

Queensland bulk water opportunities statement

Part B: 2019–20 Program update



Queensland
Government

Front cover image: Burdekin Falls Dam (image courtesy Sunwater)

Back cover image: The Blackall Woolscour (image courtesy Tourism and Events Queensland)

All images courtesy of Department of Regional Development, Manufacturing and Water, Tourism and Events Queensland, Sunwater, Seqwater and CSIRO

This publication has been compiled by the Department of Regional Development, Manufacturing and Water

© State of Queensland, 2021.

The Queensland Government supports and encourages the dissemination and exchange of its information. The copyright in this publication is licensed under a Creative Commons Attribution 4.0 Australia (CC BY 4.0) licence.



Under this licence you are free, without having to seek our permission, to use this publication in accordance with the licence terms.

You must keep intact the copyright notice and attribute the State of Queensland as the source of the publication.

Note: Some content in this publication may have different licence terms as indicated.

For more information on this licence, visit <http://creativecommons.org/licenses/by/4.0>

The information contained herein is subject to change without notice. The Queensland Government shall not be liable for technical or other errors or omissions contained herein. The reader/user accepts all risks and responsibilities for losses, damages, costs and other consequences resulting directly or indirectly from using this information.



The Queensland Government is committed to providing accessible services to Queenslanders from all culturally and linguistically diverse backgrounds. If you have difficulty in understanding this document, you can contact us within Australia on 13QGOV (13 74 68) and we will arrange an interpreter to effectively communicate the report to you.

Peter Faust Dam



Contents

1. Introduction	1
2. The year in review	3
2.1 Safety and reliability of dams and urban water supplies	5
2.2 Using existing water resources more efficiently	11
2.3 Supporting infrastructure development that provides a commercial return	13
2.4 Projects that provide regional economic benefits	13
3. Water infrastructure project update	15
3.1 Water supply efficiency projects	15
3.2 Water supply projects for economic development	17
3.3 Continuous improvement and maintenance measures	19
4. Queensland's bulk water arrangements	20
4.1 Source water supplies	20
4.2 Assessing latent capacity in bulk water supply systems	27
5. Other initiatives	29
6. Supplemented water supply schemes	31
7. Guide to data and terms	35
7.1 Acronyms	35
7.2 Glossary	37

Figures and tables

Figures

Figure 1: QBWOS Regions and bulk supply sources	20
Figure 2: Queensland's QBWOS 2019-20 water account	21
Figure 3: The bulk water supply system	27
Figure 4: QWRAP regions	29

Tables

Table 1: Summary of QBWOS policy initiatives and opportunities	4
Table 2: Dam safety projects	5
Table 3: State funding for urban water supply projects	7
Table 4: Urban water security projects	8
Table 5: Urban Water Security Assessments	10
Table 6: Water supply efficiency projects	15
Table 7: Bulk water project proposals for regional economic development	17
Table 8: Continuous improvement and maintenance measures	19
Table 9: Supplemented surface water	23
Table 10: Unsupplemented surface water	23
Table 11: Great Artesian Basin and other regional aquifers	24
Table 12: Other groundwater sources	24
Table 13: Queensland's water supplies (2019–20)	25
Table 14: Underutilised water statistics for Queensland	28
Table 15: Supplemented water supply schemes/systems	31
Table 16: Queensland Government department acronyms and post-election transitions	35
Table 17: Miscellaneous acronyms	36
Table 18: Glossary of terms	37

1. Introduction

The Queensland bulk water opportunities statement (QBWOS) outlines the Queensland Government's framework for sustainable regional economic development through better use of existing bulk water infrastructure and effective investment in new infrastructure. Now in its fourth annual release, the QBWOS continues to facilitate discussion with the community and the water sector about water security planning in Queensland – including demand management, optimal use of existing supplies and future bulk water infrastructure supply options to support growth and economic development in regional communities.

The QBWOS provides:

- a clear statement of the Queensland Government's objectives for its investment in bulk water supply infrastructure, and the principles that underpin these objectives
- an annual update on initiatives that deepen value obtained from the State's water resources and water infrastructure investments
- background and contextual information, including a current account of bulk water use and latent capacity across the state, and the roles and responsibilities of the various entities that contribute to the effective use of Queensland's bulk water resources.

Part A articulates the strategy underpinning QBWOS. This strategy is largely static and, in 2019-20, will not be updated from last year's release. It provides:

- a clear statement of the objectives for the state's investment in bulk water supply infrastructure
- a clear statement of the principles that guide bulk water investment decision-making, if Queensland Government investment is to be considered
- critical context and background including:
 - the policy environment, planning complexities, risks and general considerations
 - a description of bulk water entities and their infrastructure
 - the roles and responsibilities of various entities.

Part B (this document) presents an annual update focused on:

- current bulk water entitlements, use and latent capacity across the state
- updates on Queensland's key infrastructure projects, current policy initiatives and opportunities

Released separately, the **QBWOS Storymap** is an online visual representation of existing bulk water supply infrastructure and current activities across Queensland. It provides details of water entitlements and availability, and useful climate-related data. It also provides details of bulk water infrastructure projects currently or recently under investigation.

The bulk water infrastructure layer in the **Queensland Globe** provides an interactive online tool with detailed geospatial data in a graphical display of key information for Queensland bulk water supply infrastructure information that may be used by interested parties.

Machinery of Government changes following the 2020 State election mean that the Department of Regional Development, Manufacturing and Water (RDMW) will assume responsibility for water planning, policy and programs, including the QBWOS, that were previously managed by the former Department of Natural Resources, Mines and Energy (DNRME).



Ewen Maddock Dam

2. The year in review

Throughout 2019–20 the Queensland Government advanced or completed infrastructure assessments, and policy and data initiatives that were identified for action in earlier releases of the QBWOS. The range of drivers for building, upgrading and improving bulk water infrastructure across the state include:

- continuing to meet compliance obligations and regulatory requirements (e.g. for dam safety and water quality)
- meeting the needs of a growing population
- urban water security challenges for some local governments
- increasing climate variability (including reduced rainfall reliability and drought, and increased rainfall intensity and flooding)
- using the state's existing and extensive bulk water supply infrastructure more efficiently
- promoting regional economic growth.

The government's priority driver for bulk water supply infrastructure remains the safety and reliability of existing dams and urban water supplies (*Chapter 2.1*), followed by efficiency opportunities (*Chapter 2.2*) and proving and prioritising investment in commercially viable and economically advantageous bulk water infrastructure (*Chapter 2.3 and 2.4*). Updates on infrastructure projects are provided in *Chapter 3*.

While efficiency is a significant objective, liveability and lifestyle considerations are also important aspects of demand assessments.

Meeting demand will not always require new infrastructure and there are a number of initiatives in development to support better use of existing supplies and infrastructure including:

- implementation of appropriate water supply solutions and technologies (see *Chapter 2.1*)
- making more information more available (see *Chapter 2.2*) to support water market development and trading (see *Chapter 2.2*)
- encouraging better utilisation of latent capacity (including pricing and development of water products that better suit business needs) (see *Chapter 2.3*)

Summary of initiatives

Throughout 2019–20, the Queensland Government advanced or completed initiatives that were identified for action in earlier releases of the QBWOS. Table 1 provides a status summary of these initiatives current at 30 June 2020. These initiatives are more fully detailed throughout this Part B document, along with updates current at 30 June 2020 on infrastructure initiatives that are being progressed.

Table 1: Summary of QBWOS policy initiatives and opportunities

Objectives	Policy initiatives and opportunities	Status
Safety and reliability of dams and urban water supplies	<ul style="list-style-type: none"> State entities (including Sunwater and Seqwater) continue to direct significant capital funds to dam safety upgrades for relevant dams. DNRME continued to develop urban water security assessments to assist local governments responsible for ensuring urban water security for Queensland communities. DLGRMA and DSDTI enhanced local government funding programs to encourage alternative water supply options and fit-for-purpose solutions. 	Ongoing as core business Ongoing as core business Ongoing as core business
Use existing water resources more efficiently	<ul style="list-style-type: none"> DNRME launched the Water Investor Hotline, providing up-to-date information on water availability and access to support water users considering new development or expansion of existing enterprises in Queensland. DNRME continued working with stakeholders to improve water markets and trading, and plan to release the Queensland Water Market Optimisation in 2020. DNRME improved processes and mechanisms for the release of unallocated water to better align with government priorities (such as economic stimulus, regional development, and Great Barrier Reef protection). DNRME enabled temporary use of water reserved for strategic infrastructure, where the infrastructure plans have been deferred indefinitely or delayed for more than 3 years. This was successfully trialled with the strategic infrastructure reserve project to deliver temporary water licences in the Dawson Valley Water Management Area. DNRME continued to provide better public access to data and information on available volumes of water and bulk water infrastructure assets across Queensland through the QBWOS Storymap and Queensland Globe. DNRME, DSDTI and DAF considered new technologies and approaches in water security planning. Sunwater is developing an integrated strategy to better use latent capacity of existing assets (including pricing, adapting water products to better suit business needs and removing constraints). Sunwater is developing options to provide better support for regional economic development. 	Completed Ongoing as core business Project in progress Project in progress Ongoing as core business Ongoing as core business Project in progress Project in progress
Support infrastructure development that provides a commercial return to bulk water providers	<ul style="list-style-type: none"> State entities will continue to develop infrastructure proposals for commercial return. 	Ongoing as core business
Consider projects that will provide regional economic benefits	<ul style="list-style-type: none"> DNRME evaluated and prioritised new bulk water infrastructure proposals for government consideration. DNRME and Queensland Treasury have developed a best practice infrastructure assessment process. DNRME (now RDMW) will continue to coordinate State and National Water Infrastructure Development Fund (NWIDF) project activities 	Project in progress Project completed Project in progress

Following the 2020 state election and machinery of government changes, DNRME's water policy and program portfolio transfers to RDMW. Similarly, DLGRMA and DSDTI local government funding programs supporting urban water security will transfer to the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP). Please refer to Table 16 for full details of the post-election departmental transitions.

2.1 Safety and reliability of dams and urban water supplies

Initiatives to keep our dams safe

Over the past decade, the Bureau of Meteorology revised its forecast of the size of rare but major rainfall events. This has meant that many of Queensland's dams (especially where there are significant populations at risk) need to be upgraded to deal with an updated 'probable maximum flood' (see *QBWOS Part A Chapter 5*). In line with this advice, DNRME commenced an investigation into the impacts of extreme rainfall and flooding events on dam design. The investigation, coordinated by a leading university and supported by a number of dam organisations and government bodies around the country, considers how very rare rainfall events may change in intensity and spatial and temporal extent, and how the changes in rainfall may influence flood risks to our communities.

In some locations, significant capital investment may be needed to reduce the potential public safety risks for communities downstream of State-owned dams. Queensland Government investment decisions are based on outcomes from project business cases developed through an appropriate framework, such as Queensland Treasury's **Project Assessment Framework**.

Table 2 outlines progress updates from FY 2019-20 activity in key dam safety projects. These may have been recently completed, currently underway or in planning. The regulations allow for a staged approach to dam safety upgrades based on risk profiles, with all dam safety upgrades required to be complete by 2035. These projects are displayed in the **QBWOS Storymap**.

Table 2: Dam safety projects

Project name	Proponent	Purpose	Status
Projects recently completed			
Leslie Harrison Dam – Upgrade	Seqwater	Dam safety upgrade to embankment and spillway.	Project completed in July 2019.
Sideling Creek (Lake Kurwongbah) – Dam Upgrade	Seqwater	Dam safety upgrade to embankment and spillway.	Project completed in August 2019.
Paluma Dam Spillway Upgrade	Townsville City Council	To increase the sliding and overturning capacity of the Paluma Dam spillway. Replace corroded steel flashboards, installation of additional double corrosion protected rock anchors 3-8m in depth.	Completed August 2020.
Projects in development			
Fairbairn Dam Improvements Project – Stage 1, Stage 2 and Stage 3	Sunwater	Dam improvements to the spillway, addressing priority remedial works.	Stage 1 and Stage 3 works are complete. Stage 2 construction works are progressing, with scheduled completion by late 2020.
Fred Haigh Flood Repairs Project	Sunwater	Dam safety	Sunwater is undertaking works to repair scour damage from previous flood events. While there is no immediate dam safety risk, Sunwater deemed that works were necessary to reinstate the area downstream of the spillway to its pre-flood condition. Early stage works were finished in late 2019 with further works in progress.
Ewen Maddock Dam – Safety Upgrade Stage 2A	Seqwater	Dam safety upgrade to embankment and spillway. Seqwater has revised the full supply level to 60% of the design full supply storage until completion of the upgrade.	Project in construction phase with completion currently planned for mid-2021.

