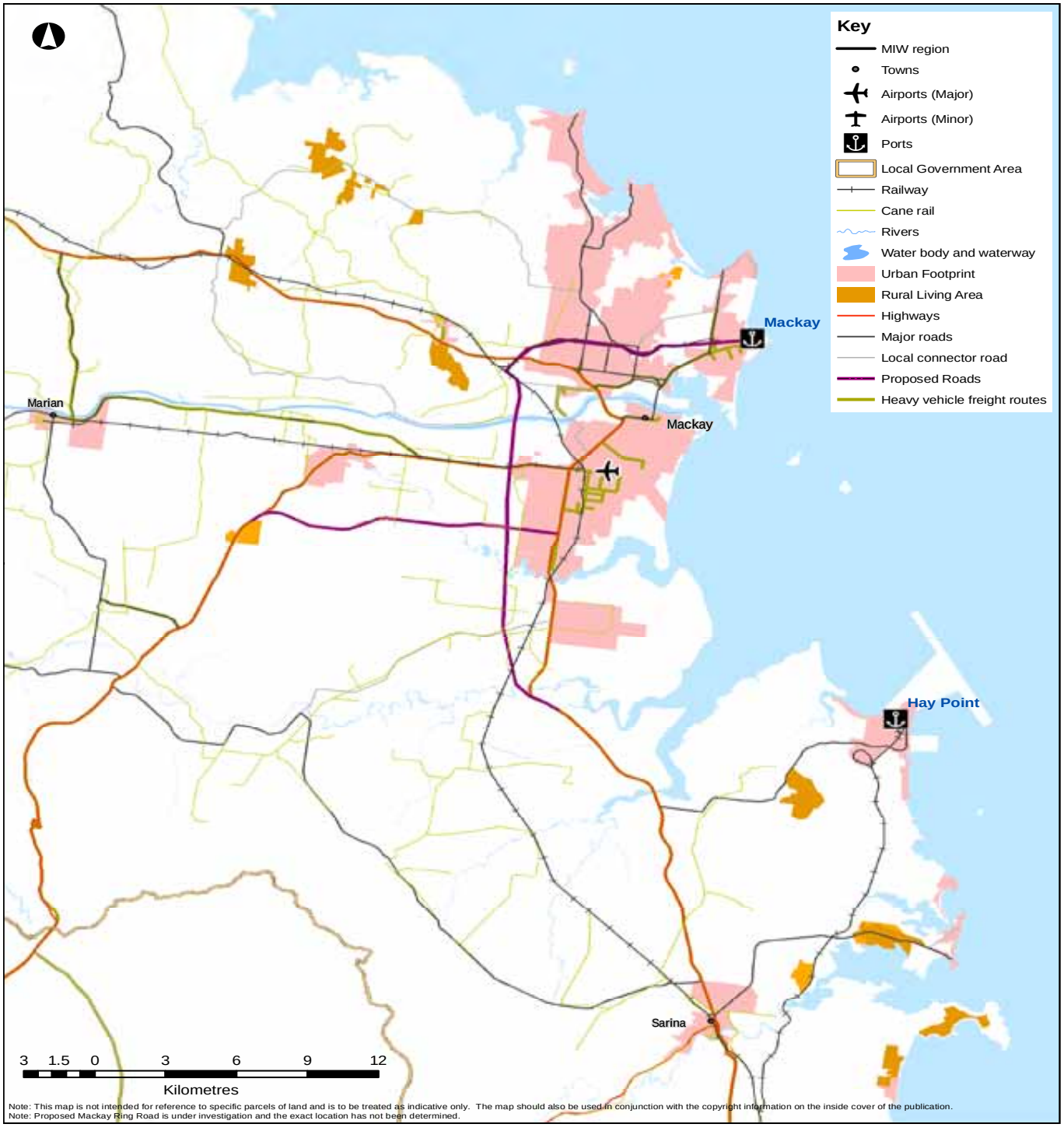
Roads

In 2002, the *Mackay Area Integrated Transport Plan 2002–2025* (MAITP) was developed by the former Department of Main Roads in partnership with the Mackay Port Authority and the former Mackay City Council. This plan is currently the primary guiding document on integrated transport for the Mackay City area, and directs coordinated transport planning in the Mackay area in the medium and long-term. The objectives of the action plans in the MAITP are to develop a sustainable transport system, integrate transport networks with land uses, plan for efficient transport networks to properly serve economic development, provide socially just transport systems, and maintain environmental quality for the Mackay area. This plan was due to be reviewed in 2011 (at census intervals), or to coincide with major events or land use changes.

Map 10 – Transport network (notes 10.1 continued)

Note: This map is not intended for reference to specific parcels of land and is to be treated as indicative only. The map should also be used in conjunction with the copyright information on the inside cover of the publication.
Note: Proposed Mackay Ring Road is under investigation and the exact location has not been determined.

Map 10a – Transport network: Mackay, Sarina, Marian and surrounds (notes 10.1 continued)



The Department of Transport and Main Roads has completed the *Bruce Highway Mackay Urban Congestion Study*. The study aims to develop a master plan for upgrading of the Bruce Highway between the Hay Point Road intersection, through Mackay to Bald Hill Road in the north. It investigated a range of options to improve safety and traffic flow, reduce congestion, and enhance access for users of the transport corridors in and around Mackay. The *Bruce Highway Upgrade Strategy* also informed strategic planning for the region, as part of a comprehensive long-term master plan to improve the safety, reliability, capacity, transport efficiency and flood immunity of the Bruce Highway.

Rail

The rail network supports the transport of regional passengers and freight on the coastal line, and the transport of coal from the Bowen Basin to the coastal seaports of Hay Point and Abbot Point. The linking of the Goonyella rail system to the Newlands system will allow coal to be transported from the Bowen Basin (south of Goonyella mine), and possibly the Galilee Basin, to the Port of Abbot Point. A new rail line connecting the Galilee Basin to the existing Goonyella coal rail system, and in turn the Port of Hay Point, has also been proposed.

There is an extensive cane tram network throughout Mackay, Proserpine and Sarina that transports raw cane to the sugar mills for processing. The cane tram lines and associated infrastructure are privately owned. The processed cane is transported to Mackay Port via the road network.

Airports

The focus of the region's airports is on passenger movement. *State Planning Policy 1/02 – Development in the Vicinity of Certain Airports and Aviation Facilities* (SPP 1/02) identifies the Mackay Airport, Whitsunday Coast Airport (formerly the Proserpine Airport) and Hamilton Island Airport as being of state significance. The region has limited capacity for air freight and relies on road transport to other export centres for transport of perishable products derived from fishing, aquaculture and horticultural activities.

