

An aerial photograph of a river meandering through a lush, green forest. The river is a vibrant turquoise color, contrasting sharply with the deep green of the surrounding trees. The river's path is highly irregular, forming several large loops and smaller curves. The forest appears dense and healthy, with varying shades of green. The overall scene is serene and natural.

South East
Queensland Natural
Resource
Management Plan
(2009–2031) – 2021
Update

Towards a Sustainable and Prosperous South East Queensland

Author

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About Healthy Land & Water

Healthy Land & Water is coordinating the review and update of the *South East Queensland Natural Resource Management Plan (SEQ NRM Plan)* on behalf the region's many stakeholders.

Healthy Land & Water is the **peak environmental group** for South East Queensland (SEQ). It is the official natural resource management group for SEQ. For over 20 years it has been dedicated to investing in and leading initiatives to **build the prosperity, liveability, and sustainability of our 'future region'**.

We are experts in research, monitoring, evaluation and project management. Our team works closely with the community and connects many stakeholders to achieve outcomes for the region, as it monitors and restores waterways and landscapes, improves native habitats, manages weeds, protects native species, informs policy and supports communities to improve and protect the environment for future generations.

Working in partnership with Traditional Owners, government, private industry, utilities and the community, Healthy Land & Water delivers innovative and science-based solutions to challenges affecting the environment. The combination of scientific expertise and on-ground management works to deliver Healthy Land & Water's mission to **lead and connect through science and actions that will preserve and enhance our natural assets and support resilient regions long into the future.**

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Traditional Owner Acknowledgement

We acknowledge that the place we now live in has been nurtured by Australia's First peoples for tens of thousands of years. We believe the spiritual, cultural and physical consciousness gained through this custodianship is vital to maintaining the future of our region.

South East Queensland is home to several First Nations groups, each with unique languages and stories. First Nations people have an ongoing and unique connection to their ancestral lands and have responsibilities to these lands under their traditional law and customs. We acknowledge and embrace Aboriginal and Torres Strait Islander peoples' history, custodianship and relationships. Our vision is for regional leadership that enables respectful and appropriate inclusion of Aboriginal and Torres Strait Islander peoples in the delivery of natural resource management activities and strives for equitable outcomes for Aboriginal and Torres Strait Islander stakeholders.

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FOREWORD

SEQ has a unique opportunity to ensure that the 2032 Olympic and Paralympic Games is used to leverage a positive legacy for the region. The *SEQ NRM Plan* targets to 2031 are an ideal guide for where to put our energy and investment.

Let's learn from and build on the successes of the past to help define and work towards the future we desire and the lasting legacy we want to create for our region.

I am inspired by the willingness and enthusiasm by all players to come together to set the next phase to achieve a truly sustainable region.

To counter the impacts of the growing population and climate change on the beautiful environs our region is known for, now more than ever, we need to work harder and smarter to direct our energies and investment into the areas most needed and most valued.

Tackling this requires a sense of urgency. If the sheer energy from the huge array of stakeholders into updating the natural resource management plan for our region over the last two years is anything to go by, South East Queensland (SEQ) is well placed to come together to quickly switch up the pace a couple of gears.

It is fortuitous the targets the region is working towards by 2031 in the *South East Queensland Natural Resource Management Plan (SEQ NRM Plan)*, are just ahead of the 2032 Olympic and Paralympic Games.

The eyes of the world will be increasingly upon us as we edge closer to the Games. We will be showcasing our region's remarkable natural beauty and tremendous environmental significance. Ensuring its ongoing sustainability, liveability and prosperity depends on the health of our natural assets.

A key selling point of Queensland's successful bid was for a 'green' games. This brings with it a prime opportunity to use the games to leverage a positive legacy for the region. The actions and priorities set out in the 2021 update of the *SEQ NRM Plan* are an ideal guide for how we – as a region – can come together to get there.

There can be no doubt looking back over the last two decades in particular, that an enormous amount of work has been undertaken.

As we think about the next phase needed, it's useful to look back on lessons learned from the successful approach in recent decades. Casting back over this journey so far, seven key success factors spring to mind.

1. Collaboration and teamwork – and a seat at the decision-making table.
2. Science and technology – monitoring and surveying is essential to build understanding of the condition and trends.
3. Shared ownership – partnerships are supercharged when ownership is shared and supported by shared decision support tools data and models.
4. Public transparency – public reporting raises the bar when using progress towards targets and taking action based on the results.
5. Connecting people – linking people - relationships are the real secret to success.
6. Adaptation – continually reassessing the goals and new science available and being agile enough to make mid-course adjustments where necessary.
7. Accountability – we trust each other to do their bit, and hold each other accountable by monitoring and reporting.

Our next journey will require the same thought leadership, effort, commitment, trust and accountability to deliver what is much needed in SEQ. The collaborative effort will need to be extended and shared across multiple stakeholders, based on current evidence, and with agreed actions reported against.

My vision for our future region is one which is prosperous, yet one where we don't just take from nature – but give back. One where First Nations cultural practices and knowledge is respected and learned from. One built on empowering others. And one we would be proud to leave to our children and our children's children.

The people of our region have clearly articulated what is important to them and what they would like to see.

We invite you to rally together and be part of taking actions to shape our region.

Let's learn from and build on the successes of the past to help define and work towards the future we want and the lasting legacy we want to create for our region.

- Julie McLellan, Healthy Land & Water, CEO



There's a specialness about South East Queensland, more felt than described. For us all it is our home, and for First Nations people it has been for more than 50,000 years. Our natural resources and our landscapes shape our past, our present and our future. Protecting, restoring and enjoying our natural assets, nurturing thriving communities, and adjusting to the changing climate, challenges and inspires us. We claim our part in shaping the region's future, for ourselves, for our children and for theirs.

- Bob Spiers, South East Queenslander

1 Executive summary









South East Queensland (SEQ) is a place of remarkable natural beauty and tremendous environmental significance. Ensuring its ongoing sustainability, liveability and prosperity depends on the health of our natural assets.

An enormous amount of work has been undertaken to protect SEQ's beautiful environs and liveability, particularly over the last two decades. However, the growing pressures that come with population growth and a changing climate are adding significant additional stress to our natural ecosystems. Tackling this requires a sense of urgency.

Impacts of a changing climate include sea level rise, increased coastal erosion, extreme bushfires, and worsening periods of flood and drought. Air and water quality are at risk, which severely affects the lives of the human population of the region, and places additional stresses on our natural and built assets.

Challenges to food and fibre production include less but more erratic and intense rainfall, increased evaporation, hotter days and changes to the growing seasons of crops. Demands for more housing, resources and associated infrastructure impacts on the connectedness of the region's forests and rich biodiversity.

This document is provided as an update of the original plan that established a series of targets aimed at preserving the health of our natural assets. It examines progress towards the targets and what

Natural Asset	Progress	Community Satisfaction ¹
 Nature Conservation	Off-track	Poor
 Water	Improvement needed	Poor
 Coastal and Marine	Off-track	Fair
 Air and Atmosphere	Off-track	Fair
 Regional Landscapes	On-track	Good
 Land	Improvement needed	Fair
 Community	Improvement needed	Fair
 Traditional Owners	Off-track	Poor

¹ Stakeholders were asked to rank on a scale of 1 (very dissatisfied) to 5 (very satisfied) how satisfied they are with progress towards the set targets. Poor is less than or equal to 2.5; Fair is between 2.5 and 3.5 and Good is greater than 3.5.

needs to be done differently through interrogation of the current scientific and cultural knowledge of the region, expert analysis, and regional community consultation.

There is an opportunity to harness the passion of our residents and many visitors to SEQ to come together to progress the actions needed to protect our region.

Through a large collaborative effort, one of the first of its kind, a series of targets aimed at preserving the health of our natural assets were first published in 2009 in *the South East Queensland Natural Resource Management Plan (2009–2031) (SEQ NRM Plan)*. The *SEQ NRM Plan* was reviewed in 2014 to integrate the latest science and practice for avoiding and minimising the impact of population growth and a changing climate.

The plan is reviewed and updated at regular 5-year intervals.

The 2021 review has found progress towards the region-wide targets has been variable, with:

- Regional Landscape considered good.
- Community, Water, Air and Atmosphere, and Land considered fair.
- Nature Conservation, Coastal and Marine, and integrating the knowledge of and engagement with Traditional Owners considered poor.

The region’s stakeholders identified key actions to ensure the targets are met (Table 1), grouped as:

Plan	Better integrate natural values and priority areas for protection and rehabilitation into <i>ShapingSEQ: South East Queensland Regional Plan</i> , implement local government planning schemes, and develop plans to address key threats such as fragmentation of bushland, erosion, inappropriate fire regimes, and pest plants and animals.
Manage	Improve compliance, regulation and intervention to manage and protect natural assets from development, recreational use and other usage impacts.
Restore	Undertake restoration, revegetation, and stabilisation in priority areas. Build resilience in our forests, floodplains and wetlands, farmland, and beaches to bounce back and recover from increasing extreme weather events.
Empower	Provide support, resources, knowledge, education, extension, incentives, and involvement in decision making to build capacity and empower Traditional Owners, community groups, landholders, and citizen scientists to implement the Plan.

Table 1: Key actions to ensure the targets are met identified by the region’s stakeholders.

Natural resource management involves individuals, community, industry, and government working together.

The Brisbane 2032 Olympic and Paralympic Games offer a unique opportunity for the stakeholders not just in and around Brisbane, but across SEQ. It presents the region with a global recognition opportunity and a timeframe to come together and collaborate in actions that will significantly improve the condition of the region’s environmental, cultural and natural resource assets. The impressions by visitors and commentators to the region at that time will influence the global image of SEQ for a considerable time to come.

Achieving the targets and actions presented in this Plan is critical for a sustainable and prosperous SEQ.





2 Introduction

As people, we recognise that our health is our greatest asset. Being healthy and able to cope with the demands of life is the basis of our individual prosperity and ability to work towards the common good. The global COVID-19 pandemic has helped us recognise the importance of a healthy local environment in supporting our individual and community mental and physical wellbeing.

The ongoing health of natural assets such as clean water, air and rich biodiversity, fundamentally underpins the sustainability and prosperity that we enjoy in South East Queensland (SEQ).