Project name	Proponent	Purpose	Status
Projects with ongoing investigations and planning			
Awoonga Dam Spillway Capacity Upgrade – Stage 2 & 3	GAWB	Dam safety upgrade to spillway to meet acceptable flood capacity as per the Queensland Guidelines on Acceptable Flood Capacity for Water Dams.	This project is in concept phase. During 2019-20 a revised cost estimate was prepared, and the project delivery staging review has been completed by an RPEQ Engineer.
Awoonga Dam Conduit Inspection	GAWB	To conduct a comprehensive inspection of the suction and discharge conduit infrastructure of Awoonga Dam in accordance with Queensland Dam Safety Management Guidelines and dam safety conditions.	This project will be progressed over three planned shutdowns during 2021. A safety review is currently underway, which will inform the methodology to ensure the project is undertaken safely.
Lake MacDonald (Six Mile Creek Dam) – Safety Upgrade Project	Seqwater	Dam safety upgrade to embankment and spillway.	Detailed design completed in October 2019. EPBC Act and other project approval granted in November 2019. Early enabling works will be undertaken starting late 2020. The main contract for the project is currently in procurement phase. Construction phase is expected to commence early 2021, with completion (subject to weather and unforeseen circumstances) expected in late 2023. The lake lowering and project timing remains subject to contractor procurement, completion of early works and further water supply security assessments in 2020 and early 2021.
North Pine Dam – Safety Upgrade Project	Seqwater	Flood Capacity Upgrade and strengthening of dam structure. Seqwater has revised the full supply level to 68% of the design full supply storage until completion of the upgrade.	Strategic assessment study underway to be completed in late 2020.
Somerset Dam Improvement Project	Seqwater	Dam safety upgrade to dam and spillway, also considering enhanced flood mitigation capability. Seqwater has revised the full supply level to 80% of the design full supply storage until completion of the upgrade.	Detailed Business Case (DBC) underway and planned for completion in early to mid- 2022. The construction of the upgrade remains subject to Government consideration of the DBC and obtaining the necessary project approvals.
Wivenhoe Dam – Safety Upgrade Project	Seqwater	Dam safety upgrade to dam and spillway, also considering enhanced flood mitigation capability. Seqwater has revised the full supply level to 90% of the design full supply storage until completion of the upgrade of Somerset Dam.	Wivenhoe Dam Safety upgrade project will be coordinated by Seqwater in collaboration with key Queensland Government departments.
Burdekin Falls Dam Improvement Project	Sunwater	Improvements to ensure the dam meets the safety requirements set out in the Water Supply (Safety and Reliability) Act 2008 and to increase the dam's resilience to extreme weather events.	A detailed review of the dam's catchment hydrology has been completed, including risk assessment and review of engineering options. A DBC is being developed, combined with the business case for the Burdekin Falls Dam Raising Project and is expected to be completed in late 2021.
Leslie Dam Spillway – Improvement Project	Sunwater	Dam safety upgrade to spillway and downstream scour protection works.	Further studies currently under way will determine the extent and scope of any improvement works at Leslie Dam. Project completion is forecast by the end of 2021, weather permitting.
Paradise Dam – Improvement Project – Strengthening of Spillways, Abutment and Stilling Basin	Sunwater	At the time of printing, Sunwater had lowered the storage level of Paradise Dam to 42% of its original design full supply volume, and is progressing essential works to cut-down the level of the spillway by 5.8m to reduce safety risks until a permanent upgrade is planned and delivered. Sunwater is supporting a review to recommend the optimal long-term solution for the dam.	DBC progressing including evaluation of options is expected to be completed by end 2021. The scope of dam improvement works will be developed following results from testing and sampling to be undertaken throughout 2020 and is subject to further demand assessment. Once planned, implementation is likely to be undertaken in stages over several dry seasons with completion anticipated in 2025.
Teemburra Dam – Improvement Project	Sunwater	Raising of the main embankment and saddle dams.	Preliminary Business Case (PBC) currently in development, and due for completion by December 2020.

Capital funding for urban water supply projects

Under the *Local Government Act 2009* and the *Water Supply (Safety and Reliability) Act 2008*, responsibility for ensuring communities have access to safe, secure and affordable town water supplies generally sits with local governments.

To support local governments in this responsibility, the Queensland Government may provide direct financial support to local governments to investigate and undertake works aimed at delivering and maintaining secure and reliable urban water supplies. Funding programs that were current during the 2019-20 financial year for funding water supply infrastructure, water security, water quality/ health matters, and new water supply technologies and solutions, include:

- Building Our Regions—local government infrastructure projects in regional communities that create flow-on economic development opportunities and jobs (DSDTI)
- Maturing the Infrastructure Pipeline Program—an infrastructure planning program aligned to the State Infrastructure Plan (Queensland Treasury)
- Working for Queensland—supporting a number of maintenance and minor infrastructure projects related to water assets that are managed by Queensland local governments (DLGRMA)
- COVID Works for Queensland—available to all Queensland councils to support the delivery of job creating new infrastructure, maintenance or minor works projects, including the bring-forward of planned/budgeted maintenance or capital works focused on essential services, economic development and community wellbeing outcomes.
- Local Government Grants and Subsidies Program (DLGRMA)
- Indigenous Councils Critical Infrastructure Program provides financial support to deliver critical water wastewater and solid waste infrastructure to Queensland's Indigenous councils (DLGRMA)
- Indigenous Local Government Sustainability Program (DLGRMA)
- Special purpose funding project – drought contingency supply to Southern Downs (DNRME)
- Safe and Healthy Drinking Water Program (Queensland Health)

Table 3: State funding for urban water supply projects

QBWOS Region	Current projects	Current project funding (\$)
Far North	180	75 507 325
North West	34	35 490 633
North	35	13 449 486
West	36	10 670 248
Central	21	14 634 902
Wide Bay Burnett	23	14 595 886
South West	20	28 982 324
South East	6	6 732 776
Total	356	200 063 580

Table 3 provides a summary of approved water supply projects that received Queensland Government funding assistance through 2019-20. Note that Table 3 excludes an additional \$2 376 999 Queensland Health provided for the Safe and Healthy Drinking Water Program in 2019-20. For further details please refer to the relevant departmental website. The 59 water supply projects led by councils and other non-State proponents to which the State has committed more than \$1 million during 2019-20 are displayed in the QBWOS Storymap.

In addition, the State also provides support to major bulk water infrastructure projects where there is a demonstrated need for direct assistance, such as through planning coordination to support project delivery. Table 4 summarises activity on the State's major urban water security projects through 2019-20, current at 30 June 2020. These projects are displayed in the QBWOS Storymap.

Table 4: Urban water security projects

Project name	Proponent	Purpose	Status
Projects in development			
Burdekin-Haughton Water Supply Scheme Upgrade	Townsville City Council	Council is focused on construction of the second stage of the Haughton Pipeline Duplication, ending the need to upgrade the capacity of the Burdekin Haughton Main Channel.	\$420 million Queensland Government funding comprising \$215 million for Stage 1 (36.5 km pipeline) construction, 90% complete; \$10 million for demand management programs; and \$195 million for Stage 2 (33 km pipeline & pump station) design and construction to be led by Townsville City Council, with completion expected in 2024.
Gladstone-Fitzroy Pipeline	Gladstone Area Water Board	To achieve long term water security strategic objectives for urban and industrial customers.	EIS completed and conditionally approved. Expected completion of Options Analysis in February 2021. A DBC will follow completion of the options assessment and is due to be completed by late 2021. A government decision whether to proceed will be required at the completion of the DBC.
Rookwood Weir	Sunwater	A new weir located on the Fitzroy River above the existing Eden Bann Weir to provide water to service agriculture, industry and urban customers in the Rockhampton, Gladstone and Capricorn Coast areas.	\$352.2 million funding committed towards capital construction from: Queensland Government (\$176.1 million) NWIDF (\$176.1 million) DBC completed October 2017, partners for building Rookwood Weir announced and site mobilisation commencing in late 2020. In-river construction of weir to commence in April 2021, due for completion in mid-2023.
Projects with ongoing investigations and planning			
North and South Burnett Feasibility Study	North Burnett and South Burnett regional councils	Assessment of the feasibility and economic viability of new water supply and storage options to support improved supply security and expansion of irrigated agriculture.	The Queensland Government facilitated a feasibility study examining water needs in the North Burnett and South Burnett regional council areas to ensure water issues across the councils' areas and the wider region were fully considered. The strategic assessment report (April 2015) identified a longlist of options and is publicly available.
Toowoomba to Warwick Pipeline	Seqwater	Drought contingency supply for the Southern Downs region	Seqwater completed a Feasibility Study in June 2020 for a pipeline extending the existing Wivenhoe to Cressbrook pipeline through to the Southern Downs region, providing drought contingency supply for around 27,500 residents in the Toowoomba and Southern Downs regional council areas. Planning approvals and final design are currently progressing.

Improving local government funding programs

While the Queensland Government provides funding assistance to councils for water and water-related infrastructure projects, it also recognises the benefits of funding non-infrastructure solutions are of increasing relevance to councils. Future grants to local government will be designed, where appropriate, to include funding for non-capital activities within infrastructure programs and address the capability and capacity of local governments. These initiatives encourage consideration and provision of alternative water supply options and fit-for-purpose solutions. For example, grant programs addressing asset valuation, management and maintenance provide key support for local government water service delivery.

understanding of the level of current and future source of water supply security risks.

Table 5 describes the results of assessments undertaken in 2019-20. A full list of the 22 completed urban water security assessments (previously called Regional Water Supply Security Assessments) is available here. Together, these cover more than 80% of the population resident in regional Queensland and 98% of regional population growth to 2041, supporting the planning arrangements of local governments responsible for urban water security in regional centres.

Urban water security assessments

Water supply planning should be timely, cost-effective and appropriate for a community's needs. The Queensland Government supports water service providers and local governments by undertaking selected urban water security assessments. DNRME partners with the respective local governments to determine current and future urban water security outlook for key regional centres. The program builds on the local knowledge of councils to develop a shared



