Australian Government

Queensland Government

# Reef 2050 Long-Term Sustainability Plan 2021–2025 IN BRIEF

**Cataloguing data**

This publication (and any material sourced from it) should be attributed as: Reef 2050 Long-Term Sustainability Plan 2021–2025 In Brief, Commonwealth of Australia 2021.

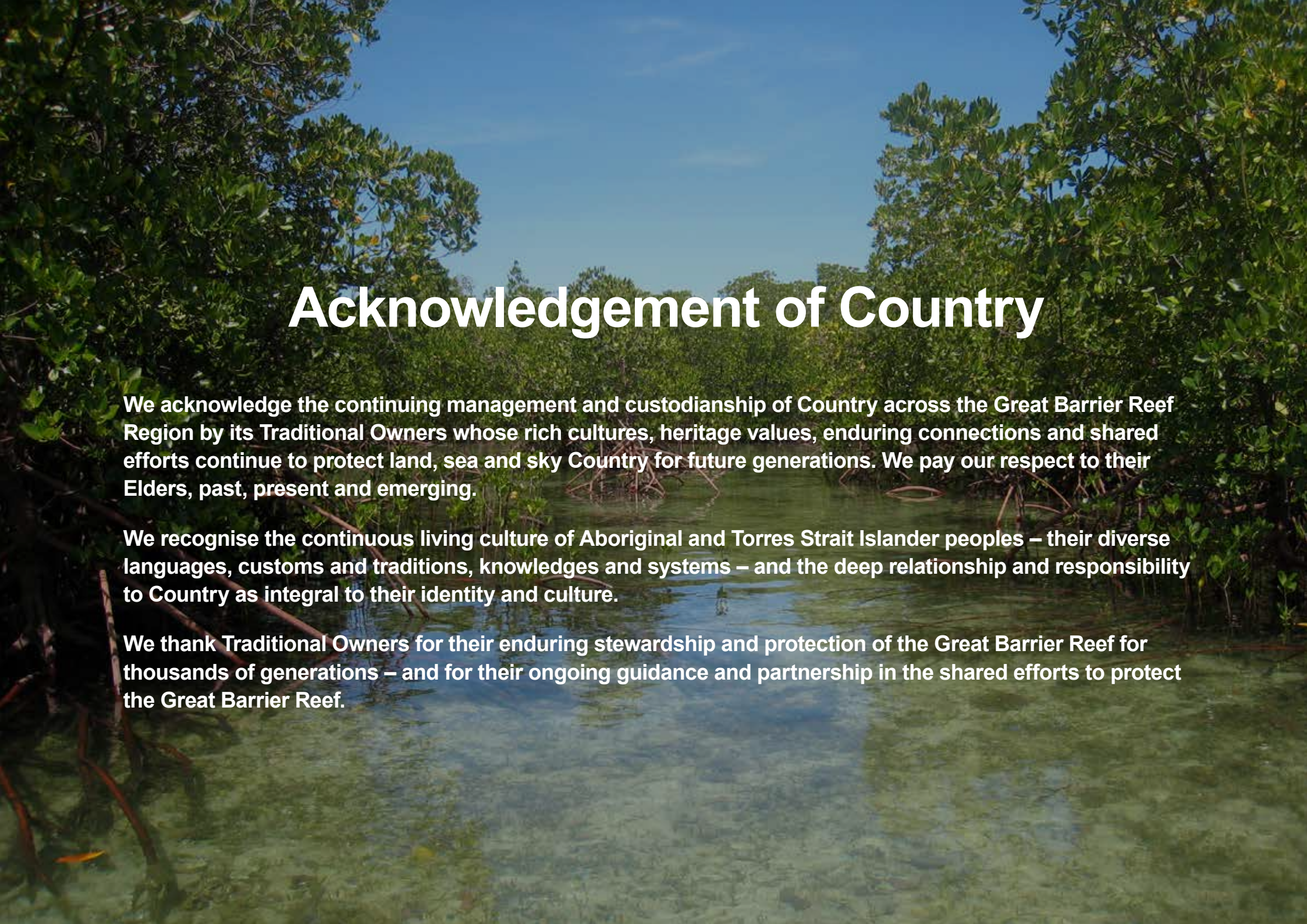
ISBN: 978-1-76003-430-6

Department of Agriculture, Water and the Environment
GPO Box 858 Canberra ACT 2601
Telephone 1800 900 090
Web awe.gov.au



**Our cover**

Aerial of Hardy Reef: Jumbo Aerial Photography (© Commonwealth of Australia (GBRMPA))



# Acknowledgement of Country

We acknowledge the continuing management and custodianship of Country across the Great Barrier Reef Region by its Traditional Owners whose rich cultures, heritage values, enduring connections and shared efforts continue to protect land, sea and sky Country for future generations. We pay our respect to their Elders, past, present and emerging.

We recognise the continuous living culture of Aboriginal and Torres Strait Islander peoples – their diverse languages, customs and traditions, knowledges and systems – and the deep relationship and responsibility to Country as integral to their identity and culture.

We thank Traditional Owners for their enduring stewardship and protection of the Great Barrier Reef for thousands of generations – and for their ongoing guidance and partnership in the shared efforts to protect the Great Barrier Reef.

# About the Reef 2050 Plan

**The Reef 2050 Long-Term Sustainability Plan (Reef 2050 Plan) is Australia's overarching long-term strategy for protecting and managing the Great Barrier Reef to support its health and resilience.**

**The Plan is intended to guide governments, key sectors and individuals on actions they can take to improve the Reef's future.**

