



▼ WATER



WATER

OVERVIEW

Queensland's water resources are precious and must be sustainably and efficiently managed to meet our growing population, industry demand, and to ensure a secure supply for future generations.

As well as being essential for life, water is a vital part of our economy. It supports our traditional agriculture and resource sectors, and is critical in supporting emerging regional industries.

Providing affordable infrastructure that delivers a safe, secure, and accessible water supply helps maximise Queensland's economic potential, while helping to make our communities more resilient, in the face of climate change and increasing weather extremes.

Effective water supply planning, and viable funding models, are essential to the provision of appropriate long-term solutions. It also ensures traditional water sources, such as rivers, lakes and springs, are sustainably managed to safeguard supplies and protect ecological systems.

Ensuring all Queenslanders have access to safe and secure drinking water is a critical priority. The Queensland Government works in partnership with local governments to ensure that communities have water and wastewater systems in place, and that these assets are sustainably managed, through good planning, proactive maintenance, and an appropriately skilled workforce.

Queensland's water supply has supported the growth of several of the state's key export industries, especially agriculture. Ensuring it remains secure and affordable will also contribute to the expansion and diversification of industries, including hydrogen and renewables.

As climate change challenges us to meet increasing demand amidst an uncertain environment, alternatives to traditional bulk water sources – including recycled and desalination – will need to be explored to increase water security. This will include seeking out fit-for-purpose solutions for smaller Queensland towns and cities.



Burnett River (Source: Tourism and Events Queensland)

The *Queensland Bulk Water Opportunities Statement* (QBWOS) outlines the state's strategic framework for maximising the utilisation and efficiency of existing water supply infrastructure, optimising investment into new infrastructure to support economic development, and protecting water security. The QBWOS outlines four strategic objectives that guide the state's approach to bulk water supply:

- ▶ ensure safety and reliability of dams and urban water supply.
- ▶ optimise utilisation and efficiency of existing infrastructure.
- ▶ support infrastructure development that provides a commercial return to the state and publicly-owned bulk water entities.
- ▶ consider projects that will provide regional economic benefits.

Current key initiatives

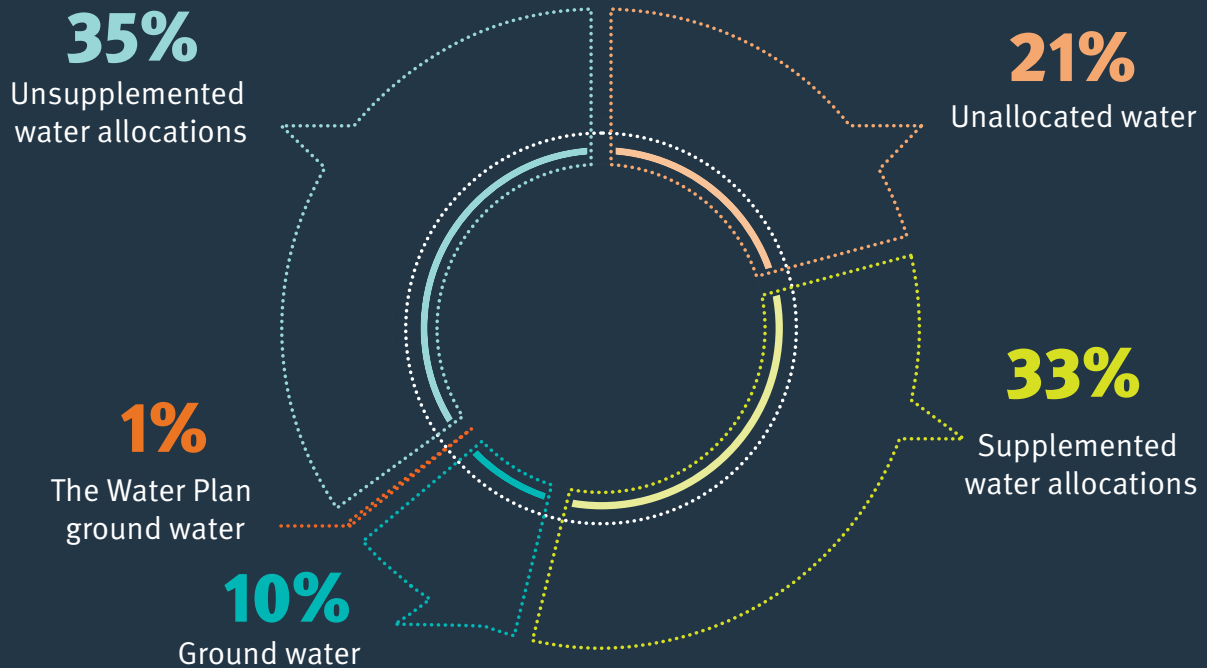
- ▾ **National Water Infrastructure Development Fund and National Water Grid Construction Program fund**
Accelerate the assessment of water infrastructure projects in partnership with the Australian Government through the National Water Grid Fund, and the continued delivery of projects funded through the National Water Infrastructure Development fund.
- ▾ **The Queensland Bulk Water Opportunities Statement**
The strategic framework outlining the state's approach to bulk water infrastructure.
- ▾ **Regional Water Assessment Program**
Assessments of local water needs and potential gaps for regional 'food bowls'.
- ▾ **Rookwood Weir**
\$140 million in 2021-22 and \$367.2 million in total for the provision of 86,000 megalitres of water for the agricultural development and security of urban and industrial areas in Central Queensland.
- ▾ **Round 6 of Building our Regions**
\$70 million over three years for local governments to improve water supply and sewerage systems.
- ▾ **Dam improvement program**
This program assesses and upgrades Queensland's dams, commensurate with their risk.



