fitzroy partnership for river health

Being the change that is needed

Water stewardship initiatives changing Fitzroy Basin's water future

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A message from our Chair

Environment management and in particular water stewardship is an area of increasing focus at local, regional, state, federal and global levels. Water stewardship includes the planning and actions taken by organisations or individuals to minimise the impacts on our waterways and environment and recognises that a collective of organisations collaborating and working together will have a substantial positive impact on the health of our waterways and adjacent estuarine and marine environment.

Fitzroy Partnership for River Health provides a significant platform for water stewardship initiatives in the Fitzroy Basin. Over the past ten years it has provided a partnership approach to address shared water challenges in the region. Ongoing assessment and reporting of ecosystem health, the provision of catchment and basin grades and trends over time, the collaboration that is fostered with partners and the active engagement with schools, groups and community members all contribute to tangible water stewardship planning and actions in the Fitzroy Basin.

We commend the organisations and individuals featured in our inaugural Stewardship Report for their contribution to being the change that is needed in the Fitzroy Basin. Their efforts contribute to the protection, maintenance and restoration of the ecological health of the region's waterways and adjacent estuarine and marine environment. As a collective we look forward to highlighting the good work that is being done each year and continuing this momentum for a better water future for the Fitzroy Basin. Water stewardship is a responsibility for each and every one of us – individuals, communities, industry and government working together to deliver sustainable improvements.

Daniel Yates (Idemitsu), Chair

Fitzroy Basin Map

The Fitzroy Basin incorporates some of the nation's most prolific and profitable resource, industry and agriculture producers; a vast and beautiful landscape with a growing regional population.

Across government, industry, agriculture and community a range of our partners and stakeholders are making changes for a better water future for the Fitzroy Basin. The following initiatives showcase an increasing focus on stewardship as the required way of conducting business and living today and Fitzroy Partnership for River Health is proud of its role providing a platform for greater collaboration to address shared water challenges in the region.

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The first stewards

With utmost respect we acknowledge that First Nations people have cared for this continent for over 65,000 years and pay our respects to them, their cultures and Elders past, present and emerging. We acknowledge the Barada Barna, Widi, Jangga, Barada Kabalbara Yetimarala, Gaangalu Nation People, Darumbal, Woppaburra, First Nations Bailai, Gurang, Gooreng Gooreng, Taribelang Bunda People, Wulli Wulli, Wadja, Iman, Western Kangoulu, Kanolu, Bidjara, Karingbal and Clermont-Belyando Area People who are recognised as the First Nations people of the waters, and lands, within the Fitzroy Basin region.

Tunuba: a joint venture between the Darumbal People and CQG Consulting

Tunuba Pty Ltd is a joint venture between the Darumbal People and CQG Consulting to deliver a range of land management and professional services to support the livelihood and economic development of local Indigenous people.

CQG has a reputable track record as an environmental consultancy, has established working relationships with Traditional Owner groups throughout Queensland and is leading the environmental package for the Australian-Singapore Military Training Initiative (ASMTI) Facilities Project at Shoalwater Bay Training Area (SWBTA). Darumbal and CQG have a long established relationship built on over 20 years working together with a shared vision of cultural and environmental protection while enabling sustainable development.

The collective Indigenous and scientific knowledge and shared passion for protecting country, including waterways, has seen the Tunuba team involved in several projects in the catchment including:

- Protected plant surveys on Nurim (Mt Archer);
- Ecological and water quality investigations across Shoalwater Bay;
- Weed surveys and treatment for quarry operators and Qld Parks and Wildlife;
- Fauna spotter catching for Rookwood Weir Project; and
- A range of services for Defence contractors including Laing O'Rourke, Downer FKG, Conrad Gargett, Augility, WSU Shamrock and FKG.

Tunuba looks forward to growing its business and opportunities to have Darumbal People work on land and sea country to protect their environmental and cultural values.

Mining stewardship

Water use reduction and water-reuse are an increasing priority for resource companies world-wide. In the Fitzroy Basin there are a number of operators with projects underway to reduce water use and implement more sustainable water practices.

BHP

BHP's vision is for a water secure world by 2030. This would be a world where water resources are conserved and resilient so they can continue to support healthy ecosystems, maintain cultural and spiritual values and sustain economic growth; where the human right to safe and accessible water and the traditional rights of Indigenous peoples are realised and upheld; and where water governance is effective and beneficial, ensuring communities and ecosystems thrive for future generations.

BHP's Water Stewardship Strategy was adopted in FY2017 to improve management of water, increase transparency and contribute to the resolution of shared water challenges. The strategy pillars are centred on:

- **Value** – Effectively value water in investment and operational decisions through integration into strategy, planning and evaluation frameworks.
- **Risk** – Embed processes and systems to effectively manage water-related risks and realise opportunities at a catchment level in the short and long-term.
- **Disclosure** – Transparently disclose water-related risks, management and performance at an operated asset level.
- **Technology** – Leverage technology solutions that drive a step-change reduction in water-related risks, realise opportunities and deliver multiple benefits.
- **Collective Action** – Collaborate with stakeholders to improve regional water policy and catchment governance and address shared water challenges within the communities and across the value chain.