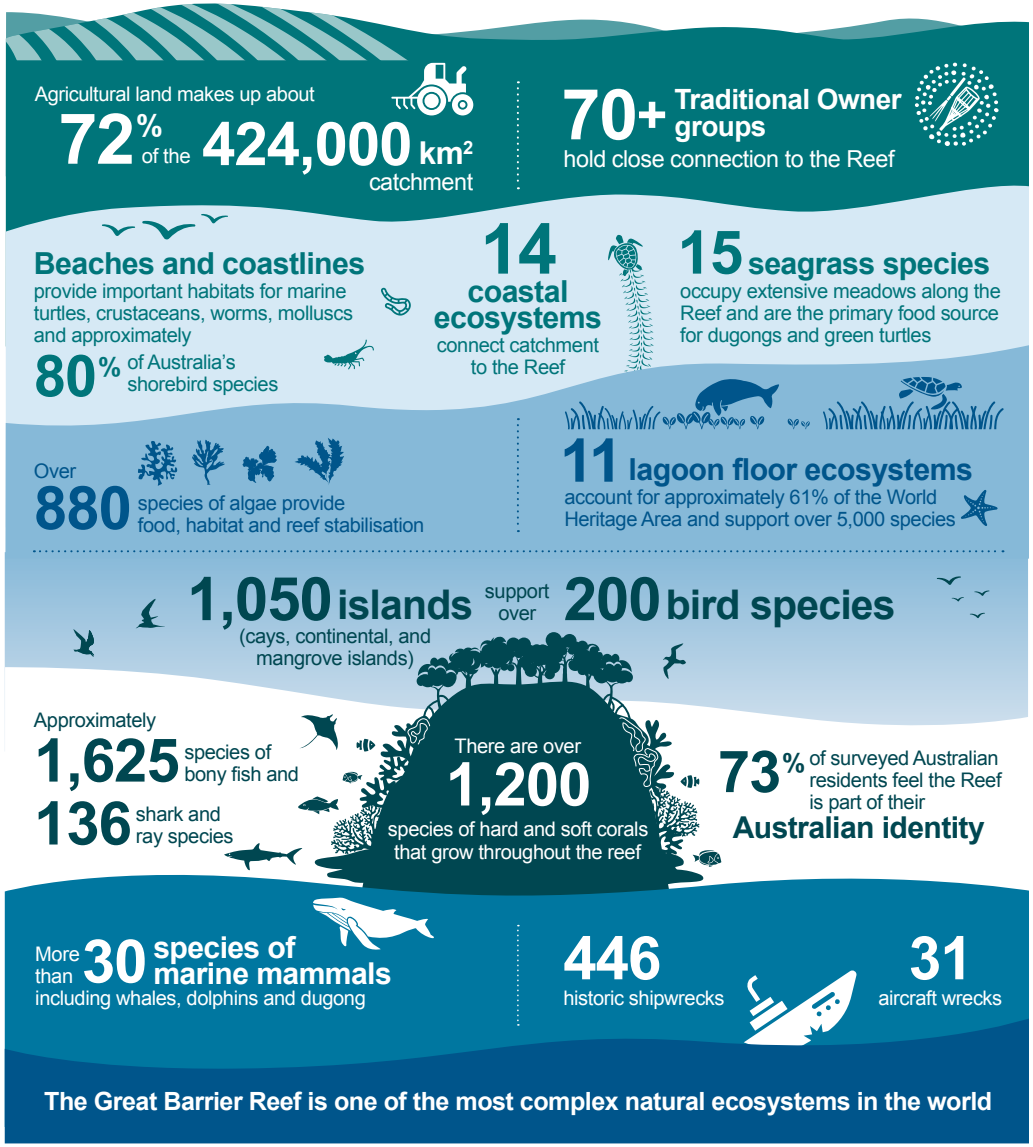
**The Plan was established by the Australian and Queensland governments in 2015. It is reviewed and updated every 5 years. The Plan will also be reviewed, and if necessary updated, to address new information or priorities for Reef protection, including in response to decisions from the World Heritage Committee or corrective measures identified through World Heritage reactive monitoring missions.**

# What is the Great Barrier Reef?

The Great Barrier Reef is a unique global icon, recognised as a World Heritage Area for its Outstanding Universal Value.

- It is the world's largest coral reef ecosystem, a network of approximately 3,000 coral reefs stretching 2,300 kilometres along Queensland's coastline.
- The Reef as we know it today has been there for around 10,000 years, since the end of the last ice age. Its formation is part of the Dreaming stories of the Reef's Traditional Owners, who have lived through the Reef's evolution. The Reef and its catchment are rich in Indigenous heritage.
- The Reef ecosystem is more than coral reefs. It has important connections for many species to non-reef habitats such as seagrasses, mangroves, sandy and muddy areas, coastal wetlands, rivers and islands.
- Both reef and non-reef habitats are recognised as part of the 348,000 square kilometre World Heritage Area.
- The World Heritage Area is connected to the Torres Strait north of Cape York, the Coral Sea Marine Park to the east, and the Great Sandy Strait adjacent to the Fraser Island World Heritage Area (K'gari) in the south.

## Key Reef facts



# Healthy Reef, Healthy People

**People benefit culturally, socially and economically from a healthy Reef, and the Reef benefits from a local, national and global community that acknowledges its value and is committed to caring for it.**

## The Reef's Traditional Owners

- Aboriginal and Torres Strait Islander peoples have been linked with the Reef since time immemorial and hold an evolving wealth of knowledge that is valuable in understanding the ecosystem, its values and its processes.
- There are over 70 Aboriginal and Torres Strait Islander groups (also referred to as Traditional Owner groups or communities) with inherent rights, responsibilities, interests and aspirations for the Reef.
- Over half the Reef catchment, one-quarter of the Reef's coastline and just over 15% of the Great Barrier Reef World Heritage area is subject to formal Indigenous ownership, interests or co-management arrangements.
- Traditional Owner organisations are integral to delivering cultural responsibilities for land, sea and sky Country and lore.

## Community

- The Great Barrier Reef plays an important role in community life. Local residents and visitors from within Australia and around the world are drawn to the Reef for its exceptional natural beauty.
- As well as providing opportunities for relaxation and enjoyment, an encounter with the Reef offers people a better understanding of the complex natural world that humans are not just connected to but also intimately part of.
- Seventy-three per cent of surveyed Australian residents felt the Reef was part of their Australian identity.
- Improving awareness of the Reef's values and increasing opportunities for everyone to connect with and protect the Reef is important for people and the Reef itself.

## Industry and the economy

- The Great Barrier Reef is a critical economic asset, providing income and jobs for the community.
- As an asset, its value has been estimated at $56 billion.
- The Reef supports approximately 64,000 jobs and contributes around $6.4 billion to the Australian economy each year, mostly through tourism. [1]
- Tourism, commercial and recreational fishing, traditional/cultural use, boating, research and education all depend on a healthy Reef.
- Some Reef-associated industries such as agriculture, ports and shipping are important to communities and the economy but do not rely on a healthy Reef. These industries acknowledge the importance of the Reef and support the health of the Reef through adopting best practice standards.
- There is also growing involvement of Aboriginal and Torres Strait Islander peoples in the economic opportunities associated with the Reef, including cultural tourism, fishing and delivery of on-ground services.