Somerset Dam

Table 5: Urban Water Security Assessments

Water security outlook at time of assessment	Actions identified by partner council to improve water security outcomes	Council's achievements since RWSSA/UWSA publication
Longreach (Longreach Regional Council, August 2019)		
Longreach's water supply is anticipated to meet urban water requirements for at least the next 20 years with moderate reliability. At current and projected future demands, the system may fall to very low water levels during long droughts, with water supply shortfalls possible, in worse than historical droughts even with water restrictions being imposed.	<ul style="list-style-type: none"> Investigate potential Town Weir raising and/or reconstruction. Investigate alternative supply sources (e.g. groundwater, recycled water). Substitute some potable water uses with non-potable supply sources. Reduce water losses within the town's supply network. Demand management, improving water-use efficiency, community education. 	<ul style="list-style-type: none"> Council have actively investigated (and met with government departments) about raising the Town Weir and associated upstream weirs. Council are developing a Thomson River Master Plan to guide future development along the Thomson River and increase amenity.
Mount Isa (Mount Isa City Council, January 2020)		
Mount Isa's water supply can meet urban demands for the next 20 years with high reliability, based on average demands and current trends and assumptions about mining industry growth. These demands are significantly less than the combined full entitlements in the system.	<ul style="list-style-type: none"> Regular monitoring to reduce water losses (e.g. leaks or broken pipes). Recycling of water to reduce demand on the urban reticulation system. Community education to help promote efficient and wise water use. A staged program of replacing ageing water meters to ensure that water use is recorded accurately. A tiered tariff structure for water charges so that customers who use water wisely benefit from their actions. 	<ul style="list-style-type: none"> Mount Isa City Council's 2020-21 budget includes \$2.9 million to begin installing Smart Water Meters across Mount Isa to increase water efficiency and reduce water losses. Mount Isa Water Board is investing \$3.6 million in the city's future water supply, replacing infrastructure that powers the main pumping station at Clear Water Lagoon.
Atherton (Tablelands Regional Council, January 2020)		
Council holds sufficient water entitlements to meet projected water demand for Atherton and the surrounding communities for the next 20 years. To ensure an ongoing reliable supply for Atherton and these communities over this period, Council's groundwater and surface water supply sources are both required.	<ul style="list-style-type: none"> Establishing an additional bore in the Central Atherton Groundwater Management Area zone to make better use of existing entitlements. Investigating optimal and cost-effective use of groundwater and surface water to meet future demands. Investigate options to better integrate the subnetworks in the town water supply. 	<ul style="list-style-type: none"> A \$3.41M Works for Queensland grant and \$1M from Council are funding pipeline extensions and augmentation of bore water supplies. The Ravenshoe, Carrington and Hastie road areas of Atherton are now connected to the Twelfth Avenue reservoir (resulting in lower frequency and duration of boil water notices). A new bore (Bravery Road), officially opened in August 2020, is fully functioning, increasing Atherton's water security.
Cloncurry (Cloncurry Shire Council, April 2020)		
Cloncurry's water supply is reasonably reliable for current and projected water demands for the next 20 years. However, demands may need to be managed to ensure supply continuity, particularly when Julius Dam is the only available supply source. Supplies from Julius Dam are an important element of Cloncurry's overall supply security— this includes providing an alternative supply during times of high turbidity in local supply sources.	<ul style="list-style-type: none"> Negotiating an appropriate, continued water supply from the Julius Dam pipeline. Continuing to optimise operational procedures for efficient and beneficial water use for the community. Working with state government departments and key stakeholders to ensure operational, licensing and other arrangements are appropriate to meet community water requirements. Investigating demand management options (e.g. community education on water saving measures, and appropriately applied tariffs). Further investigation of reuse options to reduce existing supply system demand. Continually reviewing demand to monitor changes in patterns and volumes of water use over time. 	<ul style="list-style-type: none"> Council continue to receive piped water from Julius Dam, to support their local supplies. Council are continuing the use of demand management measures such as water restrictions (when required) as a means of optimising efficient and beneficial water use for the community.

Innovative approaches in water security planning

Throughout 2019-20 the state continued to promote active consideration of innovative and appropriate technologies and approaches to water security planning and managing climate variability risks.

Better access to and use of groundwater resources are essential for areas of Queensland that do not have access to sufficient surface water resources. Of over 230 town water supplies in Queensland, 145 rely on groundwater and 110 rely solely on groundwater. This includes ten large communities (>10,000 people) including Bundaberg and Dalby, though more than half are small communities (<500 people). DNRME has been working with DES over the last 2 to 3 years to develop a groundwater tool for assessing localised aquifer performance to support water security in smaller communities, rather than the existing models (which focus on regional or whole-of-aquifer performance).

In 2019-20, DES continued its desktop assessment on the applicability of managed aquifer recharge methods, such as sand dams and underground weirs in Queensland. This assessment used existing Queensland Government GIS datasets to identify areas where there may be a potential for their use. A report with accompanying mapping that helps identify opportunities to apply these technologies is expected to be available from the Department of Environment, the Great Barrier Reef, Science and Youth Affairs in early 2021.

Regional deployment of portable desalination plants can augment supplies where groundwater source water quality is not initially fit-for-purpose. DNRME reviewed the potential for deployment of portable desalination plants in regional Queensland to provide temporary potable water supplies in times of drought or other emergency. The study incorporated sample site assessments and costings as well as a scan of portable desalination plant use nationally and internationally. The study assessed production volumes and nominal costs for plant purchase and hire, transport to site, set-up, connection, operational expenses, decommissioning and transport back to base for six sample sites. An information sheet summarising the results of this study has been prepared and is available [here](#). Site specific assessments need to be undertaken prior to deploying portable desalination plants.

2.2 Using existing water resources more efficiently

Maximising the value and availability of our water resources is key to unlocking Queensland's economic development into the future. Queensland is facing ever greater water resource management challenges. Frequency of natural events, changing climatic conditions and ever-increasing demand for water from industry and communities are putting pressure on our water resources.

In 2018, the Rural Water Management Program (RWMP) was launched to set the foundation for more transparent, sustainable and equitable approaches to water management. The Rural Water Futures initiative builds on the foundations set by the RWMP to deliver a comprehensive and integrated program of work that enables better access to high quality water data, more visible and consistent decisions about water management, and improved customer experience. These things in turn will build community confidence that our water resources are being managed sustainably and fairly.

This section outlines several opportunities to make more efficient use of water available in existing infrastructure, including reviewing latent capacity, pricing, water markets and trading.

Better access to water information and available water entitlements

In 2019–20, DNRME commenced a program to strengthen non-urban water measurement, metering standards and policy implementation. This includes extensive stakeholder engagement, development of policy positions to improve water measurement and a telemetry trial.

The program will deliver a water measurement framework that provides confidence, and is sustainable and accountable. It will consider opportunities to capture near-real time information on water use to support the efficient functioning of the water market, facilitate voluntary compliance with water entitlement conditions and build community confidence in DNRME's resource management strategies.

Water markets and trading

Water plans set boundaries within which the water resources of that catchment must be managed and define the specific way in which water management is to be achieved, including water trading zones and rules for the catchment. A water plan may enable three water markets to operate within selected Queensland catchments:

- a water allocation market that deals in the permanent trade of registered water allocation titles;
- a seasonal water assignment market in which seasonal assignment of water available under allocations and other entitlements are temporarily traded for up to 12 months; and
- a relocatable water licence market in which specified water licences may be relocated from one parcel of land to another on a permanent basis.

Around 72% of the usable water in Queensland is held by entitlement holders as water allocations. Permanent trading of water allocations involves the transfer of a water allocation title, similar to the sale of a land title. These dealings must be registered in the Water Allocations Register, and may need to be approved by DNRME.

Seasonal water assignments are temporary trades of water to meet short-term water needs—some or all of the water that may be taken under a water entitlement in a water year can be assigned to another person or place. Both supplemented and unsupplemented water can be seasonally assigned but different processes and rules apply. Temporary trades are approved by the ROL holder for supplemented schemes and by DNRME for unsupplemented water.

The *Water Act 2000* was amended in 2018 to provide for an agreement between DNRME and ROL holders to capture and disclose temporary trade prices.

Steps to improve access to market information and to support investors to understand opportunities to access water have already been taken with establishment of the Water Investor Hotline in July 2020. The Water Investor Hotline supports investors who are considering new development and water users looking to expand existing enterprises in Queensland.

The Queensland Water Market Optimisation (QWMO) is planned for release in late 2020. The QWMO will optimise Queensland water markets and trading so that existing allocated water can be used efficiently,

and water can move to its highest value usage and deliver social and economic benefits to the community. The key actions under the QWMO provide a pathway towards efficient water markets through:

- Encouraging more temporary trading of unused supplemented and unsupplemented water
- Assisting investors to locate water for development or expansion
- Improving the visibility of market activity and information, including data on supplemented and unsupplemented water being traded temporarily and better-quality data on water traded permanently and temporarily
- Providing live and interactive mapping of water trading opportunities
- Connecting water users and brokers

Unallocated water releases—unleashing potential

In October 2019 DNRME granted twelve 3-year water licences totalling 65 900 ML of unsupplemented water as a temporary access pilot from the Strategic Water Infrastructure Reserve in the Dawson Valley Water Management Area.

The pilot demonstrated innovations and improvements to unallocated water release processes, now accessible through a **virtual hub** that provides information about planned releases of unallocated water throughout Queensland into 2021.

In 2019-20 the terms for permanently acquiring unallocated surface water in the Gilbert, Norman, Leichhardt and Nicholson catchment areas of the *Water Plan (Gulf) 2007* and unallocated groundwater in the Crows Nest and Southern Clarence Moreton area of the *Water Plan (Great Artesian Basin and Other Regional Aquifers) 2017* was released to market.

The hub also published an Expression of Interest (EOI) in groundwater over a large part of the Great Artesian Basin in Western Queensland. The objective of the EOI was to identify demand, to inform potential water users of the challenges that may exist with the water products in the area and to inform about rules and regulations regarding eligibility and access to water in this area if it is released. The hub trial phase continued until 30 November 2020.

Digital products

The 2019 QBWOS continues to provide an accessible and interactive digital account of the state's bulk water supplies through its sister **Story Map**, and updated data layers accessible through the **Queensland Globe**. Through 2019-20, interest in the QBWOS Storymap has continued with readership numbers and time spent on the site both continuing to increase. Through QBWOS and its associated digital products, we continue to strengthen engagement with the public and other stakeholders, and increase opportunities for collaboration and partnerships.

2.3 Supporting infrastructure development that provides a commercial return

State entities will continue to develop infrastructure proposals for commercial return.

As set out in QBWOS Part A, State-owned water entities are required to comply with various guidelines and processes when investigating commercial projects. This includes:

- Queensland Treasury's **Project Assessment Framework** – which applies to all government agencies including state owned water entities.
- Ministerial oversight also requires government owned businesses to seek approval for projects over certain thresholds.
- **Assessing demand for water - Guidance for project proponents.**

Sunwater Regional Blueprint

Supporting the Queensland Government initiatives through QBWOS, Sunwater continued to develop a Sunwater Regional Blueprint as a long-term strategy to increase availability of water in areas currently serviced by its bulk water supply schemes, developing options to better support the government's objectives for regional economic development, and address future customer needs, as well as adapt to the impacts of climate change.

The Sunwater Regional Blueprint supports the QBWOS objectives of using existing water resources more efficiently, supporting infrastructure development that provides a commercial return and considering projects that will provide regional economic benefits. The Blueprint explores potential future water demand scenarios across Sunwater schemes and summarises Sunwater strategy for responding to these scenarios should they arise. It identifies products and services that will meet future customer needs, including optimising existing infrastructure or new assets. Sunwater's assessment applies a rapid and early stage financial and economic framework to assess growth opportunities associated with its supply schemes. This will also serve as an input for Government in their broader state-wide analysis of projects that offer regional economic benefits.

A regional rollout of the Sunwater Regional Blueprint is underway, engaging its customers in the definition of future demand scenarios and potential ways of addressing them. During 2019-2020 stakeholders from most regions that Sunwater serves were engaged through scenario planning workshops. Discussions were robust and highlighted the participants' strong willingness to contribute to solutions, as well as their interest in increased collaborative planning across different players.

2.4 Projects that provide regional economic benefits

While consideration of the commercial viability of infrastructure projects is important, and remains Sunwater's priority, the Queensland Government also has a role to facilitate and support economically viable projects that are demonstrated to be in the best overall interests of the state. This involves striking the right balance between reducing the barriers to using available water within existing bulk water supply infrastructure and considering new projects with demonstrable economic benefits in a context of competing budget constraints.

Delivering better infrastructure should include an assessment of how that infrastructure can provide better services for the consumer. This is a key consideration within the bulk water asset class, as community and economic benefits cannot be realised if the price of water to be supplied is too high.

The National Water Initiative outlines that for new bulk water infrastructure, beneficiaries should pay the full cost of providing the infrastructure, including the costs of construction and a return on the investment. However, given the scale of projects, the high risks and other factors, Government funding is often required to address these issues and make water affordable. The key challenge for the State is ensuring that subsidies are provided transparently, to the right projects and in the right circumstances. It is also important that State reviews project delivery to evaluate the benefits gained for the broader community.

While the most obvious beneficiaries of subsidies are the users of the water (through cheaper prices of one of their business inputs), there are potential benefits to the broader community. These benefits are realised when additional bulk water supply leads to growth in supply chains including from value added outputs, economic development, more jobs, improved community resilience, and greater demand for other services, such as freight. The Project Assessment Framework outlines the process for assessing these benefits and the associated costs.