BHP has achieved many things since adopting its Water Stewardship Strategy in FY2017, including:

- Participated in the water working group of the International Council on Mining & Metals (ICMM) to support the further development of water stewardship initiatives in the mining industry.
- Continued participation in the Fitzroy Partnership for River Health and the Mackay-Whitsunday-Isaac Healthy Rivers to Reef Partnership.
- Initiated a partnership drawing on the unique cultural knowledge and expertise of Traditional Owners and Indigenous communities to rebuild eroding land and restore vital coastal wetlands.
- Commissioned various studies and investigations to better understand local catchments.
- Entered into data sharing agreements with other organisations, including some competitors, to improve the collective understanding of groundwater.
- Provided funding, along with other organisations, for initiatives focused on the role that groundwater modelling plays in supporting environmental management and decision-making.
- Produced BHP's inaugural Water Report in FY2018 to highlight the company's efforts to improve stewardship of water resources and reflect water's importance to society and to BHP. For more information, refer to the BHP website.

In FY2019, BHP developed a Water Stewardship Position Statement that expresses the company's commitment to and advocacy for water stewardship. The Position Statement was developed following broad internal and external engagement and is aligned to the UN Sustainable Development Goals and other initiatives such as the CEO Water Mandate and the ICMM Water Position Statement.

The Water Stewardship Position Statement commits BHP to set public, context-based targets that seek to improve water management and support shared approaches to address water challenges within the regions BHP operates. These targets are intended to more closely align performance to key regional challenges and priorities. In Queensland, BHP recently commissioned Alluvium Consulting and the University of Queensland's Sustainable Minerals Institute to prepare a Water Resources Situational Analysis (WRSA), which will identify the shared water challenges and collective action opportunities across the catchment, based on publicly available information and stakeholder input. The results of the WRSA will be made publicly available for all to use and reference in planning and prioritising actions, and will help BHP set context-based targets for company operations as well as contribute to addressing those shared water challenges through collective action.

> *There is so much work taking place in Queensland to understand and improve water quality and at BHP we know we need to play our part in a collective approach to enhanced outcomes. Through our Water Resources Situational Analysis, we hope to improve our knowledge of the shared water challenges for Central Queensland and identify the priorities that we can work on addressing together.*
>
> Bonny O'Neal,
> BHP Coal's Manager for Water Planning

Reducing the use of freshwater to support sustainable mining

Anglo American's Metallurgical Coal business has commissioned the first of two planned reverse osmosis (RO) water treatment plants at its Aquila project in the Bowen Basin, with the aim of reducing the use of freshwater in its mining operations.

The Aquila project is an underground metallurgical coal mine currently under construction which will extend the life of Anglo American's Grasstree underground mine near Middlemount in Central Queensland. Aquila is on track for first coal in early 2022 and will utilise the associated Coal Handling and Preparation Plant (CHPP) on site – part of Anglo American's Capcoal complex.

The freshwater allocation is approximately 6.2 megalitres (ML) a day, which includes supplying water to the town of Middlemount*.

In the RO process, water passes semi-permeable thin membranes with pores small enough to allow the water to flow through the membrane while rejecting larger particles or contaminants.

At Aquila, the new RO plant filters mine affected water (MAW) - water already used in the mining process. This first plant is producing 2 ML of treated water per day for the construction of Aquila and the planned second RO treatment plant will produce 2.4 ML of treated water, more than doubling capacity. The recycled water will work to reduce the reliance on freshwater at Aquila, both during construction and once operational, while helping to drought-proof operational water supplies.

In metallurgical coal mining, water is used for processing the coal product, dust suppression, equipment cooling, longwall roof supports and coal cutting operations.

Currently, there is a large inventory of MAW available for treatment, which can be treated for the mining process in favour of freshwater or water found in the environment. A remotely operated system of pumps and pipelines transfers the water to where it is required including the RO treatment plant.