Prior to 2009 a group of SEQ planners, land managers and scientists came together with community experts to explore how we can better manage the health of our natural assets. Targets were established that would support the ongoing health and resilience of our environmental assets in SEQ. Headline targets were identified that represent key natural and landscape components supported by sub-targets for ease of implementation and review. These targets formed the basis of the *South East Queensland Natural Resource Management Plan 2009-2031 (SEQ NRM Plan)*.

The current *SEQ NRM Plan* is the third iteration for the region. It provides for the coordination of the management and use of natural resources within the region to enhance community and culture, economic and environmental values and guide current and future plans, strategies and actions. The Plan is non-statutory, and one of its most valuable attributes is the ownership by stakeholders, built through wide participation in its revision and release.

This review has assessed the alignment of the *SEQ NRM Plan* with the regional visions as outlined in the statutory *Regional Plan (ShapingSEQ)* for the first time as well as with other local and state government, and national policies. This enhances the role the Plan can play in the implementation of relevant regional and local natural resource planning policies.

Other key resources forming part of the outcomes from the 2021 review

- Natural Asset Status Report 2021
- [Story Map 2021](#)
- SEQ NRM Plan [Atlas 2021](#)
- *Respecting First Nations peoples' traditional ecological knowledge in the 2021 review of the South East Queensland Natural Resource Management Plan*

Available online: hlw.org.au/nrmplan/

Often there can be disparate legislation borne from a responsive as-needs approach, rather than as a strategic and coordinated mutually enforcing framework. This means there is often conflicting legislation aimed at influencing natural resource management resulting in difficulties for integrated delivery. The regulations promoted in legislation have often failed in the past to arrest the overall decline in the condition of many natural assets like water and biodiversity.

The *SEQ NRM Plan* is well placed to bridge this gap, and to support and influence the effective management of natural assets. Although it has a limited head of power with which to prosecute the achievement of the Plan targets, consistent region-wide consultation and engagement over more than 20 years has provided a strong foundation for the Plan to have meaning, ownership, and be stakeholder-driven.

The *Plan* aligns with United Nations and Australian Government investment priorities such as the restoration of, and reduction in threatening processes to the ecological character of Ramsar and UNESCO World Heritage sites, the trajectory of species targeted under the *Threatened Species Strategy 2021 – 2031*, the management of invasive species, and other *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* priority species.

Central to achieving these outcomes is the empowerment of communities towards implementation of priority actions including land management practices and meaningful participation and identification of stakeholder aspirations. In so doing, this Plan aligns with and supports the preservation of globally and nationally significant environmental values found within SEQ.

It is largely acknowledged that one of the most valuable outcomes of regional natural resource management planning is the process of its development, the recognition and use of stakeholder's social capital, building trust, and integration of priorities varying in scale and time.

The *SEQ NRM Plan* targets set out actions until 2031. With less than ten years to 2031, it is time to check how our natural assets are tracking against these targets, and are there things we need to do differently as part of updating the Plan. To answer this question, data and knowledge underpinning the Plan has been revisited to draw conclusions about environmental health trends and trajectories. Most importantly, the community has been provided with the current science and asked what they think of their local environment, the threats it faces and what actions need to occur.

Natural resource management is about individuals, communities, First Nations, industry and government working together to ensure that resources are used sustainably and natural assets, like creeks, estuaries and native vegetation, are cared for and remain healthy. How we collectively do this in the long-term, and in turn support regional prosperity, is guided by the targets and actions contained in the updated *SEQ NRM Plan*.

The targets and current status can also be used to guide investment and inform the coming together of the widest variety of stakeholder groups needed to tackle the actions. These partnerships and collaborations will result in many productive synergies and will underpin the successful implementation of the *SEQ NRM Plan* and protection and enhancement of the natural wealth of the region.



Partnerships will result in many productive synergies and will underpin the successful implementation of the *SEQ NRM Plan* and protection and enhancement of the natural wealth of the region

3 A snapshot of South East Queensland



The South East Queensland region	
Current population	3,625, 230 ²
Predicted 2031 population	4,200,000 - 4,600,000
Local government areas	Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Noosa, Redland, Scenic Rim, Somerset, Sunshine Coast and Toowoomba (part).
Catchments	Noosa, Maroochy, Mooloolah, Pumicestone, Stanley, Brisbane, Lockyer, Bremer, Logan, Albert, Pimpama, Coomera, Nerang, Tallebudgera, Currumbin, Caboolture, Pine, Moreton Bay and Islands.
Main land uses	Grazing, urban residential, rural residential, conservation, dryland agriculture, irrigated agriculture, horticulture, cropping, plantations, mining, industrial, tourism, fisheries, water storage.
Climate change forecasted impact	Year-round temperature increases, hotter and more frequent hot days, harsher fire weather, fewer frosts, increased rainfall variability, more intense downpours, increased evaporation rates, rising sea-level, more frequent sea-level extremes, warmer and more acidic seas.

Table 2: South East Queensland snapshot.

² South East Queensland 2020 Estimated Resident Population <https://profile.id.com.au/australia/about?WebID=330> and Queensland State of the Environment 2020.

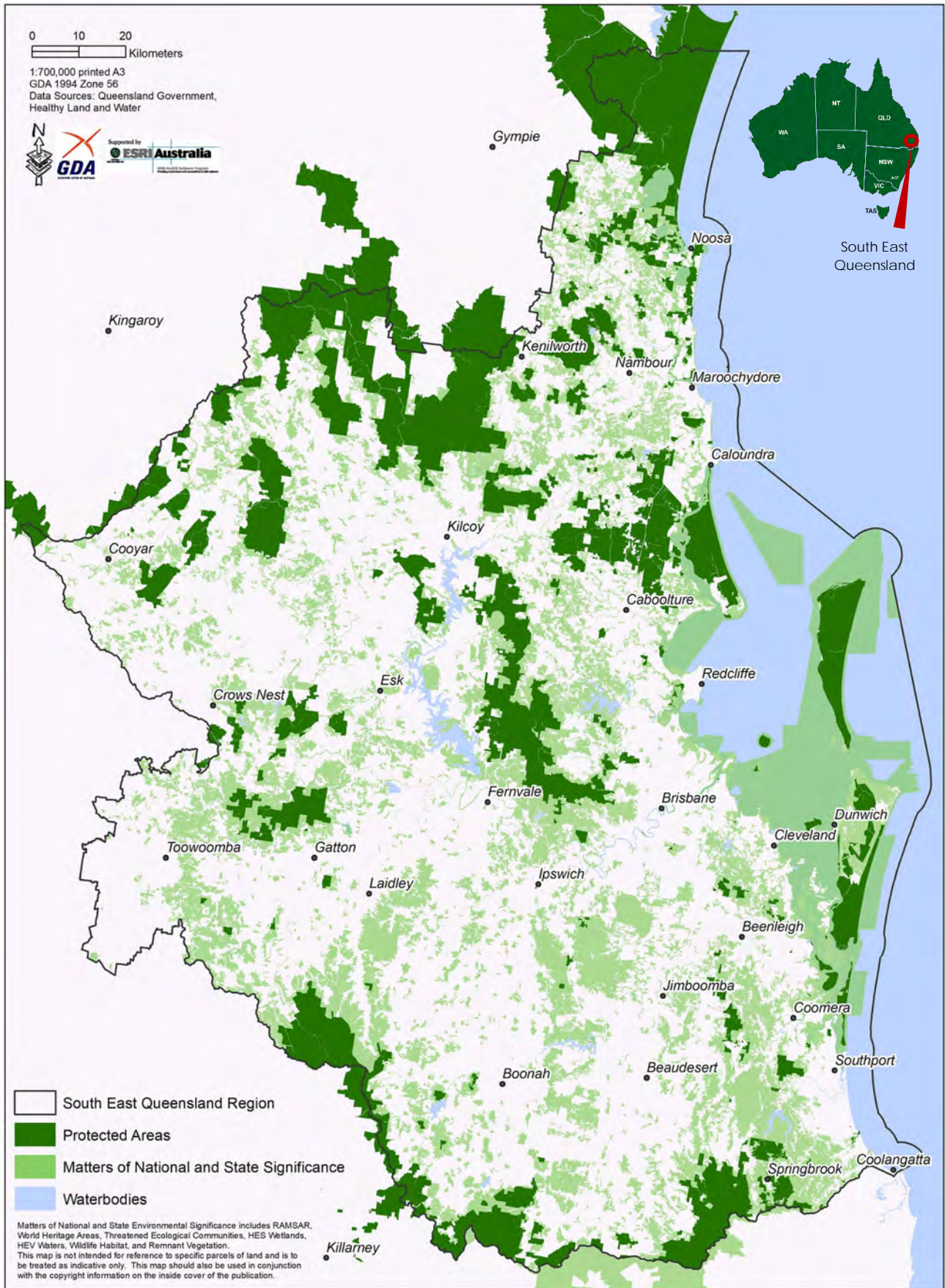


Figure 1: Map of South East Queensland Matters of National and State Environmental Significance.

South East Queensland (SEQ) is environmentally rich in comparison to many other regions in the world. According to the *State of the Environment Report (2020)*, Queensland's highest densities of terrestrial threatened fauna and flora species habitat are found in SEQ, Wet Tropics and New England Tablelands bioregions.

SEQ is Australia's fastest growing region, with more than 70% of Queensland's population living in the area, equating to 1 in 7 Australians. This fast-growing population and coastal location make SEQ particularly vulnerable to extreme events associated with a more variable and changing climate.

A warm sub-tropical climate, flowing rivers, broad beaches, large areas of natural bushland, internationally significant wetlands and World Heritage areas, rich and productive farmlands, clean air, and stunning landscapes are the environmental assets that underpin our way of life. They buffer us from climatic extremes and provide the natural resources that underpin our economy and support our physical and mental health.

Our regional environment is facing challenges. The current population of 3.6 million is expected to increase to at least 4.2 million by 2031 (Table 2), and 5.3 million in the next 25 years. This population growth will place enormous pressure on the condition of our natural resources and their ability to provide ecosystem services such as food, water, fresh air, temperature regulation, flood mitigation, building materials, recreational opportunities, waste, and stormwater assimilation to support our growing community.

