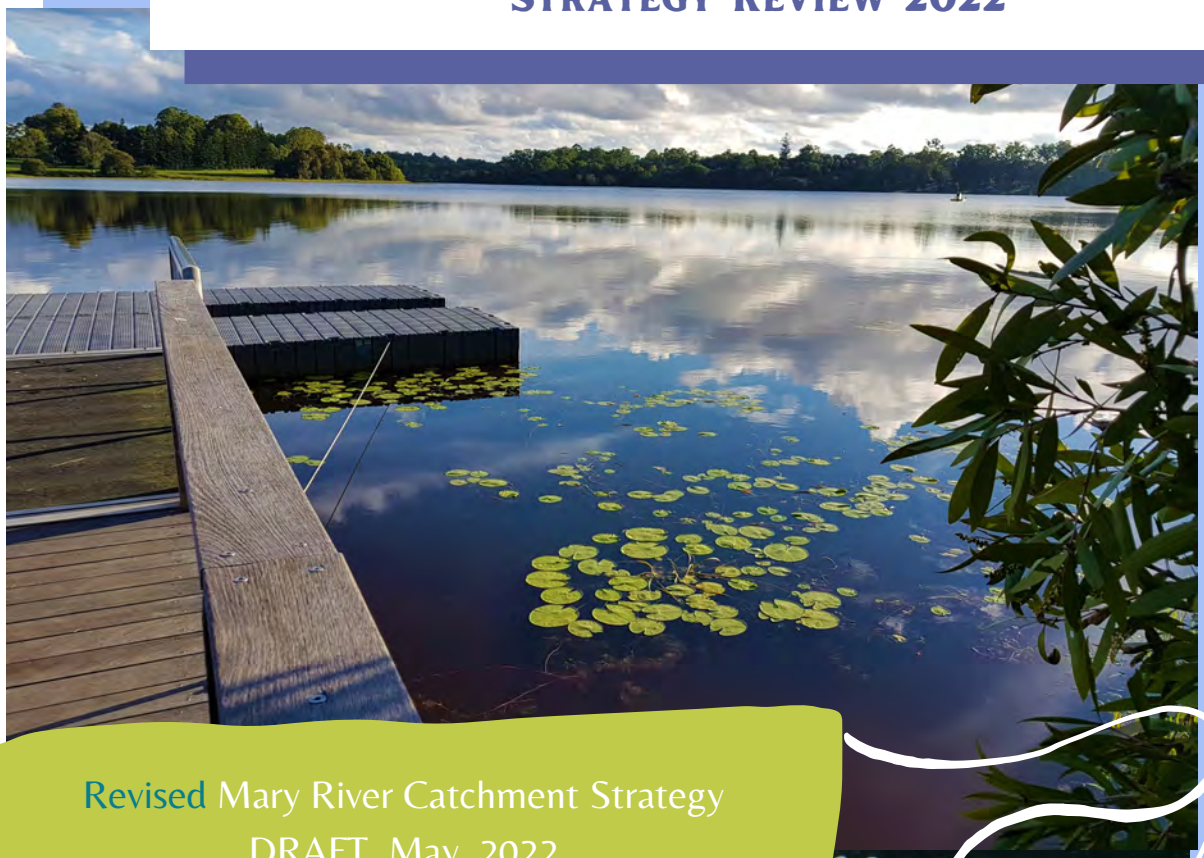
Mary River Catchment

Strategy Review 2022



Revised Mary River Catchment Strategy
DRAFT May, 2022

MARY RIVER

CATCHMENT

COORDINATING COMMITTEE

Mary River Catchment Coordinating Committee
DRAFT Revised Mary River Catchment Strategy: May, 2022

www.mrcccc.org.au
General Inquiries: Your further contact details and opening hours.
By telephone: (07) 54824766
By email: admin@mrccc.org.au
Fax: (07) 54825642
Street address: 25 Stewart Terrace, Gympie
Postal address: P.O. Box 1027, Gympie 4570

Acknowledgments: Strategy Review facilitated by
and draft prepared by Brian Stockwell.
Editing and graphic design by Skyla Stockwell

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Catchment Description

Queensland's southernmost Great Barrier Reef Catchment the Mary River has its headwaters in the northern fringes of the south-east Queensland. Covering around 10,000 km2 the catchment features 3000km of major streams. From the Conondale and Blackall ranges it flows northwards, flanked by the Burnett and coastal ranges, then flows eastwards into the Great Sandy Strait at River Heads. The land and water resources of the catchment are integral to a range of industries, including agriculture, forestry, tourism and fishing. The catchment is home to:

- 83 plants and animals listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act).
- Numerous endangered and vulnerable vegetation communities.
- The Ramsar listed Great Sandy Strait wetland.
- Sections of both the Noosa and Great Sandy UNESCO Biosphere Reserves.

Freshwater ecosystems throughout the world are under great pressure from human induced impacts. The Mary River has not escaped these pressures. The introduction and poor management of invasive plants and animals continued loss of riparian vegetation, and the introduction of water infrastructure increasingly negatively impact the health of the Mary River's aquatic and terrestrial ecosystems. These impacts contributed to the catchment being classified as between 'moderate' and 'poor' condition by the National Land and Water Resources Assessment in 2002.

Despite this, some relatively pristine areas remain. Waterways provide habitat and contain freshwater aquatic ecosystems of national significance. Species such as the Mary River cod (*Maccullochella peelii mariensis*), Mary River turtle (*Elusor macrurus*), Australian lungfish (*Neoceratodus forsteri*) and Giant-barred frog (*Mixophyes iteratus*), Gastric brooding frog (*Rheobatrachus silus*) and Conondale crayfish (*Euastacus hystricosus*) are some of the presumed extinct, endangered, vulnerable and iconic species of the catchment. Dugong (*Dugong dugon*), Humpback whales (*Megaptera novaeangliae*) and threatened sea turtles depend on the estuary and waters beyond the river mouth.

Numaballa & Moonaboola

The First Nations People of the Upper Mary River called the river 'Numabulla'. Home to the Jinibara People, the rainforest covered ranges that define the headwaters of the catchment provided a foothold for Bunya Pines (*Auracaria bidwill*i). This species is an important aboriginal food source that enabled large ceremonial gatherings prior to European colonisation. The Bunya 'festivals' drew people from up to 450 kilometres away during summer (Sullivan, 1977). As the river descends from the ranges it flows through Kabi Kabi country. This broad language group hunted, fished and gathered across the catchment down to the Mt Bauple locality.

Moonaboola, 'the place of many bends', where the river widens and starts to meander across the broad floodplain in the lower catchment, was home to the Butchulla People. The plentiful food sources of the Mary combined with the large winter fish runs along the adjoining Cooloola and Fraser Coasts has led some to suggest that the area carried the greatest density of first nations people on the continent (Mary River Study Task Force, 1992).

'Country' is inherent to the identity of First Nations People who have been custodians of the catchment for millennia. It sustains their lives spiritually, physically, emotionally, socially, and culturally. For generations Aboriginal and Torres Strait Islander people have been calling for stronger measures to recognise, protect, and maintain all aspects of their culture and heritage for all Australians. As part of the catchment strategy review, we acknowledge and seek greater protections from exploitation, desecration, and destruction for aboriginal lands, waters, sacred sites and cultural heritage. Embracing First Nation's cultural knowledge and understanding is an integral part of healing Country.

Brief European History of the Catchment

Five years after explorer Andrew Petrie sailed for three days up 'Moonaboola' (as it was known as in 1842) to Tiaro the river received its current name, Mary River'. Petrie had called it 'Wide Bay River' but this was replaced by Governor Fitzroy in honour of his wife Mary (Armstrong 1997). This was the first of many changes made to the river by European settlement.

The upper and lower Mary River were under pastoral occupation by the late 1840s and squatters controlled much of the Mary Valley by the 1850s. Cattle and sheep runs were initially established on the fertile alluvial floodplains for wool production, with Maryborough being the port for export of this product. But sugar quickly replaced sheep as settlers found the area unsuitable for sheep production (Armstrong 1997). As pastoralists settled in the upper Mary River the locality became known for its timber resources and the dense rainforests were soon being exploited. Commercial timber operations started in the lower Mary in 1849 when 70,000 feet of timber was cut and floated down the river for use or export (Mary River Study Taskforce 1992). In 1853 timber operations were first recorded on the hillslopes of upper catchment. Sediment generated from this first major phase of land clearing showed up in the river during the major floods in the 1890s (DPI 1995).

Gold was discovered by James Nash in Gympie in 1867, and all the watercourses from there to Jimna in the upper catchment were worked by prospectors, liberating large amounts of sediment and pollutants from diggings and tailings. The first commercial horticulture enterprises in the central catchment also commenced in the 1860s, when Chinese people established farms to feed the miners during the gold rush (Pedley 1979). The discovery of gold throughout the middle and upper catchment saw a rise in demand for agricultural and timber production.

Dairying became well established in the late 1890s and continued to grow until the mid to late 1960s. At its peak the Gympie Butter Factory was the largest in the Southern Hemisphere (Kerr 1996). The beef industry began to gain popularity around this time (Armstrong 1997).

The Mary River today is the result of the cumulative impacts of these land use changes. Stan Tutt, a local historian, simplified these historic impacts when he wrote "trees went, sand came".

Changed beyond comprehension of those who knew it even 50 years ago. It has changed from a deep clean stream guarded by shaded scrub (rainforest) which reached back to the ranges, or by the open forest flats saddle high in the native kangaroo grass, to a sand clogged watercourse fighting for its life between eroded banks held by thinly scattered trees. (Tutt 1994, p.14)

The first wave of what we now know as 'tree changers' and 'sea changers' swept across the catchment in the late 1970s early 1980s. The northerly migration of people seeking a better life was in no small part promulgated by the 'Down to Earth' and 'Alternate Lifestyle' cultures of the time. The subdivision of rural land for lifestyle blocks and hobby farms hit its peak across much of the catchment in the late 1980s and 1990s, bringing with it competition for limited water resources, and a fresh round of clearing for development. Demand for building products saw sand and gravel extracted from the river at unsustainable levels. However, this era also heralded the emergence and growing interest in the Landcare movement and the more holistic Integrated Catchment Management approach.

Ethic of Stewardship Reborn


THE GYMPIE TIMES

Saving our river

Joint program to be launched

River committee chairman re-elected

In the early 1990's, the Mary River was described as one of the most degraded river systems along the east coast of Australia. Since European settlement in the 1800's it has been subjected to immense pressure from land clearing, gold mining, industrialisation, sand and gravel extraction and increasing demand for rural and urban water. Valuable natural resources have supported development, provided livelihoods for those that live within the catchment, and contributed to an ever-growing population of the Sunshine Coast and broader Southeast Queensland (SEQ) region.

