QWRAP ANNUAL PROGRESS REPORT 2020

Councils currently participating in QWRAP:

Table of Contents

The Queensland Regional Water Alliances Program (QWRAP)

QWRAP is an industry-led initiative to investigate regional collaboration on water and sewerage services in regional Queensland. The program is a collaboration among the LGAQ, ***qldwater***, the Queensland Government (through the Department of Natural Resources, Mines and Energy) and over 30 participating councils. It has been funded by the Department since 2011 with significant leverage of cash and in-kind contributions from all other partners.

QWRAP works to build urban water and sewerage (W&S) services in Queensland's regional communities. The aim is to ensure safe, secure and sustainable services for more than 300 water schemes outside of South East Queensland which include 25 councils that own and manage some of the smallest water utilities in Australia. Six regions are currently funded under the program and regional discussions on new water and sewerage collaboration have commenced in others.

QWRAP provides a formal opportunity, for councils to consider and test collaboration and alternative regional arrangements for managing their essential W&S services. Regions involved in the program have matured in the degree of collaboration over the course of the Program and further development is encouraged through competitive funding for projects that build future collaboration. The Program has evolved over time to include information sharing and joint projects among different regions.

Why Regionalisation?

QWRAP encourages regionalisation of W&S services because this approach has been proven repeatedly to be a sustainable way to support regional communities by addressing key service priorities and building workforce capability. Multiple national reviews, most recently by the Productivity Commission have urged regionalisation of Queensland utilities to strengthen economies of scale, improve strategic planning and investment and encourage competition by comparison.

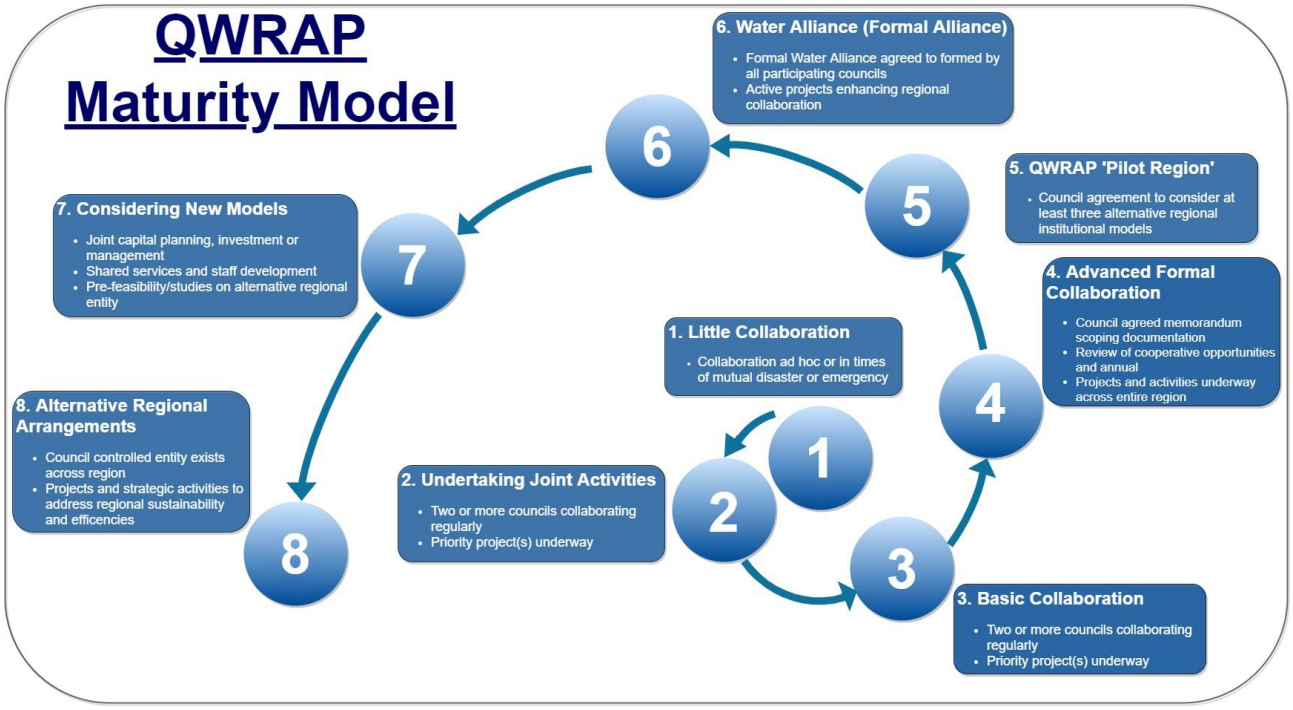
Although regional councils often cooperate on common issues, W&S collaboration at a regional scale was rare prior to QWRAP commencing in 2011. Thanks to the program, five regions including over 200 communities are working on common projects and three have created formal Water Alliances. While funding has been reserved for these regions, QWRAP has also supported other 'emerging regions' to commence negotiations about collaboration and some have developed joint projects. This regional maturity has grown with the support of State investment in QWRAP which has leveraged significant further contributions.

Regionalisation has proven difficult in many jurisdictions across Australia and overseas. Local Governments can be wary of any form of amalgamation and communities are protective of water supplies and are often concerned about privatisation of essential services. The Queensland Government has entrusted W&S services to councils and provides support through multiple grant programs, QWRAP and direct funding for indigenous councils.

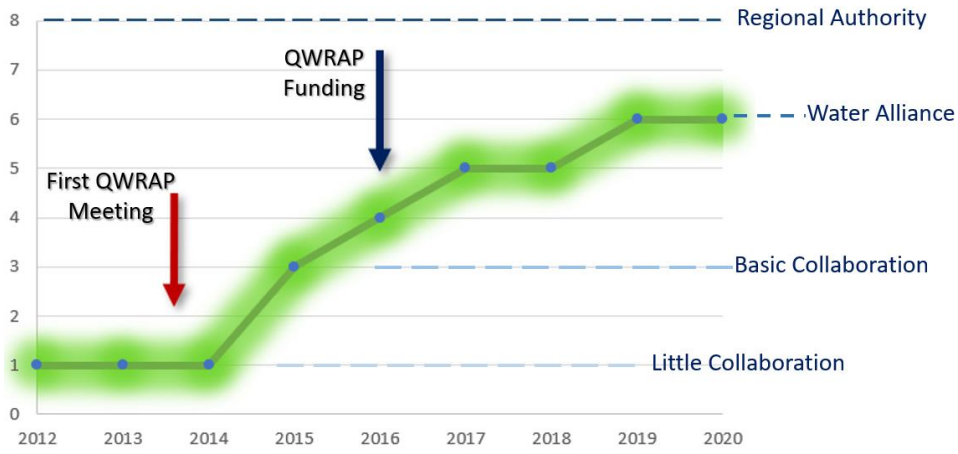
Uncoordinated support coupled with strained capacity and capability of many councils means that collaboration and regionalisation are essential for the future of the State's W&S sector. This is possible only through a collaborative program, like QWRAP, which involves State and local governments and centralised support from LGAQ and ***qldwater***.

