

THE MACKAY – WHITSUNDAY – ISAAC STEWARDSHIP REPORT 2018 COMMUNITY AND INDUSTRY RESPONSE TO WATERWAY HEALTH ISSUES

BOWEN

PROSERPINE

Responding to the region's waterway health issues is the responsibility of all individuals and groups within the community. The Mackay-Whitsunday Healthy Rivers to Reef Partnership reports these efforts as stewardship.

> Stewardship is the actions taken by individuals, groups or networks, with various motivations and levels of capacity, to protect, care for or responsibly use the environment in pursuit of environmental and/or social outcomes in diverse social-ecological contexts.

This document should be read in conjunction with the 2018 waterway health report card

CARMILA

MACKAY

WHAT YOU CAN DO TO IMPROVE WATERWAY HEALTH



Look out for pest fish in creeks and never release aquarium fish into the wild



Say no to single use plastic and pick up litter to keep our region beautiful



Learn what can be recycled, then make recycling a habit at home and work



Think about the weather before spraying weeds or fertilising your lawn or garden



Join a community event that improves the health of your local creek or beach

1 IMPORTANT FACT

Many species of pest fish, including tilapia, must be humanely killed if caught. To find out more visit www.qld.gov.au/environment/plants-animals/animals/ pests-diseases/invasive-fish/legal-obligations

i IMPORTANT FACT

Heavy rain can wash away fertiliser and pesticides before they have a chance to be taken up by plants

AGRICULTURAL STEWARDSHIP

The Mackay-Whitsunday-Isaac region has a diverse agricultural sector, including grazing, sugarcane and horticulture. Farmers in the region are improving the profitability and long-term sustainability of their farms by adopting best management practices. Through these practices, they are also improving the quality of the water entering the region's waterways and ultimately, the Great Barrier Reef Iagoon.

The Mackay-Whitsunday-Isaac report card aligns its agricultural stewardship reporting with the GBR report card, which are reported through the Paddock to Reef (P2R) program. Visit our website to view how much agricultural land is under best management practice.

healthyriverstoreef.org.au/report-card-results

SPOTLIGHT ON STEWARDSHIP IN THE SUGARCANE INDUSTRY

SANDY CREEK PROJECT

For a number of years, growers in the Sandy Creek catchment have been working closely with industry and State Government to better understand pesticide losses. Key to this project is water quality monitoring, with all growers involved able to collect water quality samples. Sandy Creek is in the Plane catchment of the region and has been identified as a high priority in the Reef 2050 Water Quality Improvement Plan (WQIP) to address pesticides and dissolved inorganic nitrogen entering waterways.

The project has moved into a new phase; the primary aim of which includes working with all interested growers in the Brightly sub-catchment of Sandy Creek and support these landholders to reduce pesticide losses by providing one on one extension, which includes spray rig calibration, pesticide selection and application techniques. Currently, nine landholders are working with Farmacist in the Brightly subcatchment, Mackay Area Productivity Services are also involved

in extending the project throughout the wider Sandy Creek catchment.

> Spray rig calibration (calibration uses water only)

JANES CREEK PROJECT

The Janes Creek catchment, situated in the Pioneer basin, is approximately 1700 hectares, and flows into Janes Creek before entering the Gooseponds in Mackay. Beginning in April 2018, this two-year project uses a whole-of-system approach to management practice adoption, system repair and treatment solutions to improve water quality. Currently directly involved in the Janes Creek Project:

8 CANE GROWERS

> CONTRACT HARVEST OPERATORS

GRAZIERS Janes Creek Catchment Group

The Janes and Sandy Creek projects are funded by the Queensland Department of Environment and Science and delivered by Reef Catchments in partnership with Mackay Area Productivity Services (MAPS) and the cane growers and graziers in the Janes and Sandy Creek catchments.

LOOKING TO THE FUTURE

Project Cane Changer is an initiative led by the Queensland CANEGROWERS Organisation that is designed to better understand grower's needs and help increase adoption of best management farming practices. This project has seen increased rates of Best Management Practice accredited growers in the Wet Tropics region (an increase of 316% between 2016 and 2018) and has been rolling out in the Mackay region in 2019. The Wet Tropics component of this project was funded by the Queensland Department of Environment and Science and the Mackay component is funded by the Great Barrier Reef Foundation.