It was during this era that Gympie, Noosa and Barung Landcare were formed that gave rise to collaboration between a pioneering group of community and industry leaders who first pursued the idea of a "whole of catchment" approach. Led by well-known Gympie farmer Guenter Kath the unincorporated group was a mix of influential stakeholders in the river system, who had an interest in tackling the growing issues facing the river. This was a forerunner the Mary River Catchment Coordinating Committee (MRCCC) which was established in 1994 as part of the roll out of the Queensland Government's Integrated Catchment Management (ICM) program. Representatives from primary industries, Landcare, community organisations and all levels of government began the task of devising a way forward by developing a Catchment Strategy that included actions aimed at improving the health of the catchment.

Launched by then Minister for Natural Resources, Lawrence Springborg, in 1998, the Strategy has driven investment of many millions of dollars into projects to improve water quality and reduce soil erosion through improved land management and rehabilitation of our waterways and riverbanks. The Strategy has also been the key to fostering more sustainable use of the Mary River's water resources and improved land use planning.

Overview of the Review

The world has changed since 1998 and the MRCCC is now in the process of reviewing the Catchment Strategy to reset its priorities for the coming decade. Some of the changes in the catchment that have driven the need for this review include:

- It has become increasingly obvious that erosion of our riverbanks and gullies is resulting in vast amounts of sediment flowing to the Great Sandy Strait, and northwards to threaten the southern Great Barrier Reef since CSIRO SedNET modelling in 2002 first highlighted the primacy of this erosion source.
- The massive loss of farming enterprises during the failed Traveston Dam debacle and dairy industry deregulation in the early 2000s, has resulted in significant changes to the rural community and economy.
- More recently there has been increased emphasis on local food production and an increase in interest in sustainable forms of agriculture.
- Climate change has impacted our water resources and our community and is now a widely accepted reality. Community adaptation and reduction of emissions are important factors to be included in the Catchment Strategy to help mitigate this local and global threat.

The committee invites input from all key sectors who benefit from and help manage the catchment.

The wider community is also invited to contribute to the review.

A copy of the Catchment Strategy can be downloaded from the MRCCC's website.
www.mrccc.org.au/publications

Key Areas of Achievement in Catchment Strategy Implementation since 1998

For more information, or to submit your feedback send an email to admin@mrccc.org.au

Our Vision for a Sustainable and Productive Catchment

In our lifetime the community will be enjoying the natural bounty of sustainable agriculture, fishing and recreational activities flowing from a healthy river system.

Today's custodians will not be judged by what we take from the catchment but by how we leave it, so that its capacity to support future generations is enhanced.

Our Healthy Waterways and Wetlands Vision

Native forests growing on stable streambanks shade the length of the river and all its creeks.

Pools and riffles and snags interplay, to create diverse habitats for a myriad of life including healthy populations of previously threatened species and those of national and international significance.

The flow of water and sediments through the rivers and creeks sustain the physical and biological needs of the riverine system, while meeting the agreed sustainable requirements of the community.

Mary Catchment Coordination Mandate

In order to achieve our vision, the Mary River Catchment Coordinating Committee and its partners have a mandate to:

Coordinate Integrated Catchment Management (ICM) approaches to address issues and promote the uptake of sustainable solutions through:

- fostering openness, connectivity, and trust within community, industry and government;
- undertaking education and extension to enhance knowledge and skills; and
- championing an ethic of stewardship and a duty of care.

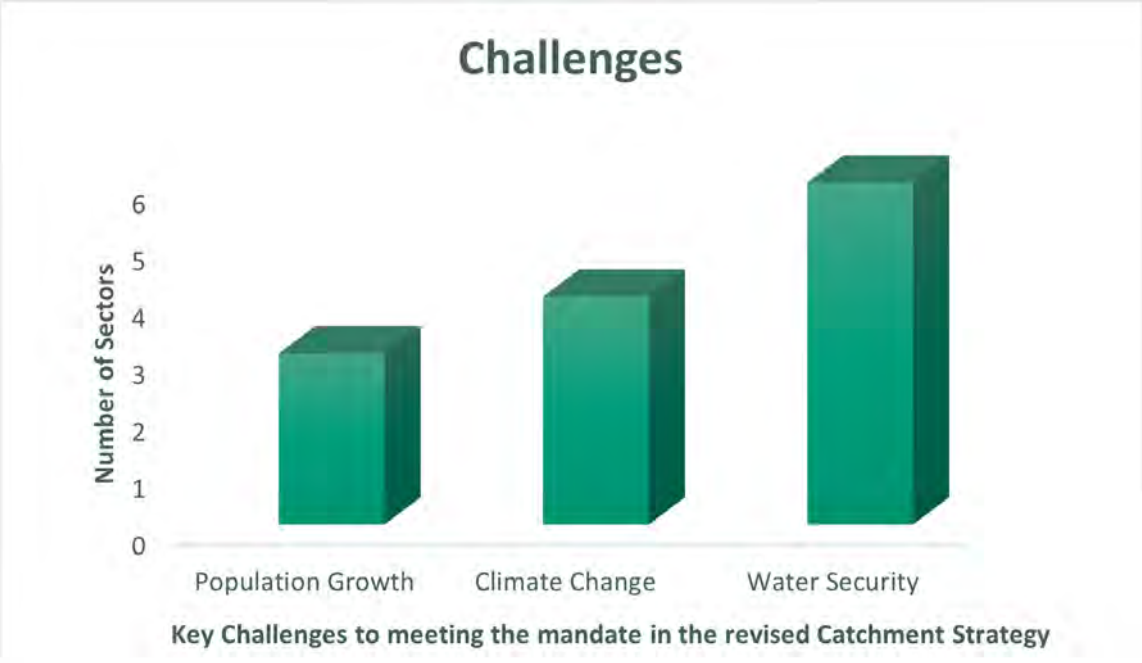
Facilitate land use and natural resource planning that maintains the carrying capacity of the catchment in the long-term.

Enhance the adoption of best practice land management and support the growth of sustainable agriculture.

Take action to improve waterway and wetland health.

Maintain and enhance biodiversity within the catchment.

Promote climate change adaptation and measures to reduce emissions.



Key Challenges to meeting the mandate in the revised Catchment Strategy

Key Community Benefits of Implementing ICM in the Mary

Active pursuit of an integrated approach to catchment management together with strong leadership and sound governance will result in:

- a community with sufficient, knowledge and skills to make informed, soundly based decisions about catchment management;
- a greater awareness of the impacts of actions and inaction on the catchment and our quality of life;
- increased connectivity between, and within, community and industry networks that fosters an enhanced capacity to positively contribute to solutions and an increased commitment to manage and restore the health of the catchment;
- an ecologically, socially and economically sustainable water supply distributed equitably across sectors;
- a resilient community that is prepared for the impacts of climate change and extreme weather and is committed to the transition to net zero emissions; and
- a prosperous community and economy whose health, well-being and lifestyle are underpinned by improvements to the catchment's environmental values and recreational amenity.

Key Natural Resource and Environmental Benefits

Successful implementation of the Catchment Strategy will lead to long term:

- **maintenance of the productive capacity of the natural capital** of the catchment for future generations;
- **reduction of the downstream impacts** on the internationally significant World Heritage Area of the Great Barrier Reef and Ramsar listed Great Sandy Straits;
- **more sustainable development and production** in the internationally recognised Noosa and Great Sandy Biosphere Reserves.
- **maintenance and enhancement of biodiversity** across the catchment; including:
  - healthier populations of the nationally significant threatened populations of the Mary River Turtle, Mary River Cod, Australian Lungfish, Giant Barred Frog, Freshwater Mullet and other species listed under the Environment Protection and Biodiversity Conservation and Nature Conservation Acts;
- **increased stability of riverbanks and gullies** and the prevention of further land degradation;
- **improvement in the water quality** throughout the catchment;
- **enhanced ecosystem resilience to floods and droughts;** and
- **improved ecosystem health and increased natural carbon drawdown** within the catchment to adapt to, and accelerate recovery from, climate change impacts.

It's not the biggest, it's not the longest, but I reckon it's one of the most important rivers in Australia...

Professor Tim Flannery "Two on the Great Divide," ABC.

Theme 1: Integrated Catchment Management

Overview

Integrated Catchment Management (ICM) involves planning, managing and conserving the natural and cultural values within a catchment while facilitating the social and economic processes and practices that drive sustainable production. ICM is an approach based on an understanding that social, ecological and economic factors are interconnected systems.

Principles

To take a whole of catchment approach, making a positive contribution to downstream communities and toward the achievement of global sustainable development goals by:

- **concentrating on causes not symptoms;**
- **emphasising a long-term perspective**; and
- **maintaining a balanced outlook**.

Spheres of Activity for sectors involved in Integrated Catchment Management

Integrated Catchment Management Research
"An approach which recognises the catchment or river basin as the appropriate organising unit for research on ecosystem processes for the purposes of managing natural resources, that includes the social, economic and political considerations" (Bowden 2002)

Targets

1.1 By 2031 80% of large lot holders are engaged in extension and education activities resulting in 75% of participants having sufficient knowledge, and skills to make informed, soundly based decisions about catchment management.

1.2 By 2031 there is increased connectivity and vitality within natural resource management networks in the catchment compared to the 2021 benchmark.

"We don't just grow trees, we grow people"
Phil Moran Landcare Sector Representative, MRCCC.

Strategies

Cultural Heritage - Underpin catchment management with respect for, and acknowledgement of, the traditional owner's rights and interests and help them care for country.

Sustainable Production - Promote within the community, through sector interests, a common view of a sustainable and productive catchment.

Research & Education - Promote community, industry and government research and understanding of the interactions between land, water and related biological resources.

Participative Planning - Identify interrelated natural resource issues in the catchment, identify solutions and facilitate agreement on actions through public, industry and government participation.

Coordinated Action - Foster coordination between landholders, community action groups, industry organisations and government agencies in their land, water and vegetation management activities and the adoption of catchment-care practices.

Programs

ICM Coordination - Maintain and enhance the role of the Mary River Catchment Coordination Association to oversee the implementation, monitoring, evaluation, reporting and review of the Catchment Strategy.