New infrastructure proposals and the Bulk Water Prioritisation Project

The Queensland Government understands the importance of water to communities and for driving regional economic growth, which is why it is fast tracking feasibility assessments for additional water supplies and investing in the construction of new bulk water supply infrastructure.

The Bulk Water Prioritisation Project (BWPP) was initiated through QBWOS to develop a better approach for the State's assessment and prioritisation of additional water supply infrastructure that can support economic development. The BWPP will be a mechanism to make sure that all the economic benefits and costs, technical feasibility and environmental implications are assessed before considering new bulk water supply infrastructure to ensure the projects do not impose ongoing liabilities to future generations.

Throughout 2019-20, DNRME has been working with internal and external experts to develop a robust assessment framework and key inputs such as comparable estimates of bulk water infrastructure costs and yields. The assessment framework

considers, on a regional basis, the need for water and opportunities for water to support regional economic development. The framework also incorporates a high-level cost benefit assessment and qualitative assessment of a range of other factors associated with developing bulk water infrastructure.

DNRME use this prioritisation tool to prepare advice on bulk water proposals for government consideration. It is intended that the advice would outline those projects that have greater viability prospects, those projects that cannot be further progressed until some other trigger occurs and also outline those proposals that are unlikely to be viable in the foreseeable future. This will help guide negotiations with other jurisdictions, and will help focus limited financial and human resources on the most viable proposals. At June 2020, DNRME has assessed the high-level estimates for costs and benefits associated with 54 bulk water proposals, including dams, weirs, pipelines and offstream diversions. DNRME will continue to coordinate NWIDF project activities, and is evaluating and prioritising new bulk water infrastructure proposals advanced under the NWIDF and through other means, for government consideration.

Best practice infrastructure assessment

Queensland has a well-established project assessment framework in place for qualifying and progressing infrastructure development projects that provide a commercial return. This framework includes the Project Assessment Framework developed by Queensland Treasury (see *QBWOS Part A, Chapter 4*). DNRME developed a guidance document, **Assessing demand for water - Guidance for project proponents**, which is consistent with the existing project assessment frameworks for evaluating and prioritising new bulk water infrastructure proposals for government consideration.

Water infrastructure projects typically involve long-life assets that are complex and expensive to build, own and operate. The guidance document is an important step in ensuring there is a stable, sustainable and sufficient market supporting better use of existing infrastructure and informing construction of new infrastructure.

3. Water infrastructure project update

3.1 Water supply efficiency projects

Table 6 provides progress updates to water efficiency projects through FY 2019-20, current to 30 June 2020. These projects may be recently completed, currently underway or in planning. Some projects received funding under State programs or the NWIDF and RDMW will continue to coordinate these project activities. These projects are also displayed in the [QBWOS Storymap](#).

Table 6: Water supply efficiency projects

Project name	Proponent	Purpose	Status
Projects in development			
Warwick Recycled Water for Agriculture	Southern Downs Regional Council	Expansion of the existing Warwick recycled water supply. The project will deliver water to agricultural and industrial areas	Funding committed towards capital construction from: <ul style="list-style-type: none"> Australian Government's NWIDF Queensland Government's Building our Regions Fund (BOR).
Mareeba-Dimbulah Water Supply Efficiency Improvement Project	Sunwater	<p>The Mareeba-Dimbulah Water Supply Scheme supports more than 1000 irrigation, industrial and urban customers with a total of 204 424 ML in water entitlements.</p> <p>Five sub-projects were identified that aim to improve operating efficiency and reduce water losses by up to 8306 ML to boost the local economy by providing access to more water for irrigators.</p> <p>Improvements are directed at balancing storages to catch channel overflows, regulating gates to better control flow through the channel network and a pressurised pipeline to capture overflow and seepage losses from the scheme.</p>	The project will be delivered as five sub-projects to align with customer demand and requirements. Works commenced in June 2019 and all sub projects are planned to be completed by November 2021. Total project cost is \$28.1 million, of which Sunwater is investing \$16.5 million to supplement NWIDF funding of \$11.6 million.

Projects with ongoing investigations and planning			
Lockyer Valley and Somerset Water Security Scheme Business Case	Lockyer Valley Regional Council	Alternative water supplies and innovative water delivery mechanisms to agricultural users in the Lockyer Valley.	The Water Plan (Moreton) 2007 is being amended to establish volumetric entitlements for irrigators and transparent sharing and accounting processes. Building Queensland has completed a preliminary assessment into cost-effective, viable water supply solutions for Lockyer Valley, funded by DNRME. Lockyer Valley RC also secured Queensland Government Maturing the Infrastructure Pipeline Program (MIPP) funding which is now being used to advance the findings of the Building Queensland work in 2019-2020. Supported with NWIDF and MIPP funding.
Completed investigations with projects awaiting triggers			
Bundaberg Channel Capacity Upgrade	Sunwater	The project aimed to facilitate the use of available water from Paradise Dam by assessing regional demand, water prices and infrastructure options to deliver water to potential future irrigation areas.	This project is no longer proceeding as early investigations determined the costs outweigh the benefits at this time.
Nogoa-Mackenzie Water Supply Scheme Efficiency Improvement Project	Sunwater	The project comprised relining works in the Selma Channel system to significantly reduce seepage losses, increasing water availability by <6000 ML/a.	Anticipated water saving milestones targeted in a pilot trial were not met and, as a result, this project is no longer proceeding.
South East Queensland Treated Effluent for Agriculture—NUWater	Queensland Farmers' Federation	The project considered how to make recycled water available to the Lockyer Valley and Darling Downs agricultural areas, including consideration of water from the Western Corridor Recycled Water Scheme.	PBC is complete. The costs outweigh the benefits at this time. Supported with NWIDF funding. Cost-effective, viable water supply solutions for Lockyer Valley RC, are being investigated, funded by DNRME.



Beaudesert Water Treatment Plant

3.2 Water supply projects for economic development

Table 7 details the progress updates through 2019–20 to water supply projects intended to boost economic development. These projects may be recently completed, currently underway or in planning. Some projects received funding under State programs or the NWIDF and RDMW will continue to coordinate these project activities. These projects are also displayed in the [QBWOS Storymap](#).

Table 7: Bulk water project proposals for regional economic development

Project Name	Proponent	Purpose	Status
Projects in development			
Granite Belt Irrigation Project (Emu Swamp Dam)	Granite Belt Water	New dam on the Severn River to supply agricultural water to the Granite Belt Area and provide an additional regional source that may be used as a contingency urban supply.	<p>DBC completed January 2019, supported with NWIDF funding. EIS Feasibility Study review completed April 2020. Funding committed towards capital construction from:</p> <ul style="list-style-type: none"> NWIDF (\$42 million) \$5 million Australian Government's Roads of Strategic Importance Fund Up to \$13.6 million from the Queensland Government. \$21.4 million from irrigators <p>Progression to construction is subject to the project meeting a number of conditions.</p>
Glendorf Off Stream Storage	MSF Sugar	Construction of an off-stream water storage project at Glendorf near Maryborough to increase the water storage capacity.	\$18 million funding offer to MSF Sugar under the Australian Government's Community Development Grants Programme towards capital construction. Further project scoping and definition is required including identification of a proponent to progress the project. MSF Sugar is working with Sunwater about the future of the project.
Projects with ongoing investigations and planning			
Hells Gates Dam and Big Rocks Weir	Townsville Enterprise Limited	New water supply infrastructure in the upper Burdekin River to supply agriculture, industry and urban communities.	Pre-feasibility assessment completed September 2018, supported with NWIDF funding. The Australian Government announced additional funding (\$24 million) to progress investigations to a DBC, including consideration of Big Rocks Weir. Program of works including detailed design and costing, DBC and Environmental Impact Statement (EIS). This work commenced in late 2019 and is expected to be completed in 2022.
Urannah Dam	Bowen Collinsville Enterprise	New water supply infrastructure in the upper Broken River to supply agriculture, industry and urban communities.	PBC completed June 2019, supported with NWIDF funding. The Australian Government announced additional NWIDF funding to progress investigations to a DBC and EIS, scheduled for late 2020.
Lakelands Irrigation Area	Far North Queensland and Torres Strait Island Regional Development Australia	New bulk water supply infrastructure to provide additional supplies agriculture in the Lakelands area. Delivering a DBC and EIA covering the project.	Strategic business case was completed in April 2020, supported with NWIDF funding. The Australian Government announced an additional \$10 million of NWIDF funding to develop a DBC and EIS.

Projects with ongoing investigations and planning			
Burdekin Falls Dam Raising Project	Sunwater	Provide additional water supplies for urban use, mining and regional agricultural development. The PBC, which considered various levels for the dam raising.	Raising Burdekin Falls Dam is the Queensland Government's priority for further assessment in this region. DSDMIP completed a feasibility assessment in February 2018, supported with NWIDF funding. This was followed by a PBC which was completed in October 2018 by Sunwater. Water customers have indicated greater water demand in the short to medium term. In collaboration with Sunwater, a DBC and EIS for the project are progressing. The DBC was recently combined with the business case to assess the Burdekin Falls Dam Improvement Project.
Hughenden Irrigation Project	Hughenden Irrigation Project Company	This proposal will investigate the capture and storage of water in the Upper Flinders River to support the establishment of agricultural development in Hughenden.	A PBC was completed in (February 2020), supported with \$2M from the Australian Government's Community Development Grants Fund. More detailed assessment is being considered.
Richmond Agriculture Project	Richmond Shire Council	Proposal to determine the technical feasibility of constructing a weir, channels and associated infrastructure to support sustainable agricultural development.	PBC completed April 2020, supported with \$1.2M Queensland Government MIPP funding. Elements of a DBC are being prepared by Richmond Shire Council. Access to water would need to be in accordance with DNRME process, noting several proposals in the Flinders River catchment competing for the available water.
Completed investigations with projects awaiting triggers			
Cloncurry River Dam	Mount Isa to Townsville Economic Development Zone Inc.	New water supply storage for irrigation development in the Cloncurry region with potential to also augment Cloncurry urban water supply and water available for surrounding mines.	DBC completed in June 2019, supported with NWIDF funding. Cave Hill Dam was identified as the most promising option; however, the assessment indicates that costs outweigh benefits at this time.
Connors River Dam and pipeline	Sunwater	Primarily to supply coalmines near Moranbah (Bowen and Galilee basins) with some urban supply to associated communities	State and federal environmental approvals obtained and land acquired. Currently insufficient demand to be viable.
Gayndah Regional Irrigation Development Project	Isis Central Sugar Mill Company Limited	Water storage and supply options and irrigation development of up to 6800 hectares in the Gayndah region of the Burnett River catchment	DBC completed December 2018, supported with NWIDF funding. The project has a high capital cost that would require a significant contribution from the Australian and/or Queensland Governments and/ or third parties.
Gilbert River Irrigation Project	Etheridge Shire Council	New dam, weir and channels on the Gilbert River to support expansion of irrigated agriculture.	A DBC was completed in April 2020, supported with Queensland Government MIPP funding. Etheridge Shire Council is in the process of developing a strategy to continue to progress this project.
Nathan Dam and pipeline	Sunwater	Mining, industrial and urban supply to Dawson Valley and Surat Basin	EIS complete. Currently insufficient demand to be viable.
Nullinga Dam	Sunwater	New dam to support expansion of irrigated production in the Mareeba–Dimbulah Irrigation Area—in the longer term, potential to augment Cairns urban supplies	A DBC was completed in June 2019, supported with NWIDF funding. The project has a high capital costs which outweighs the benefits at this time. Currently insufficient cost reflective demand to be viable. Mareeba Shire Council is amending its local planning scheme to protect the Nullinga Dam site against potential incompatible land uses. Sunwater is considering alternative water supply options in the area identified in the DBC.
Tablelands Irrigation Project	Tablelands Regional Council	Multipurpose water use in the Upper Herbert River catchment to support expansion of the region's agricultural base and generate renewable power, and considering flood mitigation benefits for the Lower Herbert River catchment	PBC completed in December 2018, supported with NWIDF funding. A number of potential water supply options are identified for future consideration.