1 Figures reflect economic benefits before COVID-19 pandemic impacts on the international tourism industry.

# An ecosystem under pressure

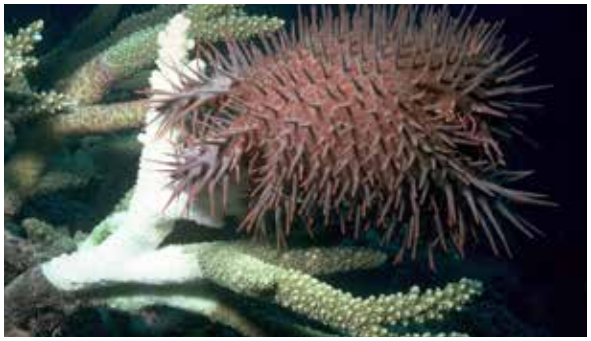
**The long-term outlook for the Reef's ecosystem has deteriorated from poor to very poor.**

## Impacts from climate change are the most serious and pervasive threat to the Reef

- Extreme temperature events driven by global warming caused widespread mass coral bleaching in 2016, 2017 and 2020.
- Global warming is also changing weather patterns, altering ocean currents and causing sea level rise, affecting the land, species and people through erosion and inundation of habitats such as turtle nesting sites.
- Carbon dioxide emissions are making Reef waters more acidic, reducing the ability of corals and other organisms to grow skeletons and shells.

# Impacts from land and human use

- Water running off the land can contain pollution from agricultural, urban and industrial areas.
- Excess sediments reduce the amount of light for corals and seagrasses and can smother them when large amounts of sediment settle.
- Excess nutrients promote the growth of algae, reducing light for corals and seagrasses, and can make coral more susceptible to bleaching and disease.
- Chemicals such as pesticides and herbicides are a threat because of what they are designed to do on land – kill pests such as weeds and insects. This means they also impact plants and animals in rivers and creeks, as well as some coastal and inshore areas.
- Plastic rubbish from the catchment or the sea can be eaten by wildlife or entangle them, causing health impacts and death.
- Coastal development and the way people use coastal areas can reduce coastal habitats, cause light pollution and impact nesting turtles and birds.
- Impacts in the marine park include illegal fishing, fishing of species of conservation concern, light and underwater noise pollution, and vessel strikes.



# Impacts from pest species

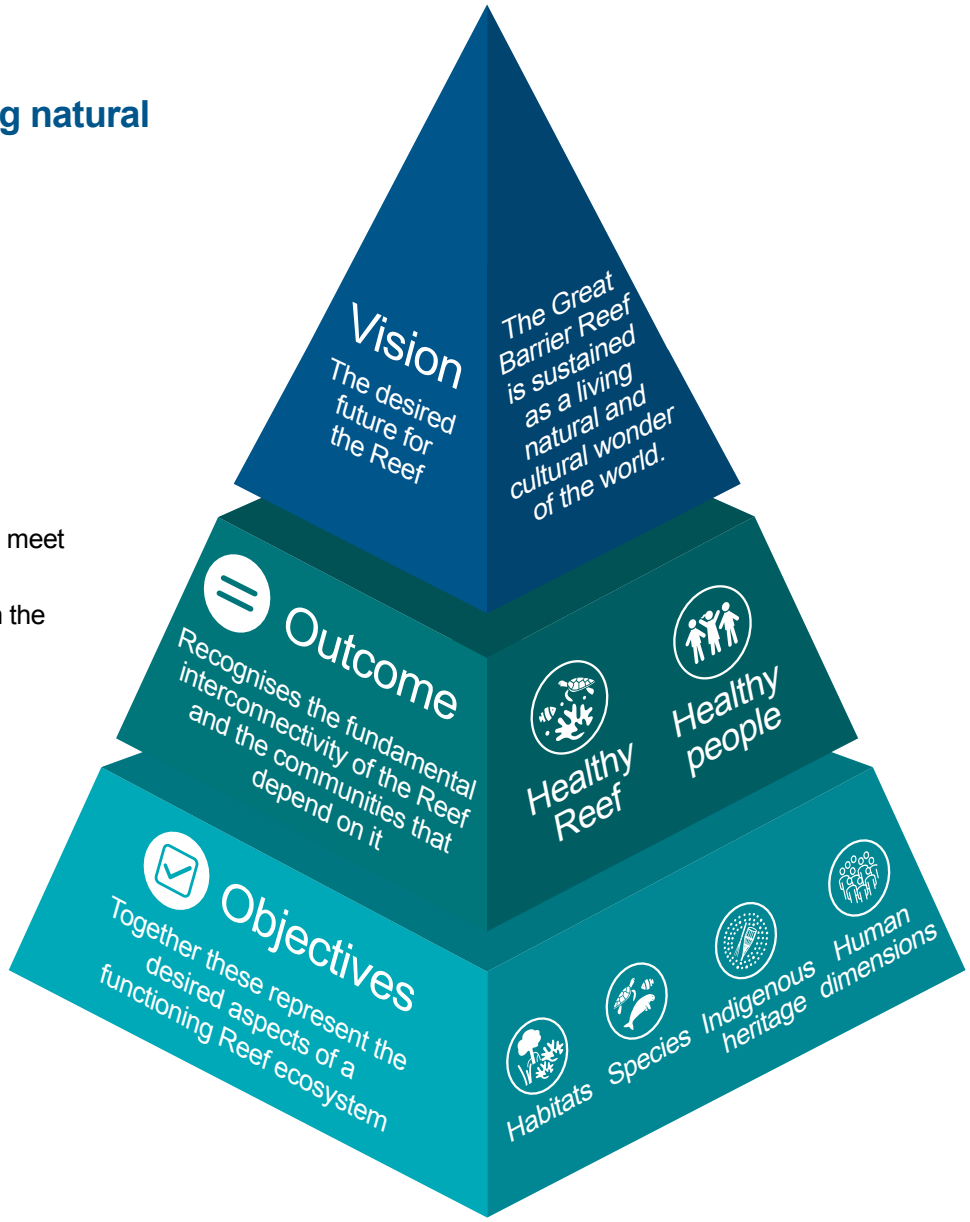
- Crown-of-thorns starfish are a native predator of corals but have been occurring in unnaturally high numbers.
- Introduced species like feral pigs and goats have a detrimental impact on wetland and island habitats and prey on Reef species and nesting sites.
- Exotic fish species can out-compete and replace native fish reducing biodiversity.