Partnership Program - Maintain and enhance the partnership programs with traditional owner, natural resource management and industry groups, local governments, regional bulk water authorities, research and education institutions and state and federal funding governments.

Research & Action Learning - Re-energise research and development forums as well as action learning and citizen science programs to facilitate the adoption of leading-edge solutions to catchment issues.

Performance Measures

The Mary River Catchment Coordination Association will:

Achieve meaningful representation and maintain active communication with all key interest sectors.

Review and report on:

- the outputs and outcomes of whole of catchment programs on an annual basis;
- the implementation response of key sectors to catchment strategies and programs;
- the progress toward key natural resource condition targets on a biennial basis; and
- major improvements and innovations recommended for the strategy on a five-year basis.

Partnership programs will invest $3 million per annum into the implementation of priority catchment strategy programs.

Research and citizen science networks within the catchment will:

- Hold biennial forums to ensure the science is addressing need and is shared between scientists, planners, extension officers, resource managers and the community.
- Monitor and evaluate key natural resource and socio-economic outcomes
- and targets identified in the strategy.

Theme 2: Land Use and Natural Resource Planning

Overview

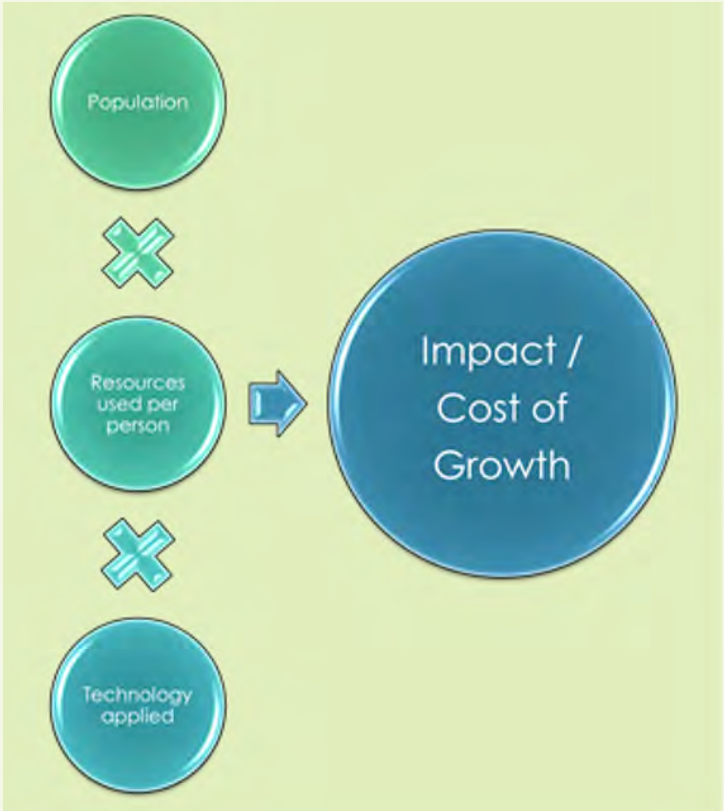
In the early 1990s the Queensland Integrated Catchment Management (ICM) strategy was born out of the realisation that there was increased conflicting demands on many of our land, water and related natural resources. The strategy acknowledged that these pressures were occurring predominantly in coastal areas where urban and semi-urban populations were increasing rapidly. In the past the development and management of these natural resources has suffered from the tyranny of independent and unplanned decision making. The post Covid population boom in and around the catchment heightens these issues once again. The challenge for planners is to address the social and economic goals of sustainable development to ensure our land, water, vegetation and atmospheric resources are used within ecological limits.

Principles

Plans design and limit human use and enjoyment of the catchment to within the **sustainable carrying capacity** of its natural systems.

The principles of **ecologically sustainable development** underpin plans and policies.

The principles of **culturally sensitive development** underpin land use and natural resource plans and policies.



Model: Impact = Population x Affluence x Technology

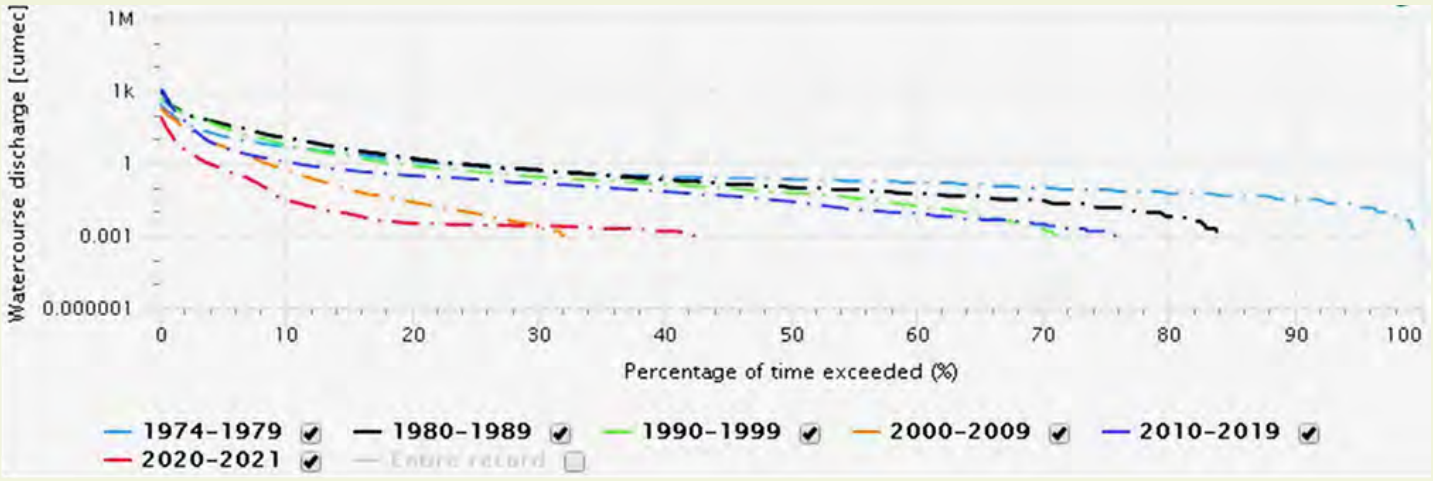
TARGETS

2.1 By 2031 greater than **90% of the agricultural land i**n the catchment mapped in 2004 **will be available for sustainable agriculture.**

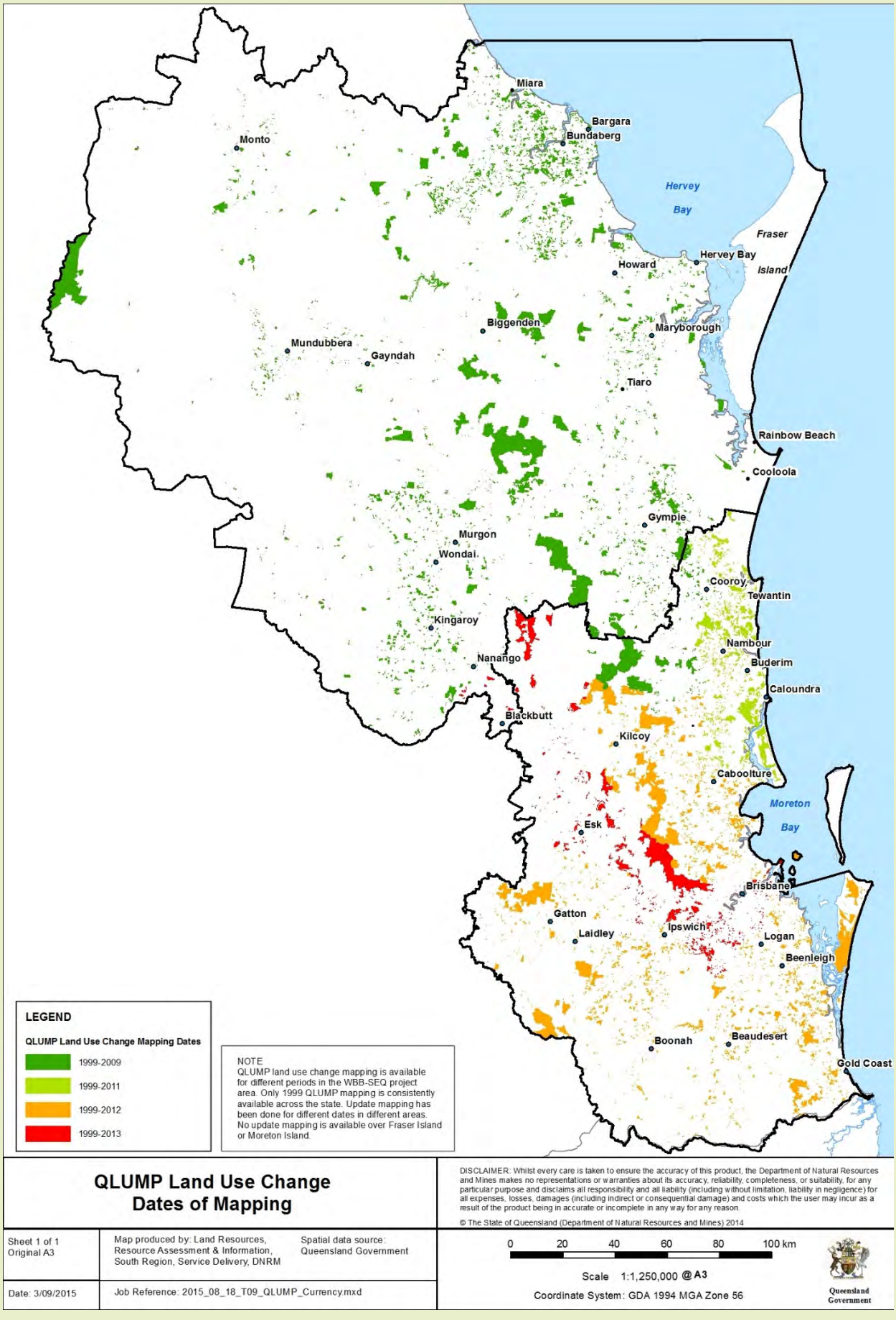
2.2 By 2031 there will be **no net fragmentation of larger tracts** (greater than 5000 ha) **of remnant vegetation**, and 20% of priority smaller tracts will be better connected than the 2003 baseline.