3.3 Continuous improvement and maintenance measures

Continuous improvement and maintenance measures are routinely undertaken by bulk water providers. Table 8 shows the major projects reported by bulk water providers during 2019–20.

Table 8: Continuous improvement and maintenance measures

Continuous improvement and maintenance project details
<p>Seqwater, in partnership with DNRME and the Lockyer Water Users Forum (LWUF) is undertaking a project in the Lockyer Valley to improve the understanding and efficiency of the groundwater resource. Over the next two years, approximately 450 meters in the Central Lockyer Valley Water Supply Scheme (CLVWSS) will be upgraded to magnetic flow meters. 101 monitoring bores will also be upgraded with automated sensors to monitor water level and conductivity. All meters and bores will be equipped with remote telemetry, making information available to irrigators and Seqwater in real time. In addition to allowing for more efficient operation of the scheme, the information collected will be used to develop a new groundwater model. This model will be used to better inform the reliability of the resource, feeding into a review of the Water Plan (Moreton) 2007 scheduled for 2026.</p>
<p>As part of its focus on continuous improvement, Sunwater is in the second year of a five-year asset management plan. In 2019–20, Sunwater introduced a new finance and assessment management solution, which categorises maintenance work as either preventative or corrective. This allows for better prioritisation of critical projects thereby improving the effectiveness of the program. Sunwater's ongoing maintenance work involves routine preventative maintenance and monitoring inspections. More than 560 water infrastructure refurbishment projects were completed by July 2020. Pipeline performance is measured monthly to track equipment reliability and availability. In 2019–20, pipeline reliability was greater than 98% and availability more than 95%.</p>
<p>During 2019–20, Gladstone Area Water Board commissioned the third and final stage of a phased replacement of a section of pipeline which supplies more than 16,000 residents and local businesses was completed. Replacement of this asset mitigates the risk of failure of a critical section of our delivery network. The Gladstone Regional Council - Kirkwood Reservoir Project continued throughout the year, with ongoing engagement with Council to determine their forecast demand in order to inform the options analysis. An options analysis has now been undertaken, with the identified option having been through a detailed design. Construction is expected to commence in early 2021. GAWB also focused on improving the quality of its Life Cycle Management Plans and undertook a review of our project management framework as part of our continuous improvement activities.</p>
<p>During 2019–20, Mount Isa Water Board successfully completed the transition of operations and maintenance to a local provider after competitive tendering for outsourced arrangements. This resulted in improved governance and transparency, and reducing costs in line with vision and values. MIWB achieved 100% compliance with contracted pressure and flow and 98.6% critical asset availability across 2019–20, as well as executing engineering assessments of five improvement projects and progressing investigations on 11 future improvement concepts.</p>

4. Queensland's bulk water arrangements

4.1 Source water supplies

Queensland's *Water Act 2000* provides for water plans as the practical foundation of the State's bulk water supply water management. Figure 1 shows how Queensland's these bulk supply systems are distributed across the state, which for the purposes of the QBWOS is divided into eight regions. The regions are based on major drainage basins, but also consider catchments, water plan areas, local government boundaries and other factors. It is important to note that the regions do not fully align with any one of these. More information these individual supply sources is available on the [QBWOS Storymap](#).

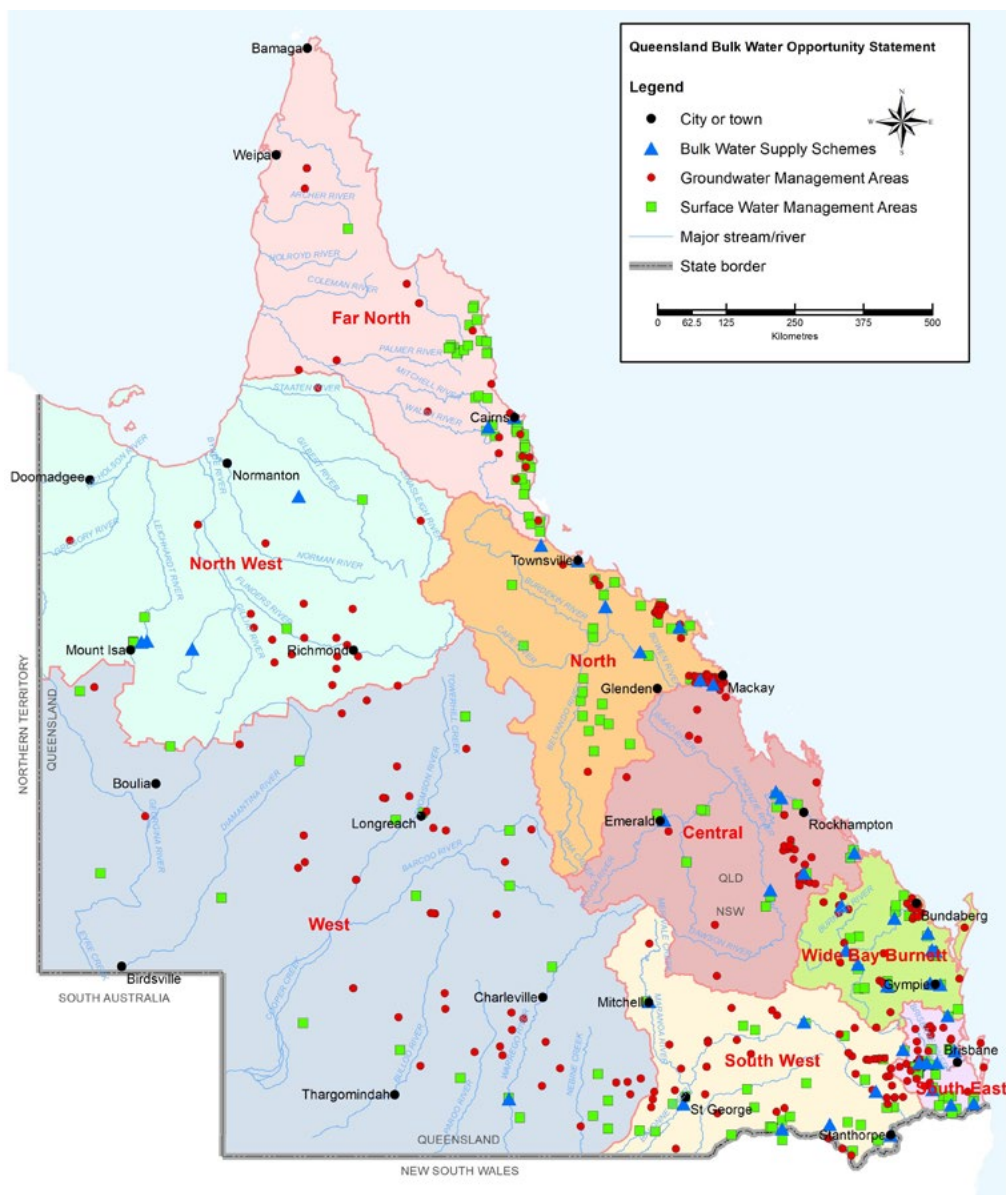


Figure 1: QBWOS Regions and bulk supply sources

Under Queensland’s *Water Act 2000* and its subordinate water plans, the state’s bulk water supply systems comprise surface water primarily managed through supplemented water supply schemes (WSSs) and unsupplemented water management areas (WMAs), and groundwater managed through groundwater management areas (GMAs). Less than 2% of surface water entitlements and 3% of groundwater entitlements are authorised outside of water plan areas.

The sum of the water resources that are available for current and future use may be referred to as a water account. Figure 2 shows the QBWOS 2019-20 water account for each QBWOS region, as well as the Great Artesian Basin and other regional aquifers (GABORA). The outer ring shows a total volume for the region, the middle ring breaks that volume down into allocated water and reserves, and the inner ring shows how allocated water is further defined as the nominal volume of all supplemented and unsupplemented water allocations and volumetric licences.

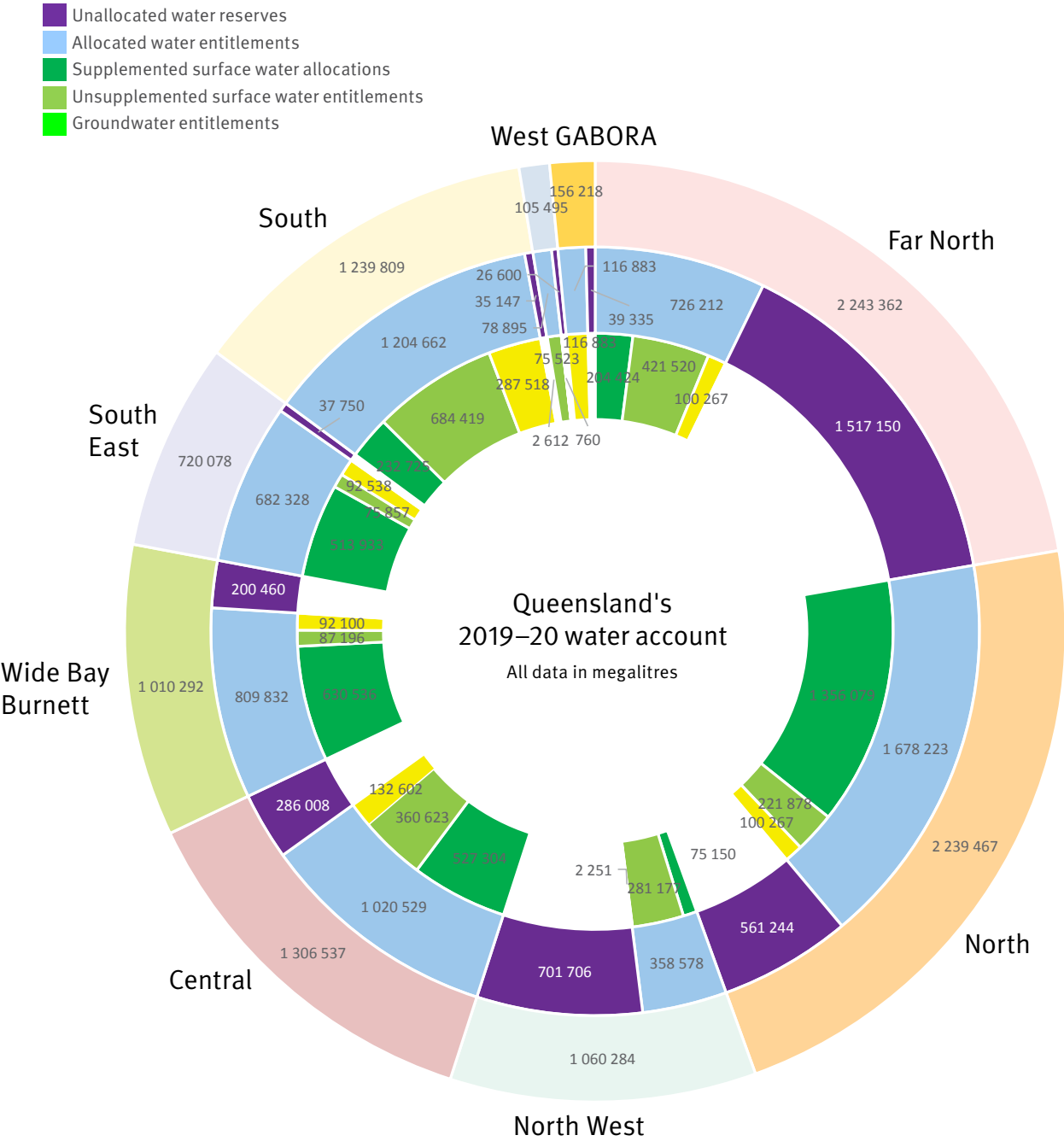


Figure 2: Queensland’s QBWOS 2019-20 water account

The following tables similarly break down the QBWOS 2019-20 water account into complementary resource management classifications that reflect both the source water characteristics and resource management characteristics of the entitlements. The data sets provided under this assessment comprise:

- supplemented surface water allocations which are defined under the *Water Act 2000* (Division 4), having a nominal volume, a volumetric limit, and conditions that govern the conditions of take and end use of those allocations. These are provided at Table 9, and represent about 35% of the total nominal volume of all water entitlements authorised in Queensland at 2019-20.
- unsupplemented surface water entitlements (Table 10), which, by definition, comprise the surface water entitlements not included in Table 9 and represent about 20% of the total volumetric water entitlements in Queensland at 2019-20.
- groundwater entitlements managed under the *Water Plan (Great Artesian Basin and Other Regional Aquifers) 2017* (the GABORA Plan) (Table 11). These groundwater resources are sourced from aquifers with minimal connectivity to local surface water resources and are not attributable to a QBWOS region. These represent about 1% of the total volumetric water entitlements in Queensland at 2019-20.
- groundwater entitlements including supplemented and unsupplemented groundwater allocations, and licences to take groundwater issued on volumetric and area-based terms (Table 12), but excluding those entitlements managed under the GABORA Plan. These groundwater resources represent about 10% of the total volumetric water entitlements in Queensland at 2019-20.