Extension and planning support is being provided to growers and harvest contractors by Mackay Area Stakeholders **Productivity Services** together at (MAPS) and to graziers by Janes Creek Reef Catchments. Grants for on ground works and equipment upgrades have been made available to landholders, including for spray unit efficiency upgrades, harvester efficiency upgrades, groundcover improvement in grazing lands, armouring of stock crossings and sediment basin construction.

Water quality monitoring is a key tool for landholders to understand the dynamics of their own sub catchment and to build confidence in monitoring data:

> LANDHOLDERS conducting water sampling on their own farms

A ins

AUTO SAMPLER installed on Janes Creek



SPOTLIGHT ON STEWARDSHIP IN THE GRAZING INDUSTRY

REDUCING EROSION RISK IN THE DRY TROPICS

NQ Dry Tropics has been supporting landholders to improve water quality by protecting riparian vegetation on grazing properties across the Don basin. Work has included installing fencing to control livestock in order to protect vulnerable riparian vegetation and strategically graze exotic grasses to reduce their spread. Reducing the height and biomass of these grasses, such as para grass, minimises the risk of high intensity fires in riparian zones, which can lead to substantial vegetation loss and therefore erosion risk. Grazing pressure is being carefully monitored during the dry season to ensure adequate ground cover is retained, which is also critical to minimising erosion. This work has been delivered through the Reducing Burdekin Sediment project, funded by the Queensland Government's Natural Resource Investment Program.

Additional work with graziers to improve water quality in the Don basin has included gully remediation, establishing off-stream watering points, and holding demonstration events for graziers to share project results with their

neighbours. This work has been delivered through the Reef Alliance – Growing a Great Barrier Reef project, funded by the Australian Government's Reef Trust, through the Queensland Farmers Federation.

THINGS YOU CAN DO IN AGRICULTURE TO IMPROVE THE HEALTH OF YOUR LOCAL WATERWAYS

- Adopt industry-approved Best Management Practice techniques linked to water quality improvement;
- Measure, monitor and track the conditions of your land and nearby streams to help inform your management;
- Perfect your chemical and fertilizer application techniques;
- Retain ground cover all year round and use a variety of species;
- Minimise erosion by actively managing riparian zones to ensure a structurally diverse vegetation buffer separates your creek from your productive land;
- Learn from your peers and connect with others through community activities; and
- Explore a wide range of advice on products and management practices, including regenerative farming practices.

SPOTLIGHT ON STEWARDSHIP IN THE HORTICULTURE INDUSTRY

TURNING CREEK WEEDS INTO COMPOST

NQ Dry Tropics partnered with Evolution Mining on a project to mechanically harvest aquatic weeds from local creeks and turn them into a compost for use on a farm near Bowen. This project has multiple benefits:

- Managing aquatic weeds can help improve water quality and habitat for aquatic biodiversity;
- Using weeds as compost improves soil health and naturally adds nutrients to the farm , reducing the need for synthetic fertiliser; and
- Using weeds as compost is low cost, so it boosts local agriculture.

Bowen farmer Jamie Jurgens holding the compost in his hand.

NON-AGRICULTURAL STEWARDSHIP IN OUR REGION The Mackay-Whitsunday-Isaac

The region's other major sectors (non-agricultural sectors) include aquaculture, heavy industry, ports, tourism and the urban sector. Companies and organisations in these sectors undertake a range of management efforts that demonstrate stewardship of the region's waterways.

The Mackay-Whitsunday-Isaac report card covers stewardship for non-agricultural sectors, based on the effectiveness of management against frameworks for each industry. Visit our website to view how our region's other industries scored in 2018.

healthyriverstoreef.org.au/ report-card-results

The Mackay-Whitsunday-Isaac region has a large diversity of heavy industry activities, including coal export terminals, sugar mills, meat processing facilities and storage area for commodities.

AQUACULTURE INDUSTRY

The aquaculture industry in the Mackay-Whitsunday -Isaac region is comprised of a small number of prawn, barramundi and red-claw crayfish farms.

Å PORTS SECTOR

One port authority (North Queensland Bulk Ports Corporation; NQBP) operates the Port of Abbot Point, Mackay and Hay Point within the Mackay-Whitsunday-Isaac region.