2.3 By 2031 there are **no coal mines or coal seam gas extraction** in the catchment.

2.4 By 2031 **more water is available for the environment** than the 2021



Stream Flow Duration Curves, Wide Bay Creek at Kilkivan, showing significant decrease of discharge over time



Land use change in the Mary Catchment

Source: Soil and Land Resource Data: a Current Snapshot and Future Priorities South East Queensland and Wide Bay Burnett, Dept Natural Resources and Mines (unpublished)

Strategies

Advocacy - Advocate for coordinated land use and natural resource planning, policy to councils and higher levels of government including:

- promoting the active involvement of the community in decision-making; and
- the need for plans to control, and approvals to minimise, uses that pose a threat to the environmental and social values of the catchment.

Sustainable Water Supply Planning- Ensure that water supply planning provides equitable access to all users, and to the environment, on a sustainable basis.

Programs

Networked Government - Foster Local and State Government planning approaches and networks that understand and implement the catchment strategy.

Planning Leadership - Provide leadership and direction to natural resource planning processes to ensure the principles of sustainable natural resource management are embedded within them.

Community Champions - Foster and support environmental 'champions' within, and advocate on behalf of, the catchment community should resource extraction and other development plans be proposed that are inconsistent with the catchment vision and principles.

Performance Measures

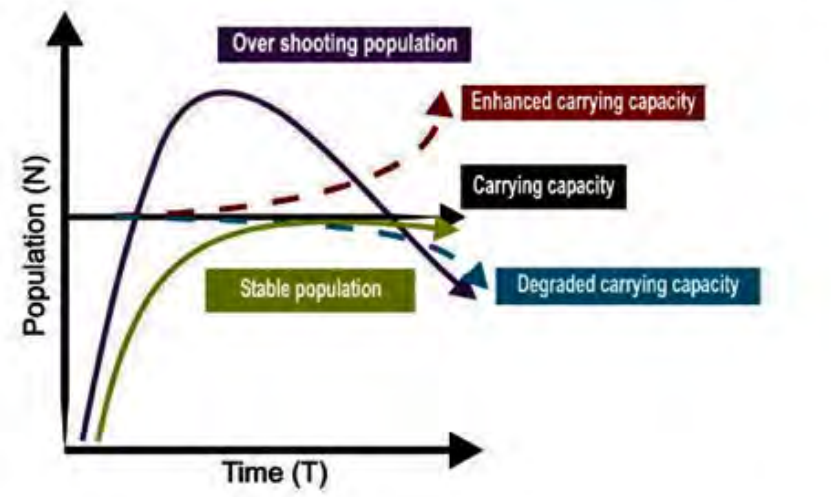
The envisioned population projected in all local government planning schemes is underpinned by assessment of the sustainable carrying capacity of the natural resources, and the retention of high value ecosystems, wetlands and waterways.

Water Resource Planning is reviewed and rules set to ensure adequate environmental flow regimes are achieved within the emerging climatic conditions.

No new sand, gravel or resource extraction occurs within or adjacent to waterways, wetlands and other high value ecosystems.

There are no new water allocations from waterways in the catchment.

The amount of water and land consumed per person in the catchment is reduced on current levels.



Model: Impacts of managing to, or above, the carrying capacity of a system

Theme 3: Best Practice Land Management and Sustainable Agriculture

OVERVIEW

With around seventy percent of the catchment being allocated to grazing uses, the quality of grazing land management has a considerable influence on the health of the catchment. More intensive systems with higher nutrient loads can increase the potential for sediments, nutrients and other pollutants to cause downstream water quality problems. Best practice land management is facilitated by the extension, education and training programs that enable attitudinal and practice change in primary producers and natural resource managers. Sustainable management practices increase soil carbon capture, reduce off-site run-off, help stabilise streambanks and increase biodiversity. On the other hand, over-grazing and poor land management can also lead to a loss of productivity and pasture condition, land degradation and off-site impacts.

" The industry has seen changes over the past 25 years. From just over 100 dairy farmers producing on average just over half a million litres per farm to under 50 farmers producing over 1 million litres per farm.

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The dairy sector was estimated as being $40M in 1996. If we take numbers in 2021 as being 45 farmers with average of 1M litres at $0.75 is about $34M plus processors 5 x $20M turnover average is another $100M."

Elke Watson, Dairy Sector Representative MRCCC.

" The changes in management practices demanded by local consumers has led to a significant reduction in the use of herbicides, pesticides and soluble fertilizer, improved awareness of soil management issues and integrated pest management being regarded as standard practice"
Steve Burgess, Small Farm
Sector Representative, MRCCC.

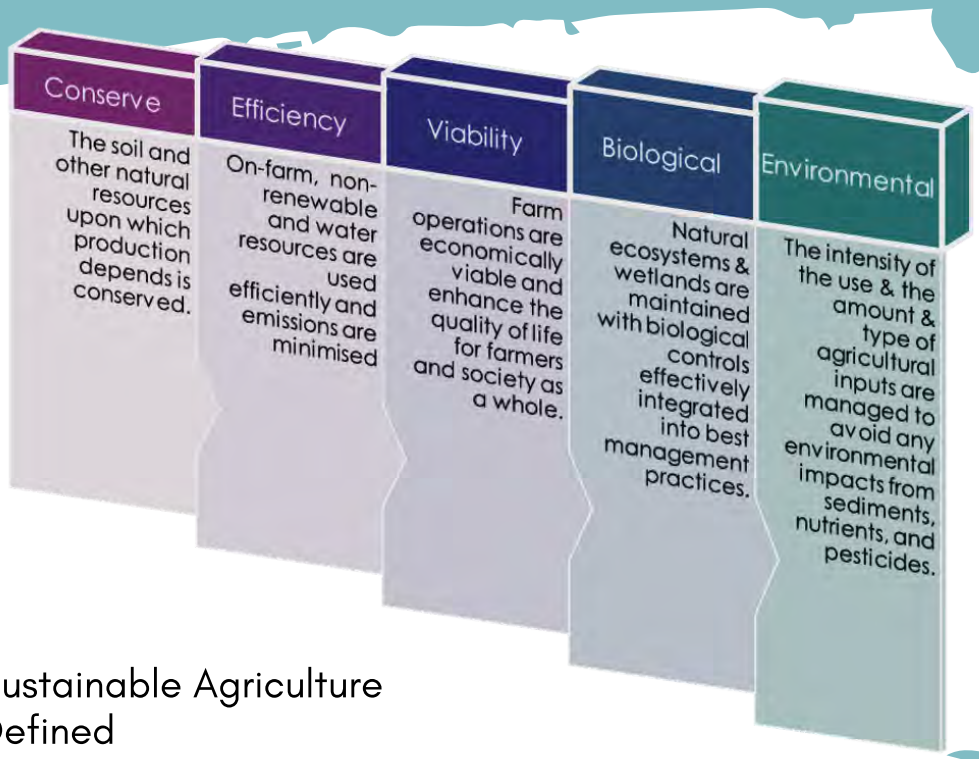
PRINCIPLES

- **The catchment supports us, so we support the catchment.**

- **Current custodians adopt land management systems that are economically viable while providing long term protection of the natural resources upon which production is based.**

Percentage of on-ground projects	Reef Plan Priority Outcomes
100%	Improving downstream water quality
95%	Reducing cattle camp nutrient runoff
98%	Improved stock drinking water quality - troughs
90%	Improved evenness of grazing and groundcover
17%	Upgrading the reliability of supply of stock water
48%	Improving riparian zone condition
8%	Reducing hillslope runoff – reduced loss of topsoil
24%	Improving grazing land condition
4%	Rehabilitation of gully erosion
132	Total Number of Reef Projects 2010-2019

Impacts of the MRCCC Sustainable Grazing Program



Sustainable Agriculture Defined

TARGETS

3.1 90% of grazing land will have greater than 70% ground cover in the late dry season by 2025.

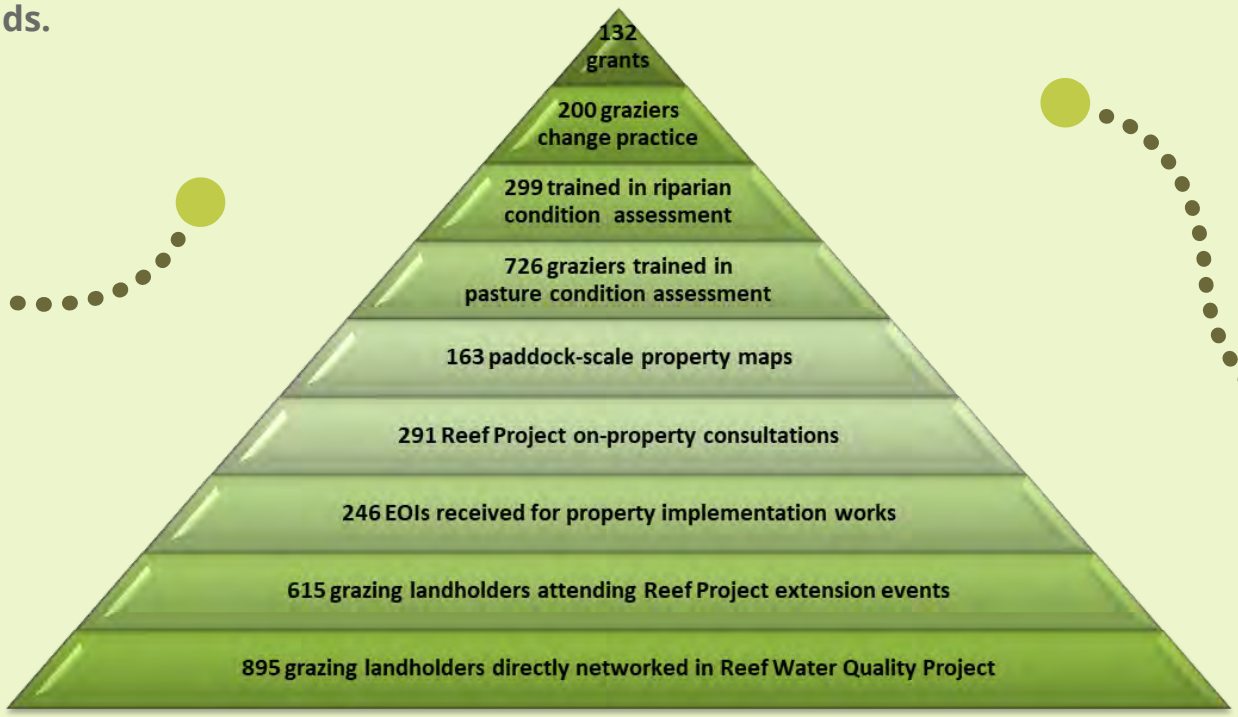
3.2 Grazing Land condition and soil health within the region will be maintained or improved compared to the 2021 benchmark

3.3 25% reduction in the anthropogenic end-of-catchment fine sediment loads by 2025.