- unallocated water reserves are volumes of water held aside for strategic purposes, such as future growth, new infrastructure, and other specified purposes. Together, these comprise about 23% of the volumetric total of water entitlements in Queensland at 2019-20. Unallocated water reserves are displayed in Table 13, along with a summary of the above entitlement data.

As noted in the Tables that follow, there are 10 761 licences to take water that, due to historical licencing arrangements, were not issued with a nominal volume or volumetric limit. Consequently, the water entitlement associated with these licences can not be included in a statement of volumetric capacity.

Supplemented surface water supplies

Supplemented surface water allocations are defined under the *Water Act 2000* (Division 4), having a nominal volume, a volumetric limit, and conditions that govern the conditions of take and end use of those allocations. A 2019-20 update of these data (current at 30 June 2020) is provided at Table 9.

Table 9: Supplemented surface water

QBWOS region	Water storage capacity (ML/a)	Supplemented surface water allocations (ML/a)	Committed to customers (ML/a)	Uncommitted water (ML/a)	Delivered water (ML/a)
Far North	441 610	204 424	159 424	0	150 256
North	2 905 333	1 356 079	1 086 461	62 167	789 738
North West	214 333	75 150	63 050	10 850	24 400
Central	2 512 776	527 304	521 680	21 112	323 814
Wide Bay Burnett	1 577 443	630 536	563 251	34 534	411 517
South East	2 296 699	513 933	508 127	463	328 075
South West	554 056	232 725	231 821	954	63 882
West	4 770	2 612	2 492	120	1 021
Total	10 507 020	3 542 763	3 136 306	130 200	2 092 702

Water storage capacity reflects storages associated with supplemented allocations only. Data have been updated to reflect outcomes of updated bathymetry, works and operational arrangements (such as at Paradise Dam) and may not always mirror storage volumes, as authorised, in Resource Operations Licences. In QBWOS North, 45 384 ML of allocations managed under the Burdekin Haughton WSS ROL may be taken either as surface water or groundwater. Similarly, in QBWOS Wide Bay Burnett 2175 ML of allocations managed under the Three Moon Creek WSS IROL may be taken either as surface water or groundwater. To prevent double counting these allocations are reported here, as surface water. Scheme data for Cressbrook Creek WSS, which has infrastructure in both QBWOS South East and QBWOS South West is reported in QBWOS South East. Pioneer WSS was previously reported in QBWOS Central, but is situated and now reported in QBWOS North.

Unsupplemented surface water supplies

Table 10: Unsupplemented surface water

QBWOS Region	Water allocations (ML/a)	Water licences (ML/a)	Total unsupplemented surface water entitlement (ML/a)	Area-based surface water licences (No.)
Far North	118 349	303 172	421 520	5
North	74 448	147 430	221 878	461
North West	0	281 177	281 177	0
Central	189 757	170 866	360 623	269
Wide Bay Burnett	28 266	58 930	87 196	1,266
South East	17 580	58 277	75 857	1,651
South West	674 967	9 452	684 419	67
West	51 112	24 411	75 523	0
Total	1 154 478	1 053 715	2 208 193	3 719

Nominal annual volumes are displayed. Unsupplemented water entitlements issued as an area-based licence are not included in the volumetric assessment.

Great Artesian Basin

Table 11: Great Artesian Basin and other regional aquifers

QBWOS Region	Water Plan Area	Total number of groundwater licences	Number of area-based groundwater licences	Number of volumetric groundwater licences	Volumetric groundwater licence entitlement (ML/a)
n/a	Water Plan (Great Artesian Basin and Other Regional Aquifers) 2017	6799	155	916	116 883

Note that only 916 of 6799 GABORA water licences (13.5%) currently include a volumetric limit. Groundwater entitlements issued under an area-based licence or without volumetric conditions are not included in the volumetric assessment.

Other groundwater aquifers

Table 12: Other groundwater sources

QBWOS region	Supplemented groundwater allocations (ML/a)	Unsupplemented groundwater allocations (ML/a)	Licences to take groundwater (ML/a)	Total nominal groundwater entitlement (ML/a)	Area-based groundwater licences (No.)
Far North	0	0	100 267	100 267	0
North	0	0	197 099	197 099	0
North West	0	0	2 251	2 251	0
Central	14 500	45 314	132 602	192 417	0
Wide Bay Burnett	10 676	43 871	37 554	92 100	0
South East	28 395	0	64 143	92 538	0
South West	0	27 267	260 251	287 518	1
West	0	0	20 934	20 934	0
Total	53 571	116 452	815 101	985 124	1

Groundwater entitlements which may also be taken as surface water (see Table 9) are not included in this assessment. Groundwater entitlements issued under an area-based licence are not included in the volumetric assessment.

Queensland's water supplies

Table 13 shows Queensland's total volumetrically-authorized water entitlements, current at June 30, 2020.

Table 13: Queensland's water supplies (2019–20)

QBWOS region	Unallocated water reserves	Allocated water entitlements			Queensland Water Account (2019–20)
		Surface water		Groundwater	
		Supplemented	Unsupplemented		
Far North	1 517 150	204 424	421 520	100 267	2 243 362
North	561 244	1 356 079	221 878	197 099	2 336 299
North West	701 706	75 150	281 177	2 251	1 060 284
Central	286 008	527 304	360 623	192 417	1 366 352
Wide Bay Burnett	200 460	630 536	87 196	92 100	1 010 292
South East	37 750	513 933	75 857	92 538	720 078
South West	35 147	232 725	684 419	287 518	1 239 809
West	26 600	2 612	75 523	20 934	125 669
GABORA	39 335			116 883	156 218
Total	3 405 400	3 542 763	2 208 193	1 102 007	10 258 363

All data are in megalitres. Unallocated water reserves are current at 30 June 2020, and reflect the full set of Queensland's strategic, general and other water reserves.



Chinchilla Weir

4.2 Assessing latent capacity in bulk water supply systems

The *Water Act 2000* promotes the achievement of a balance between the demands on Queensland’s water resources for productive purposes and the needs of the environment. Under each water plan a defined proportion is set aside for each. Of the portion that is set aside for our consumptive use

some is held in reserve and some is allocated (or licenced) to customers directly or through the State’s bulk water providers. Some water is lost in storage and distribution to evaporation and seepage, and an allowance is made for these operational losses. Not all of the available water entitlements across the state are owned though (i.e. the water remains ‘uncommitted’), and not all entitlement holders use their full water entitlements each year (a portion remains unused). This is represented in Figure 3.

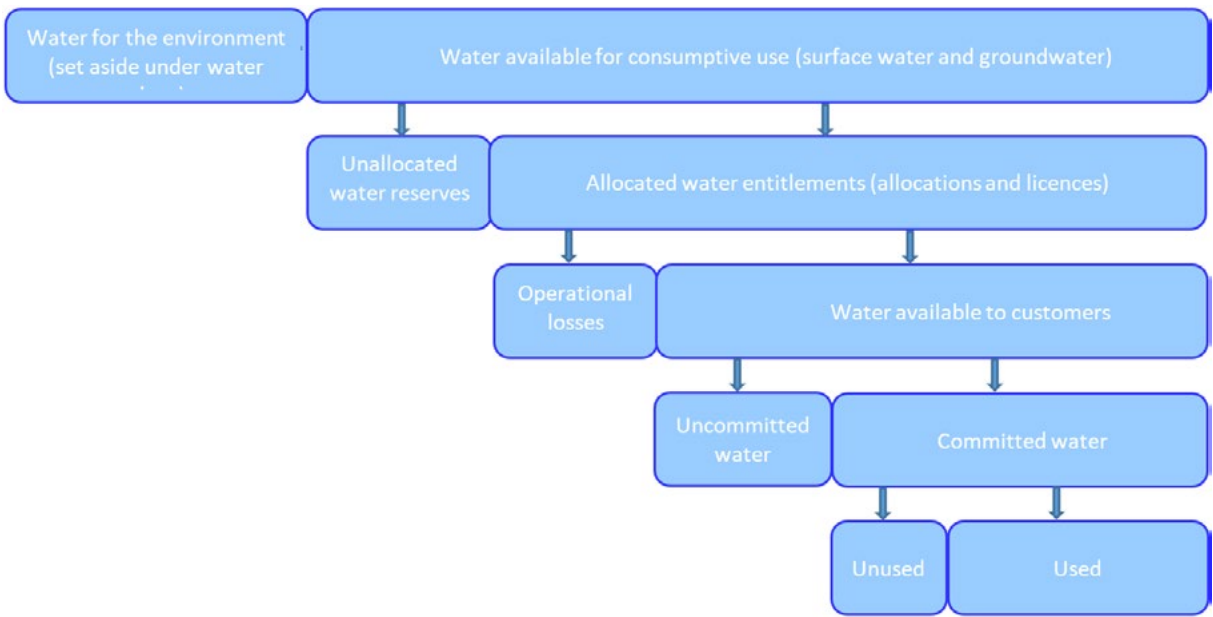


Figure 3: The bulk water supply system

DNRME estimated the underutilised water sum based on: (i) uncommitted water, and (ii) the portion of supplemented surface water in the 42 regulated bulk water supply schemes that had not been used since 2006-07 (or when the Resource Operations Licence was issued, if later) even when rainfall was low and water availability was high. In 2018, a DNRME assessment found significant quantities of water

remain unused (even in dry times) over the last 10 years including:

- 280 000 ML of uncommitted supplemented water allocations
- 865 000 ML of unused committed supplemented water allocations

Table 14: Underutilised water statistics for Queensland

QBWOS Region	Unallocated water reserves (town water, strategic and or infrastructure development)	Uncommitted water in water supply schemes (2019-20)	UWPP assessment of underutilised water in water supply schemes (2006-17)
Far North	884 050	0	42 500
North	375 744	62 167	301 790
North West	514 106	10 850	26 550
Central	256 900	21 112	128 605
Wide Bay Burnett	194 607	34 534	144 221
South East	37 150	954	192 300
South West	4 600	463	29 290
West	15 800	120	460
Total	2 282 957	130 200	865 716

All data are in megalitres. For the purpose of the underutilised water assessment, not all water reserves are considered—only the surface water reserves that may be applied to town water, strategic and or infrastructure development are reported in Table 14. Underutilised water in water supply schemes is from the 2017-19 Underutilised Water Partnership Project (UWPP) assessment based on data generally from 2006-07 to 2016-17.

DNRME continued working with stakeholders to develop a methodology to assess underutilised unsupplemented water. The scope of the analysis will cover underutilisation of unsupplemented surface water entitlements for priority groundwater and surface water management areas, where metered use has been recorded for at least 5 years and the entitlements are able to be permanently or temporarily traded. Consultation on the draft methodology and preliminary results will be undertaken in 2021.

Factors that may contribute to the volume of unused water include external product-market influences labour availability rainfall and river flow variability, water market and trading arrangements, urban water restrictions, access to alternative water supplies and current risk management practices (such as where extra entitlement is held as insurance for periods of low water availability but has not been used).