Regional Progress

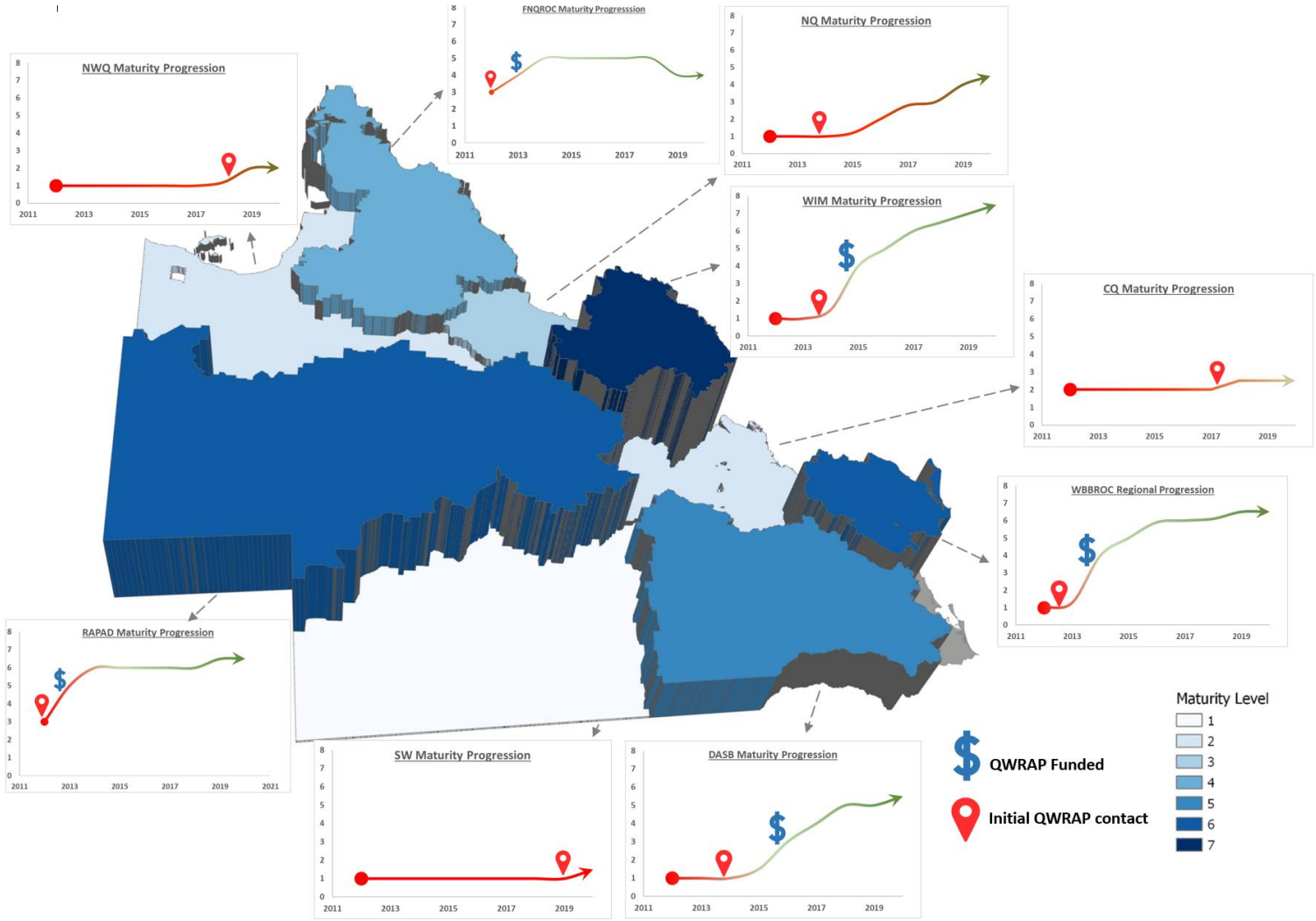
QWRAP is a voluntary program with one primary rule – that groups of councils must seek collaboration opportunities that promote ongoing regionalisation. Acknowledging the necessity of a staged approach, the QWRAP 'Maturity Model' outlines typical steps in the development of regional models and directs funding to projects that demonstrate increasing maturity. QWRAP has shown that collaboration at all stages of regional maturity successfully yields financial and other community benefits, but maximum savings and eventual sustainability require high levels of maturity dealing with the greatest cost-drivers for W&S services.



In most regions, collaboration on urban W&S management is rare outside of assistance during natural disasters. However, through QWRAP, regional collaboration is rapidly facilitated. Early collaboration in decision making and planning on operational or process-related work addressing common W&S challenges, helps build trust and shared understanding. Many of the QWRAP regions have progressed to adopting a Regional Alliance model which increases the returns and allows sharing of risks to drive greater financial and community benefits and explore more complex and strategic issues. Progression to the highest levels of maturity have commenced in some regions with the increased support from DNRME since the 2018 funding round.



Regional Water and Sewerage Collaboration Maturity in Queensland



QWRAP funding averaged $300,000 p.a. between 2011 and 2016 establishing three pilot regions. Funding doubled in 2016-2018 adding two regions and initiating 'emerging regions'. In 2018, funding increased to $800,000 p.a. allowing more mature projects and extending discussion of regionalisation to most of the state.

North Queensland was invited to become the sixth QWRAP region. Increased maturity results in larger projects, shared resources and investment that develop expertise and capacity. Skills development builds capacity and is common to Water Alliances along with projects building operational efficiencies and standardisation. High-maturity regions explore joint infrastructure planning to support regional growth for years to come. These benefits and outcomes would be difficult or impossible, particularly for small councils without QWRAP.

QWRAP Leads to Strategic Outcomes

All funded QWRAP regions undertake projects but before a region can access the funds, councils are required to review and consider at least three alternative institutional models for collaboration across the region. While joint projects establish the benefits of cooperation, the review of models stimulates discussion at political and technical levels about pathways for voluntary regionalisation. These discussions would not occur without the Program, and seed funding and support to overcome initial barriers to collaboration. The progression towards increasing regional maturity is an inherently slow process because it requires voluntary sustained cooperation, effort and political support on the part of multiple councils. Incentivisation through modest QWRAP funding is a proven method for accelerating progress through the maturity model and achieving strategic objectives at a regional scale.

All QWRAP projects to date have yielded financial benefits. Immediate benefits arise from economies of scale and savings from joint procurement and the strategic planning and contract oversight that comes with a regional approach. Many such projects are technical or operational in nature seeking to improve the safety, security and sustainability of services supplied to communities within the QWRAP region. Some of these projects may have occurred without QWRAP but would have been less efficient when undertaken by individual councils. Many projects would not have been possible without regional collaboration; either because of the additional scope available to small councils, or the greater focus on essential services generated by the Program.

A handful of projects have also driven strategic sustainability outcomes and led to enhanced future collaboration within a region or across multiple regions. These projects have increased in the past two years with the increasing maturity of some regions, strong regional champions, and the additional focus that has been placed on strategic planning and benefits capture. The following examples from the recent year demonstrate how high-maturity projects can build sustainability within and beyond a QWRAP regional grouping of councils.

The first is a multi-region program developing skills for Water Industry Workers. This project has been successful in the past two years in building career paths for field and network staff responsible for maintaining levels of service for customers. The program provides a skilling platform that is important for attracting new staff and building essential skills in roles traditionally overlooked by many employers. The success of the program resulted in funding for an additional year and extending the work into another region to encompass ten coastal councils from Gympie to Cairns.

Another project has fostered cooperation on transitioning management of four sewage treatment plants from external contracts back to council management, thereby increasing employment in the participating councils and creating more sustainable management arrangements within the region. This high-value project was only possible through seed QWRAP funding which helped justify the collaboration that resulted in substantial savings for the councils involved. The high cost of the work combined with the projected ongoing savings and other community benefits make this a good example of the high collaboration maturity created.

An important indicator of maturity is the willingness of the sector to engage in formal research and innovation and this interest has increased with the collaboration maturity of established regions. This year a new project was funded as a collaboration between regional councils and a local university to undertake a multi-year research project to assist in monitoring and managing levels of nutrients discharged to the Great Barrier Reef (GBR). Nitrogen has been identified by the Office of the GBR as the main water quality contaminant contributing to reef degradation and is also a key indicator of quality for sewage treatment. The research to develop ‘digital litmus paper’ for detecting nitrogen in GBR waters downstream of sewage treatment plants has the potential to deliver water quality improvements extending beyond the participating councils. This work demonstrates how high-maturity regional collaboration facilitated through QWRAP contributes to achieving higher-order strategic objectives.

The activities of QWRAP regions result in benefits for communities and essential services and contribute to broader strategic objectives at local, regional and state scales. However, they can also contribute to achieving other state-wide outcomes. Key examples include:

- extending successful, tested initiatives across multiple regions,
- developing systems and approaches that are adopted by other Queensland councils,
- driving momentum and interest in improvement and collaboration,
- bringing together experts from different fields including academia to deliver practical and technology-focused solutions to complex problems, and
- prioritising innovation to address complex challenges common to regional Queensland.

The program also provides benefits to Regulators and agencies by streamlining communication and by encouraging competition by comparison within and between regions. QWRAP communication channels and rapid deployment of information, expertise and trusted advice has proven beneficial for Policy and regulatory change, environmental stewardship and protection of the Great Barrier Reef.