3.4 By 2031 average soil carbon levels in farming and grazing country are higher than the 2021 benchmark.

3.5 20% reduction in anthropogenic end-of-catchment particulate pesticide loads by 2025.

3.6 60% reduction in anthropogenic end-of-catchment dissolved inorganic nitrogen loads.



Outputs of the MRCCC Sustainable Grazing Program 2010-2019

Strategies

Stewardship - Foster an enduring culture of stewardship for the region's natural resources.

Best Management Practice - Build the capacity of industry, community and government to adopt best practice land management through extension, education and training.

Action Learning - Facilitate and coordinate local action learning networks focussed on the principles and practices of Landcare.

Programs

Extension and Incentives - Deliver ongoing land management extension and incentives as part of the Great Barrier Reef Water Quality Protection Plan response and the Seqwater source protection program.

Land Condition Assessment - Develop and deliver grazing land condition assessment at a property scale.

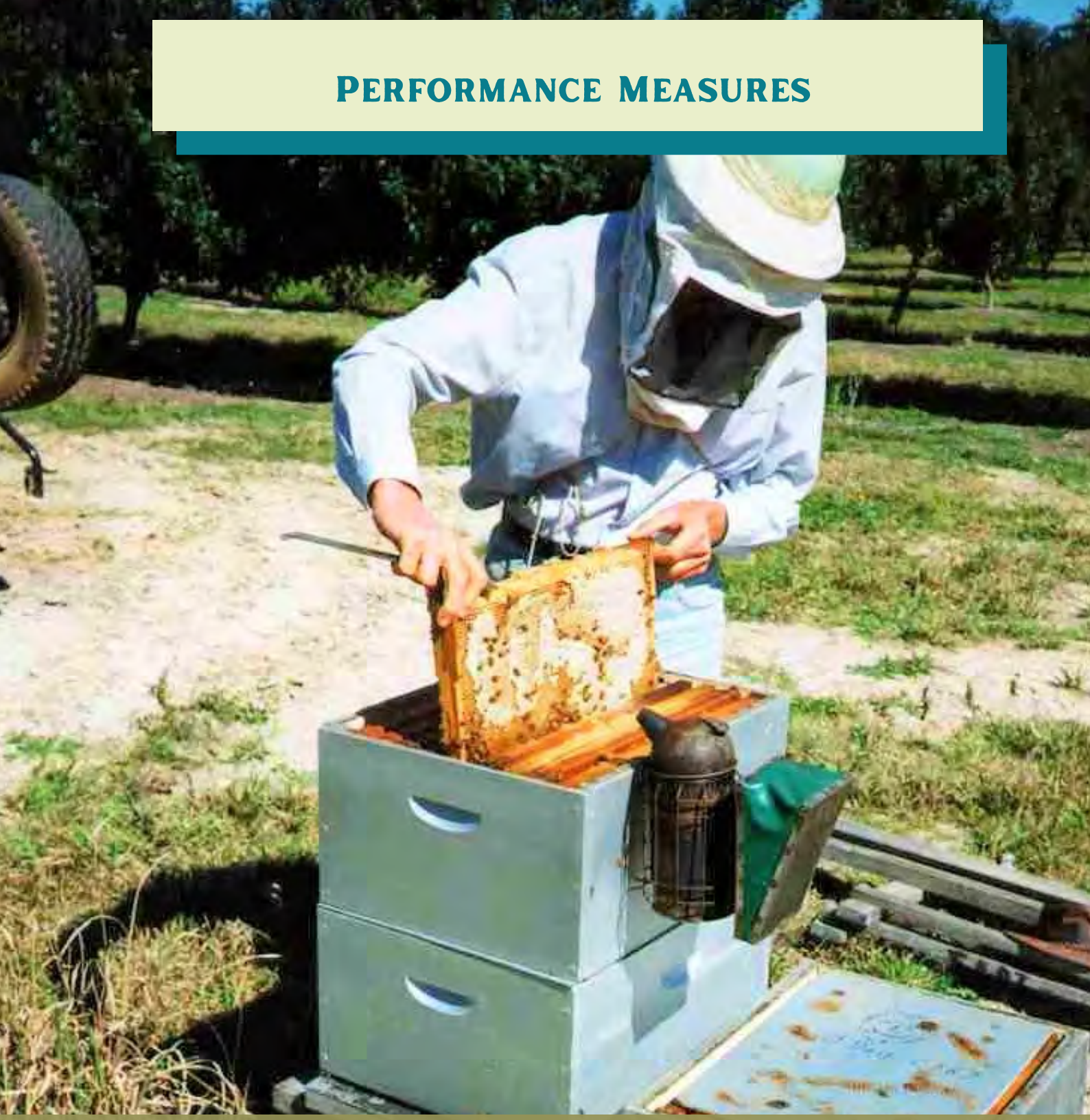
Environmental Weed Management - Develop and deliver a partnership program for strategic environmental weed control across the catchment.

Monitoring and Evaluation - Monitor and report on the adoption of best practice land management and its impact on land condition at a sub-catchment scale.

"Macadamia nuts would be the most significant tree crop in the catchment. Mature plantings in the area total approximately 250,000 trees. Given a conservative production estimate of 2.75 tonnes per ha the area would produce an average in the vicinity of 3100 tonnes in shell product with a farm gate value of $15.5 million. Two local processors value add more than 10,000 tonnes of both local and imported in-shell macadamias,"

Brice Kaddatz, Horticulture (tree crop) Sector Representative MRCCC

Performance Measures



- **All key primary industry groups are involved in delivery partnerships in the catchment.**
- **80% of large lot holders are controlling environmental weeds by 2031.**
- **Ten extension, education and training activities are conducted annually.**
- **90% of land in priority areas is managed using best practice systems by 2025.**

Theme 4: Improve Waterway and Wetland Health

Overview

The health of the waterways and wetlands in the Mary today is the result of the cumulative impacts of land use changes and management practices ever since the pastoralists and foresters first started clearing the catchment in the 1800s. While some reaches of the river remain in good condition, much has been degraded. Poor riparian vegetation and streambank erosion is common. the majority of streams in the catchment are considered to be moderate to poor in terms of channel diversity and aquatic habitat. Sediment loss from riverbanks and gullies is a major source of sediment threatening the health of the Great Barrier Reef. Dams constructed within the catchment for potable and irrigation supplies provide water for communities within and outside of the catchment, however, the off take and release protocols reduce flows downstream impacting the ecology of the system. These negative pressures within the catchment have been matched by a significant growth in community-based action to address the problems since the inception of the MRCCC in 1994. However, some reaches along the 2947 km of waterways in the catchment contain remnant freshwater riparian communities of national conservation significance. Further, the lower Mary estuary is of international significance for wader birds, with these areas being added to the RAMSAR list during 1999.

Principles

Urban and rural water users put back water of a higher quality than they take out.

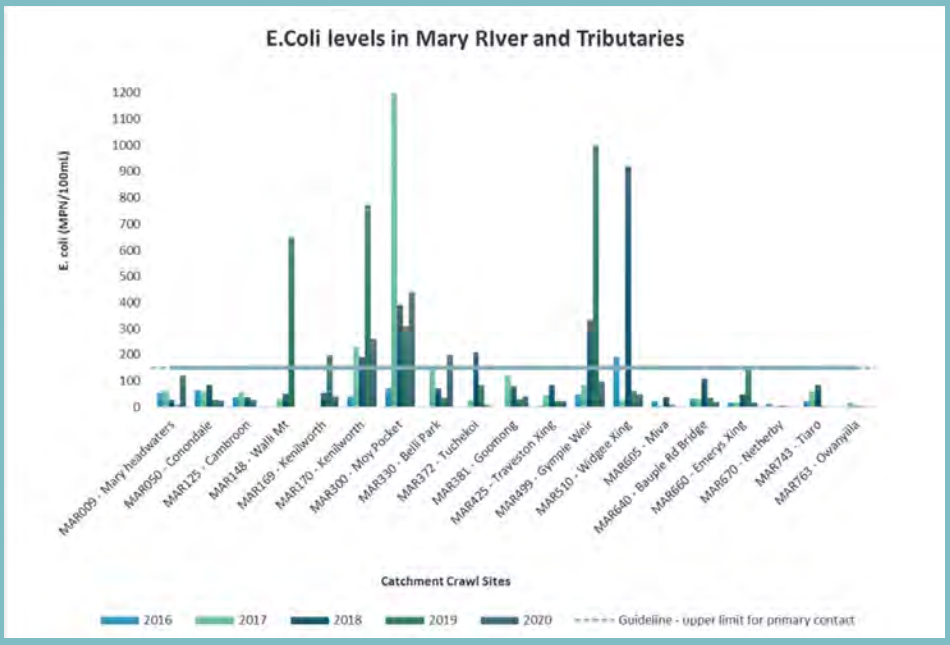
Enhance the cost efficiency of interventions aiming to improve environmental health by **applying the sequence of priorities in the 'mitigation hierarchy'**:

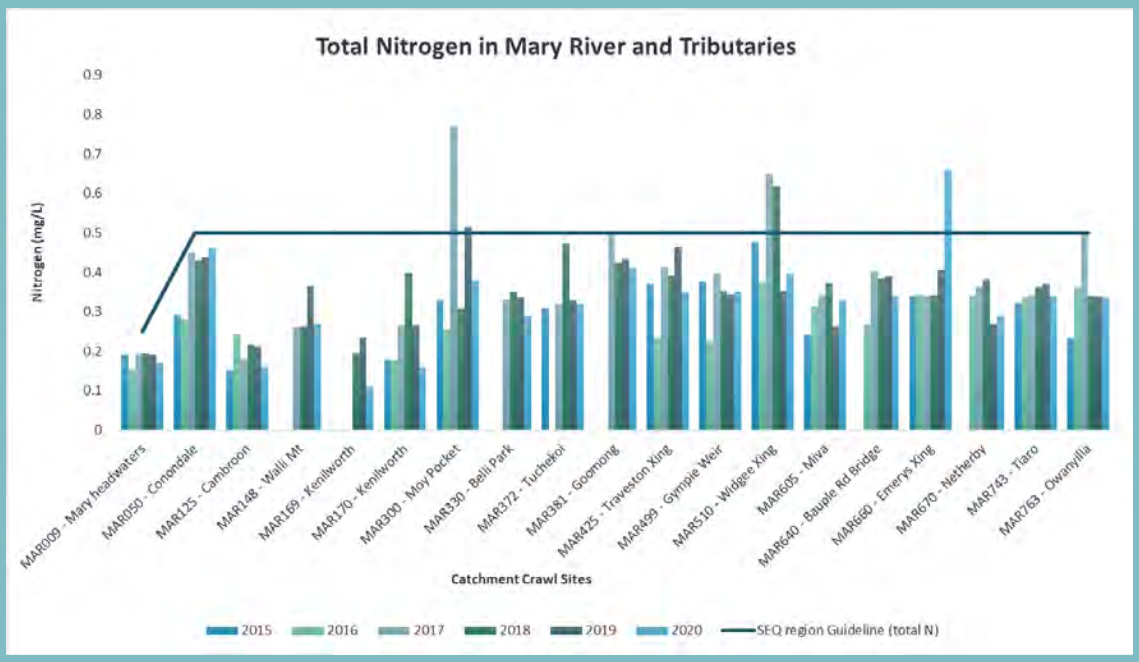
- first avoid creating impacts – for example, protect high value areas in good health,
- next minimise impacts - reduce the duration, intensity and/or extent of disturbance,
- then rehabilitate– to achieve a net gain in waterway and wetland health, and
- if needed Offset – to compensate for any residual impacts to achieve no net loss.