We must **urgently** address the historical legacies of management practices that have diminished the current health of our environmental assets and their ability to provide the ecosystem services that we depend upon. Strengthening the economic base around our natural assets will ensure continued benefits for health and wellbeing, nature-based recreation, tourism and sustainable provisioning of ecosystem services. Recognising this further will be critical for attracting the investment needed for the preservation and enhancement of our natural values.

Climate change is predicted to impact significantly on the region. The latest *Assessment Report of the United Nations Intergovernmental Panel on Climate Change (AR6 Climate Change 2022)* showed that land areas in Australia have already warmed by around 1.4 degrees Celsius. Climate change is predicted to drive higher temperatures, evaporation rates, and the frequency of extreme fire days across the region. Rainfall is expected to become more episodic with heavy rainfall events and river floods expected to increase. Sea level rise is predicted to continue, contributing to increased coastal flooding, erosion, and shoreline retreat along the sandy coasts of SEQ.

In addition to supporting human needs and aspirations, the regional environmental values and natural resources of SEQ contribute to maintaining thousands of species of plants and animals that have their own intrinsic value. SEQ sits in the middle of the McPherson MacLeay overlap, which stretches from around Rockhampton in central Queensland to Grafton in northern New South Wales. This area is recognised internationally as a global centre for endemism and a biodiversity hotspot. A significant proportion of the plants, animals, and ecological communities of SEQ are now listed by state, national, and international agencies as rare or threatened and requiring enhanced conservation effort to prevent further decline.

The current review of the *SEQ NRM Plan* occurred in complementary phases:

- An asset status review of targets to establish the extent and condition of assets, threats and opportunities. It also involved consultation with relevant government departments and other data sources. This complemented the update of the *SEQ NRM Plan Atlas*.
- Stakeholder engagement through an online maps-based survey ([Story Map](#)) to collate views on status, threats, and opportunities. Responses from 235 individuals and 34 groups were received. Stakeholder views on progress aligned closely with the scientific assessment of asset status.
- The online survey was followed by a series of sub-regional workshops capturing the diversity of natural capital to prioritise actions and address emergent issues and opportunities. Seven sub-regional workshops were held in August to October 2021, in which 255 people participated. This was followed by a visioning workshop, where representatives from a cross-section of stakeholder groups and thought leaders discussed cross-cutting issues in the regional priorities.
- A review of policies, outcomes, and investment priorities from all levels of government since the last revision and release was conducted.
- The draft *SEQ NRM Plan – Update 2021* was then released for public consultation, and a wide range of feedback was received from a cross-section of stakeholders including local governments, utilities, community groups, individual members, and peak industry groups.

- An in-depth review of First Nations participation in natural resource management planning and implementation was conducted. All First Nation representative groups of the region were advised of past engagement informing the development of the plan and provided the opportunity to review and provide input. Strong foundations have been laid for ongoing collaborative partnerships between Traditional Owners and representative bodies, community members, all levels of government, research institutions, industry, and other existing and potential partners in delivering priority land and sea management initiatives under the revised Plan.

During the extensive consultation undertaken as part of the revision of this Plan, the community was provided with the best available natural resource management science, which was used to inform the identification of, and confirm, key threats to natural assets. Their responses included concerns such as:

- Climate change impacts such as drought, flooding, sea level rise and changes in temperature and rainfall.
- Poor and inappropriate fire management.
- Uncoordinated planning and insufficient regulation resulting in incremental losses.
- Land use changes such as the conversion of bushland and farmland to urban settlement.
- Loss of creek bank health causing poor water quality in waterways.
- Decline in water quality from pollutants.
- Gully erosion causing sediment to enter waterways.
- Road and traffic impacts on wildlife (faunal fatalities) and habitat fragmentation impacts.
- Peri-urban issues and lack of knowledge in natural asset management.
- Unmanaged vehicle access in bushland and on beaches.
- Lack of public awareness of links between liveability and the health of natural assets.
- Loss of wetlands and fish habitats.
- Groundwater management.
- Extractive industry impacts.
- Litter impacts on species such as turtles and birds.
- Salinity impacts.
- Pest and weed impacts.



We must urgently address the historical legacies of management practices that have diminished the current health of our environmental assets and their ability to provide the ecosystem services that we depend upon.



4 The South East Queensland Natural Resource Management Plan

The original *South East Queensland Natural Resource Management Plan (SEQ NRM Plan)* was released in 2009 with a planning horizon out to 2031. The Plan was based on extensive scientific and community consultation. Starting with eight asset themes for South East Queensland (SEQ), extensive technical and community consultation came up with 41 resource condition targets to be attained by 2031, on the basis that:

- These targets formed critical components for resilience.
- They were measurable and informative.
- Data was available and reliable.

In the 2014/16 revision, the 41 targets were organised under ten headline targets to simplify the relationships between targets and enhance use of the Plan by stakeholders. The headline targets were described in terms of the ecosystem services they provide and the value of these benefits to the community and industry of the region.

It was hoped that by communicating the issues and opportunities for action based on a shorter list of priority targets, the 2014/2016 update would refocus action towards achieving the overall goals of the Plan. The resulting revised *SEQ NRM Plan (2014-2016)* identified the ten headline targets: Waterways, Bushland, Beaches, Wetlands, Farmland, Outdoor Recreational Spaces, Seagrass, Mangroves and Reef, Scenic Amenity, Air Quality, and Community). These headline targets are supported by the remaining 31 targets (referred to as indicator targets), to improve alignment with other instruments, simplify and encourage uptake of the Plan.

The targets are designed to guide and inform regional planning, actions and investment decisions by federal, state and local governments, industry, and community groups. A summary of the *SEQ NRM Plan* Regional Targets to 2031 is presented in Table 3.

In line with adaptive management principles, the key elements of the Plan are periodically revisited, and changes made to ensure effectiveness. This update comprises the third iteration of the *SEQ NRM Plan*. The 2021 update has been informed by the previous Plans, investigations into the health (extent, condition and trends) of the natural assets of the region, and extensive stakeholder consultation.

4.1 Summary of SEQ NRM Plan Regional Targets to 2031

Summary of SEQ NRM Plan regional targets to 2031



Nature Conservation

Nature Conservation

The region has one of the richest diversities of animal and plant species in Australia. About 4000 plant species and 800 freshwater and terrestrial vertebrate species are distributed across the wide range of vegetation types and environments of SEQ. The provision of all ecosystem services relies on supporting these habitats.

Remnant and Woody Vegetation

The 2001 extent of regional vegetation cover – including both remnant vegetation (35%) and additional non-remnant woody vegetation (22%) – will be maintained or increased.

Vegetation Fragmentation and Connectivity

There will be no net fragmentation of larger tracts (greater than 5000 hectares), and 20% of priority smaller tracts (less than 5000 hectares) will be better connected than the 2003 baseline.

Wetlands

The 2008 extent and condition of SEQ wetlands will be maintained or increased.

Vulnerable Ecosystems

At least 4% of the original pre-clearing extents of vulnerable regional ecosystems will be represented in protective measures.

Native Species

The 2008 conservation status of native species will be maintained or improved.

Habitat for Priority Species

The 2001 extent and condition of habitat for priority taxa will be maintained or increased.



Water

Water

Water resources and riparian areas provide ecosystem services and clean water for human consumption, environmental flows, and recreational, agricultural and industrial uses. Water based ecosystems provide habitat for many important plants and animals. Wetlands in particular, filter impurities such as excess nutrients and sediments. Effective water management is critical to controlling pollution and improving quality.

Environmental Flows

Environmental flows will meet aquatic ecosystem health and ecological process requirements.

Groundwater Levels

75% of SEQ Groundwater Resource Units will have groundwater levels within acceptable annual ranges.

Groundwater Quality

Groundwater quality (nutrients and EC measurements) in all SEQ Groundwater Resource Units will be within identified acceptable annual ranges.

Groundwater Dependent Ecosystems

The condition of groundwater ecosystems and ground water dependent ecosystems will be within identified acceptable annual ranges.

High Ecological Value Waterways

In 2031, High Ecological Value waterways in SEQ will maintain their 2008 classification.

Waterways Maintenance and Enhancement

Scheduled water quality objectives for all SEQ waterways will be achieved or exceeded.

Waterway Restoration

Waterways classified as ranging from slightly to moderately disturbed and/or highly disturbed will have ecosystem health and ecological processes restored.



Air and Atmosphere

Air and Atmosphere

Atmosphere, air and climate are natural resources that play a key role in the health of the natural system. Factors such as continued population growth, the number of households and an increasing reliance on motor vehicles pose a threat to future air quality. Maintaining and enhancing the region's air quality is a key element when considering future land use options and transport modifications.

Greenhouse Gas Emissions

The region will make an equitable contribution to national and regional targets for reduction in greenhouse gas emissions.

Air Quality

The levels of air pollutants in the SEQ air shed will be at or below the quality objectives in the appropriate Schedule of the Environmental Protection (Air) Policy 2008.

Thermal, Noise and Light Pollution

SEQ thermal pollution will be at or below 2003 levels, noise pollution will be at or below 1998 levels, and light pollution will be at or below 1998 levels.



Regional Landscapes

Regional Landscape Areas

The quality of life enjoyed by people in SEQ is supported by access to, and connection with, the unique landscapes of the region. These regional landscapes help to define the region's character and our sense of belonging.

Landscape Heritage

At least 90% of the 2011 area of regionally important landscape heritage will be retained within each local government area.

Outdoor Recreation Settings

The 2011 extent of regional outdoor recreation settings will be maintained or increased.

Outdoor Recreation Demand

90% of the demand for outdoor recreation will be met through a mix of public land, waterways and the voluntary provision of opportunities on private land.

Regionally High Scenic Amenity

The area of regionally high scenic amenity will be maintained or improved from the 2004 baseline.

Locally Important Scenic Amenity

At least 80% of the 2004 area of locally important scenic amenity within each local government area will be retained.



Coastal and Marine

Coastal and Marine

People of the region are privileged to live near one of the most beautiful coastlines in the world. The natural resources of coastal areas and marine waters are vital to our way of life and are the basis for a valuable international and domestic tourism industry along with commercial and recreational fishing.