5. Other initiatives

Queensland Water Regional Alliance Program

The Queensland Water Regional Alliance Program (QWRAP) is an industry-led initiative to investigate regional collaboration on water and sewerage services in regional Queensland. The program is a collaborative effort among the Local Government Association of Queensland, Qldwater, Queensland Government (through DNRME) and over 25 participating councils. QWRAP is a key mechanism for achieving improvements in the delivery of water supply and

sewerage services in regional Queensland where capacity and financial constraints amongst service providers are a significant issue. It provides a formal opportunity for councils to consider collaboration and alternative regional approaches for managing services. QWRAP has resulted in the formation of five regional collaboration areas, three of which have formed formal water alliances and completion of numerous successful regional initiatives as well as a range of state-wide activities and research projects. An additional QWRAP region is currently emerging in NQ.

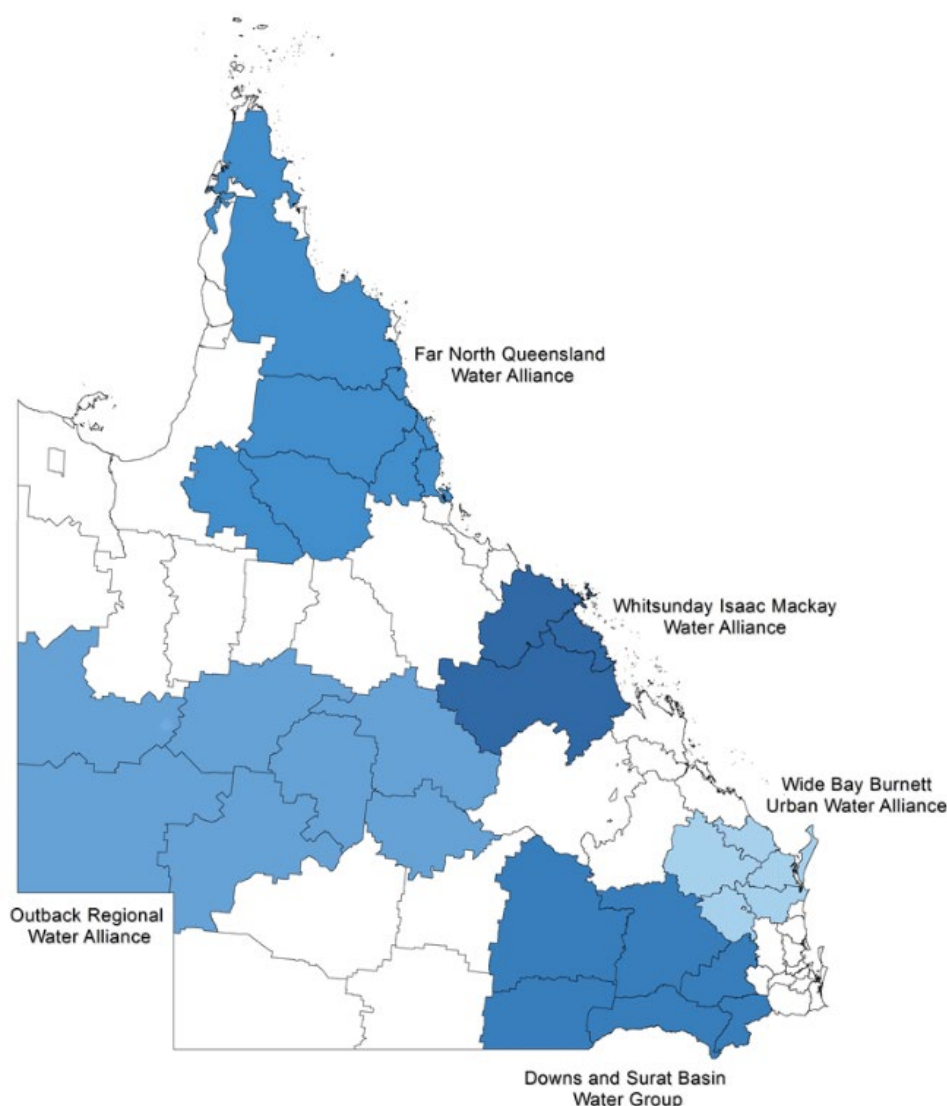


Figure 4: QWRAP regions

In July 2018 the program was extended for four years by the Queensland Government with \$4.2 million funding available to support activity across five QWRAP regions (see Figure 4) and an annual research project. State funding includes a ‘bid-pool’ accessible by participating councils to initiate high priority collaboration opportunities. Access to the bid pool requires matching funding from participating councils but to date their contributions have far exceeded bid-pool contributions in recognition of the broad savings provided.

Seven bid pool projects were approved in the 2019-20 financial year in addition to supporting projects from the previous FY. These regional projects ranged from expansion of water industry training programs to joint asset management. For the regional water service providers these projects generated benefits such as economy of scale and sharing of skills and knowledge.

QWRAP further demonstrated its value during the COVID-19 crisis period. 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 as required. QWRAP groups further played a central role in staff sharing and access to spare supplies during the extended COVID-19 recovery phase.



George Weir

6. Supplemented water supply schemes

Table 15: Supplemented water supply schemes/systems

Bulk water supply scheme	Full supply volume	Supplemented allocations	Water available to customers	Water committed to customers	Volume possibly available for sale or lease	Reported water use (2019-20)	Reported water use (2018-19)	Reported water use (2017-18)	Reported water use (2016-17)	Reported water use (2015-16)	QBWOS Region	ROL/IROL Holder	Bulk water storages in the system
Awoonga WSS	777 000	78 000	78 000	60 000	18 000	56 034	57 344	51 767	51 045	46 821	Central	GAWB	Awoonga Dam
Barker Barambah WSS	136 190	34 305	34 315	33 512	803	6 511	13 162	10 641	18 010	15 187	Wide Bay Burnett	Sunwater	Bjelke-Petersen Dam, Joe Sippel Weir, Silverleaf Weir
Baroon Pocket WSS	61 000	36 500	36 500	36 500	0	27 519	18 816	19 949	21 914	28 866	Wide Bay Burnett	Seqwater	Baroon Pocket Dam
Border Rivers WSS	263 780	84 414	84 414	84 414	0	1 628	34 925	46 799	20 518	6 769	South West	Border Rivers Commission	Glenlyon Dam, Bonshaw Weir, Cunningham Weir, Glenarbon Weir, Boggabilla Weir, Goondiwindi Weir, Boomi Weir, Mungindi Weir
Bowen Broken WSS	118 573	38 930	38 436	38 041	395	21 682	16 653	14 099	11 362	16 963	North	Sunwater	Bowen River Weir (Collinsville Weir), Gattonvale offstream Storage, Eungella Dam
Boyne River and Tarong WSS	204 200	43 495	41 785	41 785	0	15 979	29 909	34 129	33 349	32 362	Wide Bay Burnett	Sunwater	Boondooma Dam
Bundaberg WSS	798 286	375 117	338 809	320 251	18 558	284 025	189 703	112 034	166 695	137 249	Wide Bay Burnett	Sunwater	Paradise Dam, Ned Churchward Weir, Ben Anderson Barrage, Fred Haigh Dam, Bucca Weir, Kolan Barrage
Burdekin Haughton WSS	1 890 455	1 079 592	872 854	833 870	38 984	663 537	524 104	636 047	581 308	680 593	North	Sunwater	Burdekin Falls Dam, Gorge Weir, Blue Valley Weir, Val Bird Weir, Giru Weir, Clare Weir
Callide Valley WSS	151 406	19 325	19 449	19 449	0	15 900	17 325	14 907	14 953	14 442	Central	Sunwater	Callide Dam, Kroombit Dam, Callide Creek Weir
Cedar Pocket WSS	735	495	495	495	0	462	260	307	534	386	Wide Bay Burnett	Seqwater	Cedar Pocket Dam

Bulk water supply scheme	Full supply volume	Supplemented allocations	Water available to customers	Water committed to customers	Volume possibly available for sale or lease	Reported water use (2019-20)	Reported water use (2018-19)	Reported water use (2017-18)	Reported water use (2016-17)	Reported water use (2015-16)	QBWOS Region	ROL/IROL Holder	Bulk water storages in the system
Central Brisbane and Stanley River WSS	1 354 700	286 041	286 041	286 041	0	194 790	192 477	177 538	115 268	166 762	South East	Seqwater	Wivenhoe Dam, Somerset Dam, Mount Crosby Weir
Central Lockyer Valley WSS	33 071	9 000	8 815	8 724	87	55	10 509	1 202	2 030	9 176	South East	Seqwater	Bill Gunn Dam, Clarendon Dam, Kentville Weir, Jordan I & II Weirs, Wilson Weir, Clarendon Weir, Glenore Grove Weir, Laidley Creek Diversion Weir, Showgrounds Weir, Crowley Vale Weir
Chinchilla Weir WSS	9 780	4 049	4 049	4 048	1	2 759	3 073	2 207	2 786	2 471	South West	Sunwater	Chinchilla Weir
Cressbrook Creek WSS	111 982	10 000	10 000	10 000	0	4 719	8 392	9 318	8 476	7 969	South East	Toowoomba Regional Council	Cressbrook Dam, Perseverance Dam
Cunnamulla WSS	4 770	2 612	2 612	2 492	120	1 021	1 703	1 746	1 563	1 882	West	Sunwater	Allan Tannock Weir
Dawson Valley WSS	66 266	61 737	61 737	61 674	63	52 779	53 237	55 204	39 185	39 818	Central	Sunwater	Glebe Weir, Gylanda Weir, Orange Creek Weir, Theodore Weir, Moura Weir, Moura Offstream Storage, Neville Hewitt Weir, Selma Weir
Eton WSS	65 600	61 784	62 563	62 563	0	28 002	26 007	24 420	17 529	33 913	Central	Sunwater	Kinchant Dam
Fitzroy Barrage WSS	74 391	62 093	62 152	62 152	0	29 249	26 769	24 633	23 105	26 995	Central	Rockhampton Regional Council	Fitzroy Barrage
Julius WSS	107 500	48 850	48 850	38 000	10 850	7 003	5 528	5 958	1 749	5 003	North West	Sunwater	Julius Dam
Logan River WSS	148 890	23 344	23 410	23 410	0	13 354	11 935	6 718	7 242	5 991	South East	Seqwater	Maroon Dam, Wyaralong Dam, Cedar Grove Weir, Bromelton Weir, South Maclean Weir
Lower Fitzroy WSS	35 900	28 621	27 346	27 157	189	17 734	18 929	19 740	19 058	19 879	Central	Sunwater	Eden Bann Weir
Lower Lockyer Valley WSS	31 534	12 708	11 208	11 208	0	352	375	638	594	4 706	South East	Seqwater	Atkinson Dam, Buaraba Creek Diversion Weir, Brightview Weir, Sippels Weir, Potters Weir, O'Reillys Weir