All these threats impact the Reef and have cumulative impacts.


EYE ON THE REEF

# Vision

**In 2050: The Great Barrier Reef is sustained as a living natural and cultural wonder of the world.**




## Need for rapid action

- The impacts of climate change are already being observed.
- Immediate local and international action is required to limit climate change to meet the objectives of the Plan.
- Rapid action is also needed to manage coastal development and activities in the water, reduce water pollution and curb crown-of-thorns starfish outbreaks.
- Some areas of the Reef will need to be remediated, rehabilitated and restored, and some species will need to be supported to adapt.
- The challenge to sustain the Reef is big but is achievable if everyone including governments, industry, land managers, Traditional Owners, scientists and the community commits to urgent and sustained action.

# Objectives

**The objectives of the Plan will help us measure a selection of attributes that includes the Reef's habitats, species, Indigenous heritage and human dimensions**

**The Reef 2050 Integrated Monitoring and Reporting Program will measure progress towards the objectives**

**The *Reef 2050 objectives and goals* document details scientific, technical and traditional knowledge on the objectives and the indicators used to monitor them.**

# Reef 2050 objectives

**These objectives apply to 2050 and beyond, with supporting indicators to measure success. Achieving the Reef 2050 Plan objectives will only be possible through urgent and sustained effort to address cumulative impacts to the Reef.**

## Habitat

- Coral reef habitats maintain good condition and resilience.
- Resilient seagrass meadows that maintain condition.
- No loss of the extent of natural wetlands.
- Wetland condition is improved.
- Key values associated with islands are in a desired condition.

## Species

- Populations of seabirds and shorebirds are healthy.
- Populations of protected species are healthy.
- Populations of species of cultural significance to Traditional Owners are healthy.
- Populations of bioculturally important fish and invertebrate species are healthy.
- Populations of fish and invertebrate species that are important for recreational, commercial and culturally based fisheries are healthy.

## Indigenous heritage

- Traditional Owners caring for Country.
- Traditional knowledge about the Great Barrier Reef is owned and managed by Traditional Owners and is protected and retained for future generations.
- Traditional Owners' rights are genuinely recognised and prioritised and inform and drive how benefits are shared.
- Local Traditional Owner land and sea management organisations are equipped to operate at the appropriate scale.
- Country is healthy and culture is strong.

## Human dimensions

- Uses of the Reef are ecologically sustainable as the system changes, in turn sustaining economic and social benefits.
- People maintain or grow their attachment to the Great Barrier Reef.
- People and communities take individual and collective action to maintain Reef resilience.
- Intangible and tangible historic and cultural heritage and contemporary cultural values remain intact.
- Governance systems are inclusive, coherent and adaptive.

# Implementing the Plan: Building on Strong Foundations

There are many established work programs that identify priorities, provide detail on actions and time frames and/or assign responsibility for delivery of Reef 2050 actions at a more detailed operational level. These include the:

- Reef Joint Field Management Program
- Great Barrier Reef Marine Park Authority Corporate Plan
- Reef 2050 Water Quality Improvement Plan 2017–2022
- Wetlands in the Great Barrier Reef Catchments Management Strategy 2016–2021
- Reef Councils Rescue Plan
- Reef 2050 Integrated Monitoring and Reporting Program
- Paddock to Reef Integrated Monitoring, Modelling and Reporting Program
- Reef Restoration and Adaptation Program.

Other established work programs have a broader national or statewide scope or a particular industry focus and contribute to the Plan's objectives. They include the:

- Queensland Sustainable Fisheries Strategy 2017–2027
- North-East Shipping Management Plan
- Indigenous Land and Sea Ranger programs and Traditional Use of Marine Resources Agreement Program
- Australian and Queensland government climate change policies and programs.

These work programs support the adaptive management approach underpinning the Plan, by providing flexibility to adjust the scale and speed of implementation of actions in response to changing needs of the Reef.

Policy makers and managers also consider the decision making principles for the Reef and the Reef 2050 Net Benefit and Cumulative Impact Management policies.