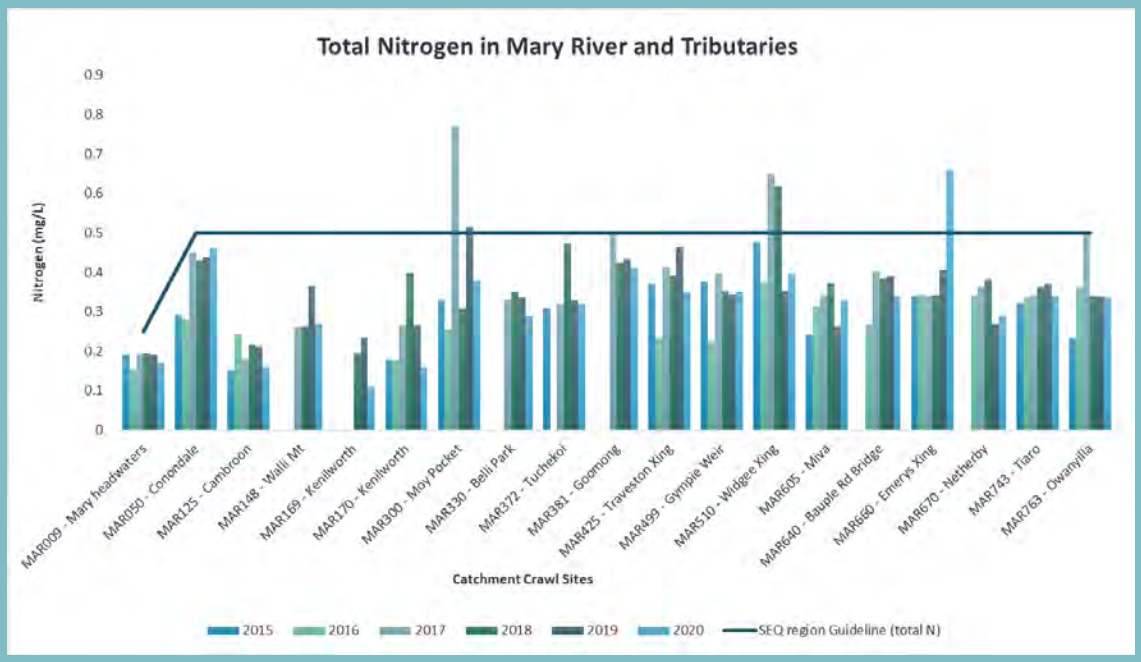
RESULTS

Catchment Crawl

Water quality results from annual catchment crawl during which samples are collected from throughout the catchment over a couple of days.







TARGETS

4.1 By 2031 there will be a 25% increase in the condition and extent of riparian areas compared to the 1997 State of the River Baseline.

4.2 By 2031 river and tributary health, as indicated by macroinvertebrate populations**, will be improved** compared to the 1999 Mary River and Tributaries Rehabilitation Plan baseline.

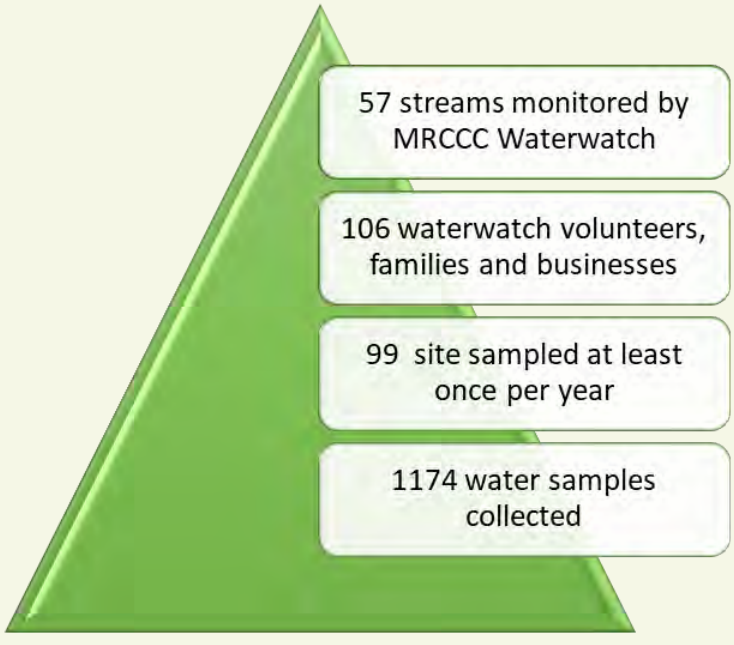
4.3 There is no net loss of the extent of natural wetlands.

4.4 By 2031, upper sub-catchments within the Mary achieve an A rating (or equivalent) for their environmental health.

4.5 By 2031 their will be zero plastic litter entering the Mary River and its tributaries.

"The expansion of the networks and an increase in the number of volunteers is currently limited by the funding from local government. Additional sources of funding, including from industry and private sponsorship should be explored, to augment the current Waterwatch program."

Garth Jacobson,
Waterwatch Sector Representative MRCCC



Waterwatch annual statistics 2020/21

Strategies

Riparian Management – provide incentives, advice and encouragement for riparian landholders to:

- retain and manage existing native vegetation within riparian buffers;
- erect riparian fencing, construct off-stream water points and manage stock access;
- focus revegetation & regeneration on links between significant remnants; and
- control aggressive environmental weeds.

River Rehabilitation – Actively research, develop and deliver leading edge wetland and waterway rehabilitation.

Aquatic Ecosystem Connectivity – remove barriers to fish/bio passage and return important environmental flows.

Programs

River Rehabilitation Plan- Ongoing evaluation, review, improvement and implement the Mary River and Tributaries Rehabilitation Plan.

Reef Water Quality Improvement – implement the priorities of the Reef Water Quality Protection Plan and the Mary Water Quality Improvement Plan.

Waterwatch – support and grow the Mary Waterwatch and Riparian Assessment program.

Waterwise – promote local and state government Waterwise, water re-use, and rural water use efficiency education programs.

Plastic Free Mary - Introduce a new zero plastic litter to the river program with the community to provide a pathway to removing all litter entering the river by 2031.

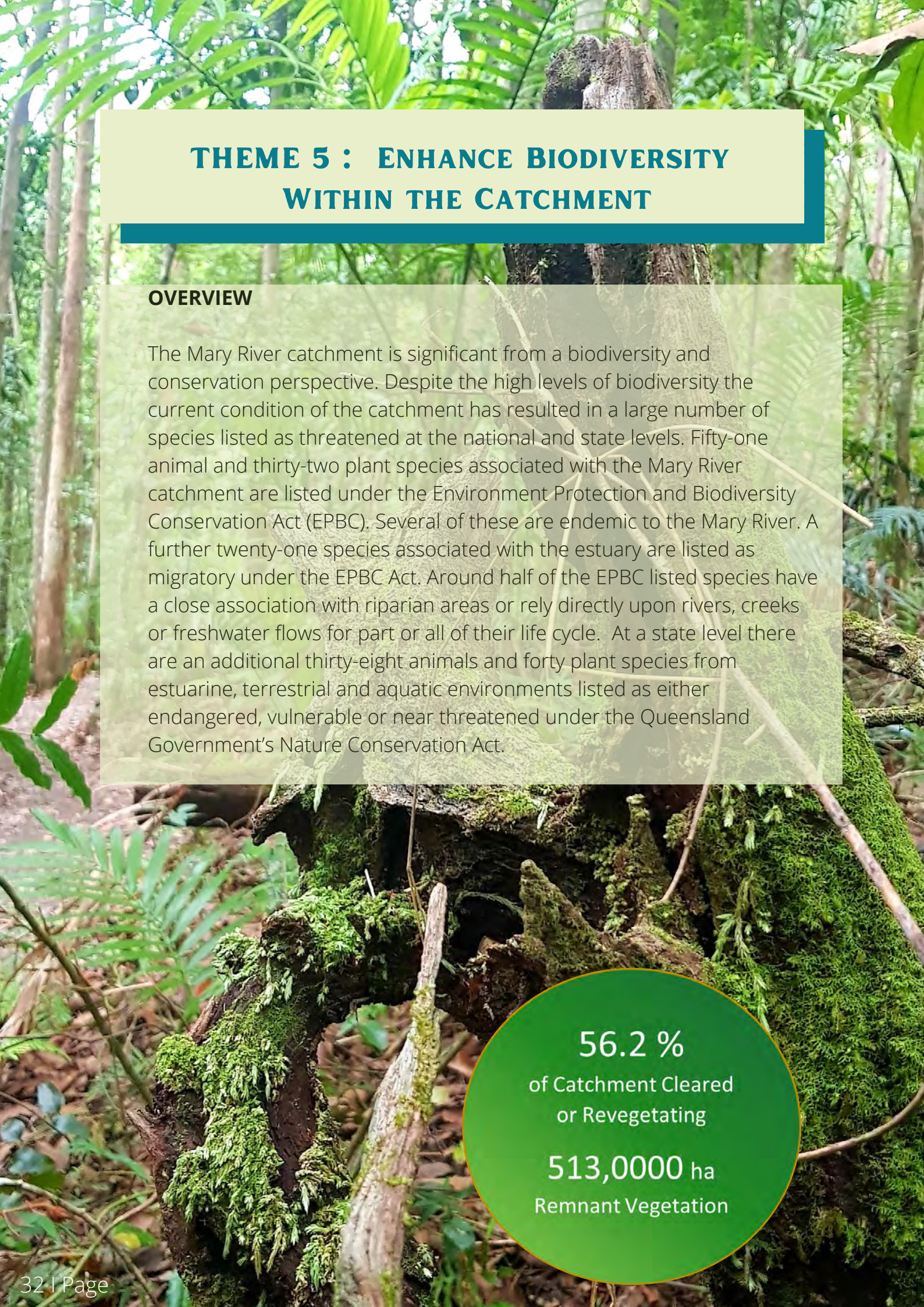
Performance Measures

- **Environmental flows** below impoundments are released to adequately mimic 'natural' seasonal flow regimes.
- **80% of riparian landholders will** manage areas adjacent to wetlands and waterways in accordance with best practice by 2031.
- **80% of infrastructure blocking fish migration have been removed** or remediated by 2031.
- **Additional inter-basin transfers and further dams in the catchment are avoided** through effective total water cycle management, rural water use efficiency and Waterwise education programs.
- **Waterwatch report cards** are produced and shared to government and local communities on a biennial basis.