SPP 1/02 provides guidance for local governments when planning for development and making decisions on development applications that are in the vicinity of identified airports.

Mackay Airport Draft Land Use Plan 2010
Public consultation phase

As required under the relevant sections of the *Airport Assets (Restructuring and Disposal) Act 2008 [Qld]*, Mackay Airport Pty Ltd has prepared a draft land-use plan for Mackay. This land-use plan is currently being reviewed.

Queensland Health

Queensland Health has established an integrated patient transport system to support those who would otherwise be unable to access the health service.

Queensland Health is investigating the use of technology and alternative transport options to deliver health services in rural and remote areas, including the region.

Connecting Mackay, Isaac and Whitsunday 2031

Connecting Mackay, Isaac and Whitsunday 2031 will identify strategies to help the Queensland Government provide a safe, connected, efficient, integrated and sustainable transport network across the region for both passengers and freight.

This program will help coordinate infrastructure investment that supports economic growth and effectively meets the future needs of the region in a timely and cost-effective manner.

More information can be found at www.tmr.qld.gov.au

10.2 Efficient, accessible and safe transport

Principle

10.2.1 An efficient, sustainable and integrated transport system exists for the region that is safe and accessible.

Currently the region's transport system is characterised by a heavy reliance on private vehicles and minimal availability of public transport. The region also has fragmented pedestrian and cycle networks and minimal integration of density and transport facilities. This has resulted in part from isolated commercial areas and significant areas of rural residential development.

Transport choice should be increased by providing opportunities for people to travel by public transport and active transport to major destinations, including employment and education locations, health and welfare and support services, shopping centres, tourist attractions and social venues. Sustainable transport modes should be encouraged and promoted in the region to reduce reliance on private car travel.

It is expected that the road system will be heavily affected by development in the Galilee Basin. Decreasing availability of rail usage by the agricultural industry has led to an increase in road transport of agricultural produce, thereby increasing heavy vehicle movements on the road system.

Strategies that deliver appropriate facilities, improved networks and greater awareness promoting the use of these more sustainable modes should be developed and implemented. An efficient and connected urban public transport network that connects people with goods, services and each other is required to cater for the needs of larger centres in the region.

Policies

10.2.2 Development does not undermine the operational integrity, safety, efficiency or future expansion of major transport infrastructure and facilities, including airports, roads, ports, harbours and rail.

10.2.3 Convenient and accessible public transport networks provide connections between significant trip generators.

10.2.4 Appropriate end-of-trip facilities for active transport users are incorporated into developments that are likely to attract or generate significant numbers of trips.

10.2.5 The transport network promotes opportunities for route and mode choice that are safe, support an efficient use of space and reduce oil dependency.

10.2.6 Improvements are made to connect within and to other communities by enhancing road and public transport networks.

10.2.7 The operational efficiency of the region's airports, roads, ports, rail and harbours is enhanced through integrated management and land-use planning decisions.

10.2.8 Awareness of alternatives to private car travel is promoted.

10.2.9 The safety and wellbeing of road users are prioritised throughout the region.

10.2.10 The appropriate use of road networks is encouraged to improve efficiency by applying road hierarchy principles in new development.

10.2.11 Opportunities are provided for public transport, cycling and walking within and connecting to centres, including education locations, health, support services, shopping centres and sport and recreation facilities.

Programs

10.2.12 Develop and implement local area strategies for transport for key centres in the region.

Shute Harbour *Courtesy of Ray Cash Photography*

Notes (for 10.2)

A safe and efficient transport network will be critical for the prosperity, liveability and development of the region over the next 20 years.

The region has several important national and regional (including inter-regional) transport assets that are to be supported and protected. The growth of these facilities and the introduction of new facilities within the region will support population and economic growth. Facilities within the region include:

- Mackay, Whitsunday Coast, Hamilton Island and Moranbah airports
- Port of Abbot Point, Mackay Port and the Port of Hay Point
- rail links throughout the region (including passengers and freight on the coastal line and the transport of coal from the Bowen Basin and potentially the Galilee Basin to the coastal seaports)
- national and state highway networks
- recreational and marine transport facilities in the Whitsundays and Mackay.

Consideration should be given to the location of new residential development to reduce public transport trip times. Higher density residential, including infill development, should be targeted around existing or potential public transport corridors.

There is a need to restructure the bus service in Bowen to address the declining patronage levels and to align it with community needs and requirements (e.g. public transport to cater for hours and location of agriculture and industry).

Active transport (walking and cycling) should be encouraged through a connected network and enhanced community awareness of active transport opportunities. Plans and strategies should be developed to create a safer and more attractive environment for pedestrians and cyclists, and optimise routes between centres or employment or service nodes, cross-town routes and major travel generators.

Development of accessible transport networks such as walk and cycle paths can enhance the liveability of communities, including larger resource communities such as Moranbah.

Disused rail and sugarcane corridors present a potential transport opportunity for recreational and tourism purposes, including walking, cycling or horse-riding trails, and may also provide opportunities for future public transport systems, infrastructure corridors and other alternative uses.

The Queensland Development Code (QDC) requires certain development to incorporate safe and convenient access for cyclists and pedestrians. End-of-trip facilities will help promote active transport by including for example, bicycle parking, showers and change rooms.

Every community has individuals and groups for whom transport choice is limited—these include the elderly, disabled, young and people without private transport. An example is the current ageing population in Bowen. Community transport can be initiated at a local level, and provide affordable access to activities and services, reducing community isolation and encouraging social interaction.

A safe and efficient transport network requires effective monitoring and management to address network capacity, safety and effectiveness. Ongoing developments in technology will continue to improve transport networks and systems for all users. A cooperative approach between all levels of government in applying new technology will contribute to road system efficiency. Examples include managing access to the road network for higher mass limit vehicles, providing information to road users, and coordinating traffic signals and other road network management initiatives.

Encouraging the right traffic on the right road promotes efficiency in the road network, and limits unnecessary trips or overuse of those assets. A defined road hierarchy sets a management framework for the road network, and promotes alignment between the operation and function of a road. It directs policy and planning regarding access to roads, design of roads and the designation of specific freight and tourist routes.