The region is a hub for tourism operators, and is comprised of a number of operations and activities, including reef cruises and boat tours, organised diving and snorkelling, boat charters, air charters and water-based sports.

URBAN SECTOR

Urban development within the Mackay-Whitsunday-Isaac region is concentrated along the coastal zone, with urban land use occurring primarily within cities such as Mackay and large regional centres. The sector includes three local governments, two airports, tourism resorts and urban developers.

THINGS OTHER INDUSTRIES CAN DO

- Become a financial member of the Healthy Rivers to Reef Partnership;
- Provide monitoring data for inclusion in the annual waterway health report card;
- Develop and implement a strategy to address any major pressures and risks to water quality and ecosystem health coming from your business;
- Offer training or education around water quality and ecosystem health as part of professional development
- Be actively involved in community programs relevant to ecosystem health; and
- Promote waste reduction and recycling in your company or business.

SPOTLIGHT ON STEWARDSHIP IN THE TOURISM SECTOR

REEF RESTORATION PILOT PROJECT

Key tourism operators have been instrumental in supporting and maintaining a coral restoration pilot project in the Whitsundays. The project, initiated in response to damage caused predominantly by Tropical Cyclone Debbie in March 2017, aims to assist the recovery of severely degraded sections of the reef and aid coral biodiversity. It involves planting coral fragments, sourced from surrounding healthy reefs, on nursery trays and rope nurseries at Manta Ray Bay, off Hook Island and Blue Pearl Bay off Hayman Island.

Early indications suggest the trial is yielding successful results, with 800 coral colonies propagated, a 77 per cent overall survival rate and over 200 fragments outplanted onto surrounding reefs in the first six months. The Whitsundays Reef Recovery and Public

Art project is led by Reef Ecologic in partnership with Tourism Whitsundays and Whitsunday Regional Council. The project was made possible through joint Australian and Queensland Government funding.

SPOTLIGHT ON STEWARDSHIP IN THE URBAN SECTOR

PEST FISH EDUCATION

As pest fish species have been identified in some Mackay-Whitsunday-Isaac waterways, a number of key Partners including Reef Catchments, State Government and local councils in our region are involved in an ongoing campaign to raise public awareness, which includes open-to-the-public fishing events aiming to catch as many invasive fish as possible. Target species include Tilapia, Peacock Bass and Jaguar Cichlids. The Gooseponds in Mackay is a regular venue for the fishing days, and recently a Tilapia fishing day was held in Bowen for the first time. A range of Partners are involved in making these days a success.

SPOTLIGHT ON STEWARDSHIP IN PORTS

PORTS LED AMBIENT WATER QUALITY, SEAGRASS AND CORAL MONITORING

North Queensland Bulk Ports (NQBP) continues to lead the way with its ongoing water quality, seagrass and coral monitoring programs in the region's marine waters. For more than 15 years NQBP and researchers at James Cook University's Centre for Tropical Water and Aquatic Ecosystem Research (TropWATER) have partnered to monitor marine environments near the region's three ports.

This partnership is now also collaborating with Reef Catchments, Whitsunday Charter Boat Industry Association, Whitsunday Bareboat Operators Association and Mackay-Whitsunday Healthy Rivers to Reef Partnership on a new project. This will extend this same standard of water quality monitoring into the Whitsundays and include formal training of tourism operators; establishing a blueprint for a new wave of citizen science to continue towards protecting the Great Barrier Reef. The project is funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation.

Recently, NQBP, JCU and the Healthy Rivers to Reef Partnership won the Outstanding Collaboration for National

Benefit category at the 2019 Business Higher Education Round Table (BHERT) awards.

> Dr Michael Rasheed, Principal Research Scientist at TropWATER and NQBP's Senior Manager, Environment and Planning, Kevin Kane

SPOTLIGHT ON STEWARDSHIP IN HEAVY INDUSTRY

QUARTERLY BEACH CLEAN-UPS

The local beach clean-ups is a Dalrymple Bay Coal Terminal Pty Ltd (DBCT P/L) community initiative that aims to help protect and preserve our local beaches.

The program targets beaches adjacent to the Port of Hay Point coal terminals with Louisa Creek, Half Tide and Harbour Beaches regularly visited. Salonika, McEwens, Sarina, Bucasia and Town Beaches have all also been included in the beach clean-up program. Since DBCT P/L's beach clean-up program began in

January 2015 over **1400** KILOGRAMS of waste has been removed from local beaches.