Seagrass and Mangroves

The extent and condition of seagrass and mangrove ecosystems (including saltmarsh) in bays and estuaries will be greater than or equal to that in 1988 and 2001 respectively.

Coral

The condition and spatial distribution of soft and hard corals will be maintained at least at 2005 levels.

Beaches

The condition of open coastlines (headlands, beaches and dunes) will be at or better than in 2006.

Fish Stocks

Wild fishery stock condition will be sustained at sufficiently high levels to support commercial, recreational and First Nations cultural fisheries, based on the 1995–2005 benchmarks (ten-year rolling average).

Key Species

The extent and condition of the habitat of bottlenose and indo-pacific humpback dolphins, dugongs, sharks, turtles and wader birds will be equal to or greater than that in 2001 for each species.

Coastal Algal Blooms

The extent and frequency of coastal algal blooms (CAB) will be reduced from the 2002–2005 benchmarks (five-year rolling average).

Coastal Wetlands

The condition and extent of SEQ coastal wetlands, particularly those connecting fresh and estuarine/marine habitat (including fish passage), will be equal to or greater than that in 2007.



Community

Community

Recognition of previous and existing natural resource managers is one of the guiding principles of the *SEQ NRM Plan*. The region has a history of voluntary community action supported by industry and government investment. Private landholders manage the majority of the region. A priority is to enhance and maintain the capacity and ability of the community to engage in planning, implementation and monitoring of local actions to achieve regional targets.

Community

Natural resource managers, government and non-government organisations will be resourced and working together to implement the *SEQ NRM Plan*.



Land

Land

The condition, area and extent of arable and grazing lands are important for the supply of food, fibre and other materials to support the society and economy of the region. The maintenance of healthy soils is important for well-functioning ecosystems, the production of food, and the fibre and sustainability of communities. Land resources support the habitats for plants and animals. Vegetation and grass cover filters impurities, such as excess nutrients and sediments, from run-off water to reduce pollution and improve water quality.

Salinity

The area of secondary salinisation in SEQ will be 10% less than in 2008.

Agricultural Land

>90% (>266,667ha) of SEQ agricultural land at 2004 will be available for sustainable agriculture.

Soil Acidity

The area of acidified agricultural soils within SEQ will be reduced by 50% from the 2008 baseline.

Soil Organic Matter

The level of soil organic matter (carbon in t/hectare) in agricultural soils will be higher than in 2008 or baseline year.

Acid Sulphate Soils (ASS)

The area of 'severe' acidification caused by the disturbance of Acid Sulphate Soils (ASS) will be lower than in 2008.

Soil Erosion

The extent of erosion from hill slopes and gullies will be reduced by 50% from the 2008 baseline.

Grazing Land Condition

75% of grazing land in SEQ will be in a 'good' condition.

Land Contamination

Existing contamination sites and off-site impacts will be reduced, and no new sites will be created over the 2008 baseline data.

Extractive Resources

Extractive resources within "Key Resource Areas" in SEQ will be available for their highest use with no net loss of other environmental and landscape values.



Traditional Owners

Traditional Owners

Recognition of Traditional Owners as natural resource managers is one of the guiding principles of the *SEQ NRM Plan*. Traditional Owner knowledge and values maintained the region for millennia. A key activity will be to achieve active involvement of Aboriginal and Torres Strait Islander peoples in community planning and decision-making.

Traditional Owners

Traditional Owners and Aboriginal people will be resourced and working together with natural resource managers, government and non-government organisations to implement the *SEQ NRM Plan* and the *SEQ Traditional Owner Cultural Resource Management Plan*.

Table 3: Summary of *SEQ NRM Plan* Regional Targets to 2031.

4.2 Progress towards 2031 targets & community satisfaction

The following table presents the asset themes for the assets and a simplified rating of progress toward the target (Table 4).

Community satisfaction with progress is reported as either good, fair or poor. A good rating indicates that if the current investment and action trends continue, we will achieve the 2031 target. A fair rating indicates that with sufficient investment and action we have a chance to make the target by 2031. A poor rating indicates that unless we increase investment and action significantly, we will not achieve the target.









Natural Asset	Headline Target	Progress	Community Satisfaction ³
 Nature Conservation	By 2031, the extent of regional vegetation cover, including remnant vegetation (35%) and additional non-remnant woody vegetation (22%) will be maintained or increased.	Off-track	Poor
 Water	In 2031 scheduled water quality objectives for all SEQ waterways will be achieved or exceeded.	Improvement needed	Poor
 Coastal and Marine	By 2031, the extent and condition of seagrass and mangrove ecosystems (including saltmarsh) in bays and estuaries will be greater than or equal to those in 1998 and 2001 respectively.	Off-track	Fair
 Air and Atmosphere	By 2031, levels of air pollutants in the SEQ air shed will be at or below the quality objectives in the appropriate Schedule of the Environment Protection (Air) Policy 2008.	Off-track	Fair
 Regional Landscapes	By 2031, the 2011 extent of regional outdoor settings will be maintained or increased.	On-track	Good
 Land	By 2031, more than 90% (>1,266,667 hectares) of SEQ agricultural land available at 2004 will be available for sustainable agriculture.	Improvement needed	Fair
 Community	By 2031, natural resource managers, government and non-government organisations will be resourced and working together to implement the <i>SEQ NRM Plan</i> .	Improvement needed	Fair
 Traditional Owners	By 2031 First Nations peoples will be resourced and working together with natural resource managers and government and non-government organisations to implement the <i>SEQ NRM Plan</i> and the <i>South East Queensland Traditional Owner Cultural Resource Management Plan</i> .	Off-track	Poor

Table 4: Headline targets status and community satisfaction.

³ Stakeholders were asked to rank on a scale of 1 (very dissatisfied) to 5 (very satisfied) how satisfied they are with progress towards the set targets. Poor is less than or equal to 2.5; Fair is between 2.5 and 3.5 and Good is greater than 3.5.

4.2.1 Where the SEQ NRM Plan fits in the planning framework

The *SEQ NRM Plan* is a non-statutory plan for SEQ. It reflects the priorities established by the community of SEQ, and Australian, Queensland and local Governments.

Figure 2 shows the role the *SEQ NRM Plan* is designed to play in guiding the delivery of voluntary and legislative mechanisms and investment at different scales and through other planning documents.

Strong policy links have been established with *ShapingSEQ* which is the Queensland Government’s statutory plan to manage growth, land use change and development in SEQ. *Shaping SEQ* informs local government planning schemes and broader infrastructure planning and approvals in the region. The *SEQ NRM Plan* is identified in *ShapingSEQ* as a priority delivery mechanism to implement a suite of regional land use policies to enhance ecologically sustainable development.

The community has actively worked to have the targets and key actions of the *SEQ NRM Plan* reflected in the key planning documents directing growth and activity such as *ShapingSEQ*, state planning policies, local government planning schemes, and in other local and regional instruments. The Plan can help guide activities and investments made at the local, catchment and regional scale. The shared information base (including the *SEQ NRM Plan Atlas*) that has been created to support the implementation of the Plan is critical to guiding targeted and strategic action that achieves the greatest outcome.

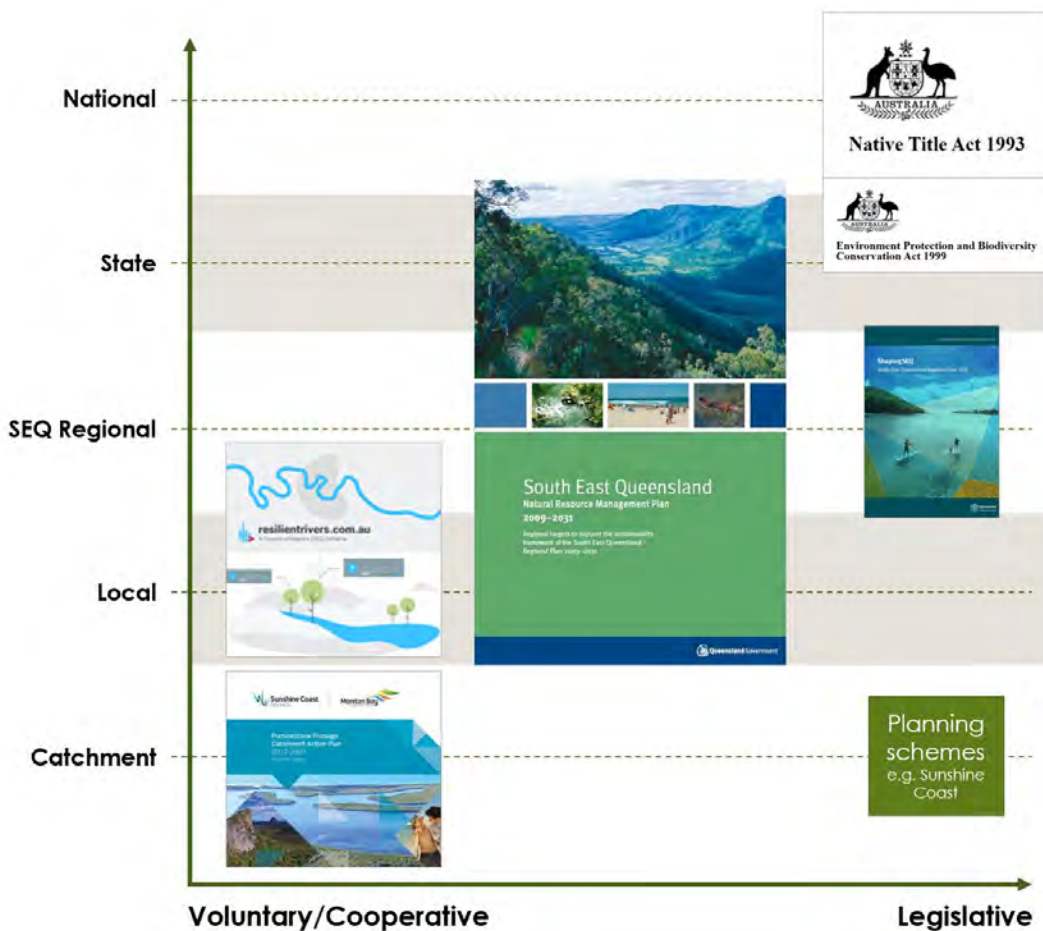


Figure 2: The *SEQ NRM Plan* within the planning context.