Long-distance, high-speed traffic should use arterials and highways, which have restricted access points and are designed for high speeds. Higher order roads should not be required to cater for local trips to ensure that the capacity, efficiency and safety of these major routes are not compromised. It is important also to identify key freight routes as part of a road hierarchy, as freight vehicles have specific needs and operate more efficiently on roads that have been designed to support such vehicles.

Urban development should occur in close sequence with the transport system to ensure best use of the existing network and alignment with the delivery of new infrastructure and services. Not all centres in the region are able to provide a full range of community services and specialist facilities. Ensuring the region has connected communities is a key consideration in the provision of transport infrastructure and services. Investment and development should firstly be encouraged in locations which can best benefit from the existing transport network, and secondly in a sequence that aligns with the anticipated delivery of new infrastructure and services. (notes continue on next page)

The transport network and travel behaviour of the region should be developed to minimise greenhouse gas emissions, vulnerability to higher oil prices and reduced oil supplies, and the risks posed by climate change impacts to the network.

The potential role of the Abbot Point MCF in servicing mining inputs in the Bowen and Galilee basins, and associated impacts on the transport network, will need to be considered.

Passenger Transport Network Plan

To facilitate public transport in the region, the Department of Transport and Main Roads is preparing a Passenger Transport Network Plan. The plan will respond to future transport challenges identified to support the anticipated growth in the region. Key tasks in the PTNP preparation include the identification of high-level route frequency and interchange locations for each region.

Principal Cycle Network Plan

To facilitate cycling in the region, the Department of Transport and Main Roads will prepare a Principal Cycle Network Plan (PCNP). A PCNP is an agreed framework for cycle network planning within a region, and guides a consistent approach to delivering cycle infrastructure, primarily for transport purposes. Developed in consultation with local governments, state agencies and bicycle interest groups, it is a strategic regional-level document that identifies existing and future principle cycle routes. The plan guides local government in delivering cycle infrastructure on council-controlled roads and through parklands. It also informs planning and construction of principal cycle routes on state-controlled roads.

Action Plan for Walking

The Queensland Government's A*ction Plan for Walking 2008–2010,* which is under review, advocates people from all sectors of the community choosing to walk for transport and enjoyment through the creation of practical pedestrian routes and attractive facilities. This in turn will help to create a healthier population, connected communities, and an integrated, affordable and sustainable transport system.

More information can be found at www.tmr.qld.gov.au

Active, healthy communities

Active, healthy communities: a resource package for local government to create supportive environments for physical activity and healthy eating provides model codes for planning schemes to support more physical activity through active transport. Similarly, the *Shaping Up – A guide to the better practice and integration of transport, land use and urban design techniques* also provides guidance on incorporating strategies to support public transport, cycling and walking into planning schemes and development.

More information can be found at www.activehealthycommunities.com.au and www.tmr.qld.gov.au

10.3 Freight

Principle

10.3.1 The efficient and effective movement of freight supports regional growth.

Future economic growth will rely on the ability of the transport networks in the region to move freight easily to, through and from the region for consumption, import and export of goods and produce.

Primary production such as grazing and cropping, food and beverage processing, timber growing and milling, manufacturing and the transport and logistics industry will continue to rely on efficient freight movement networks as these sectors expand and diversify.

The freight volumes on the Peak Downs Highway to service mine expansions in the Bowen Basin with petroleum, heavy machinery and equipment are anticipated to increase significantly. Similarly, servicing proposed mine development in the Galilee Basin would add substantial demands on the capacity and function of the highway.

New rail links for the transport of coal are proposed between the Galilee Basin and the Port of Abbot Point. There is a need to ensure coordination of transport infrastructure such as these to avoid unnecessary duplication and to ensure the efficiency of movement of resources for further transport through the ports.

Policies

10.3.2 Freight-dependent activities are located near, and have ready access to, strategic transport networks and facilities to maximise freight efficiencies.

10.3.3 Impacts from freight operations, including freight movement on sensitive land uses, are minimised.

10.3.4 Protect land in and around surrounding ports for industry, logistics and other uses that necessitate high volumes of commercial or freight trips.

10.3.5 Cluster and co-locate complementary industries to minimise transport requirements and influence the development of efficient modal and intermodal links essential for the movement of freight.

Programs

10.3.6 Facilitate opportunities for freight to use the most efficient mode, or combination of modes, of transport.

10.3.7 Develop partnerships between all levels of government and industry stakeholders to improve freight efficiency and movement to, from and within the region.

10.3.8 Develop and implement regional freight and road network strategies.

10.3.9 Encourage freight movement on identified priority freight routes.

Notes (for 10.3)

Changes in industries in recent years, notably sugar and timber, have prompted a shift in the movement of goods in the region. Freight movements that were previously regulated or restricted are now placing pressure on the freight network in ways that were not previously anticipated. An expansion in the industries requiring or preferring fast, direct transit and just-in-time delivery has caused road freight to continue to grow and dominate.

Some industrial and commercial activities, including those that service the expanding resources sector, generate significant demand for heavy vehicles, higher mass limit vehicles, over-dimension vehicles or significant dangerous goods movements. The Peak Downs Highway, and other roads within the region, are likely to experience increases in traffic, including heavy vehicles. Factors influencing this include the growth, existing and potential, in the Bowen and Galilee basins. Increases in freight volumes on the Peak Downs Highway which will service mine expansions in the Bowen Basin with petroleum, heavy machinery and equipment are anticipated.

The road and rail freight network needs to ensure that freight-generating activities (e.g. agriculture and industry) have reliable access to their destinations, such as ports, intermodal terminals, mine sites and markets internal and external to the region. These corridors should be protected for these uses and buffered from sensitive uses and passenger network conflicts.

Early planning work should be undertaken to locate transport corridors appropriately, consider the productivity or long-term efficiency of the on-going use of those systems and industry, and avoid or mitigate negative impacts of freight movement on sensitive land uses, such as residential areas or fragile ecosystems.

Investigations are currently underway for a potential ring road in Mackay.

Rail Network Strategy for Queensland

The *Rail Network Strategy for Queensland* identifies specific strategies relating to policy and planning for the future of Queensland's rail infrastructure and rail corridors.

More information can be found at www.tmr.qld.gov.au

Airlie Beach Lagoon
Courtesy of Ray Cash Photography

Part D Implementation and monitoring

The Mackay, Isaac and Whitsunday Regional Plan (the regional plan) establishes a series of integrated strategies and describes at a regional level how they will respond to the particular character, aspirations and environments of the region.