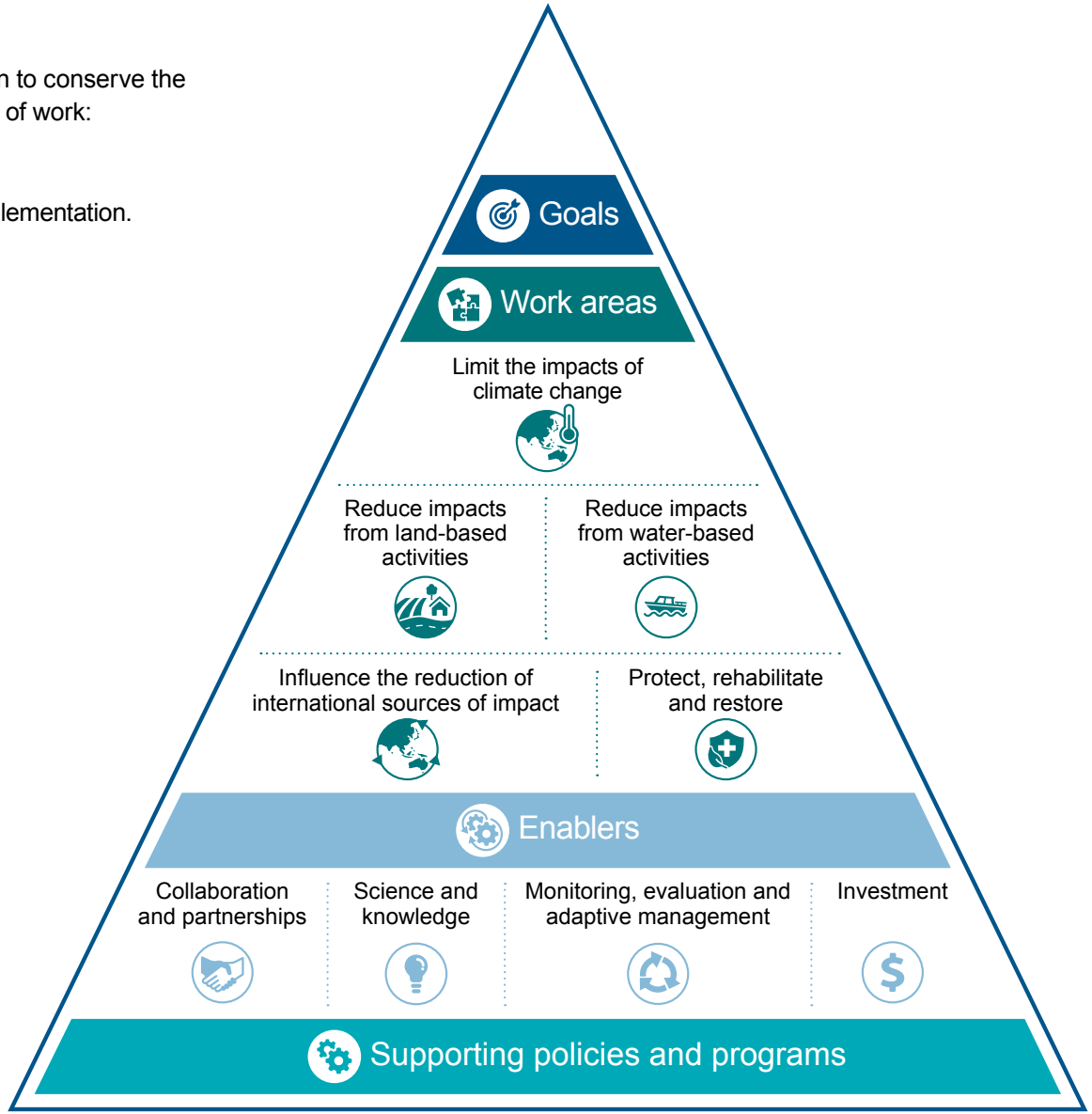
# Accelerating progress

The Reef 2050 Plan provides a pathway for accelerated action to conserve the Reef's Outstanding Universal Value. It is divided into 2 bodies of work:

- **Work areas** identify goals and actions in 5 key areas.
- **Enablers** identify goals and actions required to support implementation.

**Supporting policies and programs** reflect the wide range of existing policies and programs that are fundamental to protecting and managing the Reef, and are the foundation for the Plan.

Progress will be tracked under the Plan's goals, which both drive and track management efforts to 2025. Goals have been selected to guide action in areas that require strengthening, drawing on the findings of the 2019 Outlook Report and associated independent assessment of management effectiveness.



# WORK AREA 1:
# LIMIT THE IMPACTS OF CLIMATE CHANGE

**The biggest threat to the health of the Reef is climate change. Strong management of local and regional pressures can help build the health and resilience of the Reef but must be combined with concerted global action to reduce greenhouse gas emissions. The climate has already changed, and communities must be supported to adapt to the impacts of climate change.**

### Goal: Australia contributes to an effective global response to climate change through the Paris Agreement, to hold the increase in the global average temperature to well below 2°C above pre-industrial levels and pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

Australia is commitmented to the Paris Agreement and to taking practical and ambitious action to reduce emissions. The Australian Government is committed to achieving net zero emissions by 2050 and Australia is on track to achieve emissions reductions by up to 35% by 2030 under a high-technology uptake scenario. The Queensland Government has committed to reducing Queensland's carbon emissions by 30% on 2005 levels by 2030 and achieving zero net emissions by 2050.

All sectors of the community can play a role in reducing emissions. This includes carbon farming projects and carbon markets, which often have co-benefits for water quality, biodiversity and society.

### Goal: The capacity of Reef communities, Traditional Owners and industries to adapt to a changing climate is increased.

Science and knowledge about climate change and its impacts is continually improving. This information will be made more accessible to communities, Traditional Owners, governments and industries to support climate change adaptation planning. Capacity-building initiatives include education and practical actions for businesses and communities to adapt.

### Goal: Species and habitats are supported to adapt to a changing climate.

While natural systems are good at adapting to new conditions, the rapid rate of climate change, coupled with current and past impacts that have undermined the Reef's resilience, means new approaches are required to support species and habitats to adapt. Research, development and implementation of new interventions will support key habitats and species, including through sea turtle nesting success and habitat adaptation. A major national research program, the Reef Restoration and Adaptation Program, will help coral reefs adapt to rising ocean temperatures

# WORK AREA 2: REDUCE IMPACTS FROM LAND-BASED ACTIVITIES

**The Reef's catchment is an important element in the Reef ecosystem and is an essential part of Aboriginal and Torres Strait Islander culture. Developing the catchment for agriculture and urban areas has impacted the catchment's environmental and cultural values.**

## Goal: The quality of water is improved through increased effective land management practices in catchments.

Water quality from the catchment remains a major threat to the Reef. Implementing the **Reef 2050 Water Quality Improvement Plan** in partnership with governments, industry, Traditional Owners and the community to drive progress towards the water quality targets is a key focus.

The Reef 2050 Water Quality Improvement Plan will be updated in 2022 based on the latest knowledge, including the Scientific Consensus Statement. Implementation will be adapted to reflect advances in knowledge. Key focus areas include:

- accelerating action to improve agricultural land management and stewardship
- increasing Traditional Owner-led projects and integrating traditional knowledge
- improving urban water management
- implementing innovation and new treatment technologies
- supporting regional partnerships and planning
- reducing plastic pollution.

## Goal: Integrated catchment-to-Reef management reduces cumulative impacts.

Improving and integrating knowledge about the flow of water across the catchment, and connections between land and sea, is critical to minimising impacts to the Reef. The **Wetlands in the Great Barrier Reef Catchments Management Strategy** guides a whole-of-system approach to catchment management for multiple environmental and cultural heritage values. It is implemented in partnership with governments, Traditional Owners, communities and science organisations. Key focus areas include:

- delivering on-ground activities to protect the catchment and wetlands
- understanding and integrating catchment-to-Reef management to best reduce cumulative impacts
- increasing Traditional Owner-led projects and integrating traditional knowledge.

## Goal: Lighting and recreational impacts on sensitive shoreline ecosystems and cultural sites are reduced.

Shoreline ecosystems, particularly beaches and sand dunes, provide important habitat for nesting turtles and shorebirds. They also include sites of cultural significance for Aboriginal and Torres Strait Islander peoples. Managing light pollution reduces the impacts on turtles. This work will be continued, including through piloting new technologies. Responsible community use and stewardship is important to minimise the impacts of recreational activities and protect wildlife, habitat and cultural sites.