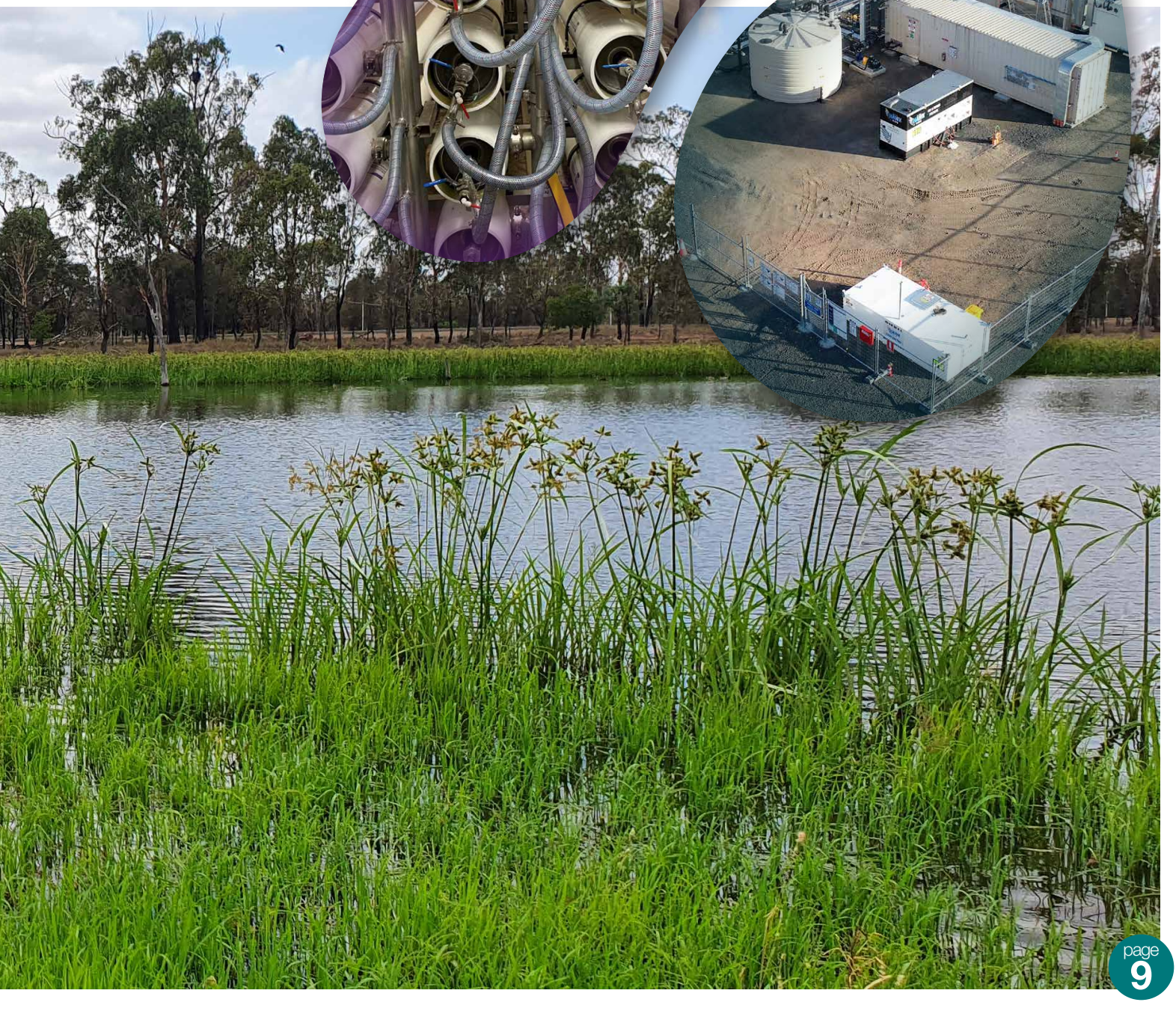
Aquila's integrated water management system is helping to transform how the mine can best use existing on-site mine water inventories, with a focus on improving sustainability by shrinking its dependence on externally sourced freshwater.

To this end, RO plants are helping to maintain a healthy environment which is part of Anglo American's Sustainable Mining Plan for its Metallurgical Coal business. The plan sets out ambitious targets, designed to challenge the company to lead and innovate in reducing its environmental footprint.

Among other targets, the water target aims for a future where Anglo American can operate while using less water: reduce the abstraction of freshwater by 50 per cent by 2030.

For more information on Anglo American's Sustainable Mining Plan visit www.angloamerican.com/sustainability/

**Only freshwater is sent to Middlemount not the recycled water*



Reduce and reuse

Stanmore Coal installed a new pumping system at its Isaac Plains processing plant in 2019 which uses mine-affected water instead of raw water, saving up to 200 megalitres of raw water per year.

The pumping system assists in reducing the inventory of mine-affected water on the site, while also consuming around 1,000 tonnes of salt per year associated with the higher salinity mine water.

Prior to the installation of the new pumping system, the Isaac Plains processing plant sourced water from external raw water suppliers to make-up for water that remained in coal as a result of the washing process. After washing, the moisture content of coal is increased by around 5 per cent and this additional moisture remains in the coal when it is exported.

Agricultural stewardship

A sustainable cotton industry

Sustainability for the Australian cotton industry means running profitable and efficient businesses while creating environmental, economic and social value. It also means being accountable to stakeholders for the industry's actions and impacts. The Australian cotton industry has been actively working to do this for over 30 years.