5 Consultation outcomes

Healthy Land & Water has prepared this update of the *South East Queensland Natural Resource Management Plan (SEQ NRM Plan)* with and on behalf of the community.

Since 2009, strategies, actions and plans to help protect our natural assets have been developed in conjunction with Australian, state and local governments, regional utilities, stakeholders and other partners including the community.

As part of the development of this update, extensive stakeholder and community consultation has been undertaken which involved workshops, online surveys and other group and individual consultations. The results of this consultation have been grouped into common themes and associated priorities presented in Table 5 below.

Theme	Priority
Natural resource management planning	<p>Integrate regional natural resource management planning into the statutory Regional Plan, state planning policies and local government planning schemes.</p> <p>Develop a climate action plan for the region that encompasses adaption and mitigation activities.</p> <p>Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land-use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets e.g <i>ShapingSEQ</i> First Nations Planning Forum.</p>
Compliance and regulation	<p>Increase compliance for small and large developments and facilitate the adoption of best practice activities to protect and enhance natural assets.</p> <p>Improve accountability and reporting mechanisms for development activity and outcomes.</p>
Community resourcing and development	<p>Improve community involvement in decision making.</p>
Collaboration and coordination	<p>Provide forums for stakeholders to work together on shared priorities and aspirations.</p>
Protection measures	<p>Protect and improve habitat for native species and manage the impact of pests and weeds.</p>
Restoration and revegetation	<p>Protect, restore and enhance riparian zones, biodiversity corridors, hillslopes, dunes and buffer areas through greater levels of protection and management and undertake active restoration and revegetation programs in priority areas.</p>
Green space and recreation	<p>Facilitate improved community connections to natural areas with the intent of increasing the communities' understanding of the values of natural areas.</p>
Economic diversification	<p>Take pressure off protected areas by promoting safe, informed ecotourism in protected areas and increased potential for expansion of ecotourism on private land.</p>
Research, monitoring and evaluation	<p>Empower citizen scientists.</p> <p>Improve long-term monitoring around biodiversity and the impacts of development.</p>

Table 5: Community priorities for natural resource management from consultation.

6. Asset themes



Nature conservation



Healthy water



Coastal & marine



Air & atmosphere



Regional landscapes



Land



Community



Traditional owners



6.1 Nature conservation

The vegetation communities of South East Queensland (SEQ) support one of the richest diversities of animal and plant species in Australia. More than 4,000 plant and 800 vertebrate species are found in the region.

Hundreds of threatened and migratory species depend on the extent and connectivity of natural areas for their survival. Vegetation cover and wetlands buffer the region from climate extremes such as heatwaves and storm surges, protect water quality, filter pollutants from the air and sequester carbon. Forests and bushland areas are also favoured sites for culture and recreation.

6.1.1 Headline targets

By 2031, the extent of regional vegetation cover, including remnant vegetation (35%) and additional non-remnant woody vegetation (22%) will be maintained or increased.

By 2031, the 2008 extent and condition of SEQ wetlands will be maintained or increased.

6.1.2 Status

There has been a decline in vegetation extent across the region since 2001. Current coverage of remnant vegetation is 35.5% and non-remnant woody vegetation is 17.4%. Projected land use change could result in further loss of remnant vegetation and the target will not be achieved. There has been a loss of 7,384 hectares of remnant vegetation, 54,983 hectares of woody vegetation and 1,220 hectares of natural wetlands since 2001. Critically, there has been significant fragmentation of the remaining vegetation tracts, reducing the effectiveness of corridors and areas that support the rich biodiversity of SEQ. In 2014 there were 21 tracts of bushland that were greater than 5,000 hectares. This number has since reduced to 18. Changing land use for urban and rural residential purposes, industry, linear infrastructure, resource extraction and agricultural activities are driving these changes.

6.1.3 Pressures

- Transition of vegetation and wetlands to other uses:
 - Ongoing fragmentation of the landscape.
 - Development pressure.
 - Population growth.
 - Illegal clearing.
 - Recreational use.
- Extreme weather events such as floods and droughts.
- Weeds and pest species (including spread of pathogens).
- Poor and inappropriate fire management.

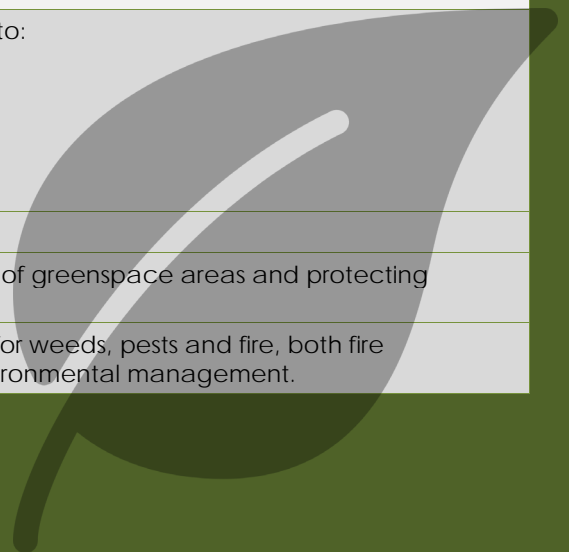
6.1.4 Response

The following actions will play a critical role in meeting the nature conservation targets (Table 6).

Key actions for nature conservation

Plan	Locate biodiversity and conservation offsets in areas where they will provide the greatest benefit.
	Increase the extent of protected areas in SEQ in priority locations including those for climate refugia through land acquisition and nature covenants.
	Develop management plans and recovery plans for poorly conserved regional ecosystems in SEQ.
	Reduce threats to key areas including the Gondwana Rainforests World Heritage Area, Moreton Bay Ramsar Site and UNESCO designated Noosa Biosphere.
	In conjunction with key stakeholders, develop and implement management plans for threatened species targeted under the <i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i> including (but not limited to) the Australian Bittern, Eastern Bristlebird, Eastern Curlew, Regent Honeyeater, Swift Parrot and Ormeau Bottle Tree.
	In conjunction with key stakeholders, develop and implement management plans for threatened species targeted under the <i>QNCA Act</i> including (but not limited to) priority listed species and endangered regional ecosystems.
	Provide greater levels of protection for remaining wetlands.
	Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets.
Manage	Implement fauna management solutions to reduce the impacts of infrastructure on habitat fragmentation (regional policy in <i>ShapingSEQ</i>).
	Limit illegal clearing of bushland areas through enforcement programs.
	Minimise the impacts of recreational activities on areas of nature conservation significance.
	Improve the condition of areas of poorly conserved regional ecosystems and <i>EPBC Act</i> listed threatened ecological communities (such as Brigalow, Coastal Swamp Oak, Saltmarsh, Littoral Rainforest and Lowland Subtropical Rainforest) through targeted management actions.
	Provide targeted invasive species management to reduce threats to UNESCO designated or World Heritage listed areas, including the Queensland components of the Gondwana Rainforests of Australia and other listed properties.
	Develop citizen science activities to genuinely engage the community in stewardship of their local species and environs.
Restore	Actively undertake revegetation activities to reconnect fragmented landscapes and provide climate refugia, buffers and reduce erosion.
	Undertake practical revegetation and pest, weed and fire management programs for wetland restoration.
	Actively restore wildlife and biodiversity corridors through mapping, revegetation and reconnection of fragmented landscapes.
Empower	Support land managers including private properties to: <ul style="list-style-type: none"> • Manage and preserve bushland. • Manage regrowth vegetation. • Revegetate. • Manage pests and weeds. • Manage for fire.
	Develop a wetland and riparian restoration guide.
	Provide education campaigns on the respectful use of greenspace areas and protecting nature.
	Implement management and education programs for weeds, pests and fire, both fire preparedness and use of fire for ecological and environmental management.

Table 6: Key actions for nature conservation.





Healthy
water

6.2 Water

Access to clean, fresh useable water underpins every aspect of life in SEQ. Drinking water supplied to our cities and towns is captured from rivers, streams, and groundwater sources from across the region. Our waterways support agriculture, recreation and tourism, and underpin the health of ecosystems.

There are more than 16,000 kilometres of rivers and streams across the region and 143,400 hectares of all wetland types, however the quality of water in these streams, wetlands, and groundwater systems is variable and closely linked to land-based activities.

Water quality is impacted by historical and current discharges from point sources such as wastewater treatment plants and stormwater drains and non-point sources such as broadscale vegetation clearing, agriculture, and urban development.

Population growth, urbanisation, climate events (such as droughts and floods) and riparian weeds are threats to the ongoing health of the water assets of SEQ.

6.2.1 Headline target

In 2031, scheduled water quality objectives for all SEQ waterways will be achieved or exceeded.

6.2.2 Status

Water quality monitoring has been reported annually in the region's Report Card for over 20 years. Data shows water quality is stable and improving slightly, though there is significant variability from year to year.

Upgrades to wastewater treatment plants across the region over the past 20 years have led to much of the improvement in Report Card scores, however, ongoing and future urban growth will add to point source pollutant loads. Sediments and nutrients from eroding gullies, riverbanks and hillslopes is impacting water quality in rivers and estuaries and sensitive areas such as Ramsar-listed Quandamooka (Moreton Bay). The health of vegetation next to rivers and streams also impacts the quality of water used for human consumption and recreation. Only 53.4% of our riparian zones are forested (2017) with a loss of 830 hectares per year since 2013. There has also been a decline in natural wetlands across the region since 2001 with freshwater wetlands being the most impacted.

6.2.3 Pressures

- Urban development.
- Loss and poor management of riparian zones in both urban and rural landscapes.
- Extreme weather events.
- Nutrient-rich outflows from large-scale wastewater treatment plants and home septic systems.

6.2.4 Response

The following actions will play a critical role in meeting the water targets (Table 7).