Separate delivery mechanisms are used to advance and refine the strategic intentions of the regional plan, including relevant state planning instruments and local government planning schemes.

Regional plan operation

Planning period

The regional plan provides the strategic framework for managing growth, change, land use and development in the region to 2031.

It also considers the region's potential needs beyond 2031 to ensure that decisions do not compromise long-term needs and addresses issues such as climate change and oil vulnerability.

Preparation

The *Sustainable Planning Act 2009* (SPA) sets out the required procedure that the Minister must follow in preparing and making the regional plan. The key steps include:

- preparing a draft plan and draft state planning regulatory provisions (draft SPRPs)
- making the draft plan available for public consultation for a minimum of 60 business days and the draft SPRPs for 30 business days
- considering all properly made submissions
- consulting with the Regional Planning Committee (RPC).

To comply with these requirements, the preparation and making of the regional plan included:

- preparing the *Draft Mackay, Isaac and Whitsunday Regional Plan 2011* and *Draft Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2011* which were released on 31 May 2011
- undertaking a comprehensive public consultation on the draft regional plan and regulations, which were on display from 31 May to 9 September 2011
- reviewing 146 properly made submissions—each submission was assessed and summarised, and a consultation report was prepared with recommendations for the Minister
- the Minister consulting with the RPC during the drafting of the regional plan.

Effect

For the purposes of SPA, this document contains:

- the *Mackay, Isaac and Whitsunday Regional Plan* (Parts A–D, excluding the notes in Part C)
- the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012* (Part E)
- non-statutory notes (notes in Part C).

The notes in Part C are not part of the regional plan. They provide guidance on regional plan policy to assist in the interpretation of the *Mackay, Isaac and Whitsunday Regional Plan*. The notes also include examples of plans and strategies that can assist in its delivery.

The regional plan identifies the regional framework in Part B and the desired regional outcomes (DROs) in Part C for the region. The regional plan is the pre-eminent plan for the region and takes precedence over all planning instruments.

However, the regional plan is a whole-of-region document. It is intended that, for the Mackay, Isaac and Whitsunday region, the regional framework and DROs in the regional plan will be further informed by more detailed and local assessment of issues by state and local governments, and more specific state planning policies and local government planning schemes. The regional plan includes in Part E the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012*.

The regional plan is established under Chapter 2 of the SPA as follows:

- for the purpose of the SPA, the regional plan is a statutory instrument under the *Statutory Instruments Act 1992* and is taken to be a state interest
- the regional plan prevails where there is any inconsistency with any other plan, policy or code, including any other planning instrument made under state legislation that has effect within the region (other than an SPRP)
- while an SPRP may prevail, the development and implementation of an SPRP will be required to take into account the regional plan's policies and principles.

The SPRP is required to be taken into account in all planning and decision-making processes.

Any plans, policies and codes being prepared or amended by state agencies that relate to the MIW region must reflect and align with the regional plan.

In instances where local government planning schemes are in conflict with the regional plan, local governments must undertake to amend the planning scheme or policy to ensure alignment with the regional plan.

In the assessment of a development application or an application for approval of a master plan, the application conflicts with the regional plan where it does not comply with:

- the regional framework in Part B
- the DROs in Part C.

Where there is inconsistency between the subregional narratives and the DROs, the subregional narratives prevail.

Mango plantation, Bowen *Courtesy of Ray Cash Photography*

Notes within Part C provide context and examples of current and proposed plans, strategies and programs to assist in the advancement and refinement of regional plan policy. The notes are advisory only and are not part of the regional plan for the purposes of the SPA.

The *Mackay, Isaac and Whitsunday Regional Plan* (the regional plan) replaces the *Draft Mackay, Isaac and Whitsunday Regional Plan 2011*. The regional plan has effect on and from the day the notice about the making of the plan is published in the *Government Gazette*.

Implementation

SPA sets out the following requirements for regional planning and regional plans:

- establish a RPC to advise the Minister on regional issues
- ensure local government planning schemes reflect the regional plan
- ensure state and local governments take account of the regional plan when preparing or amending a planning instrument, plan, policy or code that may affect a matter covered by the regional plan
- ensure development assessment processes—including referral agency assessment for development applications—address matters covered in the regional plan
- allow the Minister to exercise call-in powers
- establish processes for amending the regional plan.

The regional plan operates in conjunction with other statutory planning tools including state planning instruments and local government planning schemes.

The implementation of the regional plan will deliver on a number of key initiatives contained within the *Queensland Regionalisation Strategy* (QRS), *Actions for a stronger region*, and *Queensland Infrastructure Plan* (QIP) which guide infrastructure delivery and supports economic development and liveability within the region.

The regional plan provides the planning framework for a 20 year period. The achievement of the regional vision will not happen immediately and will involve the collaboration of all regional stakeholders.

The involvement of state and local governments, community groups, industry groups and other stakeholders will be pivotal to the effective implementation of the regional plan.

In addition to land-use planning and other statutory processes, the regional plan guides and informs non-statutory activities and decision making throughout the region.

The QIP will facilitate the implementation of the regional plan. The development of the QIP will clearly link infrastructure delivery with population growth, economic development and the strategies of the regional plan.

Governance

The Department of Local Government and Planning will work collaboratively with other Queensland Government agencies, local government and other stakeholders to facilitate and coordinate the implementation of the regional plan. The department will continue to provide a secretariat role to the RPC and prepare the regional plan's implementation strategy including annual reporting on the implementation of the regional plan.

The RPC advises the Queensland Government, through the Minister, on the development and implementation of the regional plan. The RPC will play a key role in advising the Minister on priorities and monitoring, and coordinating the implementation of the regional plan.

Community plans

Under the provisions of the *Local Government Act 2009*, councils are required to develop community plans in consultation with their communities. These plans will provide councils with a minimum 10-year view to the future of the local government area, to inform the development and review of corporate plans, planning schemes, infrastructure plans and other council strategic documents.

The *Local Government (Finance, Plans and Reporting) Regulation 2010* stipulates that a local government community plan must identify local and regional issues that affect, or may in the future affect, the local government area. Consequently, a strong link exists between a regional plan and the preparation and implementation of community plans.

Other relevant plans, policies and codes

State agencies are required to implement the regional plan and adopt its principles and policies in their own planning. The review and drafting of planning instruments and policies, under the jurisdiction of those agencies, should reflect the regional plan.

Other groups, including regional natural resource management (NRM) bodies, water management organisations and industry bodies, are also encouraged to align their planning and programs with the DROs to ensure a coordinated effort across the region.