From July 2018-June 2019, CLEAN-UPS attended by

60 PARTICIPANTS removed 123 KG OF WASTE

SPECIAL INITIATIVE

WORLD ENVIRONMENT DAY 5 June 2019

DBCT P/L have recently joined forces with Conservation Volunteers Australia and Tangaroa Blue Foundation who have received funding from the Australian Government's Reef Trust to undertake beach surveys over the next five years, (this initiative is called ReefClean), feeding data into the Australian Marine Debris Database. This information is also reported in the Mackay-Whitsunday-Isaac Healthy Rivers to Reef waterway

health report card.

DBCT P/L was joined by Conservation Volunteers Australia on World Environment Day (5 June 2019) at Half Tide Beach for the first collaborated beach clean-up of the new partnership, removing 103kg of waste including over 1000 pieces of plastic. DBCT P/L + Conservation Volunteers @ Half Tide Beach removed 103 KG OF WASTE including over 1000 pieces of plastic

COMMUNITY STEWARDSHIP: VOLUNTEER EFFORT Throughout the Mackay-Whitsunday-Isaac region, the community has banded together to



MARINE DEBRIS CLEAN-UP EFFORT

Plastics and other marine debris are a major environmental concern and impact the value of our local waterways and marine environment, along with harming wildlife, transporting invasive species and chemical contaminants. The Partnership is committed to reporting both the problem of marine debris and the community response to cleaning it up. The data reported here is for the 2017/18 financial year and has been collected by a number of groups/organisations. The data is entered into the Australian Marine Debris Database. Further information is available on our website.







VOLUNTEERS

220,210



WHAT IS MARINE DEBRIS IN

THE MACKAY-WHITSUNDAY-

ISAAC REGION MADE UP OF?

Top 3 marine debris items found in the Mackay-Whitsunday-Isaac region in

Plastic pieces (hard and soft)

1,778

BAGS FILLED

WHERE IS DEBRIS FOR THE 2017-18 YEAR ORIGINATING FROM - LAND OR SEA?

Coastal beaches in populated areas

Land Sea 51% 49%

Coastal beaches away from populated areas



Islands

10%

Land

91%

Sea





the 2017-18 year.



Plastic film remnants (bits of plastic bag, wrap)

To see how this year's marine debris collection compares to other years and which organisations contributed to this clean-up data see our website.

90%



tackle some of the key waterway health issues. RESPONSIBLE RECREATIONAL

> In November 2015, a Net Free Zone (NFZ) was declared and established from St Helens beach to Cape Hillsborough. To encourage local and visiting recreational fishers to adopt responsible and sustainable fishing practices, while fishing in the NFZ, a Voluntary Code of Practice was established. The code aims to maintain healthy and sustainable fish stocks within the region.

The code comprises four key values:



FISHING

Maintaining healthy fish stocks through sustainable harvest behaviours



Proper care and handling of all fish being released to maximise survival rates



Care and respect for our environment

This code was developed by the Mackay **Recreational Fishers Alliance in partnership** with Mackay Regional Council, Mackay Area Fish Stocking Association, Mackay Tourism and Reef Catchments.

Since then surveys conducted by the Department of Agriculture and Fisheries have showed:

% of recreational anglers surveyed Over

were aware of the NFZ in the local area of Mackay



Satisfaction of recreational fishers within the NFZ area was significantly greater in 2016 and **2018** than 2015.

REVEGETATION TO IMPROVE HABITAT AND REDUCE EROSION

A total of 41 Volunteers with **Conservation Volunteers Australia and** Pioneer Catchment Landcare undertook six days of planting and maintenance at the Gooseponds and Andergrove Woodlands between March and August, 2018. The project was funded by Mackay **Regional Council through the Natural Environment Advisory Committee** grants. The project also engaged representatives from Reef Catchments and Department of Agriculture and

Fisheries for on ground planting works.

planting day at the Gooseponds celebrating National Volunteer Week.

Community

Galbraith Creek Riparian Corridor at Airlie Beach has been gradually restored since 2008 by Whitsunday Catchment Landcare (WCL), volunteers and the community who clocked up 2077 hours working there between them. Over 6000 plants were planted

and 2km of the riparian zone was restored.