Now, the industry is seeking to improve even more as it works to its vision of being a global leader in sustainable cotton production. An Australian cotton sustainability framework called PLANET. PEOPLE. PADDOCK. has been created to guide work to: set sustainability targets in the areas most important to industry and stakeholders; coordinate a whole-of-industry strategy to achieve these targets; and engage effectively with stakeholders on actions and progress.

Through a process of consultation and review, eight environmental, economic and social topics have been assessed as being most important to customers, cotton growers, industry organisations, regional communities and other stakeholders. Each topic aligns with relevant United Nations Sustainable Development Goals (SDGs). In regards to waterway health and the environment, the topics of most importance include: water, less drops per crop; carbon, acting on climate change; biodiversity, benefiting from biodiversity; and pesticides, efficient responsible pesticide use.

Australian cotton has the reputation of being the most water efficient cotton industry in the world, thanks to biotechnology and advances in precision irrigation and timing. Long-term monitoring shows the cotton industry's significant improvements in water efficiency over time. Water-use productivity by Australian cotton growers improved by 48 per cent since 1992.

As custodians of large blocks of land, cotton growers play a role in managing Australia's natural resources and environment. For example, cotton growers boost their water use efficiency, improve soil health, fence off remnant vegetation, practice no-till farming and integrated pest management, and strive to become more efficient across the farming operation. All this is done with a combination of cutting-edge science and technology, extensive experience, and significant investments of time and money.

Graham Volck

Better monitoring improves nitrogen use efficiency

Graham Volck is always looking to improve resource use efficiency on his irrigated cotton farming business near Emerald, Queensland. Less inputs means less resources used, lower costs – and in the case of nitrogen fertiliser, lower greenhouse gas emissions and reduced run-off of nitrates. For the 2017-18 and 2018-19 seasons, Graham offered his farm as a demonstration site to show nitrogen use efficiency can be improved by monitoring nitrogen movement and losses. Graham increased his soil testing program from once to three times each year to get a better understanding of what was happening with soil nitrate levels before, during and after the cotton crop. This gave Graham the confidence to remove one in-crop nitrogen fertiliser application of 50 to 60 kg N/ha, which saved $68 to $80/ha in fertiliser costs. It also reduced soil disturbance, thereby helping maintain good soil structure and soil carbon levels. The results of the tests are being shared widely with other growers at workshops and on YouTube. Graham is now looking at more precise nitrogen fertiliser management practices to further reduce nitrate run-off and greenhouse gas emissions, without impacting yield.

As a result of Graham's efforts he was awarded a Reef Champion Award in 2019, an initiative of the Reef Alliance with support from the Australian and Queensland Governments.

A growing movement towards regenerative agriculture

Central Queensland's natural resource management champion, Fitzroy Basin Association (FBA) works to support landholders to implement more sustainable practices that consider the triple bottom line – people, profit and the planet.

With the agricultural industry subject to ongoing market and climate volatility, landholders are increasingly interested in alternative farming practices. Regenerative agriculture focuses on rebuilding, restoring and regenerating farming landscapes. Through improving soil microbiology, enhancing biodiversity on a broader scale, reducing chemical use for cleaner air and water, valuing social capital, respecting natural process, landholders ultimately produce more nutrient-dense food.

FBA embarked on a peer-to-peer mentoring program off the back of two 2018 RegenAG Biofertiliser workshops. The workshops were delivered by regenerative agriculture expert, Kym Kruse from RegenAg®. The enthusiastic response to the events (and the underlying principles of regenerative agriculture) indicated a high demand locally for the natural and holistic way of farming.

Facilitated by FBA's Regional Landcare Agricultural Facilitator (RALF), Vicki Horstman and Kym Kruse, the peer-to-peer program quickly attracted participants. The project aimed to equip participants with the skills, tools and connections to succeed, and step away from traditional project delivery models. To this Kym said, "What we want to see is the uptake and the implementation of the information as practice."

The mentor group consisted of 24 passionate landholders who farm a range of produce across the region. Collectively the group actively bounced ideas off one another, with regular online meetings and face-to-face field days. "In the agricultural industry, it's essential that people learn from each other," FBA's RALF Officer, Vicki said.

"Hearing about what is working well for others helps everyone save money and time. What I love about this group is the knowledge transfer that is naturally occurring. What happens behind the farm gate doesn't need to be a secret," Vicki added.

The peer-to-peer mentoring group was a positive experience that improved participants' capacity to adopt low cost and efficient soil restoration practices. A resounding interest in sharing learning and project outcomes resulted in FBA publishing their experience in the Rural Extension & Innovation System Journal and presenting at the 2019 Australasia-Pacific Extension Network.