Bulk water supply scheme	Full supply volume	Supplemented allocations	Water available to customers	Water committed to customers	Volume possibly available for sale or lease	Reported water use (2019-20)	Reported water use (2018-19)	Reported water use (2017-18)	Reported water use (2016-17)	Reported water use (2015-16)	QBWOS Region	ROL/ROL Holder	Bulk water storages in the system
Lower Mary River WSS	16 750	30 399	25 487	20 207	5 280	13 643	10 775	7 464	20 218	12 713	Wide Bay Burnett	Sunwater	Mary River Barrage, Tinana Barrage
Macintyre Brook WSS	70 576	24 997	24 997	24 207	790	1 926	12 931	18 337	9 319	9 290	South West	Sunwater	Coolmunda Dam, Whetstone Weir, Ben Dor Weir
Maranoa River WSS	1 470	805	805	805	0	0	34	14	25	40	South West	Sunwater	Neil Turner Weir
Mareeba Dimbulah WSS	441 610	204 424	159 424	159 424	0	150 256	121 486	117 912	138 918	162 062	Far North	Sunwater	Tinaroo Falls Dam, Granite Creek Weir, Bruce Weir, Leafgold Weir, Solanum Weir, Collins Weir, Dulbil Weir
Mary Valley WSS	46 046	32 121	31 635	28 607	3 000	14 891	9 650	8 197	15 100	12 707	Wide Bay Burnett	Seqwater	Borumba Dam, Imbil Weir
Moondarra WSS	106 833	26 300	25 050	25 050	0	17 397	15 444	13 773	13 957	14 734	North West	MIWB	Moondarra Dam
Nerang WSS	317 370	84 000	84 000	84 000	0	62 237	50 994	53 413	52 035	47 020	South East	Seqwater	Hinze Dam, Little Nerang Dam
Nogoa Mackenzie WSS	1 342 213	230 244	231 545	228 685	2 860	124 116	119 996	178 911	168 908	192 025	Central	Sunwater	Fairbairn Dam, Bedford Weir, Bingegang Weir, Tartus Weir
Paluma / Crystal Creek WSS	11 400	21 571	21 541	21 541	0	9 174	9 838	9 954	8 625	5 365	North	Townsville City Council	Paluma Dam
Pine Valleys WSS	215 000	59 000	59 000	59 000	0	34 741	43 748	33 504	41 217	37 687	South East	Seqwater	North Pine Dam
Pioneer River WSS	160 318	78 110	78 111	65 831	12 280	26 922	26 203	24 984	16 576	27 894	North	Sunwater	Teemburra Dam, Kinchant Dam, Mirani Weir, Marian Weir, Dumbleton Rocks Weir
Proserpine River WSS	491 400	62 876	62 876	52 368	10 508	26 596	27 168	24 380	15 393	30 747	North	Sunwater	Peter Faust Dam
Ross River WSS	233 187	75 000	74 810	74 810	0	41 826	32 700	22 818	20 247	38 258	North	Townsville City Council	Ross River Dam
St George WSS	99 670	84 555	84 575	84 575	0	49 776	92 247	82 154	88 350	81 931	South West	Sunwater	EJ Beardmore Dam, Moolabah Weir, Jack Taylor Weir, Buckinbah Weir
Teddington Weir WSS	4 095	10 869	10 869	10 880	0	4 486	4 067	4 040	5 012	4 180	Wide Bay Burnett	Fraser Coast Regional Council	Teddington Weir, Talgella Weir

Bulk water supply scheme	Full supply volume	Supplemented allocations	Water available to customers	Water committed to customers	Volume possibly available for sale or lease	Reported water use (2019-20)	Reported water use (2018-19)	Reported water use (2017-18)	Reported water use (2016-17)	Reported water use (2015-16)	QBWOS Region	ROL/IROL Holder	Bulk water storages in the system
Three Moon Creek WSS	89 345	14 828	14 734	14 464	270	8 826	7 707	4 833	6 694	6 697	Wide Bay Burnett	Sunwater	Cania Dam, Youlambie Weir, Monto Weir, Bazley Weir, Avis Weir, Mulgildie Weir
Upper Burnett WSS	188 439	48 700	48 700	42 077	6 623	26 490	20 480	16 158	19 105	17 293	Wide Bay Burnett	Sunwater	Wuruma Dam, John Goleby Weir, Kirrar Weir, Jones Weir, Claude Wharton Weir
Upper Condamine WSS	108 780	33 905	33 935	33 772	163	7 793	1 703	4 287	20 195	8 437	South West	Sunwater	Leslie Dam, Talgai Weir, Yarramalong Weir, Lemon Tree Weir, Melrose Weir, Wando Weir, Nangwee Weir, Cecil Plains Weir
Warrill Valley WSS	84 152	29 841	26 127	25 744	376	17 827	16 137	8 582	10 588	18 892	South East	Seqwater	Moogerah Dam, Upper Warrill Diversion Weir, Kents Lagoon Diversion Weir, Aratula Weir, Warrill Creek Diversion Weir, Warroolaba Creek Diversion Weir, Churchbank Weir, West Branch Warrill Diversion Weir, Railway Weir
Wide Bay WSS	32 357	14 473	14 473	14 473	0	8 686	6 372	4 723	7 384	6 627	Wide Bay Burnett	Fraser Coast Regional Council	Lenthals Dam, Burrum I & II Weirs

Data reported at Table 15 are drawn from annual reporting by the Resource Operations Licence holders, and for Sunwater, from its annual reports.

7. Guide to data and terms

7.1 Acronyms

Table 16: Queensland Government department acronyms and post-election transitions

Department name in 2019-20		Post-election reconfiguration
Acronym	Department	Programs relevant to QBWOS transition
BQ	Building Queensland	Department of State Development, Infrastructure, Local Government and Planning
DAF	Department of Agriculture and Fisheries	No change
DES	Department of Environment and Science	No change
DLGRMA	Department of Local Government, Racing and Multicultural Affairs	Department of State Development, Infrastructure, Local Government and Planning
DNRME	Department of Natural Resources, Mines and Energy	Department of Regional Development, Manufacturing and Water
DPC	Department of Premier and Cabinet	No change
DSDMIP	Department of State Development, Manufacturing, Infrastructure and Planning (now DSDTI)	Department of State Development, Infrastructure, Local Government and Planning
DSDTI	Department of State Development, Tourism and Innovation (previously DSDMIP)	Department of State Development, Infrastructure, Local Government and Planning
QT	Queensland Treasury	No change

QBWOS reports on a range of departmental funding programs and inter-departmental collaborations that support water infrastructure planning, water science and water security outcomes. Expected forward program ownership transitions with Machinery of Government changes following the 2020 state election are shown above.

Table 17: Miscellaneous acronyms

Acronym	Meaning
DBC	Detailed business case
DOL	Distribution operations licence
EIA	Environmental impact assessment
EIS	Environmental impact statement
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999 (Cth)
GAB	Great Artesian Basin
GABORA	Great Artesian Basin and Other Regional Aquifers
GAWB	Gladstone area water board
GL	Gigalitres (1 000 000 000 litres)
IROL	Interim resource operations licence
MIWB	Mount Isa Water Board
ML	Megalitres (1 000 000 litres)
NWIDF	National water infrastructure development fund
PAF	Project assessment framework
PBC	Preliminary business case
QBWOS	Queensland bulk water opportunities statement
ROL	Resource operations licence

7.2 Glossary

Table 18: Glossary of terms

Term	Meaning
Water related terms	
Bulk water	Raw water that is supplied from a bulk water supply system, in accordance with a water entitlement, either directly to an end-user customer or to a customer that provides treatment services and/or distribution services to end-user customers.
Bulk water entity	Bulk water providers generally provide water to local councils as the source of their drinking water supplies. On behalf of the Minister for Natural Resources, Mines and Energy, DNRME oversees Queensland's four bulk water entities: Seqwater, Sunwater, GAWB and MIWB. The Border Rivers Commission is also responsible to the Minister for managing the Border Rivers.
Bulk water supply system	Bulk water supply systems vary significantly across Queensland, but essentially comprise the natural environment (waterways and aquifers) and any associated infrastructure (from dams to offtakes) that enables that water to be distributed to retail water service providers and other customers that access the bulk supply directly. It may be contrasted with 'retail' aspects of water service provision (see 'water service', below).
Committed water	Water entitlements that have been sold or traded to a customer for the customer's use.
Level of service	Bulk water level of service (LOS) objectives are a water service provider's targets for long-term water supply security and commonly include statements about how much water the water supply system will typically be able to supply, and the frequency, severity and duration with which water restrictions to manage supply shortfall might occur.
Operational losses	Resource Operations Licence holders may make allowance for distribution losses (such as when using a watercourse or channel) to 'transport' water to their customers. These operational loss allowances preserve the full value of the entitlement for the entitlement holder.
Priority group	Water entitlements have a reliability, defined by the relevant water plan (in terms of access conditions for water licences and unsupplemented water entitlements), given consideration of water security objectives and environmental flow objectives.
Supplemented water	Supplemented water means water supplied under an interim resource operations licence (IROL), resource operations licence (ROL) or other authority to operate water infrastructure.
Unallocated water / water reserve	Water allocations set aside in a water plan for future use or to facilitate construction of storage. Types of reservation reflect their intended purpose, and include general, strategic, town water supply or state reserve, Indigenous reserve, and strategic infrastructure reserve (water that may be granted to facilitate the development of particular water infrastructure projects).
Uncommitted water	Water entitlements that have not been committed. These entitlements are usually available for lease, sale or contract subject to transportation infrastructure constraints.
Underutilised water	DNRME estimates the underutilised water sum based on: (i) uncommitted water, and (ii) the portion of supplemented surface water in the 42 regulated bulk water supply schemes that had not been used since 2006-07 (or when the Resource Operations Licence was issued, if later) even when rainfall was low and water availability was high. In addition, DNRME is trialling innovations in the temporary release of specified water reserves.
Unsupplemented water	Water that is not supplemented water.
Unused water	Not all entitlement holders use their full water entitlements each year (a portion remains unused).
Volumetric limit	For a water licence, means the maximum volume of water, in megalitres, that may be taken under the licence during a water year.
Water allocation	A water allocation is an entitlement created under the Water Act 2000. Water allocations are assets that are separate to land and may be owned and traded by non-landholders. The DNRME Water Allocations Register records ownership information on water allocations in a similar way to which details of land ownership are recorded in the Freehold Land Registry.

Term	Meaning
Water related terms	
Water entitlement	A 'catch-all' term that is inclusive of supplemented and unsupplemented water allocations and supplemented and unsupplemented water licences.
Water licence	A water licence is an authority granted under the Water Act 2000 to take water, interfere with water, or both interfere with and take water where these two activities are inextricably linked.
Water reserves	Under respective water plans, a portion of the total volume available for consumptive use may be held 'in reserve'. These reserves serve different purposes, such as accommodating the development of new dams, future demand, and Aboriginal cultural purposes
Water service	Under the Water Supply (Safety and Reliability) Act 2008, a water service includes water harvesting or collection, such as dams, weirs, bores and direct extraction from watercourses, the transmission of water, the reticulation of water, and drainage infrastructure other than for stormwater drainage, water treatment and recycling.
Water service provider	An entity registered as a service provider for a water service. In Queensland, water service providers include: drinking water service providers (primarily local governments), recycled water providers (who are not required to register as a service provider unless they also provide another water or sewerage service), and bulk water service providers and water authorities.
Water supply scheme	Combinations of dams, weirs, pipelines, channels and other storage or transport infrastructure, operated conjunctively in a water plan area in accordance with a DOL, ROL or IROL.
Water storage capacity (of dam or weir)	The volume of water authorised to be stored in a dam or weir, excluding the volume of any dedicated flood storage compartment for those dams that have it and excluding volume associated with fabridams no longer in service. Does not include consideration of temporary changes to full supply levels of dams for risk management or in preparation for extreme weather. Storage capacity is no indication of system yield.
Economic and financial terms	
Commercially viable	Projects demonstrated to achieve a commercial rate of return on invested funds.
Economically viable	There is a net economic benefit, that is, the economic benefits outweigh the economic costs following economic analysis (an economic analysis is a comprehensive analysis of all the costs and benefits associated with each proposed project option, including financial, environmental and social matters (typically employing cost–benefit analysis) with the objective determining the most economic use of resources).
Financial analysis	A financial analysis, conducted on a cash basis, determines whether projected revenues will be sufficient to cover costs, including an appropriate return on the capital invested.
Regional economic development	This is considered to include economic development that occurs in, or impacts on, metropolitan areas, regional urban centres, and rural and remote communities.
Infrastructure related terms	
Detailed business case	Successive to a preliminary business case, a substantial analysis and evaluation of the benefits, risks, finance and economics, market sounding, public interest, and consideration of legislative, regulatory and whole of government approval issues for a proposed project.
Feasibility assessment	An analysis and evaluation of a proposed project to determine if it is feasible, with consideration of financial, commercial, legal, regulatory, technical, environmental and social impacts, project demand and practicality of the proposal. Useful as a gateway to determining if the project proposal warrants more detailed investigation.
Preliminary business case	Generally successive to a feasibility assessment, a preliminary analysis and evaluation of the benefits, risks, finance and economics, market sounding, public interest, and consideration of legislative, regulatory and whole of government approval issues for a proposed project. Useful as a gateway to determining if the project proposal warrants more detailed investigation.
Project proponent	An individual, group or organisation that submits or proposes a project for review and acceptance.



Department of Regional Development, Manufacturing and Water



13 QGOV (13 74 68)



www.dnrme.qld.gov.au



facebook.com/WaterQLd



twitter.com/WaterQLD



Queensland
Government