Galbraith Creek Riparian Corridor sites seven months and one-year post Cyclone Debbie, respectively.

Sarina Landcare Catchment Management Association Inc. (SLCMA) and Mackay Regional Council work collaboratively to help maintain and enhance the Plane Creek revegetation site at Sarina. Work at the 2.7ha site started in 1995 and volunteers still undertake litter clean-ups, weed control, revegetation and seed collection.

Plane Creek revegetation site in 1995 at first planting (left); site in 2015 (right)

Volunteers involved in litter clean up at Plane Creek revegetation site



CITIZEN SCIENCE TO HELP BUILD REGIONAL KNOWLEDGE

SEAGRASS WATCH

The Whitsunday Region was one of the first regions to start volunteer seagrass monitoring when Seagrass Watch was first established in 1998. Three sites are monitored in the Whitsunday region: Pioneer Bay, Hydeaway Bay and Bowen Main Beach.

Some volunteers have participated for

YEARS Community members join on casual basis and there are **REGULAR VOLUNTEERS**

SEPTEMBER

spring growth and

flowering

Monitoring happens

TIMES PER YEAR MAY wet season impacts

Monitoring contributes to the **REPORT CARD**



INTERNATIONAL YEAR OF THE REEF HOW DID OUR PARTNERS GO WITH THEIR PLEDGES?

As part of International Year of the Reef in 2018, Partners made pledges to look after the environment and more sustainably manage resources, which will ultimately help coral reefs. Pledges were formally announced at Salonika Beach in August 2018.

One year on, we put a spotlight on some of our Partners to showcase how they have achieved their pledges.

"This campaign showed a real energy and commitment to collaborative action for the Reef from the Mackay-Whitsunday-Isaac region". Julie Boyd, Chair of the Mackay-Whitsunday Healthy Rivers to Reef Partnership



• The staff at the Mackay office of **Conservation Volunteers Australia** saved

200+ COFFEE CUPS 150+ PLASTIC BAGS

as part of their pledge to reduce their usage of single use plastic.





Australian Government Great Barrier Reef



GBRMPA encouraged individuals to make a 30 events up and down the GBR coast and created a pledge wall at Reef HO.



pledge at over



Solar panels were installed on:





- DBCT reduced "general waste" volume by offering more streams for recycling.
- Non-recyclable paper cups were replaced with recyclable.
- Trial of PPE (helmets, gloves etc) recycling is under way.
- DBCT uniforms (jeans/pants, shirts, boots) are recycled in partnership with local businesses.
- On track for



with targets to continue to improve each year.

DALRYMPLE BAY COAL TERMINAL

- War on Waste program initiated: an education program run to involve workers in developing initiatives to reduce waste to landfill onsite, surveys run to identify areas for improvement and projects (cup replacement. removal of desk bins, barricading review, continued education) selected for implementation, continues into FY19/20.
- Quarterly beach clean ups involving all business groups where the data is collected and sorted for reporting to the Australian Marine Debris Initiative. On World Enviro Day (June 5th) DBCT teamed up with **Conservation Volunteers Australia as** part of the Tangaroa Blue (AMDI) and look forward to continuing this on a quarterly basis at local beaches.





- In 2018, MRC installed four gross pollutant trap (GPTs) to maximise the rate of pollutant capture, including
 - plastics >

>

> aluminium cans

food packaging etc.



- In 2018, MRC constructed several fishways on high priority barriers in the region. Fishways were constructed on Leila Creek as well as Niddoe Creek. Significant rectification works were also undertaken on Forbes Road fishway (NDRRA funding assisted) and also Landing Road fishway (in partnership with Reef Catchments). A detailed design was also undertaken for Jolimont Creek fishway. Jolimont Creek flows into the St Helens to Cape Hillsborough Net Free Zone.
- MRC have and will continue to work toward recommendations in the Urban Stormwater Quality Management Plan.
- MRC is continually implementing projects administered via the voluntary mechanism for stormwater quality management (voluntary mechanism). Example projects from 2018 include the installation of aeration devices into the most upstream pool of the Gooseponds. This was done in order to mitigate against low oxygen induced fish kills. Another project undertaken through the voluntary mechanism in 2018 was investing in a two year, on-farm project to improve sediment, nutrient and herbicide practices.