Rookwood Weir, Central Queensland (Source: Sunwater)

HIGHLIGHTS

The figure below shows existing unallocated water across the state, as a percentage of total entitlement volumes.⁷³



TRENDS

5 RESERVOIRS AND STORAGE TANKS

MOUNT ISA WATER BOARD

- \$133 M in assets
- 8 pump stations
- 88 km of pipelines
- 2 water treatment plants

19 MAJOR DAMS

SUNWATER

- \$13 B in assets
- 64 weirs and barrages
- 79 major pumping stations
- 1888 km of pipelines and channels
- 10 water treatment plants

13 WATER RESERVOIRS

GLADSTONE AREA WATER BOARD

- \$665 M of assets
- Awoonga Dam and offline water storage facility
- 2 water treatment plants
- 9 water pumping stations
- 225 km of pipelines

26 DAMS

SEQWATER

- \$11 B of assets
- 51 weirs
- 36 water treatment plants
- 646 km of supply pipelines
- Gold Coast desalination plant
- Western corridor recycled water scheme

Queensland Government's bulk water supply assets.⁷⁴

▼ CASE STUDY

CASE STUDY Queensland Water Markets Optimisation (QWMO)

Queensland's water resources are managed by water plans. Established under the *Water Act 2000*, they determine the total volume of water allocations that can be made available to the market, while balancing environmental impacts and the needs of different users. A water allocation provides authority to the title holder to access water from a particular source. It is a tradable asset that can be sold or leased.

In a perfect water market, surplus water held by some users is traded to other users to minimise supply shortfalls, and maximise market efficiency and productivity. Water trading is only possible in areas where trading rules have been established, so water plans provide an important framework and regulatory instrument for driving the efficient use of water resources and supporting economic growth.

In 2019, the then Department of Natural Resources, Mines and Energy launched the Underutilised Water Partnership Project to identify market inefficiencies that lead to the underutilisation of existing allocations. The assessment found across the state's 42 water supply schemes, more than 30 per cent of all supplemented water (meaning water supplied using infrastructure) had remained unused, even in dry times, over the past 10 years.

Several factors were found to contribute to this volume of unused water, including water trading complexities, information deficiencies and incentive structures. Specifically, buyers and sellers had found it difficult to identify one another, there was a lack of information on where and how much water was available, and a lack of price transparency on completed trades.