# WORK AREA 3: REDUCE IMPACTS FROM WATER-BASED ACTIVITIES

**The Great Barrier Reef World Heritage Area supports lifestyles and livelihoods through a wide range of uses including commercial and recreational fishing, boating, tourism, traditional/cultural use, shipping, research and education.**

**A major challenge is to ensure that use of the Reef is ecologically sustainable and protects the Reef's Outstanding Universal Value, while still providing social, cultural and economic benefits.**

### Goal: Biodiversity and heritage protection are enhanced and ecosystem resilience is supported through strengthened efforts to ensure water-based activities are sustainable.

The majority of the Reef is a Commonwealth Marine Park, managed independently by the Great Barrier Reef Marine Park Authority, complemented by a State Marine Park along the coast. These marine parks are managed in partnership with Traditional Owners, industry and community.

Over the next 20 years, the population living near the Reef is anticipated to continue to grow, with the potential to increase pressure on the Reef. Our policy and planning will be proactive and contemporary to protect the Reef. The in-park presence will be expanded to respond to incidents and uphold compliance, and community and industry stewardship will be supported.

### Goal: Traditional Owners are supported to continue to manage sea Country.

Working in partnership with Traditional Owners to manage sea Country will continue to be a focus and is essential to protect Indigenous heritage. This includes expanding Indigenous land and sea ranger programs and implementing the Marine Park Authority's Aboriginal and Torres Strait Islander Heritage Strategy for the Great Barrier Reef Marine Park. It also includes implementing an enhanced and expanded Traditional Use of Marine Resources Agreements program.

## Goal: The threats associated with legal and illegal fishing are reduced.

A significant reform of fisheries management is underway through the Queensland Sustainable Fisheries Strategy 2017–2027, which includes reducing illegal fishing through strengthened compliance. It will also reduce other fishing impacts on protected and non-target species, ensure sustainable take, rebuild depleted species and deliver independent data validation. Commercial and recreational fishers will be encouraged to be stewards of the Reef.

## Goal: Noise pollution and artificial light impacts from sources within and adjacent to the Marine Park are reduced.

Artificial noise and light can affect marine wildlife. The impacts need to be better understood to enable the development of measures to reduce these impacts and promote adoption.

## Goal: New outbreaks of disease are reduced and incursions of introduced species and pests are prevented.

Non-native species can quickly dominate ecosystems, and prevention is better than cure. Surveillance and prevention will be enhanced to ensure early detection and help prevent new incursions.

## Goal: Marine debris, rubbish pollution and at-sea disposal of waste is reduced.

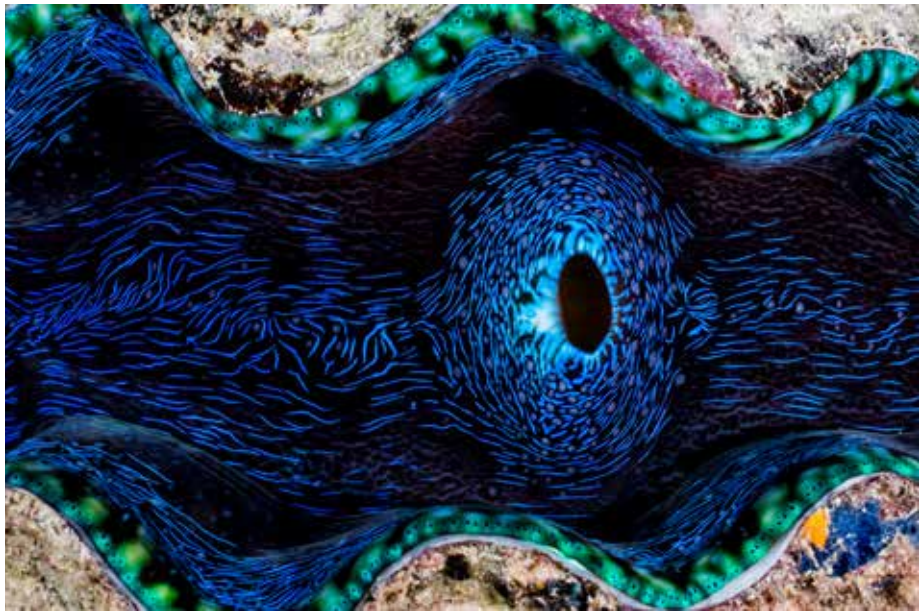
Rubbish in the ocean is recognised as a significant and growing threat to wildlife and marine ecosystems. Measures to reduce rubbish pollution from ships and vessels include providing effective waste reception facilities and improving compliance.

# WORK AREA 4: INFLUENCE THE REDUCTION OF INTERNATIONAL SOURCES OF IMPACT

**The ocean spans the globe as a connected system, and threats that occur outside of Australia's waters can impact the Reef. Many Reef species – whales, dugongs, turtles, sharks and shorebirds – migrate to other parts of the world, which means that habitat impacts outside Australia can affect these species.**

### Goal: Australia actively engages in international forums and agreements to minimise international sources of impact to the Reef.

Australia will continue to engage internationally through various treaties, bodies and initiatives to influence reductions in plastic litter and other pollutants that end up in the ocean and, ultimately, as marine debris in the Reef. Australia will continue to advocate, through relevant international agreements, conventions, programs and partnerships, for strong management of critical habitat for migratory species that spend part of their lives in the Reef.



# WORK AREA 5: PROTECT, REHABILITATE AND RESTORE

**For impacts to the Reef that have already occurred, active intervention may be needed to control established pests and outbreaks and assist the restoration or rehabilitation of habitats and heritage sites.**

## Goal: Outbreaks of pests, introduced species and disease are reduced.

Introduced species like feral pigs and goats have a detrimental impact on wetland and island habitats and prey on Reef species. Not all pest species are introduced. Crown-of-thorns starfish are native coral predators but they can reach densities where they eat live coral tissue faster than the coral regrows. Programs including the Crown-of-thorns Starfish Control Program, Nest to Ocean Turtle Protection Program and partnerships with Traditional Owners will strengthen the management of established pests and introduced species.

## Goal: Key habitats are being actively rehabilitated or restored.

Efforts will focus on actively rehabilitating habitats (e.g. coral reefs and seagrass meadows) that have been adversely impacted, often at a localised scale at least initially. New approaches will be piloted and implemented on the Reef, on islands and in the catchment to support the resilience of these ecosystems.