Established collaboration on emergent issues through the previous years of the Program also resulted in effective joint response to drought, flooding and COVID-19 over the past year. These examples demonstrate how the QWRAP framework, acting both within and across regions, helps de-risk challenges faced by the urban W&S sector supporting productivity and progress towards strategic goals in the face of constant change.

Year-in-Review

In 2019-20, a number of projects were completed while some are ongoing. The following table summarises this work and lists initiatives underway or commenced during the year. Projects with QWRAP funding are highlighted in blue.

Region	Initiative	Benefits (monetary, tangible and intangible)	Period	Status in 2019-20
FNQROC	Alignment of audits for Drinking Water Quality Management Plans	• Alignment of mandatory audit requirements for 12 FNQ councils • Improvement of DWQMPs and regulatory compliance for water quality • Increased health and safety of supplies throughout a region with challenging water sources • Improved customer confidence in water quality and levels of service • Joint learning from audit findings and common improvement programs with input from other regions prior to tendering	2019-21	Commenced
	Training hub approach for operators from FNQROC and small satellite councils	• Upskilling local operators through scale economies and hub-approach • Job security and regional skills development • Development of existing and new operators • Support for small and remote councils • Improved capacity/capability for maintaining health and water quality in Reef catchments	2020-21	Scoping
	Joint Sewer Rehabilitation in Tropical Queensland (Q5-54)	• Joint relining of 32,788m of sewers using established regional contracting processes • Substantial financial and economic savings through joint procurement, reduced contract management and mobilisation costs • Improved quality of services provided because of greater market reach and penetration • Labor cost saving estimated $160,000 and reduced staffing burden for five councils	2019-21	Commenced

Region	Initiative	Benefits (monetary, tangible and intangible)	Period	Status in 2019-20
RAPAD Water & Sewerage Alliance	Digital regional utility (planning and conceptual development) (Phase 2 of previous Q5-45)	• Concept of standardised operations/operations centre for regional joint SCADA and Telemetry (CONOPS) • Cost savings on contracting and future systems development • Improved management of schemes including safety and security of supply • Risks reduction through maturity of collaboration • Improved regional and local capacity/self-sufficiency for seven participating councils	2019-22	Underway (COVID delay)
	Sewage Treatment Plant regulatory requirements review and performance optimisation (Q5-48)	• Platform for discussions with Environmental Regulator to streamline Environmental Approvals (EAs), and ensure schemes provide appropriate environmental outcomes • Identify any future improvement needs for STPs to improve environmental stewardship and meet expectations of the community and regulators • Enhanced self-sufficiency in parts of the region and local capacity identified elsewhere	2019-21	Ongoing
	Joint Sewer Relining	• Joint procurement savings and through 'sweating the assets' – deferring extensive renewals through planned relining and targeted replacement • Mitigation of risks from leaks, infiltration and overflows • Collaboration on an issue that threatens regional self-sufficiency	2020-21	Commenced
	Next generation of water quality improvement program (ongoing program of scouring, pigging, reservoir cleaning)	• Continuing program of air scouring and pigging, reservoir cleaning • Improvement of DWQMP response and planning to ensure water quality and regulatory compliance • Increased health and safety of water supplies through air scouring, reservoir maintenance and disinfection optimisation • Ongoing program of works based on IPWEAQ Award Winning Program 2018	2020-21	Ongoing
	Infrastructure Cliff Project (phase 1)	• Identification of likelihood (condition) and consequence (criticality) of RAPAD Water and Sewerage Alliance assets • Resolution of gaps and inconsistencies in existing asset registers including useful lives • Identification of past failure mechanisms to project useful lives more accurately than age-based assessment • Knowledge transfer to asset management outside of council's utilities management including roads, footpaths, gardens, stormwater drainage and fleet	2019-21	Scoping

Region	Initiative	Benefits (monetary, tangible and intangible)	Period	Status in 2019-20
WBBROC Water Alliance	Strategic Plan to identify, and prioritise collaboration opportunities including shared services, resources and assets (Q5-41)	• Strategic collaboration for resilience, service standards and business continuity • Identify efficiencies for financial, reputational, skills development and productivity • Develop strategic road map for future regional QWRAP institutional arrangements • Maintain alignment of political and technical groups and regional strategic direction	2019-21	Ongoing (COVID-delay)
	Water security profiles for small schemes (Q5-40)	• Student project to raise regional profile of small scheme water security parameters • Significant collaboration between region and departmental representatives • Expanded regional understanding of need for more detailed water security analysis • Capacity building and education project for local university students and councils	2018-20	Completed
	Water Industry Worker training adopting approach from extended WIM Alliance program (Q5-53)	• Building on the success of the WIM Alliance program to build skills and career pathways for local field and network staff who can be (incorrectly) viewed as unskilled • Common training and skill pool for participating (mostly larger) WBBROC councils • Provides a pathway for smaller WBBROC councils to adopt best practice WIW training	2020-21	Commenced
	Sewer relining rounds following on from successful QWRAP Stage I program	• Finalisation of stage II joint relining project (the largest single sewer-relining contract in Queensland) • Capitalising on QWRAP improvements funded during Round I with agreement from councils to proceed to Round III • Substantial savings and improved service delivery through central oversight • Template for sewer relining programs in other QWRAP regions	2017-21	Ongoing
	Other joint activities	• Common contract approach for DWQMP audits, SCADA subgroup including discussions on SCADA standardisation (using DASB QWRAP model) and joint control room. • The environmental sub-group is in hiatus at present.	2020-21	Commenced
	Industry placement program review of CCTV footage (Q5-50)	• Continued cooperation with local University (CQU) to attract youth and expertise to the local workforce • Improved techniques for condition assessment of ageing linear assets (alternative approach to AI program trial by the WIM Alliance) • Coordination of asset condition assessment across the region and standardisation of methods and metrics	2020-21	Commenced

Region	Initiative	Benefits (monetary, tangible and intangible)	Period	Status in 2019-20
WIM Water Alliance	A training framework for 'Water Industry Workers' (Original WIM Project (Q5-43) Extended as WBBROC Project (Q5-53))	• Creation of career pathways and job certainty for Water Industry Workers (field and network staff) who can otherwise be under-recognised • Improved consistency of training for quality and common skill pool ($100,000-$1 million value expected over next five years) • Leading regional Queensland in this area linking to two regions outside the WIM Alliance (northern councils and commencing late this year the WBBROC region). • Development and implementation of a framework for the coordination and delivery of training across a region	2018-21	Extended
	Resource and staff sharing arrangements among WIM councils introduced through QWRAP sub-groups	• Mirani township on-call arrangements (estimated benefits >$10,000 last Financial Year) • Resilience through cross-council sharing of staff and joint trouble-shooting • Increased capacity for shared critical spares and equipment • Planning underway for the Proserpine Airport (WRC) and Midge Point (MRC) to be potentially supplied potable water via a pipeline from WRC	2019-21	Ongoing
	Joint transition manager to return four STPs to in-house management (Q5-42)	• Savings in transition costs (e.g. 25% saving on legal, 50% saving on planning, one transition team leader equating to 33% saving) estimated at $100,000 - $1million in coming five years • Shared understanding of all four STPs that will enable sharing of resources for technical troubleshooting, maintenance activities and potential sharing of operators • Optimising operations and maintenance by seeking efficiencies in management approach by internalising O&M	2019-20	Completed
	Joint Superintendent for Bowen and Mirani STP upgrades (Q5-52)	• Built collective capabilities and demonstrated regional leadership • Immediate savings of 30% in procurement and the ability to attract superior skills • Enhanced collaboration across WIM councils and improved regular communications • Operational and capital savings estimated at $100,000 - $1 million over five years	2019-20	Completed
	Ongoing joint projects and cooperation incorporated into BAU (with benefit magnitude projected for next five years)	• Service Level Agreements for common equipment (up to $100,000 savings), shared procurement documentation (>$100,000), joint chemical procurement (>$10,000), sewer and manhole restoration (>100,000), register of documents (up to $10,000), AI CCTV development (up to $100,000), SCADA standardisation program (up to $100,000)	2018-21	Ongoing
	Research on a 'Digital Litmus Paper' for Nitrogen in GBR Waters (Q5-51)	• Joint research with local university and WIM Alliance Councils • Focused on nitrogen, the most harmful pollutant for the GBR and the primary metric for urban discharge regulation • Innovative technology for automatic and instantaneous detection and measurement, which has not been reliably achieved elsewhere, using a biochemical 'dip-stick' approach	2020-22	Commenced