Key actions for water

Plan	Implement Water Sensitive Urban Design (WSUD) to limit pollution from residential areas.
	Ensure sufficient cultural flows, which encompass environmental flows, to maintain downstream ecological processes.
	Identify barriers to fish passage and develop and implement solutions in priority areas.
	Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets.
Manage	Maintain levels of vegetation and groundcover in priority areas such as hillslopes to reduce sediment pollution.
	Provide a management program to limit sediment pollution from construction sites.
	Manage wastewater treatment plants to maintain or improve water quality.
	Provide a management program for septic systems in rural residential and peri urban areas.
	Reduce litter impacts on waterways, manage rural diffuse sediment and nutrient pollution from poor agricultural practices
	Improve riparian zone management by addressing clearing, weeds and cattle access in priority areas.
	Develop citizen science activities to genuinely engage the community in stewardship of their local waterways and environs.
	Expand water quality monitoring spatial coverage, detail and analysis.
	Consider urban design and infrastructure, including roads, bridges, rail and other large-scale development to come up with strategies to manage potential adverse effects on floodplain management, wildlife harm and habitat fragmentation.
	Deploy community capacity building and develop monitoring metrics on erosion and sediment control and role of industry accountability.
Restore	Restore priority riparian zones and instream habitats to improve water quality.
	Stabilise actively eroding gullies, channels and creek banks that are generating sediment.
Empower	Integrate floodplain management planning.

Table 7: Key actions for water.





6.3 Coastal and marine

South East Queensland's coastal and marine environments are iconic and central to recreation, tourism, and the economy. High energy beaches extend from Cooloola in the north, to Coolangatta in the south, and large stretches of uninterrupted beaches occur on the eastern side of Bribie Island, Mulgumpin (Moreton Island) and Minjerribah (North Stradbroke Island). Ramsar-listed Quandamooka (Moreton Bay) provides critical habitat for whales, dugongs, turtle and thousands of endangered migratory and resident shorebirds that roost there each year. It is one of Australia's largest estuarine bays that supports many ecosystems including open ocean, sandy beaches, rocky shores, coral reefs, seagrass and sponge beds, mangrove forests, mudflats and sand banks. Near shore rocky reefs are an important source of refuge, nursery areas and food for marine organisms. And while historically the Bay has lost nearly all of its sub-tidal shellfish reefs, there is now an active program to reinstate these. SEQ is also home to the UNESCO designated Noosa Biosphere which further enhances the protection of coastal and marine values.

Coastal and marine environments continue to be under pressure from population growth, climate change, floods and are significantly impacted by upstream activities that generate sediment and pollution.

6.3.1 Headline targets

By 2031, the extent and condition of seagrass and mangrove ecosystems (including saltmarsh) in bays and estuaries will be greater than or equal to those in 1998 and 2001 respectively.

By 2031, the 2008 extent and condition of SEQ wetlands will be maintained or increased.

By 2031, the condition of open coastlines (headlands, beaches and dunes) will be at or better than in 2006.

6.3.2 Status

The regional extent of seagrass in 1998 was 27,085 hectares. In 2019 it was 22,695 hectares but changes in mapping techniques make it difficult to know the current extent of seagrass against data from 1998. Reports indicate that seagrass has recovered since 2014 as well as some recovery of seagrass occurring in southern Deception Bay. Information on the condition of seagrass is limited. Mangrove and saltmarsh ecosystems have shown a slight decline in extent. Beaches are under increasing pressure because of urban development as indicated by the significant increase in the number of freehold properties directly adjoining coastal environments.

6.3.3 Pressures

- Development pressure – developments poorly designed that clear coastal vegetation communities and impact negatively on coastal wetland values.
- Sediment, nutrients and other pollution coming from catchments.
- Extreme weather events such as cyclones and floods.
- Increase in recreational pressures and vehicle impacts.
- Coastal hazards.

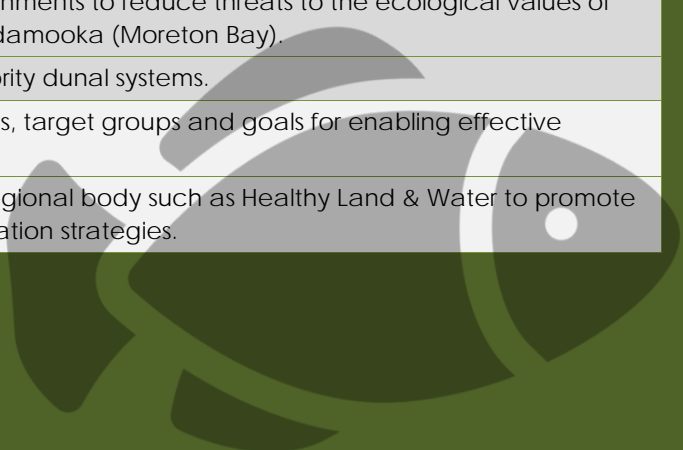
6.3.4 Response

The following actions will play a critical role in meeting the targets for coastal and marine assets (Table 8).

Key actions for coastal and marine assets

Plan	Improve coastal planning to limit development pressure and provide retreat zones from sea level rise.
	Plan land use in areas where coastal ecosystems and critical habitats will retreat as a result of sea level rise and provide areas for natural regeneration/assisted establishment.
	Provide greater protection from land use change for coastal ecosystem values and ensure offsets are effective in mitigating unavoidable losses.
	Consider impacts of sea level rise on the Moreton Bay Marine Park and all coastal areas within the region, to ensure Ramsar and UNESCO designated, environmental, social and economic values are maintained.
	Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets.
Manage	Consider managed access to beaches.
	Manage intact dune systems to protect their values and ability to buffer communities from extreme events.
	Reduce and avoid light pollution impacting on priority coastal areas and habitats.
	Monitor seagrass to see which strategies are working and should be expanded.
	Restore depleted shellfish reefs.
	Develop citizen science activities to genuinely engage the community in stewardship of their local and environs.
	Manage the recreational uses of coastal and marine environment to reduce ecological impacts from: <ul style="list-style-type: none"> • Use of vehicles on beaches and dunes. • Impacts of dogs on wildlife. • Beach and dune camping. • Recreational fishing impacts.
Restore	Provide environmentally friendly boat moorings in high density and recovering seagrass areas.
	Actively protect and restore marine and coastal assets such as mangrove, samphire, saltmarsh and seagrass.
	Improve water quality from catchments to reduce threats to the ecological values of downstream sites such as Quandamooka (Moreton Bay).
	Actively restore and stabilise priority dunal systems.
Empower	Identify locally relevant strategies, target groups and goals for enabling effective conservation action.
	Provision of integration role by regional body such as Healthy Land & Water to promote the co-development of conservation strategies.

Table 8: Key actions for coastal and marine assets.





6.4 Air and atmosphere

Poor air quality, even for short periods, dramatically impacts human health and the health of plants and animals. Air quality is impacted by the use of combustion engines and pollution from commercial, industrial and manufacturing facilities. Air quality can also be dramatically impacted in SEQ by events such as bushfires, dust storms, and mining. Stable atmospheric, air quality and climate systems are natural assets that have historically underpinned the quality of life in SEQ. The region has a major role to play in meeting the Queensland Government's target of achieving net zero carbon pollution emissions by 2050.

6.4.1 Headline target

By 2031, levels of air pollutants in SEQ will be at or below the associated objectives in the *Environment Protection (Air) Policy 2008*.

6.4.2 Status

Air quality monitoring for SEQ shows that the level of dangerous particulates in the air is increasing. Population growth, denser urban settlement patterns, intensifying industrial activity and increasing combustion engine vehicle numbers are driving this trend. Levels of other pollutants such as fluoride, oxides of nitrogen and sulphur dioxide show a decreasing trend, and this is associated with changes in electricity production in the region and the moves towards decreasing coal production.

6.4.3 Pressures

- Increasing combustion engine vehicle usage.
- Poor and inappropriate fire management.
- Dust storms.

6.4.4 Response

The following actions will play a critical role in meeting the air pollution targets (Table 9).

Key actions for air and atmosphere

Plan	Minimise impacts of airborne pollution on the population by locating emitting industries in appropriate zones with adequate controls and mitigation. Support emissions reduction/land sector abatement opportunities (e.g. carbon forest abatement/blue carbon aggregation).
	Planning provisions should ensure that residential and other sensitive uses do not directly interface with industrial uses through effective land use planning.
	Support and create processes for the community and various levels of government to work together to develop new and enhanced land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets.
Manage	Improve fire management across the region including effective hazard reduction burn programs (often also referred to as controlled burns).
	Implement waste minimisation and efficient reuse programs.
	Develop citizen science activities to genuinely engage the community in stewardship of their environs that contribute to air quality outcomes.
	Deploy additional targeted air quality monitoring as required.
	Expansion of air quality monitoring capacity to understand more locally relevant pollutant exposure risks.
Restore	Offset regional carbon emissions through targeted revegetation in priority areas that contribute to other outcomes identified in this plan.
	Establish, retain and enhance vegetation in priority buffer areas and corridors including those inside the urban footprint to protect air quality.
	Improve air quality monitoring including through citizen science.
Empower	Support increased adoption of low and zero emission transport activities including through public transport and cycling.
	Support increased adoption of renewable power sources.

Table 9: Key actions for air and atmosphere.





6.5 Regional landscapes

Our unique landscapes support our quality of life as well as our mental and physical health. Regional landscape areas are publicly accessible sites that include national parks, marine parks, state forests, beaches, waterways, recreational areas and urban parks. The regional landscape values of inter-urban breaks are recognised in *ShapingSEQ* including the Quandamooka (Moreton Bay)-Sunshine Coast and the Logan-Gold Coast inter-urban breaks, which provide greenspace, amenity and other non-urban landscape values between major urban areas of the metro and northern and southern sub-regions.

Greenspace preserves and protects regionally significant open spaces for outdoor recreation, nature conservation, water catchment management, forest production, spiritual connections, cultural heritage and education and scientific research. The natural scenic amenity of SEQ is one of its greatest assets for tourism and overall quality of life. Strategies are needed to encourage safe access and use of greenspace, which also inherently builds capacity of people to learn about their natural environs and how to protect them.

The network of privately owned greenspace areas that provide commercial outdoor recreational opportunities and regional scenic amenity will continue to play an important role relieving the pressure on National Parks which have a primary role in nature conservation.