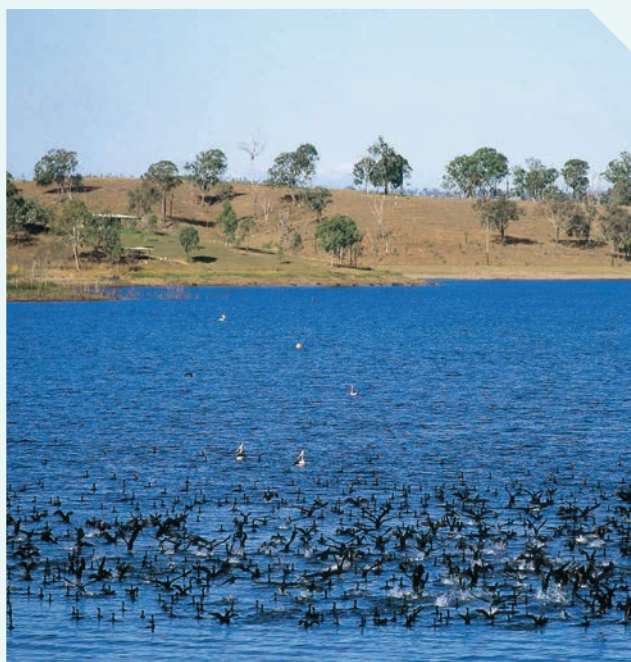
Addressing these market inefficiencies is one of the most cost-effective ways to increase water access for existing users, while expanding the market for new investors and industries, optimising the productivity of existing infrastructure and still protecting our rivers and streams.

To develop a pathway toward efficient water trading markets and address the issues identified in the Underutilised Water Partnership Project, the *Queensland Water Markets Optimisation Action Plan* was published in early 2021.

This plan sets out the following key actions:

- ▼ encourage holders of underutilised water to use the temporary trading market
- ▼ provide information on what water markets need to develop and grow
- ▼ help water users connect with brokerage
- ▼ help investors find water for development or expansion.

Efficient markets will maximise the opportunities available from our water resources and water supply infrastructure now and into the future.



Bjelke-Petersen Dam (Source: Tourism and Events Queensland)

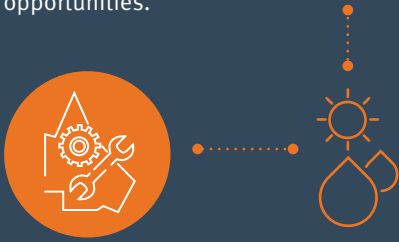


WATER

CHALLENGES

Improving utilisation

More than 30 per cent of Queensland supplemented water entitlements are underutilised so there is a significant opportunity to achieve better outcomes with existing infrastructure. This can be achieved through improving market access and trading opportunities.



Achieving greater efficiency and reducing wastage

There are opportunities to improve the efficiency of existing infrastructure by reducing losses, so that more water can be made available to the market under existing water plans. The benefit of these opportunities is that the state's water supply can effectively be increased through technology or other measures and without costly new infrastructure investment.



Regional Queensland water security

In regional Queensland, the state partners with local governments to undertake urban water supply security assessments, monitor risks to security and continuity of supply and provides assistance when needed.



South East Queensland water security

South East Queensland's population is expected to increase to at least 5 million over the next 20 years.⁷⁵ While current water security is provided by the South East Queensland Water Grid, new infrastructure will be required to support the region's growing population. Seqwater's Water Security Program 'Water for Life' summarises the planning undertaken to ensure the region's future water needs are met.



Climate change

Queensland has a dynamic climate, from dry and hot conditions in the west, to tropical hot and wet conditions in the north, with some of the highest and lowest rainfalls in the country. Climate change may potentially cause more extreme weather events in the near future, from extended periods of drought through to changes in rainfall patterns and severe flooding. This is being embedded in our planning, to help ensure we plan and deliver resilient infrastructure that is appropriate, affordable and embraced by the communities it services.

OPPORTUNITIES

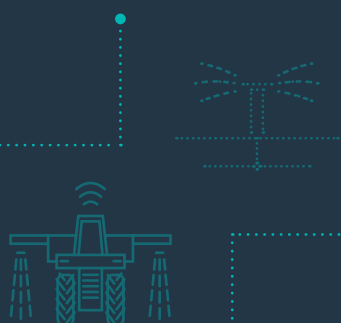
Making the most of existing infrastructure

The Queensland Government is entrusted with making strategic choices about the use of the state's resources, and difficult investment decisions must be made. Its commitment to finding innovative ways to use and re-use existing infrastructure means building new is not always necessary.