Region	Initiative	Benefits (monetary, tangible and intangible)	Period	Status in 2019-20
DASB	Joint Procurement of Sewer Condition Assessment and Relining	• Continuation of initial joint contract development (Q5-49) • Short-term savings projected at $20,000 p.a. by streamlining tendering documents • Joint procurement of sewer condition assessments expected $700,000 p.a. savings • Benefits include risk management, council capacity building and regional self-sufficiency • First step in creating an ongoing joint sewer relining program to generate further savings • Built on learnings and documentation from successful WBBROC joint relining project	2019-21	Underway (COVID delay)
	Regional Operator Forum and Field Day	• Forum attracted over 30 staff including operators and specialists from all DASB Councils • First operator forum for this region leveraged off original model from WIM Alliance and representing the first time many of the neighboring council staff had shared information • Highly successful forum and field event thanks to detailed coordination by WDRC and attended by WDRC CEO. • Resulted in network formation among operators which will be built through future one-on-one conversations and a plan for a future follow up forum	2019-20	Completed
	The Development of Regional Standards for SCADA systems	• Joint procurement savings on specialist consulting services augmented by regional coordinator in editing (overly) technical document • Document was immediately used by a DASB Council (est. > $10,000 savings) • Projected savings estimated to exceed >$1 mill over next five years • First step in joint SCADA, telemetry and communications infrastructure and harmonisation of operational and maintenance activities for economies of scale • Document shared with WBBROC, RAPADWS Alliance, Burke Council (non-QWRAP) and added to QWRAP document portal	2017-20	Completed

Annual Highlights

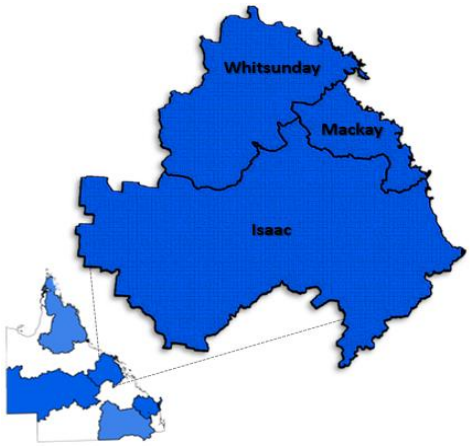
Detailed project reports are available for all funded work undertaken in QWRAP regions and each also provides an annual report and acquittal. The activities undertaken in the past year are summarised in the above table and selected highlights are provided below.

COVID-19 Planning

The pandemic was a key driver at the end of the past year and caused minor delays to some projects due to lock-down requirements and redirection of effort to planning and response activities. The regional arrangements established through QWRAP were an advantage during this period, allowing ready access to trusted networks within each region and across the state for sharing information and planning for mutual aid in the case of any local flare-up of the virus. QWRAP groups will play a central role in staff sharing, in the event of a localized outbreak during the extended COVID-19 recovery phase. The shared documents and resources, joint operator forums, technical networks and common standards that have been commenced in all funded regions, would streamline staff sharing arrangements in the case of operators in one site being unable to continue to provide essential services to their community.

WIM Water Alliance

The region is overseen by a steering group chaired until recently by Dr Nicole Davis (Mackay) and since June 2020 by Mr Troy Pettiford (Whitsunday). The group is overseen by the Greater Whitsunday Region Council of Mayors which has recently identified the Alliance program as one of their priority activities to help deliver benefits to the Region and its communities, and to enhance organisational capacity of their Councils. Other Governance changes during the year included Gary Murphy (Isaac) replacing Greg Searle, and a number of councilor changes following the March council elections. The regional coordinator (Mr Barry Holcroft) has been in the role for a full year.



WIM Water Alliance includes Whitsunday, Isaac and Mackay Councils servicing over 170,000 people in over 20 communities across an area the size of Portugal.

The projects undertaken in the region in the previous year have included initiatives impacting strongly on ongoing capital and operational investment by participating councils. These projects demonstrate a high level of maturity because of the degree of collaboration and trust entailed, the potential for further future regionalisation, and the financial savings generated. All projects have been aligned to the high-level objectives in the Alliance Terms of Reference which were developed from the council's Strategic Plans. Some of the projects in the region have been promoted through presentations at industry forums and conferences and through council social media. Overall, the region is at a level six maturity level with some projects representing level seven.

Objectives of the WIM Water Alliance

- **Build the businesses collective capabilities** through development of stronger networks, greater 'cross border' cooperation and alignment of systems and processes.
- **Demonstrate leadership** in development of the water industry within regional Queensland.
- Develop an agreed position on common issues in **consultation with stakeholders** (e.g. the state, regulators, the business owners, key customers).
- **Strive for further opportunities for reform** of the businesses to improve the efficiency of the W&S businesses across the region.

Current Investment in WIM Alliance Projects and Activities

Activity	QWRAP[1]	Councils 2019-20	
		Cash	In kind
Regional Activities and Administration	$35,000[2]	0	$162,500[3]
Water Worker Industry Learning & Development Project (Q5-43)	$65,350	$74,045	$92,000
Shared Superintendent for the Bowen Sewage Treatment Plant & Mirani Water Recycling Facility (Q5-52)	$85,440	$1,033,400	$510,300
Collaborative approach in determining asset useful lives and condition assessment (Q5-46)	$7,230	$7,230	$4,520
Collaborative transition management from private contractor to in-house operations of STPs (Q5-42)	$89,000	$634,036	$812,000
TOTALS	**N/A**	**$1,748,711**	**$1,581,320**

1. Total QWRAP contribution to current project or activity (which may extend beyond the 2019-20 year).
2. QWRAP funding for Regional Coordinator Role 2019-20.
3. In addition, non-funded QWRAP projects estimated as an additional 800 FTE hours.

Highlighted Initiative: Joint Superintendent for Bowen and Mirani STP Upgrades (Q5-52)

Description: The upgrade of two treatment plants, over 180 km apart in two different Great Barrier Reef (GBR) Councils, was undertaken by different private contractors but overseen by a single highly-qualified Superintendent under a strategic agreement initiated through QWRAP funding.

Strategic Alignment: The project aligned well the Strategic Objectives of the Alliance, but would not have been possible without QWRAP stimulus and creation of a strategic agreement (signed by MRC & WRC CEOs), that dealt with cost sharing, time constraint conflicts and escalation processes. The approach and documentation is transferrable to other QWRAP Alliance teams.

Outcomes: Significant efficiencies by awarding contracts to different suppliers with a common Superintendent allowing benchmarking and comparisons of contractors, behaviours and methodologies. Similar contracts and technical solutions despite large site differences led to timely responses and common learnings that made responses timely, consistent and prudent. Future collaboration is enhanced through common critical spares, shared maintenance of both plants from Whitsunday standby personnel and joint tenders for servicing, aligned SCADA architecture, electrical specifications and joint safety audits. The knowledge and any learnings derived were continuously shared with other service providers through the QWRAP meetings and industry communication channels.

Benefits: The Greater Whitsunday regional catchment can significantly impact the GBR through the discharge of nutrients. These state-of-the-art facilities meet the new Reef Regulations and help protect local waterways and the sensitive GBR environment. Financially, an 'immediate genuine 30% fee reduction' (or ~$340,000) for the Superintendent was possible only through the enhanced scale of the joint project which also increased quality of available skills. Operational and capital savings of up to $1 million are expected in the next five years with community and environmental benefits in the millions. Such benefits include new opportunities for water recycling that reduce urban potable demand in the Bowen and Mirani townships and increased resilience to climate change. The 'Bowen Growing and Greening Initiative' has also provided a liveability and tourism boost to the ageing declining township of Bowen through the natural rejuvenation of green open spaces, road corridors and local parklands.