Local government planning schemes

Planning schemes are fundamental to the implementation and advancement of the regional framework and DROs of the regional plan. When making or amending a planning scheme, a local government must advance the regional plan. This includes responding to and expanding on the regional framework (Part B) and DROs (Part C).

The regional plan recognises the role of local government planning schemes in identifying local responses to the regional plan dwelling projections. These projections are complied with through local planning exercises catering for the anticipated levels of demand, including location and density of dwelling allocations, based on the regional plan's projections. Dwelling projections in the regional plan are an average for the area as a whole and rely on detailed planning for local application.

Local government, through detailed planning processes, may designate land for urban uses outside of the Urban Footprint in response to local needs and where it can be demonstrated to be a relevant and appropriate use of land. The detailed planning must be sufficiently justified against the regional framework and the DROs of the regional plan. Where this can be satisfied and the planning scheme amended accordingly, the land-use designation will be recognised as an urban area for the purposes of the SPRP.

Urban Footprint principles

1. The Urban Footprint is a tool for managing, rather than simply accommodating, regional growth.
2. The Urban Footprint is consistent with achieving a compact settlement pattern, consolidating urban development within established communities, and the strategic directions and regional policies set out in the regional plan.
3. The Urban Footprint is designed to accommodate all of the region's urban development needs consistent with the policy framework of the regional plan. This includes all housing, employment and open space, to 2031, based on population, housing and employment projections and reasonable assumptions available to predict future growth.
4. To amend Urban Footprint boundaries, local adjustments can be considered through the regional and local plan-making processes to reflect changed, new or improved information, correct anomalies or recognise constraints, where demonstrating compliance and advancement of the regional plan's policy.
5. Opportunities for increasing the capacity of the existing Urban Footprint should be given higher priority than expanding the Urban Footprint.

6. Consideration of further allocation of Urban Footprint should only occur if there is demonstrated insufficient capacity to accommodate the planned distribution of regional growth.
7. Areas to be considered in the Urban Footprint should:
    - be physically suitable
    - exclude areas with an unacceptable risk from natural hazards, including the predicted impacts of climate change
    - exclude areas of high ecological significance
    - exclude areas with high Indigenous and non-Indigenous cultural heritage values, that significantly conflict with urban use
    - be appropriately separated from incompatible land uses
    - be adjacent to and a logical expansion of an existing urban area
    - have access to the transport network and services reflective of the development type.
8. New areas of Urban Footprint land should be located to:
    - achieve an appropriate balance of urban development in the region and associated subregions
    - maintain a well-planned region of distinct cities, towns and villages
    - maintain the integrity of interurban breaks
    - minimise impacts on natural resources
    - maximise the use of existing and planned urban infrastructure
    - enable the efficient provision of physical and social infrastructure, including public transport
    - have ready access to services and employment
    - ensure significant non-residential activities achieve specific locational, infrastructure and site requirements.
9. Priority for new Urban Footprint areas should be given to Identified Growth Areas (IGAs) where supported by specific investigations demonstrating compliance with the relevant policies and subregional narratives of the regional plan.
10. The boundary of the Urban Footprint should be:
    - based on property boundaries or otherwise clearly defined, preferably using a major feature such as a road or stream to provide a clear boundary and buffer between urban and non-urban land uses
    - consistent with existing planning scheme designations or development commitments, where appropriate
    - continuous around each discrete urban area.

Rural Living Area principles

1. Productive rural land is preserved.
2. Land identified for future rural living area is not located in areas of high ecological significance.
3. Natural hazards such as flooding, bushfire and landslide do not cause an unacceptable risk to life and property.
4. There is an identified need for additional land to be included in a rural living area considering both the capacity in urban areas and rural living areas and the policies of the regional plan.
5. Suitable infrastructure is available or can be provided to support future residents.
6. Land management practices, such as weed and pest control and bushfire management, can be practically accommodated.
7. Inclusion of land in the Rural Living Area considers the whole-of-life costs of the development.

Development Areas

The regional plan outlines Development Areas (DAs) within the Urban Footprint where future growth is expected. DAs require coordinated land-use and infrastructure planning. The Minister will remain part of the process to ensure the DROs are followed as the area becomes ready for urban development.

Regional plan regulations state that only development that is consistent with the future planning intent of the DA should be approved in these areas.

Identified Growth Areas

An IGA needs further investigation to confirm suitability for urban development consistent with the objectives of the relevant subregional narrative, the Urban Footprint principles and relevant DROs.

IGAs are located within the Regional Landscape and Rural Production Area (RLRPA) designation to prevent urban development in the interim.

Monitoring

Regional planning is dynamic, reflecting the changing nature of the region's population growth, demographics, housing demands and development activity. To ensure the effectiveness of the regional plan and its implementation, there is a clear need to establish mechanisms to:

- monitor progress and changes in the region
- identify new and emerging issues
- monitor implementation of the regional plan DROs
- periodically review the status of the region and initiate changes to regional strategies and priorities, where required.

Regional plan review

The regional plan will be reviewed formally every five to ten years. The Minister may amend, replace or approve minor revisions of the regional plan at any time, if required in accordance with relevant requirements of the SPA.

The review process guides further policy development and assists in setting future priority projects and actions. The following information is critical to regular reviews of the regional plan:

- population projections
- employment growth
- progress on the implementation of regional principles and policies
- progress against priority Queensland Government targets such as those included in Toward Q2: Tomorrow's Queensland
- emerging regional issues.

Any review will include input from government and the community. It will provide an open and accountable process, which will involve and inform the community of the outcome of any regional monitoring program.

Mackay, Isaac and Whitsunday State Planning Regulatory Provisions

The *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012* (SPRP) have been prepared under Chapter 2, Part 2 of the SPA. They have effect from the day the notice of the instrument is published in the *Government Gazette*. Relevant provisions include:

- restrictions on urban development outside the Urban Footprint
- a regional land-use map that indicates areas which are to be protected as Regional Landscape and Rural Production Areas or Rural Living Areas, and areas which are designated as Urban Footprint
- restrictions on development within development areas, where development is inconsistent with the future planning intent.