- SLCMA now uses **REUSABLE** • cups, cutlery and plates at small events and at larger events uses paper or cardboard that are either **BIODEGRADABLE** or COMPOSTABLE.
- To avoid single use plastic packaging at morning tea, an effort has been made to source morning tea items from local bakeries or bake at home.



food waste in the office, to holding events to raise awareness of issues affecting water quality - Partners' achievements are as diverse and varied as the Partnership itself" Charlie Morgan, Executive Officer of the Mackay-Whitsunday Healthy **Rivers to Reef Partnership**





Reef Catchments staff planted



at John Breen Park in November 2018, to offset the office's annual paper use of 178 reams on average.

The Reef Catchments office air conditioners were kept on

Ο during summer months.

REUSABLE CUPS were purchased for Coastcare events.

 Reef Catchments engaged 244 growers in the cane industry who

improved and altered their farming practices to reduce pollutants entering waterways and then the Reef, and held more than 20 events to raise awareness

of issues affecting water quality among the community.



- Office of the Great Barrier Reef (OGBR) staff pledged a plastic free July in 2019 and has since contributed to the development of a litter monitoring index that can be applied to all Partnership regions.
- OGBR has funded and managed the Erosion and sediment control capacity building and urban stormwater quality management project and the Reef **Urban Stormwater Management** Group (RUSMiG) community of practice group since January 2017.
- OGBR has paid for and organised the upcoming Scientific Synthesis Workshop in Mackay, bringing together a variety of relevant stakeholders to discuss ways to achieve better water quality outcomes and identify future research needs.



MOVING FORWARD mackay-whitsunday-isaac investments and opportunities

The Partnership has come a long way since it was established in 2014 and has supported the production of five waterway health report cards. Since the pilot report card, each consecutive report card has seen new information added, which has increased our understanding of waterway health issues.

Five years on, there has been no slowing down for the Partnership. A critical need to secure long-term funding for existing monitoring has been identified along with a need to provide finer scale information to help inform management activities that are more targeted to where they will be most effective and efficient.

"Identifying the gaps in our knowledge and working to fill these, has been a major strength for the Partnership since its initiation" Charlie Morgan, Executive Officer of the Mackay-Whitsunday Healthy Rivers to Reef Partnership

WHAT HAS BEEN ACHIEVED

KNOWLEDGE GAPS FILLED SINCE THE 2014 PILOT REPORT CARD

- Value and condition of Indigenous Cultural Heritage in the region;
- Water quality in the Don River;
- Pesticide risk in the Proserpine River;
- Coral condition in the northern and central inshore zones;
- Seagrass condition in the northern inshore zone;
- Water quality in the central and southern inshore zone;
- Extent of fish barriers in the basins and estuaries; and
- Condition of fish in freshwater basins.

ONGOING EFFORTS SECURING EXISTING KNOWLEDGE FOR THE LONG-TERM

Maintaining existing knowledge depends on ensuring current investment levels are maintained. The Partnership had 27 committed Partners at the end of June 2019, which supported most of the technical program for the report card. Sitting outside of this is the monitoring program assessing water quality, coral and seagrass in the region's southern inshore area.

SOUTHERN INSHORE MONITORING PROGRAM

Securing long-term funding to continue the current monitoring program in the report card's southern inshore zone is a Partnership priority. Long-term funding would enable monitoring of water quality, seagrass and coral in this information poor area to continue indefinitely (ideally 10 years +). The Partnership gratefully acknowledges Dalrymple Bay Coal Terminal, and more recently Dalrymple Bay Coal Terminal Management, for funding the first three years of this monitoring program.

ASPIRATIONS FOR THE FUTURE

MONITORING AND RESEARCH IN THE REGION

Many projects have been identified as important for improving the capability of the annual report card to inform the state of the environment. These allow Partners to produce targeted management investment and, expand public education of waterway health and actions to improve it.

ADDITIONAL WATER QUALITY MONITORING THROUGHOUT BASINS IN THE REGION

This will improve the understanding of the condition of water quality in the entire basin, which helps to better direct where management is needed (see below). Three tiers of additional monitoring have been identified, each tier building on the next:

- Tier A: A citizen science led Creekwatch program established to survey key waterways every month, including collecting water quality samples that can be used for the report card.
- Tier B: Enhancing the samples collected at the Creekwatch program sites to include event sampling and pesticide analysis.
- Tier C: Top and middle of catchment water quality monitoring program to supplement existing monitoring.