Maturity: The project is a prime example of early-stage collaboration on capital investment and was underpinned by earlier joint projects ('Contract Documentation': (Q4-36) and 'Transition Manager': (Q5-42)), initiating regional capital planning, investment and outsourcing benefits. The level of trust and rapport required, the high cost and risk of the project demonstrates a maturity level seven, the precursor to establishing formal ongoing arrangements for achieving these sorts of benefits, possible only through a joint regional authority. A self-assessment conducted by the WIM Alliance as part of its final project reporting, has identified many ongoing benefits beyond the straightforward cost savings, including claimed Social and Environmental benefits in excess of $10 million.

"So there were plenty of aspects that we looked at where we could further gain opportunity from working together, and one particular thing that comes to mind is we're currently doing a treatment plant upgrade, and so is Mackay, and we are actually having a Joint Superintendent which has actually realised benefits of over 30% cost saving already so we are very happy with that."

"The greatest success for the WIM Water Alliance is the ongoing development of professional and personal collegial relationships at officer level across the three entities.

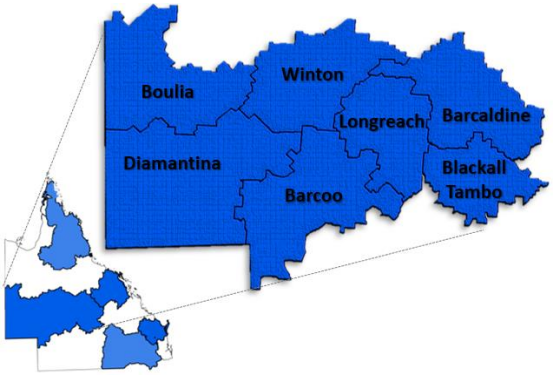
This continues to strengthen the ongoing sharing of professional experiences, lessons learnt, and strong personal bonds that have formed over the past two-three years, enabling teams to freely communicate and consult with each other across the region.

Greater sharing and collaboration is resulting in forging better levels of service to our regional communities."

RAPAD Water and Sewerage Alliance

The RAPAD Water and Sewerage Alliance (RAPADWSA) saw significant governance change in the past year with the Chair of the Technical Group changing from Ms Sally O'Neill (Barcoo) to Mr Harin Karra (Boulia). The Chair of the Strategic group changed from long-standing Chair Cr Ed Warren (Mayor of Longreach) to Cr Andrew Martin (Mayor of Blackall-Tambo). The group is assessed to have reached a level six in the maturity model with some projects representative of level seven.

The Group developed their *five-year Strategic Plan* in 2017 and a *Strategic Implementation Action Plan* in 2018. At the first meeting of the new Strategic Group in June (following council elections in March 2020), the region agreed to update these plans in the coming year.



The Regional Area Planning and Development Water and Sewerage Alliance (RAPADWSA) includes Barcoo, Barcaldine, Blackall-Tambo, Boulia, Diamantina, Longreach and Winton. Together the councils service 10,700 people in 20 communities across an area half the size of NSW.

Objectives of the RAPADWSA

- Build on collaborative regional opportunities;
- Provide safe, reliable and fit-for-purpose W&S facilities;
- Enhance sustainability through efficient water use and security of supplies;
- Facilitate responsible and sustainable development;
- Develop the strengths of the region; and
- Provide affordable, fit-for-purpose services that are environmentally sustainable.

Current Investment in RAPAD Water & Sewerage Alliance Projects and Activities

Activity	QWRAP[1]	Councils 2019-20	
		Cash	In kind
Regional Activities and Administration	$35,000[2]	$45,761	$238,993
Sewer Relining	-	$19,888	$25,200
STP Regulatory Investigation	$66,804	$75,106	$29,400
Water Main Replacement	-	$4,905	$4,200
Reservoir Cleaning and Maintenance	-	$17,664	$25,200
Water Mains Scouring	-	$12,114	$2,100
Water Meter Replacement	-	$4,854	$10,500
Infrastructure Cliff Project	-	$8,470	$16,800
Telemetry and Scada Program	$35,140	$6,000	$29,400
TOTALS	**N/A**	**$194,761**	**$381,793**

1. Total QWRAP contribution to current project or activity (which may extend beyond the 2019-20 year).
2. QWRAP funding Regional Coordinator Role 2019-20.

"We've recently awarded two more contracts for the next two-year period and with all Councils participating this time around. Those who didn't do it last time had seen the benefit of the collaborative tendering and contracting. It's also allowed [our] Council through its contract administration process to assist the councils that didn't have that level of capacity in their own organisations to effectively deliver those contracts."

RAPAD Water and Sewerage Alliance highlighted initiative: STP Regulatory Requirements and Plant Investigation (multi-stage project)

Description: Sewage Treatment Plants (STPs) are an integral component of delivering a town's wastewater services. Often overlooked due to being at the 'end of the line', public STPs outside SEQ are owned and managed by Local Governments. The RAPADWSA region is no different, with six of the seven councils having some form of sewage treatment. STPs are required to treat sewage to the limits indicated in Environmental Approvals which are regulated by the Department of Environment and Science (DES). The RAPADWSA Councils have taken a proactive approach to investigating and ensuring the region's councils meet and will continue to meet their licence requirements. The STP Regulatory requirements and plant investigation project is a multi-stage and multi-year project designed to ensure RAPADWSA has fit-for-purpose STPs and continues to improve stewardship for its region.

Strategic Alignment: A functional sewerage and treatment network are essential to the health, environmental and sanitation services delivered to modern towns. In a region as remote as RAPAD, councils place increased reliance on their STPs ability to continuously operate without highly technical assistance and minimal oversight. Identified within the regions' strategic plan by both councilors and technical staff, the review of STPs across the region is of critical importance. Such strategic focus on STPs at a regional scale provides opportunities for joint CAPEX needs, licence comparisons, staff training and sharing as well as a less reactive replacement program in the future.

Outcomes: The RAPADWSA at both technical and strategic councilor levels identified the STP investigation project as a priority over the coming years. The region has progressed through 'Phase A' of the multi-stage project. Phase A investigated and compared licenses across the region, undertook field testing of current operations and benchmarked licence conditions among councils and is currently in the final stage of negotiations with DES. The next stage of the project is to investigate options to future-proof treatment plants and potential to leverage joint procurement benefits and a regional approach. Implementation of such joint upgrades would allow the region to save in both CAPEX and OPEX costs.

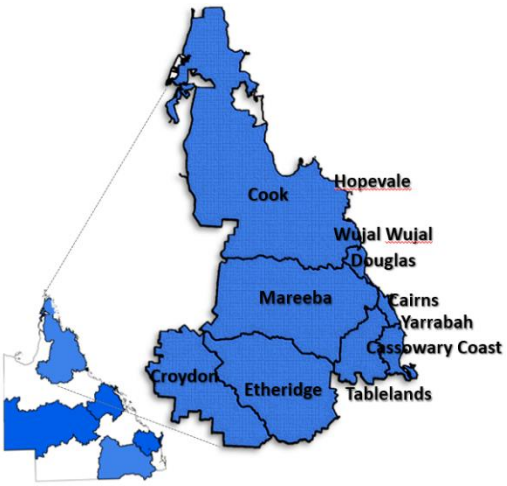
Benefits: Funding the investigation through joint procurement has led to significant cost savings as a direct benefit. However, the regional consolidation of STP licence conditions and testing regimes has resulted in intangible benefits through the sharing of learnings on common challenges for the region yielding; improved safety and compliance, improved root cause analysis for operational issues, greater environmental stewardship, and enhanced communication with the environmental regulator. In addition, sharing of learnings and resources facilitates operator sharing on similar plants leading to greater resilience to provide continuous service. This project has also provided the foundations for joint procurement of future upgrades, with concomitant future cost savings to come in Phase B and C of the project.

Maturity: The project while in the investigation stage aligns with the region's level six maturity requiring significant coordination and regional leadership but being largely operational in nature. Progression to joint CAPEX upgrades and regional options assessment would demonstrate level seven maturity.

"We're catching up on a regular basis through the meetings and that's an opportunity to share experiences - not just what's on the agenda but the experiences we're having on a day to day basis. We're also more inclined to pick up the phone and call each other about certain aspects of operations."

FNQROC

In 2019 FNQROC elected to change their participation in QWRAP in line with the priorities of the FNQROC Board and forego funding for a Regional Coordinator but continue to work on technical W&S Projects as they arise. The FNQROC Board will continue to be informed of opportunities and issues, maintain an ongoing relationship with QWRAP and retain access to funding with all projects assessed based on their specific contribution to regional maturity. This reflects a level four collaboration maturity but the number of projects undertaken by the region increased in the last year, with a focus on joint procurement including a regional sewer relining project, common auditing processes for regulatory audits and a new regional training program.