This program is supported by Fitzroy Basin Association Inc and the Enhanced Extension Coordination program, which is funded by the Queensland Government Reef Water Quality program.

A participant's perspective

Myles and Julie Ballentine located at Banana are conventional dryland cropping farmers, growing chickpeas and mungbeans as their main crops, with wheat and sorghum in the mix, as well as beef cattle.

The Ballentine's started their journey to improve their soil while obtaining an income from it after realising high-input farming is not economically viable. This realisation came when in one season their sorghum crop doubled in price, and the cost of fertiliser with it.

"What we really want is a low input operation that regenerates the land and generates a profit," Myles said.

"There seemed to be a missing link; FBA bridged the gap by bringing RegenAg to the region. We're learning to make bioferts and soil stimulants to work in conjunction with the cover cropping," said Myles.

"We have seen increases in yield, which is obviously the biggest motivator in terms of hip pocket. Myles trialled rolling the cover crop with a roller crimper and then he left a strip where he sprayed it out. The weed pressure in the strip that received chemical, compared to where he had rolled it, was very visibly different to the naked eye. You didn't need to do a soil test," Julie said.

Local government stewardship

Laura Anderson

River to Reef, improving water quality in the Rockhampton region

Rockhampton Regional Council is responsive to the fact the Fitzroy River estuary is a vitally important waterway supporting an abundance of aquatic wildlife and provides significant recreational value to the local community.

Historically, all of the effluent from Rockhampton's three Sewage Treatment Plants (STP) was discharged to the Fitzroy River estuary. Implementation of the STP Strategy for Rockhampton over recent years has delivered a significant reduction in nitrogen released to the Fitzroy River estuary. The STP Strategy included the upgrading of the South Rockhampton STP through the installation of a new aeration system and dedicated anoxic zones to improve nitrogen removal. This upgrade work and the construction of a new pipeline enabled the ageing West Rockhampton STP to be decommissioned and its sewage inflow directed to the upgraded South Rockhampton STP. The completion of other renewal and upgrade works at the nearby North Rockhampton STP have also improved the performance of this STP. In addition to the upgrades mentioned, work is ongoing to complete the establishment of recycled water schemes and improved biosolids management at the North Rockhampton and South Rockhampton STPs.

Specific achievements of the STP Strategy are:

90% **reduction in ammonia** released from South Rockhampton STP to estuary

Approximately **1000kg reduction in total Nitrogen** released to the estuary each week from the South Rockhampton STP

Decommissioning of the poorly performing trickling filter at the **West Rockhampton STP**

Securing of approximately **$750K** from the Queensland Government towards establishing a recycled water scheme and mechanical dewatering of biosolids at the South Rockhampton STP;

24% **reduction in total Nitrogen** released to estuary in 2019-20 compared to 2018-19 which is the lowest amount released in more than 10 years.

The completion of the STP Strategy to date has seen Council and its commercial business unit Fitzroy River Water invest approximately $8M for these improved environmental outcomes.

In addition, as part of the Rockhampton Region's Biosecurity Plan, Council continues to manage the risk of introduced plants and animals on the environment, the economy and community. Council's Pest Management Team continues to undertake work within the Rockhampton Region to manage and contain water hyacinth, a restricted invasive weed, in the Fitzroy River and to provide landholders with a range of biocontrols that help protect local waterways.

Partnerships advancing water stewardship

Partnership delivers beneficial use of water

As the upstream operator of Australia Pacific LNG, Origin understands how important water resources are to the communities where it operates.

That is why Origin seeks to protect water resources in the natural environment, responsibly manages water consumption and makes water available for other users near its coal seam gas (CSG) operations in Queensland's Surat and Bowen basins.

To produce natural gas, Origin extracts water and gas from underground coal seams. The gas is bonded to the coal seams by water pressure, so a well is drilled to extract enough water to reduce the pressure and allow the gas to flow.

This gas is supplied to Australian customers and also converted to LNG for export. At home, Australia Pacific LNG continues to be a significant contributor to the Australian east coast gas market, supplying approximately 30 per cent of annual demand.

The *Coal Seam Gas Water Management Policy 2012* sets out the Queensland Government's framework for the management of CSG water.

The objective of the policy is "To encourage the beneficial use of CSG water in a way that protects the environment and maximises its productive use as a valuable resource" (Queensland Department of Environment and Science, 2012).

In FY2020, around 92 per cent of total water Origin extracted was treated through reverse osmosis enabling its beneficial use in ways such as irrigation of crops or aquifer recharge.

Origin's Spring Gully-Wybara Irrigation Project (SGWIP) is located approximately 70 km north-east of Roma, in southern Queensland, on the adjoining 'Spring Gully' and 'Wybara' properties.

Spring Gully asset manager Dave Atkin says Origin commenced a treated water irrigation program in 2010 and joined the Fitzroy Partnership for River Health in 2014.