THEME 5 : ENHANCE BIODIVERSITY WITHIN THE CATCHMENT

OVERVIEW

The Mary River catchment is significant from a biodiversity and conservation perspective. Despite the high levels of biodiversity the current condition of the catchment has resulted in a large number of species listed as threatened at the national and state levels. Fifty-one animal and thirty-two plant species associated with the Mary River catchment are listed under the Environment Protection and Biodiversity Conservation Act (EPBC). Several of these are endemic to the Mary River. A further twenty-one species associated with the estuary are listed as migratory under the EPBC Act. Around half of the EPBC listed species have a close association with riparian areas or rely directly upon rivers, creeks or freshwater flows for part or all of their life cycle. At a state level there are an additional thirty-eight animals and forty plant species from estuarine, terrestrial and aquatic environments listed as either endangered, vulnerable or near threatened under the Queensland Government's Nature Conservation Act.



Principles

Biodiversity can be regarded as natural capital that together with social and physical capital forms the foundations of a nation's wealth.

Healing Country through the conservation and rehabilitation has significance to the ongoing cultural and spiritual connection of traditional owners, Butchalla, Jinibara and Kabi Kabi people, to the catchment.

Maintenance and restoration of natural ecosystems and the services they provide is essential to sustained community wellbeing, economic prosperity and efficiency.

Conserving remnant biodiversity, building connectivity and restoring depleted ecosystems are wise strategies for strengthening long-term resilience.

Targets

4.1 By 2031 there will be a 25% increase in the condition and extent of riparian areas compared to the 1997 State of the River Baseline.

4.2 By 2031 river and tributary health, as indicated by macroinvertebrate populations, will be improved compared to the 1999 Mary River and Tributaries Rehabilitation Plan baseline.

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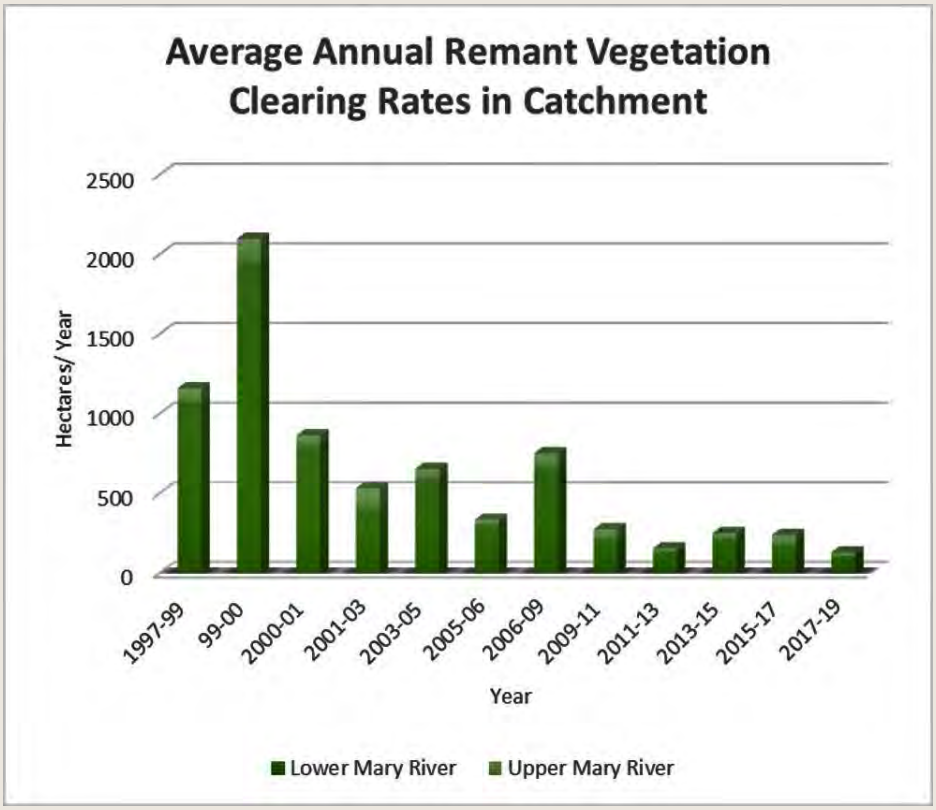
4.5 By 2031 their will be zero plastic litter entering the Mary River and its tributaries.

"Our group alone injected 3.4 million dollars into the local economy in 2019/20 providing meaningful employment. Noosa Landcare currently has 55 staff on the payroll."

Phil Moran
Landcare Sector Representative, MRCCC.



Strategies

Threatened Species Recovery - focus recovery effort on the priority species to improve:

- the long-term viability of the threatened and priority species, and
- the overall biodiversity of the Mary River system.

Strategic Pest Management - well planned and coordinated pest and environmental weed management is focused on:

- extension, education and communication programs to targeted stakeholders and land managers; and
- strategic surveillance to increase early identification and initiation of controls to minimise threats emerging in areas of high biodiversity.

Programs

Environmental Protection - Continue to advocate for, and partner with, local, state and national government biodiversity conservation programs that provide statutory protections for threatened and endangered species and acquisition/ protection of of high environmental value land.

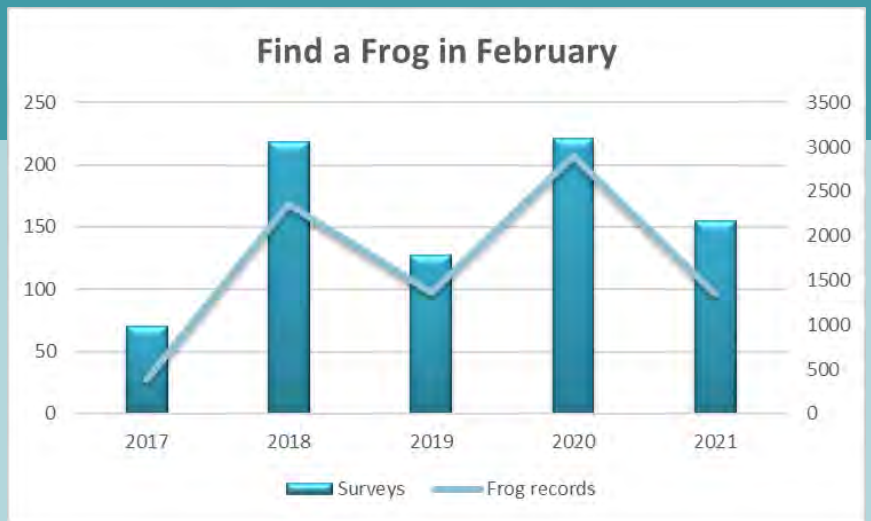
Mary River Threatened Species Recovery Plan - continue to implement including :

- the 'Living with Threatened Species' and 'Find a Frog in February' Programs; and
- to foster Mary River Cod recovery through the Gerry Cook Fish Hatchery.

Extension and Education - enhance extension and education programs to include biodiversity conservation advice as part of landholder outreach and farm planning.

Performance Measures

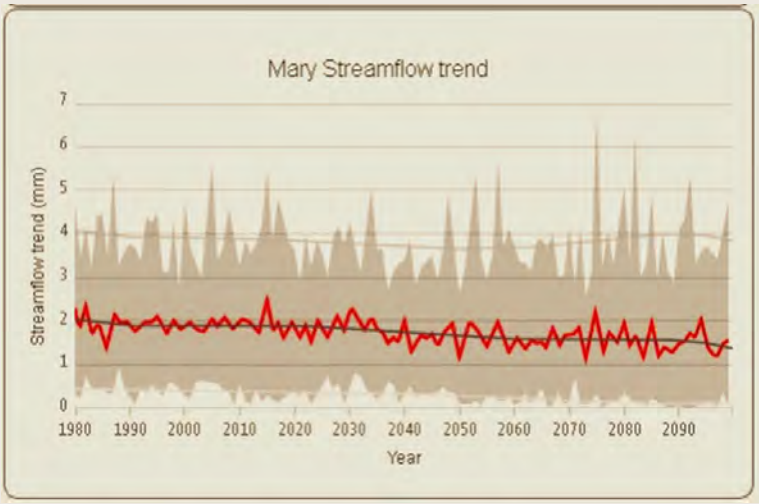
- **Natural resource managers, government and nongovernment organisations will be adequately resourced and working together** to implement programs and achieve targets.
- **An increase in the number of farm plans and BMP action plans** proposing biodiversity conservation and management as a result of extension and education programs.
- **Quality of life and community wellbeing is improved** as a result of improved environmental and recreational amenity.



Theme 6: Climate Action

OVERVIEW

Record floods, extreme fires - the rate of climate change is accelerating. Multiple lines of scientific evidence suggest average global temperature rise will exceed 1.5°C of warming above pre-industrial levels, most likely in the 2030s. However, if the global community takes strong action to dramatically reduce emissions this decade, we can stabilise global warming at well below 2°C. Key sectors across the catchment are likely to be affected by what is already 'locked in' in terms of climate change. For example, the 2019-2020 bushfire season put a spotlight on the potentially disastrous impacts facing us if we fail to take meaningful action. 'Black Summer' also highlighted the importance of responsible planning and working together as a community. Everyone can play a role by switching to renewable energy. While large landholders can play an important role in enhancing the carbon captured by good soil management and increasing forest cover through regeneration, revegetation and farm forestry.