6.5.1 Headline target

By 2031, the 2011 extent of regional outdoor settings will be maintained or increased.

By 2031, the area of regionally high scenic amenity will be maintained or improved from the 2004 baseline.

6.5.2 Status

There has been an increase in the number of outdoor areas available for recreation since 2009. Despite an increase in the number of greenspaces available, the amount of space per person in SEQ has decreased. In 2011, each resident had 0.16 hectares of greenspace. In 2021 it is 0.13 hectares per person. An additional 211,000 hectares of recreational land is required to maintain greenspace at acceptable levels. Compared to other areas in Australia, the amount of greenspace as a proportion of the region is low and there are significant variations in availability of greenspace within the region.

6.5.3 Pressures

- Population growth.
- Over-use and land degradation.
- Conflicting and/or ineffective management of recreational uses (motorised such as motorbikes and powerboats and unmotorised such as bikes and kayaks).
- Lack of ongoing maintenance that addresses pests and fire.
- Lack of public facilities.
- Inaccessibility by public transport and associated overreliance on combustion engine transport.
- Urbanisation.
- Availability of investment for the acquisition, expansion, protection and restoration of greenspace.

6.5.4 Response

The following actions will play a critical role in meeting the targets for regional landscapes (Table 10).

Key actions for regional landscapes

Plan	Increase the area available for greenspace recreation and improve accessibility in priority areas.
	Protect areas of identified priority scenic amenity from inappropriate development.
	Targeted provision of green and blue infrastructure within urban footprint.
	Maintain inter and intra urban breaks to prevent urban coalescence and support habitat connectivity (Regional policy in <i>ShapingSEQ</i>).
	Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets.
Manage	Improve fire (both fire preparedness and use of fire for cultural/ecological/environmental management), weed and pest management of greenspace areas.
	Manage greenspace recreational activities such as mountain biking to reduce negative ecological and community impacts.
	Develop citizen science activities to genuinely engage the landholders and the community in stewardship of their local landscapes and environs.
Restore	Securing and activating major green space areas across SEQ.
Empower	Encourage and incentivise landholders including on private property to supply additional greenspace recreation areas.
	Provide education campaigns on the respectful use of greenspace areas.

Table 10: Key actions for regional landscapes.





6.6 Land

The land resources of SEQ support a variety of intensive agriculture, grazing and forestry industries. The condition, area and extent of farming land are critical for the supply of food, fibre and other materials that underpin our quality of life. Large-scale irrigated agriculture occurs in the Lockyer and Fassifern Valley, along with significant areas in the Moreton Bay region. Grazing is the dominant land use in some parts of the region, particularly in Upper Brisbane, Stanley, Lockyer, Bremer and Logan-Albert catchments. These catchment areas collect the water stored in the major dams that supply good quality water for drinking and industry in the region. Population growth and climate change is impacting the extent and functionality of the land asset.

6.6.1 Headline target

By 2031, more than 90% (>1,266,667 hectares) of SEQ agricultural land that was available in 2004 will be available for sustainable agriculture.

6.6.2 Status

In 2019 the total area of land available for agriculture was 1,293,675 hectares, 91.9% of the benchmark target set in 2009. This indicates we are still meeting the target despite a loss of agricultural land over the decade. However, if this trend continues, the 2031 target will not be met. Up to 94% of cropping land (A and B class) and 90% of grazing land (mostly C class) is currently available for agriculture in SEQ.

In total more than 254,892 hectares of agricultural land has been converted to other land uses or reclassified as no longer suitable as agricultural land. *ShapingSEQ* protects 94.7 % of the region's agricultural land within the Regional Landscape and Rural Production Area, with 5.3 % within the Urban Footprint and Rural Living Area designations.

The productivity of existing agricultural land is also at risk with more than 344,000 hectares of agricultural land currently considered at high to very high risk of soil erosion. The area of land considered to be at risk has increased by more than 74,000 hectares in the time since the original SEQ *NRM Plan* was completed in 2009.

6.6.3 Pressures

- Development pressure and associated urban and rural residential growth.
- Inappropriate land management resulting in the degradation of productive land and erosion.
- Spread of weeds and pests.
- Poor and inappropriate fire management.
- Increasing salinity.
- Extreme weather events associated with climate change such as extended droughts and floods.

6.6.4 Response

The following actions will play a critical role in meeting the land targets (Table 11).

Key actions for land	
Plan	Protect good agricultural land by improving and implementing local and regional planning measures.
	Manage identified salinity risk through improved planning and delivery.
Manage	Maintain levels of vegetation and groundcover in priority areas such as hillslopes to reduce sediment pollution.
	Recognise and support landholders providing ecosystem services to the wider community through their stewardship and management of land, water and biodiversity assets.
	Coordinate regional and local strategies and programs to avoid, control and manage pest plant and animals and other biosecurity issues.
Restore	Implement regenerative agricultural practices and grazing land management to enhance soil health and carbon levels.
	Restore areas affected by secondary salinisation.
	Restore creek banks and aquifer recharge areas.
Empower	Develop citizen science activities to genuinely engage landholders and the community in stewardship of their local land and environs. This includes Best Management Practice programs for agriculture that improve land productivity, and resilience and support other outcomes such as nature conservation and improved water quality.
	Deliver education for rural residential landholders for improved natural resource management outcomes.
	Develop integrated weed and pest management programs for rural landholders.
	Deliver fire education for rural landholders (both fire preparedness and use of fire for cultural/ecological/environmental management).
	Support urban food gardens.
	Promote and support local food production and marketing, e.g. local and sustainably produced food, buy and eat local produce.

Table 11: Key actions for land.





6.7 Community

Communities are at the forefront of protecting and restoring areas of environmental significance. Community-based natural resource management groups, dedicated volunteers and private landholders contribute time, resources and expertise to plan and implement projects that benefit the whole of society. Maintaining the capacity of these communities is necessary to achieve our goals and will require a steady flow of investment.

6.7.1 Headline target

By 2031, natural resource managers, government and non-government organisations will be resourced and working together to implement this Plan.

6.7.2 Status

The number of groups registered with Queensland Water and Land Carers has grown from 96 in 2014 to 153 in 2021, representing well over 30,000 volunteers. Land for Wildlife membership has grown from 3,044 to 4,094 properties in the same period.

6.7.3 Pressures

- Funding availability.
- Not enough people effectively engaged in undertaking the work required.
- Lack of capacity (time, resources, coordination support, skills, and knowledge).
- Changing demographic in rural residential areas.
- Lack of awareness and motivation in the wider community.
- Limited resourcing and activation of citizen science programs.

6.7.4 Response

The following actions will play a critical role in meeting the targets for community (Table 12).

Key actions for community	
Plan	Support and create processes for the community and various levels of government to work together to develop new and enhance current regional and local land-use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets e.g. <i>ShapingSEQ</i> First Nations Planning Forum.
Manage	Support arrangements for sharing knowledge and the improved coordination of NRM planning, investment and action across community, industry and government.
Restore	Enhance the awareness and use of planning tools and regulatory structures that promote collaborative action for natural resource management outcomes.
Empower	Support and invest in community groups to deliver the actions in this Plan.
	Provide extension, workshops and field days that support community groups.
	Deliver public activities that increase understanding of the region's natural assets and the threats they face.
	Deliver capacity building programs for improved outcomes in rural residential areas.
	Develop and support citizen science programs.
	Provide education campaigns on the respectful use of greenspace areas and protecting nature.
	Demonstrate the impacts of climate change and agricultural practices on natural amenity, water and nutrient cycles and on plant, soil and water health through monitoring and best practices.

Table 12: Key actions for community





6.8 Traditional Owners

Traditional knowledge, values and practices have shaped and protected the significant environmental and cultural values of SEQ for many millennia. Following European settlement, Traditional Owners were, in many areas, oppressed from being able to manage their lands and waters. Traditional ways of life and land management techniques were not only disrespected, but often forbidden, and deliberately fractured by government and industry. Through unrelenting advocacy and the determination of First Nations' leaders we've seen a growing recognition of the wisdom and science of Traditional Owner led natural resource management techniques. One of the guiding principles of the original *SEQ NRM Plan* developed in 2009 was that Traditional Owners should be actively involved in natural resource management planning, decision making and implementation which was developed through proactive representation and advocacy of First Nations representatives in the region.

6.8.1 Headline target

By 2031, SEQ First Nations and their people will be resourced and leading natural resource managers, government, and non-government organisations in the management of Country including through the *SEQ NRM Plan* and the *South East Aboriginal Traditional Cultural Resource Management Plan*.

6.8.2 Status

The *South East Aboriginal Traditional Cultural Resource Management Plan* is the plan recognised by many First Nations peoples, however many stakeholders including government and industry have not made significant progress in supporting the actions within the Plan. The majority of SEQ has yet to have government formally and finally recognise the rights and interests of the respective First Nations of the region through processes such as Native Title and Treaty. *Shaping SEQ* has set strong targets for state, and local government planning and departmental implementation. Despite this, First Nations' cultural values are often not reflected in planning legislation, policy development and implementation, development approval processes, or land management determinations. Appropriate respect and economic recognition of traditional knowledge and cultural resources is not yet fully accounted for or considered appropriately in all aspects of natural resource management.

6.8.3 Pressures

- Lack of communication and empowerment of Traditional Owners in decision making.
- Inadequate knowledge in the broader community, government, and industry of the critical role and rights of First Nations in caring for Country.
- Institutional cultural heritage registers do not effectively empower local Traditional Owner knowledge and decision making.
- Existing cultural heritage monitoring does not always involve appropriate First Nations oversight and consent.
- Lack of resourcing committed through business, government, and community processes to effectively enable Traditional Owners to manage Country within economic structures.
- Business and Government often prioritise other socioeconomic priorities ahead of First Nations engagement, empowerment and leadership in decision making.

6.8.4 Response

The following actions will play a critical role in meeting the targets for Traditional Owners (Table 13).