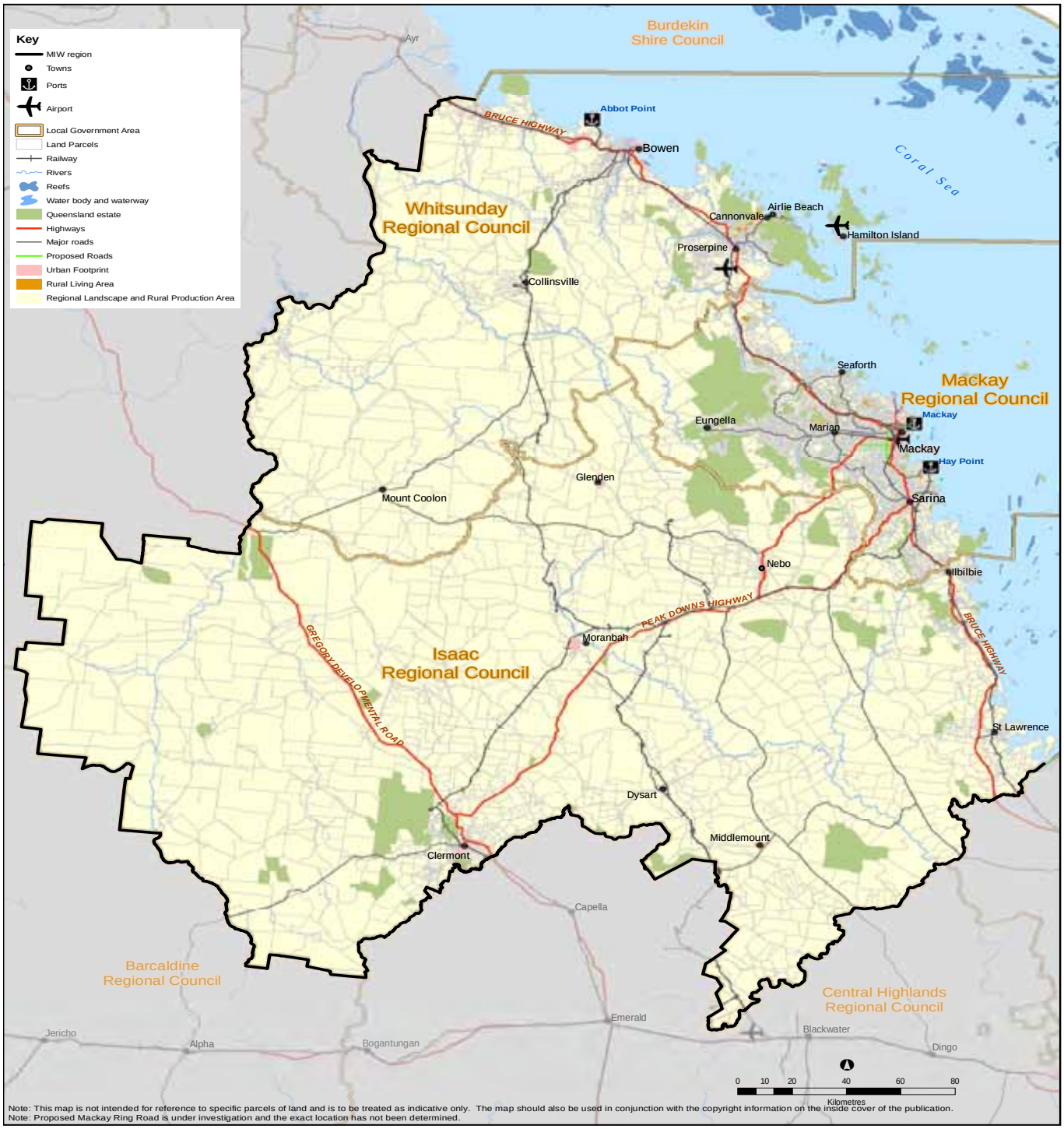
Mackay, Isaac and Whitsunday regional land-use categories

The SPRP allocates all land areas into three regional land-use categories. An explanation of each of these categories is provided below.

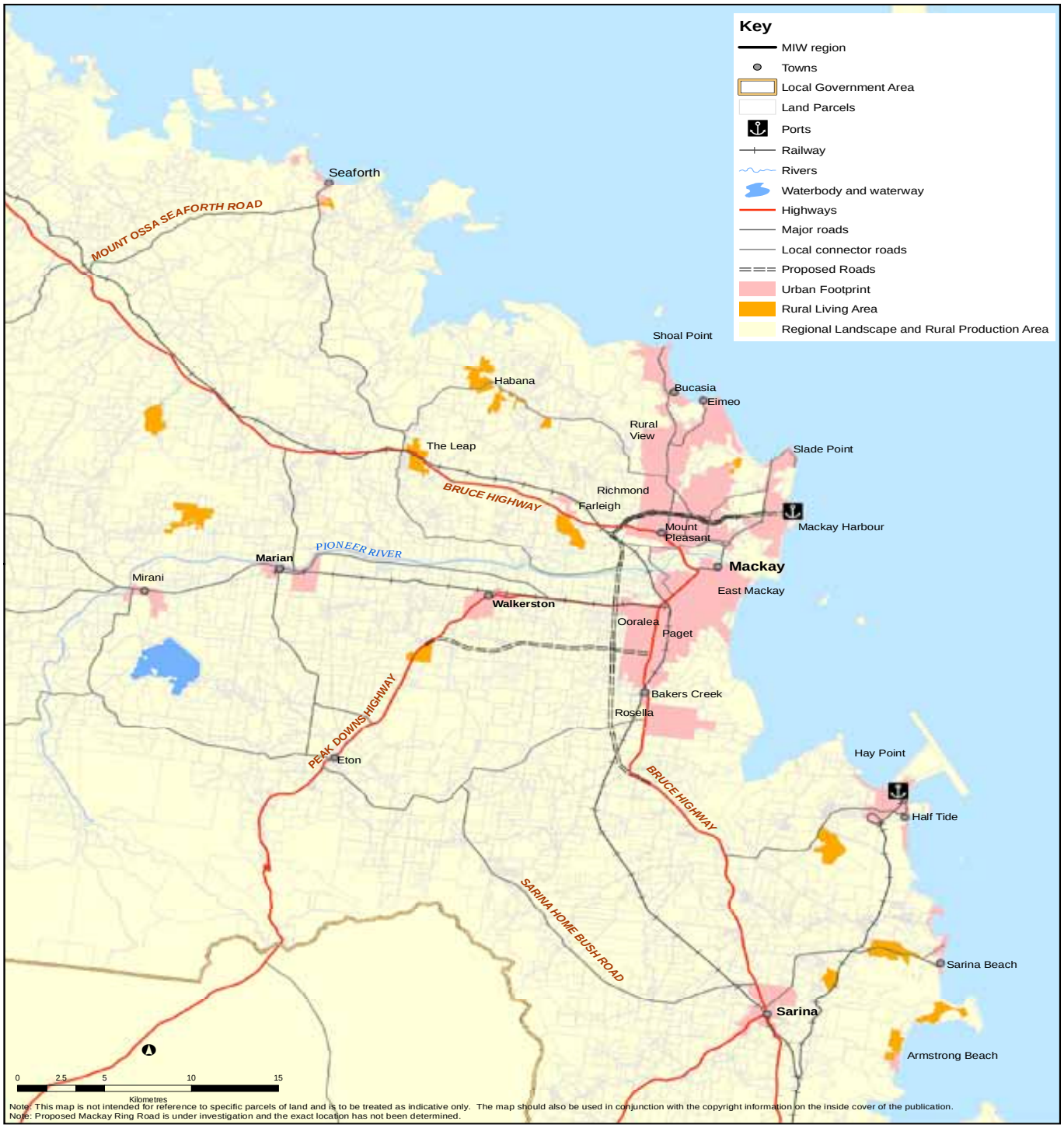
The regional land-use categories are illustrated in Map 11 and more precisely defined on the regulatory maps that accompany the regional plan. These detailed maps are also contained within the *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012*.