"Our success in developing beneficial uses of extracted water, such as crop irrigation, is a strong example of our ongoing water stewardship in the Fitzroy Basin," Dave said.

The SGWIP initially focused on Pongamia irrigation on Spring Gully and now incorporates multiple centre pivot irrigation areas on Wybara, in partnership with Hewitt Cattle Australia (HCA).

Prior to the development of the SGWIP, the land was used for beef cattle grazing. Original native vegetation had been cleared and pastures of Buffel grass established.

Since July 2018, beneficial use at an average of 5.6 ML/ha annually of treated water has been applied to forage crops and perennial pastures such as Lucerne, Rhodes grass, Wheat, Lab Lab and Oats.

Hewitt Cattle Australia Chief Operating Officer Ben Hewitt says the SGWIP is representative of HCA's approach to natural resource management initiatives in partnership with Origin.

"The project engaged many local contractors during construction and today supplies quality fodder to local livestock producers and a significant ongoing annual contribution to the local economy," Ben said

"We are very proud of this joint initiative."

Streambank stabilisation project reduces sediment

The Fitzroy region has experienced a number of major climate events in recent years: including annual summer wet season flooding, Cyclone Marcia in 2015 and Cyclone Debbie in April 2017 which caused wide-spread devastation. During Cyclone Debbie, a stretch of riverbank along the Fitzroy River retreated approximately 20 metres mobilising 266,000 tonnes of sediment into the waterway.

fba
FITZROY BASIN ASSOCIATION

Queensland Government

Australian Government

The 1.2km stretch of damaged riverbank located north of Rockhampton became the subject of an Australian first streambank stabilisation project. The $1.8 million project, delivered by FBA and jointly funded by the Commonwealth and Queensland Governments under the Natural Disaster Relief and Recovery Arrangements (NDRRA), was completed in 2019.

For six months, the project created 12 full-time jobs in the region, and extended the capability of local suppliers. It is estimated this project will save *90,000 tonnes of sediment from entering the river system annually with long-term benefits to not only the local waterways but also to the health of the Great Barrier Reef.

Project outcomes also included protection of nesting habitat for the critically endangered White-throated Snapping Turtle and Fitzroy River Turtle, water and feed availability for cattle to retreat to in the event of a high flood event and improved resilience for the local ecosystem.

** Source: modelling from endorsed project site reports*

90,000 tonnes of sediment stopped

1.2 km of stock exclusion fencing

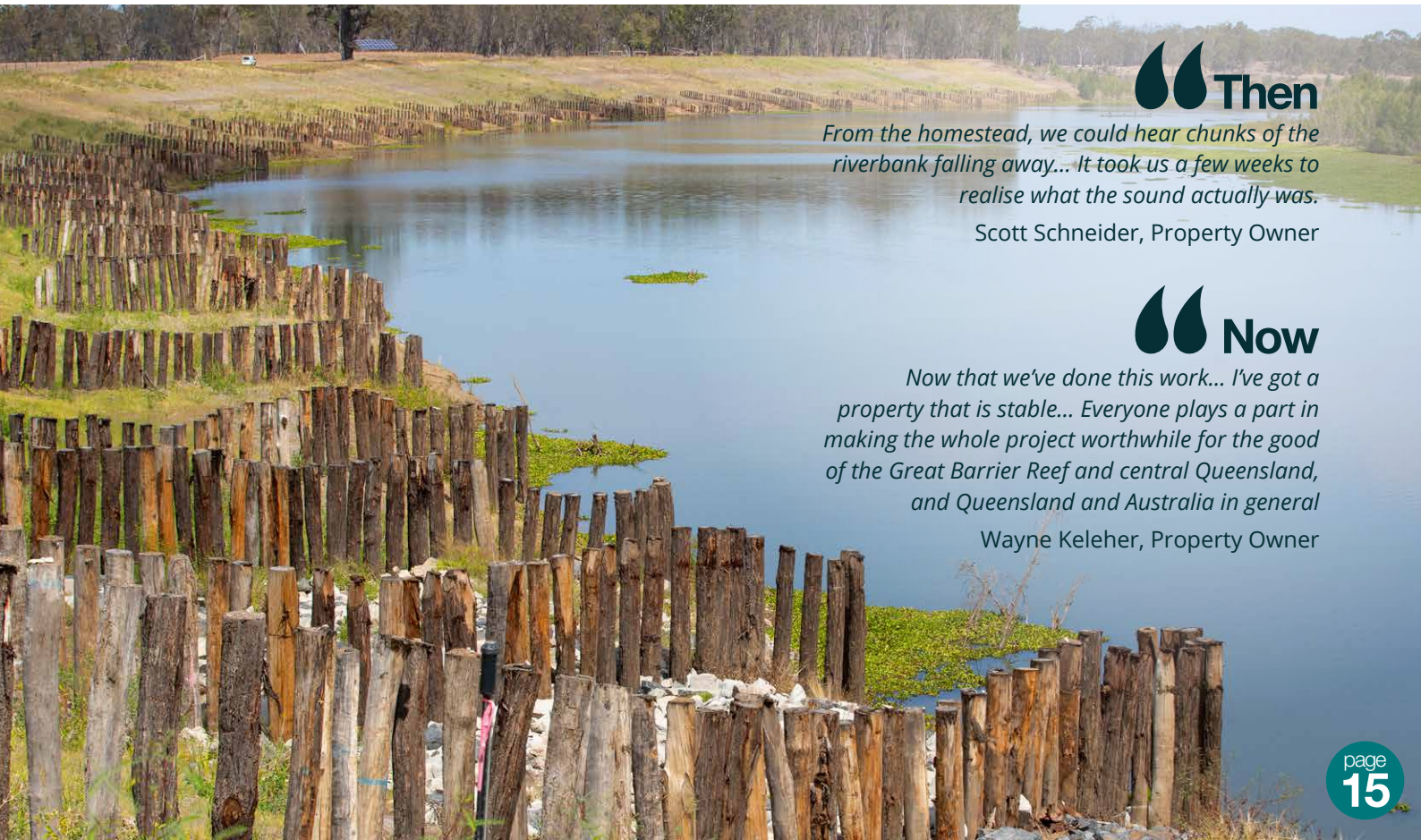
2 coordinated aerial shoots for pest control