## Goal: Historic and cultural heritage sites are being conserved.

The Great Barrier Reef World Heritage Area includes a number of historic heritage sites, such as ship and aircraft wrecks, as well as Indigenous cultural heritage sites. These include sites that were once on land but are now submerged following sea-level rise at the end of the last ice age. Conservation programs will continue to monitor and protect these sites.

# ENABLER A: COLLABORATION AND PARTNERSHIPS

**Collaboration and partnerships, supported by sound governance arrangements, are critical to the effective delivery of the Plan. The enduring commitment from governments, industry, land managers, scientists, Traditional Owners and the wider community to work together reflects a shared belief that this is 'our Reef, our responsibility'.**

**Protecting and managing the Reef is built on a strong record of engagement and collaboration. Industry and community partnerships and engagement will continue to be critical, along with activities to incorporate Traditional Owner heritage, rights and responsibilities into all facets of management.**

### Goal: Adoption of best-practice voluntary compliance and stewardship behaviours is maintained and increased.

Reef users, industry and the national and international community will be further motivated to protect the Reef through initiatives that connect people with the Reef and inspire a sense of shared responsibility. Extension and education providers, partnerships with tourism operators, and other incentive-based and industry-led programs will help drive behaviour change.

### Goal: Collaboration and effective partnerships between managers, partners and stakeholders are maintained and enhanced.

Programs that bring people – managers, partners and stakeholders – together to co-design and co-deliver initiatives and that draw on Traditional Owner knowledge will be key to fostering local ownership and embedding partnership. Partnerships at a regional level will be strengthened, along with support for local councils and for park and natural resource managers to work in partnership, including with Traditional Owners.

## Goal: Traditional Owner Indigenous heritage, rights and responsibilities are incorporated into all facets of management.

Traditional Owner customary rights and interests need to be formally recognised through genuine partnerships involving Traditional Owners, government and Reef 2050 partners.

For over 25 years Traditional Owner groups have called for a collective approach to achieving their rights and aspirations for ownership of, access to and involvement in the governance and management of sea Country. This will be achieved by increasing opportunities for Traditional Owner co-management and co-governance, boosting capacity and involvement, and securing sustainable resourcing.

The Plan also commits to the development of a Traditional Owner Reef 2050 Implementation Plan.

# ENABLER B: SCIENCE AND KNOWLEDGE

**The best available science and knowledge is required to manage the Reef – to protect values, reduce threats and improve its current and long-term outlook. Ongoing research and innovation is central to identifying solutions that can be quickly integrated into management actions in response to changes in the Reef. Policy makers, managers and stakeholders rely on credible, contemporary scientific information and other knowledge to develop policies, refine current management tools and develop novel approaches. It is also critical to effective design and delivery of monitoring and evaluation programs.**

### Goal: Science and knowledge are advanced, easily accessible and able to be used in decisions.

Science and knowledge are continually improving and will take a rigorous and evidence-based approach focusing on priority management needs. This includes collaboration with policy makers, managers, landholders and Traditional Owners. The Plan recognises the importance of clear and consistent communication of scientific evidence that should be readily accessible to everyone. This will be achieved through synthesis workshops, scientific consensus statements and improved coordination between Reef 2050 partners, including improved systems and tools to facilitate access and transparency of research.

### Goal: Traditional knowledge is protected and retained.

Traditional knowledge of the Reef is deeply important but lacks prominence in current Reef science and research. Traditional Owners will be supported to develop Indigenous Knowledge Management Systems for retaining, protecting, managing and sharing traditional knowledge.

## Reef 2050 strategic research areas

There are 8 strategic research areas under the Plan.

1) Understanding the dynamics of managing the complex ecological and human interdependent Reef system through a **whole-of-system approach**.
2) Using **Traditional Owner, experiential and other knowledge systems** to further understand and quantify the links between pressures, management actions, interventions, responses and benefits to human and ecological systems.
3) Understanding the condition, vulnerability, and resilience of the Reef's interconnected human and ecological systems to **current and future pressures (individual, multiple and cumulative)**.
4) Optimising ability to **quantify and forecast condition and trend** for key values, identifying tipping points and **key recovery mechanisms**.
5) Understanding **ecological and socio-ecological adaptive capacity** to unprecedented changes in the Reef and catchment and **the community's capacity and motivation to undertake action**.
6) Developing and integrating **improved monitoring, evaluation and modelling approaches** to underpin integrated decision support systems, including the Reef 2050 Integrated Monitoring and Reporting Program and the Reef Restoration and Adaptation Program.
7) Gaining a contemporary **spatial understanding of use patterns** within the World Heritage Area at subregional scales.
8) Developing **remote technologies to assist with monitoring, management, surveillance and compliance automation** within the World Heritage Area.

# ENABLER C: MONITORING, EVALUATION AND ADAPTIVE MANAGEMENT

**Managers and stakeholders need up-to-date, reliable and accessible information on the Reef's condition and the driving forces and pressures impacting it. Monitoring and evaluation are essential to determine if management actions are effective and if they need to be changed to achieve the desired objectives. Adaptive management of the Reef means using evidence-based, iterative decision making that allows managers to prepare and respond in a dynamic environment. Monitoring, reporting and evaluation is also needed to test if efforts are on track with delivering against the goals and objectives in this Plan.**

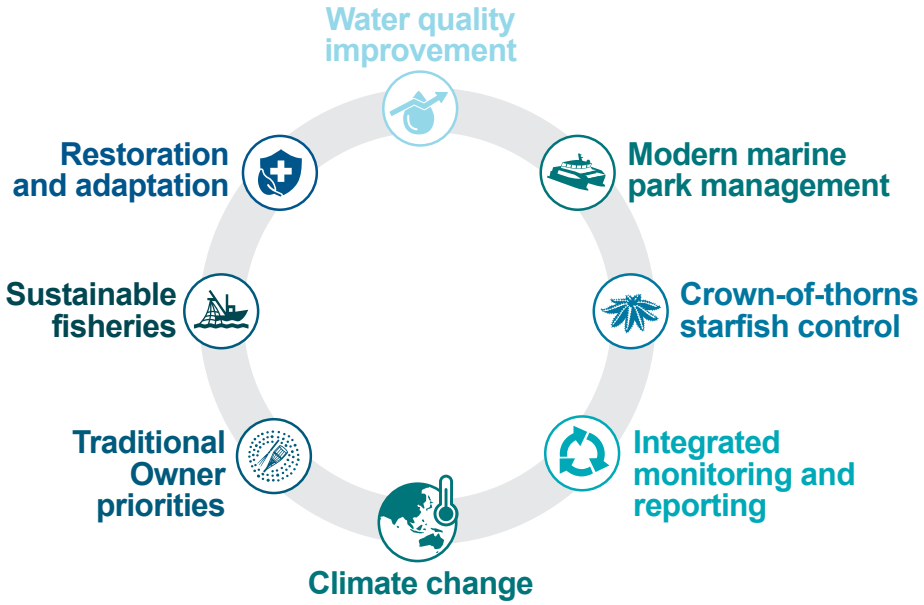
### Goal: Comprehensive monitoring, evaluation and reporting supports informedand agile management responses.