Bluewater Lagoon, Mackay *Courtesy of Ray Cash Photography*

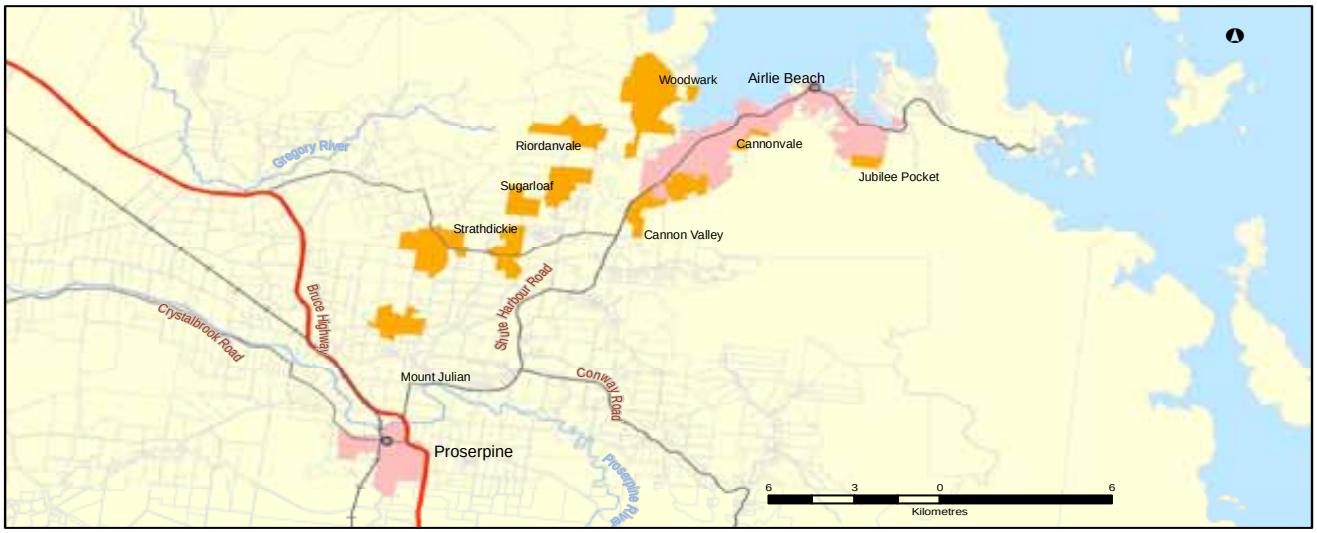
Map 11 – Regional framework



Map 11a – Regional framework: Mackay, Sarina, Marian and surrounds



Map 11b – Regional framework: Moranbah, Bowen and Airlie Beach and surrounds



Proserpine, Cannonvale, Airlie Beach and surrounds

Bowen and surrounds

Moranbah and surrounds

Key

- MIW region
- Towns
- Local Government Area
- Land Parcels
- Railway
- Rivers
- Waterbody and waterway
- Urban Footprint
- Rural Living Area
- Regional Landscape and Rural Production Area
- Highways
- Major roads
- Local connector roads

Note: This map is not intended for reference to specific parcels of land and is to be treated as indicative only. The map should also be used in conjunction with the copyright information on the inside cover of the publication.

Regional Landscape and Rural Production Area

Intent

The RLRPA identifies land with regional landscape, rural production or other non-urban values. It protects this land from inappropriate development, particularly urban or rural residential development. The RLRPA also includes lands which are considered unsuitable for development for the life of the plan, based on the regional plan principles to consolidate urban growth.

These areas support the lifestyle and wellbeing of the regional population, whom are mostly located in the Urban Footprint.

Description

The RLRPA includes land with one or more of these values:

- significant biodiversity
- regional ecosystems that are endangered or of concern
- national parks, conservation parks, resource reserves or other conservation areas
- significant fauna habitat
- Good Quality Agricultural Land (GQAL) and other productive rural areas
- cultural and landscape heritage values (traditional and non-Indigenous)
- natural economic resources, including mineral and extractive resources and forestry plantations
- water catchments, water storages and groundwater resources
- native forests
- coastal wetlands
- land that forms strategic and regionally significant inter-urban breaks
- unsuitable for or not required for urban or rural residential purposes
- rural towns and associated activities.

The RLRPA does not impede existing land-use rights. This ensures that existing commitments and significant activities such as agricultural production, access to natural resources, mineral extraction, water storage, tourism, outdoor recreation and nature conservation can continue.

Some rural towns and coastal settlements are identified in the RLRPA rather than the Urban Footprint. Local planning, through planning schemes, will consider growth needs for each township, including the capacity to accommodate growth and the long-term sustainability of the township. This can include accommodating further urban or rural residential lands, where justified against the policies of the regional plan.

Urban Footprint

Intent

The Urban Footprint identifies land that is expected to meet the region's projected urban development needs to 2031.

The Urban Footprint is a representation of:

- large urban communities, other communities recognised as being affected by growth pressures, and other areas recognised as the preferred locations for future growth
- lands surrounded by existing or proposed urban development, but which may not be an appropriate location for development (e.g. floodplains and conservation parks).