The FNQROC region includes 11 councils, servicing 50 communities, including some of the smallest and largest council areas in regional Queensland. The region has a population of 250,000 spread across an area equal to the UK.

Highlighted Initiative: Joint Sewer Relining Program (Q5-54)

Description: Development of a joint relining program for 33 km of sewers across five large FNQ Councils (25,055 m up to 225 mm and 7,733 m greater than 225 mm diameter along with ancillary infrastructure). There is also condition assessment (CCTV) of 21,998 m.

Strategic Alignment: Sewer relining has been prioritised in many QWRAP regions, not only because it represents an efficient mechanism to proactively manage the infrastructure cliff/ageing assets issues for regional communities, but also because it helps address key causes of water quality impacts such as infiltration leading to increased overflows. This is particularly important for the FNQROC region which includes councils discharging to Great Barrier Reef waters, which are assessed to be most at risk from land-based discharges of nitrogen. Sewer relining assists councils in further developing existing environmental stewardship programs in Reef catchments and contributes to Queensland's actions under the Reef 2050 Plan by improving water quality flowing to the GBR lagoon.

Outcomes: This is a new program in the region but in other areas, similar initiatives have resulted in significant financial savings through joint procurement and standardized management of contracting arrangements to ensure high quality from service contractors. Communities benefit from fewer sewer overflows and better environmental outcomes at sewage treatment plants. These joint projects also provide a strong demonstration of the benefits achieved through regional collaboration in large and costly capital renewal programs.

Benefits: Although STPs contribute less than 5% of the key GBR pollutants (nitrogen and phosphorus) derived from land-based pollution, these loads are most prominent during wet weather and flooding which are common in the tropics. At these times, cracks in aged sewer pipes and illegal household connections combine to create such large quantities of stormwater into sewers that they overwhelm the capacity of treatment plants and pumping stations potentially resulting in releases of very dilute but untreated sewage. Relining helps to reduce this problem and is also the most cost-effective method (e.g. labor costs saving of $160,000) for rehabilitating the state's ageing networks and builds on the collaborative approach developed in other QWRAP regions.

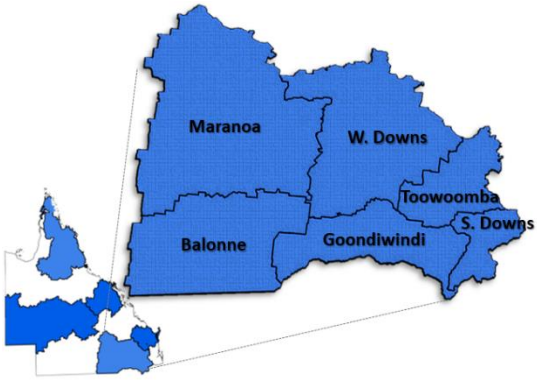
Maturity: Joint procurement of sewer relining services is indicative of level 4-5 maturity.

DASB Region

The technical group has been active in the past year particularly in offering support for its members Southern Downs and Goondiwindi Regional Councils that have been severely impacted by drought. The group invested in a QWRAP project to develop joint communications through different media outlets to provide common water efficiency messages across the region.

This year also saw some turn-over in staff involved in the technical group and the role of chair transferred from Mr Trevor Seth (Goondiwindi) to Mr Leigh Cook (Western Downs) with the Coordinator Role is continuing to be filled by Mr Alan Kleinschmidt. The maturity of the region has been assessed at level five with some level six elements including:

- Development of regional standards and documentation
- Joint negotiations with regulators and Queensland Government
- Regional water security planning



The Downs and Surat Basin (DASB) region encompasses Balonne, Goondiwindi, Maranoa, Southern Downs, Toowoomba and Western Downs Councils with over 260,000 people. These councils service over 60 communities spread over an area one quarter the size of France.

A review of Strategic Directions was undertaken during the year, based on the Strategic Goals and Programs of each of the participating councils and mapped to the QWRAP priorities.

Objectives of the DASB Water and Sewerage Group

- **Facilitate the effective and efficient functioning of the DASB Water Group** by effective administration, communication and member support.
- **Secure ongoing support for the DASB Water Group** by engaging elected representatives and senior management.
- **Identify and adopt an appropriate regional collaboration model** that optimises benefits for the DASB Water Group member councils and communities.
- **Demonstrate the benefits of collaboration** to DASB member councils' communities and Queensland Government and other stakeholders by identifying and progressing immediate collaboration opportunities.
- **Communicate the successes**, emphasising the cumulative benefits over and above the sum of individual project benefits and the alignment of collaboration with each council's responsibilities towards its community.

Current Investment in DASB Region Projects and Activities

Activity	QWRAP[1]	Councils 2019-20	
		Cash	In kind
Regional Activities and Administration	$45,000[2]	0	$32,997
SCADA Standardisation	$72,900	$24,300	$37,990
Regional Operator Forum	0	0	$13,163
Joint Sewer Relining Program (Q5-49)	$7,425	$3,915	$8,815
Water Security Plan	$17,250	[3]	[3]
TOTALS	**N/A**	**$28,215**	**$92,965**

1. Total QWRAP contribution to current project or activity (which may extend beyond the 2019-20 year).
2. QWRAP funding for Regional Coordinator Role 2019-20 includes $10,000 incentive payment from previous year.
3. Project included significant support from DNRME, LGAQ and SDRC, as well as contributions from other councils.

Highlighted Initiative: Institutional Models Review (Q4-33)

Description: Last year it was reported that DASB completed their comparison of three alternative institutional collaboration models in December 2018, as a requirement of becoming a QWRAP region at level five. The recommendations of the review were that the group form a Water Alliance (level six) and significant effort was directed to briefing and encouraging councils to adopt the recommendation. Significant funding is only available to groups that agree to undertake the review (level five) and greater funding is available for those that form an Alliance.

Strategic Alignment: In the DASB region, there is no formal Regional Organisation of Councils to jointly oversee the work of the Technical Group, which means that briefings and political support must be sought individually from participating councils. Formation of an Alliance would see a political-level group appointed to this role, which would accelerate projects accordingly. It is also the first step to adoption of higher maturity level organisational models. Seeking the formation of a Water Alliance aligns with the stated Strategic Objectives of the DASB group (see above), but also aligns with QWRAP Objectives and demonstrates progression in regional maturity. Formation of a Water Alliance is the first step in developing sustainable regional water and sewerage collaboration which contributes to State Government Objectives for regional health and economic resilience.

Outcomes: Four of the six DASB Councils were consulted directly and all agreed to form a Water Alliance. However, consultation was not possible with the two remaining councils prior to council elections in March and further delayed by COVID-19. This is a setback for progress in the region as it has slowed development of collaborative projects and impeded the formation of a Water Alliance. In the coming year a new consultation campaign is planned, providing updated briefings to new councilors and mayors in the region, and extending these to the four remaining south-west councils in the South West Regional Economic Development Group (see 'Emerging Regions' below).

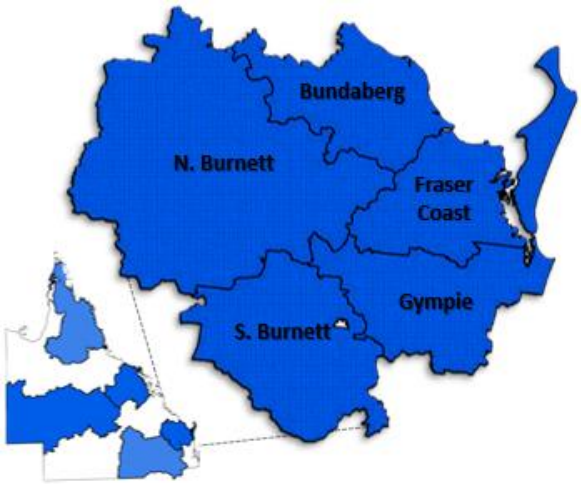
Benefits: The benefits of this activity are preliminary as the Water Alliance is yet to be formed. In other regions, formation of an Alliance has led to development of high-maturity projects that have increased the level of financial savings and community benefits for all participating councils. A formal Alliance also provides a platform and promotes further discussion about regionalisation at political and technical levels across a region. To date the benefits delivered by this project include, opportunities to discuss regionalisation with the councils involved, consideration by councilors of alternative regional institutional models, and identification of best practice operational models and opportunities for benchmarking levels of service across the region.