200,000 m^3 of soil excavated

70,000 native plantings sourced from local council nurseries

1,742 log piles to stabilise riverbank (repurposed from Cyclone Debbie)

887 m^3 of rock beaching



Then

From the homestead, we could hear chunks of the riverbank falling away... It took us a few weeks to realise what the sound actually was.

Scott Schneider, Property Owner

Now

Now that we've done this work... I've got a property that is stable... Everyone plays a part in making the whole project worthwhile for the good of the Great Barrier Reef and central Queensland, and Queensland and Australia in general

Wayne Keleher, Property Owner

Drain Buddies - guardians of the reef

Humans are responsible for 100 per cent of marine debris. To tackle this problem, three of central Queensland's largest towns (Rockhampton, Yeppoon and Gladstone) installed 'Drain Buddies' at key locations to capture debris before it could enter local waterways and created source reduction solutions.

Drain Buddies are heavy-duty baskets installed at litter hotspot locations that only allow water to pass through, collecting all other matter including litter, organic debris and sediment. Matter collected is emptied quarterly, then sorted, analysed and recorded in the Australian Marine Debris Initiative database administered by Tangaroa Blue.

The project, which commenced in June 2019 concluded its sixth servicing and audit cycle in November 2020. Since this time, the Drain Buddies have discovered some significant results: 40,079 pieces of litter were stopped from entering the Great Barrier Reef across 27 drains with a total weight of 1,002 kilograms (over 1 metric tonne).

40,079 pieces of litter | **27** drains | **1,002** kgs of litter

data as at November 2020

To date, the project has implemented four source reduction strategies based on the data collected from the Drain Buddies audits. The data collected from the Drain Buddies has provided unrivalled insight into what was getting thrown away, where it came from and what types of source reduction campaigns provide the best results for the environment.

Bethlea Bell, FBA's Community Participation Officer, says this project demonstrates an upstream solution to a downstream problem. "This project is exciting as it gives us a better understanding of human behaviour and allows us to measure the success of our work in real-time," she said.

In Gladstone, a strategy was rolled out in the harbour city to reduce plastic-lined sugar sachets entering drains. Since the strategy rollout, there has been a 100% reduction in the appearance of plastic lined sugar sachets in Gladstone drains. 130 plastic lined sugar sachets were recovered from Gladstone CBD drains between June 2019 and May 2020, with the mid-2020 data revealing this number had dramatically reduced to ZERO!

In Yeppoon, a strategy successfully reduced the number of plastic straws entering drains on the town's main street. Further inland, Rockhampton erected cigarette butt bins to encourage locals to correctly dispose of the waste item in identified hot-spots in the city's business district.

While the source reduction strategies have had proven success there is still work to be done. The litter breakdown across the full six cycles showed 17,384 individual litter items in Gladstone, 12,532 in Livingstone and 10,793 in Rockhampton. With the help of community groups and their members, FBA continues to educate residents on wasteful behaviours and the impact on regional waterways and the Great Barrier Reef.

This project was made possible through a Local Action Community Reef Protection grant, funded by the partnership between the Australian Government's Reef Trust and the Great Barrier Reef Foundation, delivered by Fitzroy Basin Association Inc. (FBA), on behalf of the Capricorn Coast and Gladstone Local Marine Advisory Committees.