Many Reef monitoring programs are well established, with long-term datasets. But there are monitoring gaps and a need to improve monitoring, modelling, data management capability and integration across different programs. Addressing monitoring and knowledge gaps will continue to be prioritised, including efforts to improve Indigenous heritage monitoring. Adaptive management decisions will be informed by reporting under the Plan that is made accessible and clearly demonstrates evidence of progress.

# ENABLER D: INVESTMENT

**Investment supports the effective and successful delivery of the Plan. The Australian and Queensland governments and Reef 2050 delivery partners are investing substantially, and there have been significant increases since the Plan commenced in 2015.**

Current investment by the Australian and Queensland governments in implementing the Plan stands at $3 billion from 2014–15 to 2023–24. Both governments are committed to investing the time, effort and resources required to implement the Plan. Additional investment will be determined through future government budget processes.




Local governments are also a significant contributor. The Local Government Association of Queensland estimates that, since 2015, local governments have invested more than $1.1 billion in activities that protect the Reef.

Through an increasing focus on partnership and innovative financing, there are opportunities to boost, diversify and increase investment in the Reef.

There are **8 priority areas for investment** under this Plan.

### Goal: Investment supports delivery of the Reef 2050 Plan.

Existing funding commitments in each of the 8 priority areas underpin a multitude of foundational policies and programs that will continue to be delivered.

Future investment will build on existing commitments where activities are found to be effective, in line with the 8 priority areas and guided by the Plan's investment principles. Opportunities to identify new investment to address emerging issues will be sought, along with efforts to boost investment through collaborative arrangements involving governments and philanthropic and private partnerships.

# What's next?

## Implementing the Plan

Delivering the Plan's outcomes will take a collaborative effort. Implementation will be guided by strong governance arrangements, such as the Reef 2050 advisory bodies, and consultation with Traditional Owners, community and industry.

The Australian and Queensland governments will engage with and support Traditional Owner-led development of a Traditional Owner Reef 2050 Implementation Plan.

Additional integrated implementation plans may be developed to meet the outcomes of the Plan.

## Monitoring, reporting and review

Regular reporting over the next 5 years will provide transparency about what is being delivered, and track progress towards achieving the Plan's objectives and goals.

The Reef 2050 Integrated Monitoring and Reporting Program will track progress and provide Reef managers with information to guide management decisions.

Reporting under the Plan will include:

- annual reports
- an outcomes report on progress towards the objectives and goals to inform the next 5-year review of the Plan.

Monitoring and reporting information will be publicly available through the Reef 2050 Integrated Monitoring and Reporting Program Reef Knowledge System.

# Image credits

Front cover: Aerial of Hardy Reef: Jumbo Aerial Photography (© Commonwealth of Australia (GBRMPA))

Page 1: Mangroves at Woody Island: C.Jones (© Commonwealth of Australia (GBRMPA))

Page 2: Colourful reef fish swim amongst Acropora corals: A. Chin (© Commonwealth of Australia (GBRMPA))

Page 4 and back cover: Aerial of Cape Gloucester, north Airlie Beach: Jumbo Aerial Photography (© Commonwealth of Australia (GBRMPA))

Page 5: Aerial view of Townsville city in 2003: J.Jones (© Commonwealth of Australia (GBRMPA))

Page 6: Colourful reefscape view of corals and fish, in the Great Barrier Reef: C.Jones (© Commonwealth of Australia (GBRMPA))

Page 7: Aerial view of the North Johnstone River near Innisfail (© Queensland Government)

Page 7: Crown-of-thorns starfish eating Acropora coral: K. Garnet (© Commonwealth of Australia (GBRMPA))

Page 8: Eye on the Reef diver surveying the health of the reef: R. Beeden (© Commonwealth of Australia (GBRMPA))

Page 10: Environmental best practices by the Douglas Shire Council, a Reef Guardian Council: D. Chaplin, Pine Creek Pictures (© Commonwealth of Australia (GBRMPA))

Page 10: Dugong feeding on seagrass: D. Perrine (© Commonwealth of Australia (GBRMPA))

Page 11: Aerial of Hardy Reef: Jumbo Aerial Photography (© Commonwealth of Australia (GBRMPA))

Page 12: Queensland Government scientists measure water quality and quantity in the Burdekin region

Page 14: Hammerhead shark, at Knife Reef, in the Townsville region: C.Jones (© Commonwealth of Australia (GBRMPA))

Page 17: Kite surfing at Green Island, in Far North Queensland: D. Chaplin, Pine Creek Pictures (© Commonwealth of Australia (GBRMPA))

Page 19: Compliance Marine Parks vessel, Reef Ranger: S. Harman (© Commonwealth of Australia (GBRMPA))

Page 20: Close view of a Giant Clam (*Tridacna derasa*): J.Sumerling (© Commonwealth of Australia (GBRMPA))

Page 23: Aerial view of Nara Inlet, Hook Island: Jumbo Aerial Photography (© Commonwealth of Australia (GBRMPA))

Page 23: Gudjuda Indigenous Land and Sea Rangers (© Queensland Government)

Page 25: Eye on the Reef training in the Whitsunday Region: M. Knapton (© Commonwealth of Australia (GBRMPA))

Page 26: Green Turtle on Raine Island during the nesting season, pink spot indicates that it has been tagged: M.Turner (© Commonwealth of Australia (GBRMPA))

Page 28: Colony of Frigatebirds nesting on Raine Island: M. Turner (© Commonwealth of Australia (GBRMPA))


The Australian and Queensland governments are committed to working together and with all partners towards a Healthy Reef and Healthy People, so that *the Great Barrier Reef is sustained as a living natural and cultural wonder of the world*.

www.awe.gov.au/reef-2050