Key actions for Traditional Owners

Plan	Foster the development of Reconciliation Action Plans and other independent mechanisms that provide for ongoing commitments to respectful, trusting and mutually beneficial relationships that empower First Nations leadership.
	Support and create processes for the community and various levels of government to work together to develop and enhance current regional and local land use planning mechanisms to achieve <i>SEQ NRM Plan</i> targets e.g <i>ShapingSEQ</i> First Nations Planning Forum.
Manage	Commit to provide ongoing secretariat support to forums that empower First Nations to lead and advise on appropriate decisions for Country and culture.
Restore	Reinvigorate the State Government's commitment to ongoing Indigenous engagement in natural resource management through the SEQ Traditional Owners Planning Forum.
Empower	Ensure management systems empower Traditional Owners to effectively lead and participate in natural resource management such as through procurement policies and budget planning.
	Government, industry, and community, effectively implement Reconciliation Action Plans and be held publicly accountable on their delivery.
	Further capacity building across government, industry, and the broader community of the rights, interests, knowledge and critical role of First Nations and Traditional Owners in caring for Country.

Table 13: Key actions for Traditional Owners.





7 Implementing the SEQ NRM Plan for the region

The responsibility for managing natural resources in South East Queensland (SEQ) to protect the environment and achieve the targets and actions identified in this Plan is a truly collaborative venture and falls across many governments, utilities, organisations, groups and individuals.

The timeframe for achievement of the targets in the *SEQ NRM Plan* is 2031. As a living document, the 5-yearly revision not only looks at progress towards the targets, but importantly it updates the recommended actions to ensure the Plan is moving in tune with the latest advances in science and technology and to counter emerging pressures.

There continues to be a decline in the condition of several of the themes, meaning the actions can no longer be 'business-as-usual'. A 'step-change' is needed in the actions, acknowledging monitoring and evaluation challenges, resources and accountability.

Implementation continues to be a challenge. If we put the lack of funding of natural resource management in general across Australia to one side, other major constraints for implementation include:

- Lack of coordinated and consistent governance, particularly at the regional scale.
- Maintaining ownership/relevance of the *SEQ NRM Plan* to the regional community.
- Consistency in funding and program direction of government investments at all levels.

The current role that natural resource management plans play in the statutory process is difficult to effectively substantiate. *ShapingSEQ* nominates the *SEQ NRM Plan* as a key delivery mechanism for achieving aspects of the regional vision for SEQ and related theme-based visions specifically the "Sustain" theme. Making this an effective reality is an ongoing challenge for all stakeholders.

It has been suggested that regional natural resource management planning could be further enhanced through the presentation of information better packaged to inform local policy and planning – for example, informing the development of overlays and codes describing natural resource management matters of State and National interest at the local level. The *SEQ NRM Plan* has worked to achieve this by linking national and region-wide targets to the local level using [spatial depictions](#) of these relationships.

All stakeholders in SEQ have a responsibility to the current, and future generations of our community to continually strive to protect the natural resource assets that underpin our way of life.

Healthy Land & Water has been tasked with coordinating and reviewing the *SEQ NRM Plan on behalf of the region*.

It is up to all stakeholders – both organisations and individuals - across SEQ to work together to implement the targets and actions that have been collectively identified and agreed to collaboratively for the region.

While Healthy Land & Water is just one of many stakeholders, as the official natural resource management group for the region, we recognise we have a central role in these efforts, and will endeavour to show leadership by:

- Prioritising investments annually against the actions identified in the updated Plan through business planning processes.
- Directly implementing the actions identified in this *SEQ NRM Plan* wherever possible.
- Facilitating or influencing the adoption of identified targets and actions in policy, planning, investment and on-ground works throughout the region.
- Helping bring together stakeholders to work collaboratively towards addressing identified targets and actions.
- Developing mechanisms to capture the breadth and depth of the combined efforts of all stakeholders across the region in the delivery of the targets to ensure maximum impact is being achieved.

The successful outcome of each asset theme depends not only on the individual targets, but also on the relationships between assets, use, management, and regulation. This calls for integration across agencies for planning, informed by the best available natural resource information and not necessarily simple cadastral zoning systems and boundaries. For example, planning around the preservation of biodiversity corridors requires investments in innovative solutions such as land swaps and unique mechanisms to support sustainable environmental outcomes.

The success of the Brisbane 2032 Olympics and Paralympic Games bid adds impetus for the achievement of better environmental outcomes. The bid put forward to the International Olympic Committee promoted that the Games would be used to leverage a positive legacy for SEQ including achieving enhanced policy delivery, exemplar projects, and a climate-positive games. Implementing the actions contained in this Plan over the next ten years will help facilitate this legacy and add to the liveability, sustainability and marketability of SEQ as a destination of choice.



Implementing the actions contained in this plan over the next decade will help facilitate our environmental legacy and add to the liveability, sustainability and marketability of SEQ as a destination of choice.



8 Guiding regional investment for the region

Extensive best practice methodologies for the understanding of South East Queensland (SEQ) environments has been applied over the last 12 years. This work has been critical for prioritising where on-ground investments need to occur to achieve maximum and integrated benefits.

The outcomes of these assessments are available to everyone in SEQ and provide a common understanding of the threats and the actions that need to occur.

It is intended that NRM Planning products should inform the investment decisions of all levels of government, industry, community and other groups and institutions working for the betterment of natural assets in SEQ.

The products and decision-making tools available through Healthy Land & Water to support *SEQ NRM Plan* implementation include:

- An online storyboard of spatial information for each of the headline targets and priority areas for actions to be implemented.
- The *SEQ NRM Plan Online Atlas (2021)*; a comprehensive collation of spatial data layers and information against each of the 41 targets presented in the initial 2009 *SEQ NRM Plan*. The spatial tool allows users to identify where in the landscape assets are occurring and their condition.
- The Ecosystem Health Monitoring Program (EHMP) interactive maps allow users to fully interrogate the collected data to determine priorities for regional and local action.
- Bespoke spatially based decision support tools for issues and programs, for example for koala habitat, shorebird habitat and roosting sites, and priority areas for sediment control.
- Analysis of priority sites for carbon, nutrient, and biodiversity offsets, including sequestration opportunities that support conservation efforts and enable collaboration to provide multiple benefits and improving the progress of off-track targets.

An Investment Framework was developed as part of the 2014/2016 review and update of the *SEQ NRM Plan*. The Framework was informed by a decision tool developed to compare sites for multiple natural resource management outcomes using a standardised scoring system to generate an area adjusted score. Inputs included Land Assets, Nature Conservation, Coastal Assets, Water Quality Risks, Bushland Connectivity, Ecosystem Services, and Matters of National Environmental Significance. A Strategic Regional Investment Map was one of the products developed.

This methodology remains relevant to guiding investment in the region to achieve the multiple outcomes based on community priorities and different streams of investment including the Australian Government's National Landcare Program (Regional Land Partnerships) and Queensland Government Natural Resource Investment Program.



9 Monitoring and evaluating the Plan for the region

Key priority areas for actions identified in the *Shaping SEQ* require monitoring of the impacts of development on biodiversity values, vegetation, agricultural land and community greenspace. Local governments, First Nations, industry, and the utility providers of the region also undertake extensive environmental monitoring efforts. Citizen science activities across the region are also increasing and provide an invaluable source of robust information to inform natural resource management actions.









Measuring the full impact of natural resource management plans is a challenging proposition. Outputs have been measured and recorded in repositories such as *enQUIRE* in response to monitoring, evaluation, and reporting requirements from investors such as the Australian and Queensland governments. The region's Report Card provides a signal of the impact of land-based activities on receiving waters. However direct relationships between natural resource management investment and water quality at a regional scale is problematic in terms of resources and succinct mechanisms that demonstrate these relationships.

Healthy Land & Water has historically had a central role alongside government in coordinating monitoring efforts across the region. For example:

- For more than 20 years, Healthy Land & Water has delivered the annual Ecosystem Health Monitoring Program (EHMP), which is recognised as one of the longest running and most successful monitoring programs of its type in the world. The EHMP is a comprehensive and scientifically robust waterway monitoring program that provides a regional assessment of the health of South East Queensland's (SEQ) major catchments and waterways.
- It is envisioned that this role will be further expanded through the Project Future Card: To help inform and agree on priority actions, target innovations, recognise and reward success. This ambitious pilot project (Future Card) is currently underway to expand the current monitoring program to encompass a broader set of environmental outcomes, ecological values and to inspire action across the broad suite of natural assets.
- The success of the priority areas for actions outlined in this Plan will be evaluated against the well-established annual Report Card and frequent assessment and reporting mechanisms. outcomes and adjustments made. The Plan is viewed as a living document and is based on the principles of adaptive management.
- A formal update of the Plan based on identified trends, community and stakeholder consultation and what needs to change in terms of targets and actions will be carried out in the next three to five years. Healthy Land & Water will report on the outcomes and outputs of its activities against the targets, actions and stakeholder priorities contained in the SEQ NRM Plan annually.

Partnerships that exist with the Australian Government will continue to ensure the region is prepared and aligned with national environmental and economic priorities. Ongoing relationships with peak industry bodies, sub-regional natural resource management bodies, First Nations, conservation councils, the South East Queensland Catchment Members Association (SEQCMA), industry partners, local, state and federal governments, and volunteer groups in the region will underpin the Plan's success.

Key priority areas for actions identified in *ShapingSEQ* require monitoring of the impacts of development on biodiversity values, vegetation, agricultural land and community greenspace. Citizen science activities across the region are also increasing and provide an invaluable source of robust information to inform natural resource management actions.

Natural Asset	Progress	Community Satisfaction ⁴
 Nature Conservation	Off-track	Poor
 Water	Improvement needed	Poor
 Coastal and Marine	Off-track	Fair
 Air and Atmosphere	Off-track	Fair
 Regional Landscapes	On-track	Good
 Land	Improvement needed	Fair
 Community	Improvement needed	Fair
 Traditional Owners	Off-track	Poor

⁴ Stakeholders were asked to rank on a scale of 1 (very dissatisfied) to 5 (very satisfied) how satisfied they are with progress towards the set targets. Poor is less than or equal to 2.5; Fair is between 2.5 and 3.5 and Good is greater than 3.5.



This document has been prepared by Healthy Land & Water

As the leading Natural Resource Management (NRM) body for the region, Healthy Land & Water is responsible for coordinating the review and maintenance of, and making publicly available the region's natural resource management plan.

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