Maturity: The DASB group has remained at a level five despite undertaking the projects requiring high collaboration maturity (equivalent to level six) and is seeking to form a Water Alliance with high-maturity projects in the coming year (level six – seven).

WBBROC Water Alliance

The WBBROC Water Alliance has undertaken a range of projects in the past year and continued several initiatives including the award-winning joint sewer relining initiative. Governance arrangements have changed with turnover in the ROC itself following council elections, and the departure of the long-standing regional coordinator Mr Steven Brown. The Chair of the technical group, Mr Stephen Jewell (Gympie) and the WBBROC CEO (Mr Joe Veraa) are overseeing work until a replacement coordinator can be appointed.

The group has been undertaking a rigorous process of strategic planning using an external consultant. This process was extended in order to canvas broader council input, then delayed by COVID-19 and will be completed in 2020.



The Wide Bay and Burnett Regional Organisation of Councils Water Alliance comprises North Burnett, Bundaberg, Gympie, South Burnett and Fraser Coast and Cherbourg Aboriginal Councils. Over 292,000 people live in over 35 communities in an area covering 49,000 square km.

Current Investment in WBBROC Alliance Projects and Activities

1. Total QWRAP contribution to current project or activity (which may extend beyond the 2019-20 year).

Activity	QWRAP[1]	Councils 2019-20	
		Cash	In kind
Regional Activities and Administration	$35,000[2]	$30,000	$24,620
Strategic Planning Project (Q5-41)	$20,713	0	$9,655
Industry Placement - CCTV review (Q5-50)	$20,000	$16,000	$32,000
Water Industry Worker extension (Q5-53)	$72,335	$16,135[3]	$12,767[3]
Water Security Profiles for small schemes (Q5-40)	$10,875	0	$6,000
TOTALS	**N/A**	**$62,135**	**$85,042**

2. QWRAP funding for Regional Coordinator Role 2019-20.
3. Includes contributions from WBBROC, WIM and Northern Councils.

Highlighted Initiative: Training Framework for Water Industry Workers (2019/20 WBBROC Expansion) (Q5-53)

Description: In the previous year of QWRAP, the WIM Alliance partnered with three councils from other areas (including the FNQROC QWRAP group) to roll out a training program at several locations along the central and northern Queensland coast. The project has since been further expanded into the WBBROC region due to its undeniable success. This initiative aims to build capacity of network operators, create a common skills pool and baseline for the field and also network staff of the participating councils. Expansion of such a project into the WBBROC region provides clear job paths for local staff. This project extends beyond the standard training programs undertaken through QWRAP in the past to include cross-regional collaboration and take advantage of economies of scale building on an existing industry training approach.

Strategic Alignment: Building the skills and careers of water industry workers (WIW) is a long-standing issue facing the water sector. These workers are employed to maintain the water and sewer networks that service towns of all sizes and maintain and operate the infrastructure which forms more than 50% of the total value of the sector's assets. Despite significant responsibility and skill levels required for this work, the role of WIW is often overlooked and it can be hard to maintain adequate staffing and training levels for the roles.

Within the WBBROC region these issues are further exacerbated by protracted job vacancies within councils. Expansion of the project further within Queensland provides greater backing of the program and progress towards a Queensland-wide framework.

Outcomes: The additional numbers of network staff being trained in WBBROC means this project is one of the largest water training initiatives in Queensland. WBBROC Councils are committing 12 staff to the first round of training. The program remains ongoing in the WIM region with additional tranches of staff being trained. Prior to WBBROC expansion over 30 WIW across five councils have been enrolled, with 10 in the Certificate II in Water Industry Operations and 20 in the Certificate III in Water Industry Operations. The success of the program, which is built on a successful model developed in SEQ, has resulted in plans for expansion to other regions and with other councils.

Benefits: The continued success of the program has delivered considerable benefits throughout the regions. Creation of job pathways and investment in staff have improved worker satisfaction across councils. Commonality of training allows regions to share staff across the region or investigate staff secondments between councils, furthering staff career progression. In addition, improved training levels for staff reduces the potential for water quality and environment incidents, providing a safer service and better environmental outcomes for communities.

Maturity: Adoption of skills development programs across multiple councils and multiple regions requires significant commitment, agreement and joint planning by participants and demonstrates a high level of maturity. WBBROC is operating at a level six and may progress on to a seven on the maturity scale, which recognises joint local government shared services.

"In terms of collaboration with other Councils and utility providers, it's a fantastic opportunity to leverage off the collective knowledge within the industry, so understanding how other utilities have tackled some of those problems both in the more urban centres that are typically a bit more advanced, as well as some of the regional ones."

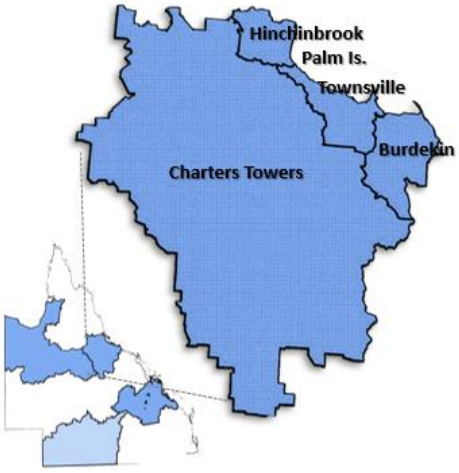
"It's important because smaller councils may not have the capacity to have a project engineer all the time. They may not have major projects on their program year in year out whereas the larger councils in the group will have that capacity or will have those works there and can carry one, two or three people. I think it's a little bit the same with process specialists and electrical engineers, so sharing those amongst smaller councils is a good way of providing them with a semi-inhouse resource, someone they can trust to provide them some advice or at least allow them to be somewhat more of an informed purchaser."

Emerging Regions: Increasing Collaboration

Council collectives outside of the five funded QWRAP regions have been discussing regional collaboration on water and sewerage. Some have elected to undertake cooperative projects.

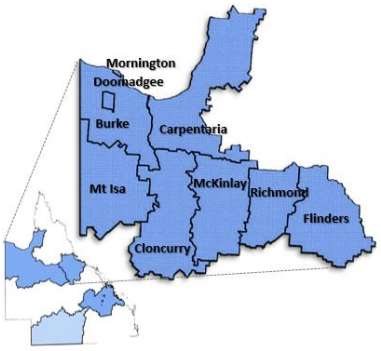
North Queensland ROC

This group includes Hinchinbrook, Charters Towers, Palm Island, Townsville and Burdekin. The technical group that has been meeting to share information and resources with some bilateral projects between Townsville and Burdekin and Palm Island. The former two councils are also participating in the WIM Alliance WIW training program. The ROC that oversees this group recently agreed to form a QWRAP Pilot Region to take advantage of the Regional Coordinator Funding relinquished by the FNQROC group in the previous year.



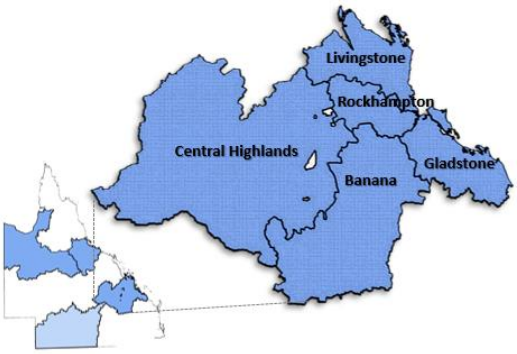
North West Queensland ROC

The NWQROC includes Doomadgee, Burke, Carpentaria, Mt Isa, Cloncurry, McKinlay, Richmond and Flinders Councils and has had ongoing discussions about collaboration on water and sewerage issues. Three of the councils (Burke, Carpentaria and Doomadgee) are discussing opportunities to commence joint water projects to provide a focus for the remaining councils in the region.