Description

The Urban Footprint includes established urban areas, new and residual broadhectare lands, and areas that could be suitable for future urban development over the life of the plan. It incorporates the full range of urban uses, including housing, industry, business, infrastructure, community facilities and urban open space.

Broadhectare lands identified within the Urban Footprint will contribute to the consolidation of the settlement pattern, and contain undeveloped lands that could potentially be developed for urban purposes, but are not currently zoned for this purpose. They are usually adjacent to urban development or near existing or planned urban infrastructure services.

The Urban Footprint boundary is defined within the maps of the SPRP by using cadastral or other clearly defined boundaries, such as coastline or watercourses.

The Urban Footprint does not imply that all land included can be developed for urban purposes. For example, national parks and state forests will continue to be protected and managed under state legislation such as the *Nature Conservation Act 1992* and the *Forestry Act 1959*, and remnant vegetation will continue to be protected under the *Vegetation Management Act 1999*.

Land in the Urban Footprint may be unsuitable for urban development for other reasons, including constraints such as flooding, land slope, scenic amenity, the need to protect significant biodiversity values and the ability to efficiently service it by necessary infrastructure.

Local government planning schemes are the main instrument that will establish and refine the desired use of land and the preferred sequencing of development within the Urban Footprint.

The Urban Footprint focuses urban growth in locations that:

- provide reliable and effective transportation choices or otherwise reduce car use, particularly for infill and redevelopment in and around existing centres
- physically connect to existing communities wherever possible, and provide new development with direct transport links to established urban areas in early stages of the development
- promote cohesive communities that support a wide range of services and facilities
- include or have ready access to existing or planned employment.

The Urban Footprint includes some areas designated or already developed for rural residential purposes that are well located with respect to urban services and facilities. Local government is required to review these areas to identify potential opportunities for developing or redeveloping them for urban purposes.

Rural Living Area

Intent

The Rural Living Area comprises locations:

- currently designated for rural residential development in a local government planning scheme
- which form rural residential clusters
- where the rural residential development is near the Urban Footprint
- where further rural residential development through infill and consolidation is permitted under the regional plan and *Mackay, Isaac and Whitsunday State Planning Regulatory Provisions 2012*.

Description

Rural residential areas within the Rural Living Area can continue to be developed for rural residential purposes according to the relevant local government planning scheme requirements.

Significant areas of land are already developed or allocated for rural residential development in the region. Land for rural residential purposes is restricted to the Rural Living Area to ensure future development is appropriately located and access to services and facilities can be provided. Not all areas currently used or identified for rural residential purposes in local planning schemes have been included in the Rural Living Area. In particular, existing isolated rural residential development within a rural landscape.

Cane field, south of Mackay *Courtesy of David Rowland*

Glossary

active transport means travel by non-motorised means, such as walking and cycling.

biodiversity means the variety of all life forms including the different plants, animals and microorganisms, the genes they contain and the ecosystems of which they form part.

broadhectare refers to residential Greenfield and brownfield land (greater than 2500 m^2) that is currently suitable for residential development.

climate change means a change of climate which is attributed directly or indirectly to human activity and alters the composition of the global atmosphere, and which is in addition to natural climate variability observed over comparable time periods.

Infill development means

(a) new development that occurs within established urban areas that are serviced with development infrastructure

(b) on land that is either vacant or has previously been used for another urban purpose

(c) of a scale ranging from one additional residential lot to a major mixed use redevelopment.

local government area is the geographical area under the responsibility of an incorporated local government council or an incorporated Indigenous government council.

logistics means the management of a flow of goods (e.g. freight) between origin and destination. It includes the movement and storage of goods across the supply chain. Logistics hubs are centres where freight loads are consolidated for long-distance movement or disaggregated for local distribution. May involve transfer from one mode to another.

mode choice means the choice of travelling by a particular type of transport mode such as walking, cycling, private car and public transport (including buses, trains and ferries).

net dwelling density means the measure of housing density expressed as dwellings or lots per hectare, calculated by adding the area of residential lots and the area of local roads and parks, and then dividing by the number of dwellings or residential lots created.

transport disadvantage is the situation where people have little or no choice regarding how or where they travel, including people who cannot drive or afford a car, or who live too far from walking or cycling routes or public transport and are dependant on a car to travel. The level of disadvantage is also affected by a person's age, capacity or social disadvantage.

Abbreviations

AEP	Annual exceedence probability
AES	Areas of ecological significance
APSDA	Abbot Point State Development Area
COAG	Council of Australian Governments
COMSIS	Community Services Information System
CPTED	Crime Prevention through Environmental Design
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEM	Digital elevation model
DIDO	Drive in/drive out
DRO	Desired regional outcome
ESD	Ecologically sustainable development
EV	Environmental values
FIFO	Fly-in/fly-out
FTE	Full time equivalent
GQAL	Good Quality Agricultural Land
IGA	Identified Growth Area
ILUP	Interim Land Use Plan
LGGSP	Local Government Grants and Subsidies
LNG	Liquefied natural gas
MAITP	Mackay Area Integrated Transport Plan
MAPL	Mackay Airport Pty Ltd
MCF	Multi-cargo facility
NBN	National Broadband Network
NET	Northern Economic Triangle
NHMA	Natural hazard management area
NWQMS	North West Queensland Management Strategy
OESR	Office of Economic and Statistical Research
PAG	Planning Advisory Group
PCNP	Principal Cycle Network Plan
PIP	Priority Infrastructure Plan
PTNP	Passenger Transport Network Plan
QIP	Queensland Infrastructure Plan
QR	Queensland Rail
QRA	Queensland Reconstruction Authority
QREP	Queensland Renewable Energy Plan
RET	Renewable Energy Target
RLA	Rural Living Area
RLRPA	Regional Landscape and Rural Production Area
RPC	Regional Planning Committee
SCL	Strategic cropping land
SDA	State Development Area
SPA	*Sustainable Planning Act 2009*
SPP	State Planning Policy
SPRP	State Planning Regulatory Provisions
TAFE	Tertiary and Further Education
TOD	Transit Oriented Development
TOP	Tourism Opportunity Plan
UDA	Urban Development Area
UF	Urban Footprint
ULDA	Urban Land Development Authority
WQG	Water Quality Guidelines
WQO	Water Quality Objectives

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- Department of Employment, Economic Development and Innovation
- Department of Environment and Resource Management
- Department of Local Government and Planning
- Department of Transport and Main Roads
- Queensland Heath
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