SEDIMENT TRACING RESEARCH

Water clarity is a key issue in the inshore zones throughout the region, particularly in the Whitsundays where super-fine sediments have been identified as a key problem. Sediment tracing would help us to understand where land-based sediment that is reaching our waterways is coming from within our region. This information would more accurately inform where investment is needed for erosion and sediment control projects across the region.

UNDERSTANDING PESTICIDE IMPACTS ON FISH

Pesticides have been consistently identified as a priority pollutant in the region, particularly in the Plane Creek and Sandy Creek areas near Mackay. Yet there is a paucity of data on how pesticides impact the health of fish species in these areas. A proposed research project in the region that explores the impacts of pesticides on rainbow fish metabolism during rainfall events has been supported by the Partnership.

INDIGENOUS CULTURAL HERITAGE ASSESSMENTS

Securing ongoing funding to ensure the continuation of the three-yearly assessments of Indigenous Cultural Heritage, undertaken in collaboration with the Mackay-Whitsunday-Isaac Traditional Owner Reference Group (TORG). This work includes recommendations to improve site conditions by increasing the level of Traditional Owner involvement in management. Continuing this project would also go towards the TORG's long-term goal of taking an active role in managing their tribal lands and sea Country within the region.

URBAN WATER QUALITY MANAGEMENT EFFECTIVENESS

Understanding the effectiveness of water sensitive urban design measures implemented in the region is important to ensure they are appropriate and their uptake is adopted. A range of emerging contaminants sourced from urban land uses have been identified that would be included in such a project.

FRESHWATER AND ESTUARINE FLOW KNOWLEDGE IMPROVEMENT

Improving our understanding of freshwater flow includes reestablishment of some historical gauging stations, establishment of new gauging stations, updating of existing Whitsunday and Pioneer hydrological models and developing hydrological models for major rivers in the region not already covered.

UNDERSTANDING CARMILA ESTUARY WATER QUALITY

For the last three report cards, dissolved oxygen and chlorophyll in Carmila estuary has been substantially higher than guideline levels. Research is needed to understand the cause of these results.

EDUCATIONAL MATERIALS DEVELOPMENT

Developing 'catchment stories' to engage with school-aged children to increase awareness of the regional issues identified in the annual report card and actions that can be taken to address them.

REFINEMENT OF COMMUNITY PERCEPTION REPORTING

Understanding our community's perceptions of the region's waterway environments is important to the Partnership to ensure a holistic understanding of the health of the region's waterways.



If completed, the knowledge from these projects could feed directly into an updated Mackay-Whitsunday-Isaac Water Quality Improvement Plan (WQIP). An updated regional WQIP would allow the report card to report against locally relevant management targets, rather than just report on ecosystem condition. It would act as a key tool for directing Partners' management activities and therefore stewardship.

"It is critical that we don't lose momentum. Ensuring that the programs that have been established in the region are ongoing is the highest priority for the Partnership"

Julie Boyd, Chair of the Mackay-Whitsunday Healthy Rivers to Reef Partnership



ABOUT THE PARTNERSHIP

The Mackay-Whitsunday-Isaac report card is developed by the Mackay-Whitsunday Healthy Rivers to Reef Partnership. The Partnership recognises that more can be achieved by working together than as individuals. Their shared vision is for healthy rivers and Reef contributing to a prosperous and iconic region where people visit, live, work and play.

ACKNOWLEDGMENT OF COUNTRY

The Partnership acknowledges the continuing land and sea Country management of the Traditional Owner tribal groups within the Mackay-Whitsunday-Isaac Region and Great Barrier Reef whose rich cultures, heritage values, enduring connections and shared efforts protect the land and Reef for future generations.

JOIN US

Interested in becoming a Partner? Contact us to find out how your organisation can join a leading group of organisations helping build and shape our community's understanding of waterway health and how we respond.

Contact information info@healthyriverstoreef.org

www.healthyriverstoreef.org.au

Want to hear more about waterway health? Sign up for our newsletter at: <u>www.healthyriverstoreef.org.au/</u> <u>contact</u>

OUR PARTNERS AS OF OCTOBER 2019