Towards a better water future

Improved water quality monitoring

Fitzroy Partnership for River Health is proud of the work of our partners, being the change that is needed for Fitzroy's Basin water future. While Fitzroy Partnership's scope remains primarily in water assessment and monitoring, we are also driving change as part of an Australian-first water monitoring project, the Regional Receiving Environment Monitoring Program. The program due to be launched during 2021 aims to create a more comprehensive water monitoring program than the one which exists under current operators' Environmental Authority conditions. This will in turn support better assessment and reporting on the health of the waterways of the Fitzroy Basin.

Measuring the effectiveness of urban water stewardship initiatives

Water generated from populated urban areas, including stormwater runoff and wastewater discharge can impact our local waterways, and ultimately the Great Barrier Reef. Fitzroy Partnership for River Health has commenced discussions with Rockhampton Regional Council and is working with the Office of the Great Barrier Reef within the Department of Environment and Science, to undertake urban water stewardship reporting. Local councils and community stakeholders implement management practices to reduce the impact of urban development, and Fitzroy Partnership will work with local councils to understand the effectiveness of these practices and report on these against the Urban Water Stewardship Framework, which is part of the Reef 2050 Water Quality Improvement Plan. The Urban Water Stewardship Framework is funded by the Queensland Reef Water Quality Program.

Queensland Government

Further research into water quality and ecosystem health

Fitzroy Partnership continues to offer the HeART of the Basin Scholarship which is open to research students at CQUniversity studying Honours, Masters by Research or PhD to progress their learnings in a research topic relating to improving waterway health in the Fitzroy Basin. Previous scholarship recipients have developed a toolbox for fish health assessment in aquatic ecosystems association with coal and gas industries in Central Queensland, researched off stream watering points as a method of riparian restoration and measured the levels and impacts of microplastics on the environment in the Fitzroy and Livingstone water supplies.

fitzroy partnership for river health
CITIZEN SCIENCE IN ACTION

Water stewardship at a local level

There is a growing movement towards citizen science – public participation in scientific research to increase knowledge of the environment. Fitzroy Partnership operates a unique citizen science program with a dedicated Science Officer supporting schools, groups and individuals to sample and test their local waterways and upload their results to our website portal, MyWater. As well as increasing understanding and awareness about the contributors to waterway health, Fitzroy Partnership aims to build one of the largest citizen science water data samples in Australia!

Discover more at riverhealth.org.au/report_card/community

Mindi the Barramundi mascot, and large-scale Maisy the Mayfly board games are also used regularly at events and schools to provide unique and fun ways to inform and connect with children and community about the pressures on water quality and the actions that can be taken for water quality improvements.

Will you be a Fitzroy Basin Water Warrior and help change our water future?

We are working as part of our Citizen Science in Action program to encourage community members to be Water Warriors to help change our water future.

Follow these tips and be a water warrior!

Join a community group
or get involved in citizen science to improve the health of your local waterway. Visit our website to find a group near you: riverhealth.org.au/make-a-difference/

Make recycling a habit
at home and at work

Join the Containers for Change program
Recycle your glass and plastic containers and make some savings while you're at it!

Say no to single-use plastic
Always carry a refillable water bottle, remember your enviro-bags when you shop and use re-useable containers or wrap, not cling wrap for food storage. (The Queensland Government is implementing Queensland's plan to tackle plastic pollution. From 1 September 2021, single use items such as straws, cutlery, bowls and plates, stirrers and expanded polystyrene takeaway food containers and cups will be banned. This will help reduce the pressure of plastics ending up in our waterways.)

Don't litter
Bin your cigarette butts and even better, pick up litter in your yard, street and community.

Reduce fertiliser and pesticide use
Think about rain before you spray for weeds or fertilise your garden.

Plant trees
Plant trees or shrubs on hills or slopes near creeks and waterways to reduce run-off.

Conserve water
Take shorter showers. Put a timer on for 4 minutes, and use your half and full flush options when you go to the toilet.

Pick up after your pet
Pet poo is just raw sewage.

Individuals can make a difference to water quality, so please help us to spread these messages far and wide:

- Learn and understand
- Conserve water
- Do not litter
- Say NO to single use plastic
- Recycle, recycle, recycle
- Take community action.

We recognise our valued partners for being the change that is needed for Fitzroy Basin's water future

Queensland Government

Australian Government

BHP

BMA
BHP Mitsubishi Alliance

Peabody

AngloAmerican

GLENCORE

fba
FITZROY BASIN ASSOCIATION

Santos

Australia Pacific LNG
Operated by origin

Jellinbah Resources

CURRAGH

Rockhampton Regional Council

Ensham Resources

Cotton Australia

CQUniversity Australia

Queensland resources Council

CQG Consulting

sunwater

New Hope Group

Kestrel Coal Resources

stanmore IP Coal

Central Highlands Regional Council

Get in touch to find out more

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