Aligning water infrastructure planning with regional economic strategies

Water is a critical enabler for regional industries. Planning for water infrastructure can be enhanced through closer integration with land-use and economic and industry development strategies. Providing greater certainty to industry in regional growth precincts about water and other economic infrastructure sequencing and delivery timeframes, will support proponents in making investment decisions.



Working in partnership

A national approach to water security will help ensure the Australian, Queensland and local governments develop a shared list of priority projects, and a shared framework for the development and assessment of water infrastructure proposals. Once in place, this will allow decision-makers to focus on achieving these outcomes as opposed to advocating for specific projects.



Improving water trading and optimising markets

The state is working hard to ensure water can be allocated to where it is most needed through efficient water trading. This mechanism also helps to meet demand for water supply without building new infrastructure.



Embracing alternative water supplies

The Queensland Government is well placed to respond to increasing water security challenges, using infrastructure built during the millennium drought and South East Queensland Water Grid's ability to move drinking water around the region. There are also opportunities to diversify the water network through stormwater harvesting and recycled water, which is currently being used to supply industry. Innovation will play a key role in ensuring solutions are fit-for-purpose, and reflect community needs.





WATER

PRIORITY ACTIONS



Encourage jobs, growth and productivity



Develop regions, places and precincts



Enhance sustainability and resilience



Adopt smarter approaches

1 Robust consideration of bulk water infrastructure (DRDMW)



Continue to undertake appropriate due diligence through robust consideration of potential bulk water needs consistent with the principles and framework for assessment, prioritisation and development of proposals outlined in QBWOS.

2 Safe and secure water supply for all communities (DRDMW)



The Queensland Government will support local governments to provide safe, secure and resilient water supply for their communities.

3 Water to catalyse regional economic development (DRDMW)



Water is a critical enabler for emerging regional industries including hydrogen and advanced manufacturing and for the international competitiveness of the agricultural, food and beverage manufacturing and mining sectors. Infrastructure investment decisions will consider future market demand and emerging industries.

4 Identifying regulatory and other reforms to improve access (DRDMW)



Identify opportunities to improve and streamline the regulatory regime for water licences, including providing access to reserves allocated to delayed infrastructure.

5 Best practice catchment analysis and water planning (DRDMW)



Continue to incorporate new technologies and the best, most contemporary science in the development of water plans, and to communicate this to industry, to help support and reduce risk in their investment decisions.

6 Embedding climate change risk and analysis (DRDMW)



Improve water planning and catchment analysis by embedding the impact of climate change on water availability.

7 Engagement with the Australian Government (DRDMW)



Engage with the Australian Government and its agencies to identify shared priorities and joint investment opportunities.

8 Achieving water security through innovation (DRDMW)



The state government will continue to develop innovative approaches to securing water supply for our communities. This will include a focus on cost effectiveness.

9 Communicating the benefits of water efficiency (DRDMW, DAF)



Encourage the adoption of efficient water use and modern irrigation practices for agriculture, business and communities, to reduce water usage.

10 Dam improvement (DRDMW)



Continue to upgrade dams commensurate with risk to ensure that communities remain safe during extreme weather events. Through this process, opportunities to increase water supply and improve flood mitigation may also be investigated.

11 Considering the full range of water infrastructure options (DRDMW)



Through its water infrastructure assessment, the state will consider the broad spectrum of assets that can improve water supply and reduce demand on existing water assets. This may include options such as off-stream storage, pipelines, and water recycling. This will include communicating the benefits of recycled water and supporting public and private investment in waste water.

12 Queensland Water Market Optimisation (DRDMW)



Continue to support the development of more mature, efficient and available water trading markets, to help ensure that water can be allocated towards its highest value purpose and priority industries.

13 Preserving our natural assets (DRDMW)



The state will continue to consider the health of our waterways, catchments and associated systems when assessing water supply and infrastructure proposals.



Chinamen Creek Dam, Cloncurry (Source: Tourism and Events Queensland)