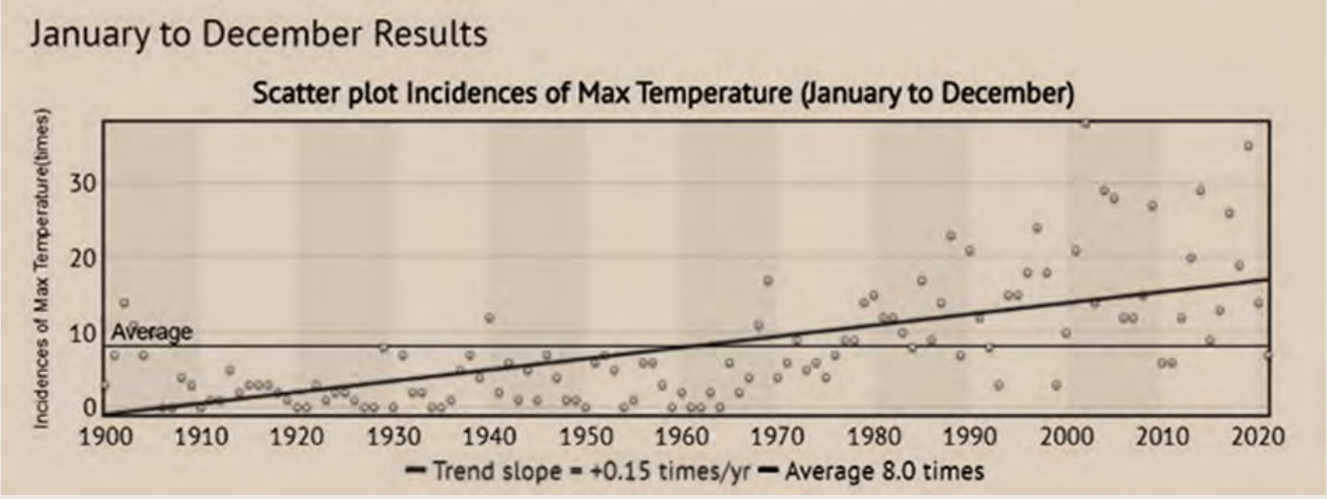
Principles

Adopt a precautionary approach to climate change adaptation and emissions reduction and accelerate the transition to net zero emissions.

Commit to being innovative, flexible and adaptive in our approach to climate change, accepting that extreme climate variability is the new norm.

Pursue actions that have multiple benefits, including reducing emissions in a manner that results in financial, environmental, health and/or social rewards.

Prioritise actions based on risk management and their ability to affect change and achieve the desired impact



Trend in incidences of maximum temperature 1900- 2020 at Gympie (Source: Australian CliMate)

Targets

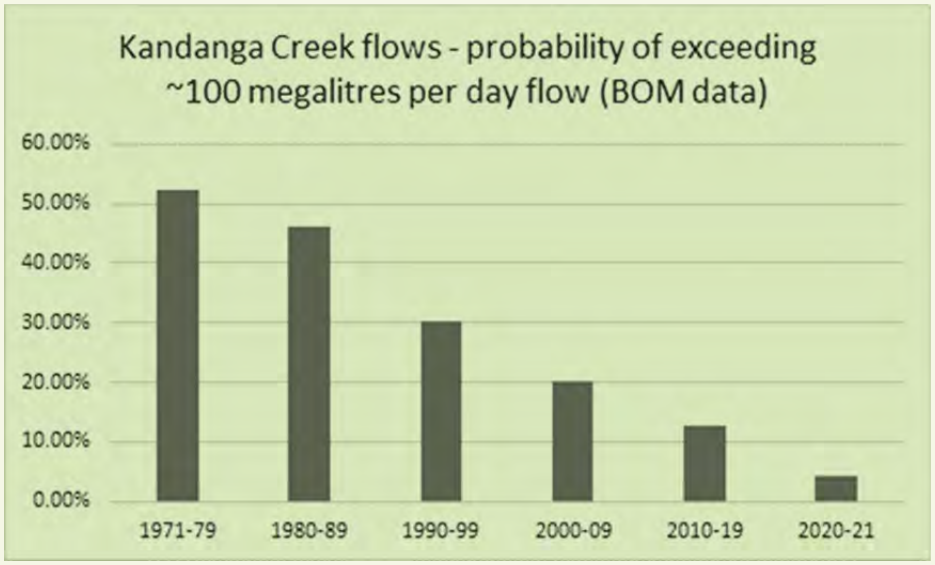
6.1 **Greenhouse gas emissions within the catchment are cut to 75%** below 2005 levels by 2031 and net zero by 2050.

6.2 **By 2031 forest cover in the catchment will be enhanced by 5-10%** to increase the level of carbon draw down.

6.3 **Community and industry adaptation to extreme climate** variability results in lower social and economic impacts of disasters compared to similar regions.

"Climate change leading to increased demand for irrigation water and changes to choice of crops , while at the same time greatly reducing surface water and shallow groundwater resources is the biggest challenge for the catchment. For growers on a regulated Water Supply Scheme, competition from urban demand and water trading transactions will greatly increase the price of any irrigation water that may be available. "

Steve Burgess, Small Farm Sector Representative MRCCC.



Strategies

Strategic Planning - climate risks and emissions reduction are considered and responded to in a holistic way and embedded in decision making.

Community & Industry Resilience - build adaptive capacity through communication, active engagement and education.

Carbon Draw Down - enhance carbon storage by improved vegetation and soil management.

Clean, Green Industry Development – Facilitate low emissions industries underpinned by:

- innovative technologies and a circular economy where waste is minimised; and
- local food systems based on regenerative agriculture

Programs

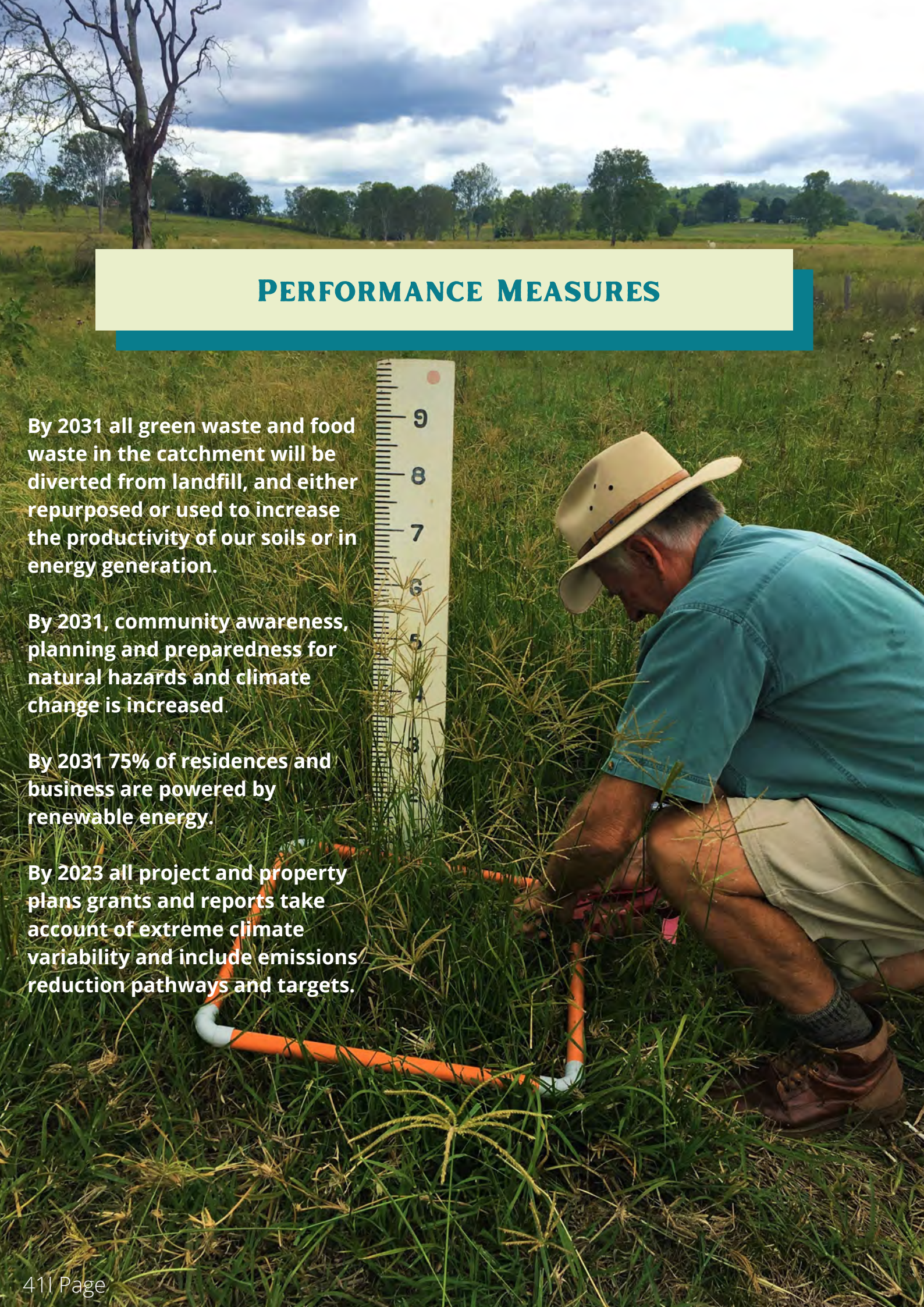
Climate Response Plans – promote plans that prioritise climate risk, education, adaptation and emissions reduction actions covering all communities and key industry sectors.

Climate Response Outreach - embed climate adaptation and emissions reduction into existing and future extension and education programs including supporting agri-businesses and landholders to:

- create a sustainable and regenerative food system that includes consideration and preparation for climate change risks;
- reduce their emissions through changes in farming practices and technology implementation, and
- take up opportunities for income generation through carbon drawdown activities.

Local Food Collaboration - promote sustainable, locally produced food value chains, build capacity within the small farmer sector and improve the community's access to healthy local food.

Performance Measures



By 2031 all green waste and food waste in the catchment will be diverted from landfill, and either repurposed or used to increase the productivity of our soils or in energy generation.

By 2031, community awareness, planning and preparedness for natural hazards and climate change is increased.

By 2031 75% of residences and business are powered by renewable energy.

By 2023 all project and property plans grants and reports take account of extreme climate variability and include emissions reduction pathways and targets.