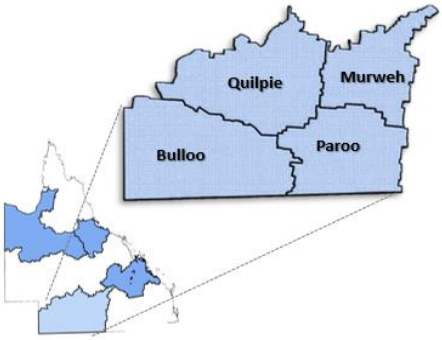
Central Queensland

The Central Queensland W&S Technical Group includes representatives from Central Highlands, Woorabinda, Rockhampton, Livingstone, Banana and Gladstone Councils. The group met twice in the past year to share information and discuss alignment of standards and joint procurement. There are now formalized cooperative arrangements between Central Highlands and Woorabinda Councils and Banana Shire participates in some WBBROC projects including the current WIW training program.



South West Councils

The South West Regional Economic Development group is comprised of four non-QWRAP Councils (Quilpie, Murweh, Paroo, Bulloo) as well as Maranoa and Balonne which participate in the DASB region. QWRAP funding has contributed to a demonstration project in the region focused on treatment of high-temperature bore water, a common issue for the councils and indeed many communities accessing the Great Artesian Basin.



QWRAP Research

Minerva Asset Investigation

LGAQ commissioned DS Minerva to undertake a structured assessment of the Queensland Local Government approach to water and wastewater Asset Management. The aim was to create a cohesive gap analysis and maturity assessment which could be used to enhance overall Asset Management capability, consistency of approach, and improve overall water and wastewater outcomes across the state.

The data collected has provided a range of insights into how water and wastewater assets are currently managed within the state of Queensland, highlighting several key issues and opportunities.

The most significant finding was the disparity and inconsistency across Queensland in relation to the sophistication and completeness of Asset Management systems. Asset Management systems ranged from relatively 'primitive' to highly developed. Responses show that most councils are actively pursuing improvements to their asset systems and exploring risk-based Asset Management. However, though willing to improve their systems at least 50% reported, they do not have the staff available to fulfil this aim.

A common finding about asset classes regardless of size or region was that councils typically prioritise 'above-ground' plant over 'in-ground' network infrastructure. The latter comprises the greatest value of the sectors asset base. Prioritisation of above ground assets is a well-known issue for the public water sector: a significant portion of assets are out of sight out of mind. This issue has been addressed in previous QWRAP research, exploring the degree and future impact of underinvestment of in-ground assets (see Factsheet).

The Minerva report provided three broad recommendations based on insights from the survey. In summary these are:

- Regionalisation/Centralisation of Asset Management Frameworks and Support
- Formation of Regional and/or State-wide Asset Management Working Groups
- Establish a Shared Strategic Services Resource

NCE Linear Infrastructure Costs Investigation

Natural Capital Economics (NCE) expanded on previous QWRAP research, to estimate full cost to renew water and sewer pipes across the state and the economic costs and benefits of renewal activity. The annual short-term investment per household ranged from $529 to $1,064 depending on the mix of relining and full replacement of pipes and would trigger a significant increase in renewals annuity to be incorporated in future water and sewerage service charges. Over the long-term, the cost would stabilise to approximately $210 - $270 per household for replacement or $100 - $140 per household for relining. Economic modelling indicated that GRP could be increased by $65-$415 million and create between 566 to 3367 jobs depending on where services were based, and the pipes and materials produced.

Case studies using detailed data from three regional councils of varying sizes investigated costs and benefits of different investment scenarios. The modelling found that the cost of bringing all renewals forward was not economically viable and that condition and criticality assessment are needed to identify the priority investments. However, the analysis also suggested that current budgets were insufficient to cover future costs and recommended a number of strategies that could be adopted to cover these costs given the unpredictability of investment needs at an individual council scale.

What's coming in 2020-2021?

Some new projects have been planned in each of the regions although initiation has been slowed by COVID-19 lock downs. More new projects are expected towards the end of the calendar year, some of the new initiatives are summarised below for each region.

RAPAD Water and Sewerage Alliance

- New: Strategic plan update – the Regional Strategic Plan and Strategic Implementation Action Plan created in 2017 will be updated to reflect the emerging needs of the region.
- New: Phase B of the ongoing STP investigation to improve regional environmental stewardship.
- New: Water Meter Replacement/Installation – currently being scoped.
- Ongoing (delayed): Joint procurement for replacement of water mains (building on successful sewer relining projects and addressing water security and infrastructure renewals).
- Ongoing: Digital utility program to cooperatively remedy telemetry and SCADA issues identified in the analysis undertaken in 2018-19.
- Ongoing (delayed): Joint procurement of services to ensure drinking water quality (including mains cleaning, reservoir cleaning, air scouring/pigging, inspection and repair).
- Ongoing: Review and regional development of Asset Management processes to inform strategic infrastructure investment.

WBBROC Water Alliance

- New: Commence regional strategic benchmarking to set targets for key metrics to align with regional water strategy and measure regional performance over a five-year timeframe.
- New: Develop a WBBROC node for the successful WIW program being rolled out by the WIM Alliance.
- New: Develop a program to encourage graduate engineers to the Wide Bay Region through internships, cadetships and undergraduate work placements.

WIM Water Alliance

- Ongoing: Recent commencement of collaborative research with CQU to develop a nitrogen sensor for use in receiving waters to reduce sampling and laboratory costs and provide early warning of nitrogen discharges in GBR waters.
- Ongoing: Recently expanded WIW program across WBBROC region.
- New: Control room business philosophy (cross-regional project) to share resources including skills.
- New: Regional benchmarking approach – comparison of key metrics across and outside of the region.
- New: Investigation of salary packaging reviewing best practice in other areas.
- New: Review technology transfer options, including MiWater and the Isaac Integrated Management System.
- Ongoing: Regional alignment of SCADA systems.
- New: Internship with CQU PhD student researching solar optimisation for water and sewerage facilities.

DASB Region

- New: Establishment of regional sewer relining project following successful completion of joint procurement and contracting documentation.
- Ongoing: Regional operators forum bringing together operators and water industry workers from across the region to share knowledge and build regional networks.
- New: Skills gap analysis and coordinated regional specialised training focusing on identified modules/process needs, possibly leading to the establishment of a regional resource pool.
- New: Consideration of joint Cyber Security review and needs analysis for regulatory reporting.
- New: Water Security Assessment for entire region to highlight urban needs and gaps.
- New: Investigation of joint student vacation placement program (rotation around regional councils).

FNQROC Region

- New: Alignment of audits for Drinking Water Quality Management Plans.
- Ongoing: Sewer Relining program commenced in 2020.
- New: Training hub for Water Operators.

Other (emerging) Regions

QWRAP continues to build capacity in emerging or non-QWRAP regions, including ongoing technical meetings in the CQ and NWQ regions, establishment of a new QWRAP pilot region in NQ taking advantage of the coordinator funding relinquished by the FNQ group and a communications campaign with the four western members of the SWRED group (see above).

Glossary

AI – Artificial Intelligence

CAPEX – Capital Expenditure

CCTV – Closed Circuit Television internal pipe assessment process

CQ – Central Queensland

CQU – Central Queensland University

DASB – Downs and Surat Basin

DES – Department of Environment and Science

DNRME - Department of Natural Resources, Mines and Energy

DWQMP – Drinking Water Quality Management Plan

FNQ – Far North Queensland

FTE – Full Time Equivalent

GBR – Great Barrier Reef

GRP – Gross Regional Product

JCU – James Cook University

LGAQ – Local Government Association of Queensland

NQ – North Queensland

NWQ – North West Queensland

O&M – Operations and Maintenance

OPEX – Operational Expenditure

p.a. – per annum

qldwater – Queensland Water Directorate

QWRAP - Queensland Regional Water Alliances Program

RAPAD – Remote Area Planning and Development Board

RAPADWSA – RAPAD Water and Sewerage Alliance

ROC – Regional Organisation of Councils

SCADA – System Control and Data Acquisition System

STP – Sewage Treatment Plant

W&A – Water and Sewerage

WBBROC – Wide Bay and Burnett Regional Organisation of Councils

WIM – Whitsunday, Isaac and Mackay

WIW – Water Industry Worker skills development program