Australian Government

National Water Grid Authority

Delivering the National Water Grid

2021

Delivering secure, affordable and reliable water for rural and regional Australia through the National Water Grid.

McLaren Vale Treated Water Storage, South Australia

Contents

ISBN 978-1-922521-29-3
August 2021 / INFRASTRUCTURE 4726

Warning: Aboriginal and Torres Strait Islander peoples are warned that the following stories may contain images of deceased persons.

The Australian Government acknowledges the Traditional Custodians of Australia and their continuing connection to the land and waters. We value the contribution and rich cultural heritage of Aboriginal and Torres Strait Islander peoples. We are committed to empowering and supporting Aboriginal and Torres Strait Islander peoples through our work and our actions.

Throughout the remainder of this document, the term 'Indigenous' has been used to collectively refer to Aboriginal and Torres Strait Islander peoples. However, we acknowledge the differences in culture, history and language, not just between Aboriginal and Torres Strait Islander peoples, but also between communities.

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Overview

The Australian Government is delivering vital water infrastructure across the country through the National Water Grid Authority, with a focus on building sustainable agriculture and increased drought resilience in rural and regional Australia.

The Australian Government's $3.5 billion National Water Grid Fund (the Fund) is investing in critical water infrastructure that supports regional economic growth and jobs creation.

The National Water Grid Authority (the Authority) was established in October 2019, and as at mid 2021, eight construction projects have been completed that are already delivering benefits to regional communities. The Authority's Investment Framework, bolted in by a science program, provides a clear, long term and strategic approach to investment in water infrastructure and the identification of priority projects within the National Water Grid.

Building on the work already completed, through the 2021–22 Budget, the Australian Government committed up to a further $258 million from the Fund. A total of $75.7 million is funding new and augmented projects as part of an ongoing investment in water infrastructure, including:

- Eurobodalla Southern Storage (New South Wales) – $51.2 million to integrate the north and south water supply systems in the region
- Werribee Irrigation District Modernisation (Victoria) – $11 million to replace the existing channel-based irrigation network with a modern, automated pipeline
- Recycled Water on the Bellarine (Victoria) – $5.5 million to provide high quality recycled water for agriculture and horticulture
- Warwick Recycled Water for Agriculture (Queensland) – $1.58 million to supply recycled water to agricultural and industrial users.

The National Water Grid is a series of region-specific water storage and distribution solutions that will secure predictable supplies of water now and into the future.

The commitment of $22.3 million towards the development of eight new business cases will help inform long term planning and investment decisions in water infrastructure and the ongoing development of the National Water Grid.

While smaller projects individually make improvements to water reliability and efficiency, collectively they can make nationally significant contributions to the National Water Grid. As part of the Budget package, the Australian Government committed up to $160 million over two years to establish the National Water Grid Connections funding pathway dedicated to smaller water infrastructure projects throughout rural and regional Australia.

The National Water Grid continues to increase water security, build greater resilience in our regions, create more jobs and see sustained growth in our agriculture sector, while supporting and investing in regional communities through drought, bushfires, floods and COVID-19.

The **National Water Grid Fund** is a 10-year rolling program to build the dams, weirs and pipelines that will form the National Water Grid. It replaces the former National Water Infrastructure Development Fund to better reflect the relationship between the National Water Grid and its projects.

The $367.2 million Rookwood Weir project in the lower Fitzroy region of Queensland is on target to deliver around 200 jobs during construction, increase water security and expand irrigated agricultural production.

Rookwood Weir, Queensland

National Water Grid projects

Delivering projects, delivers real benefits to our communities.

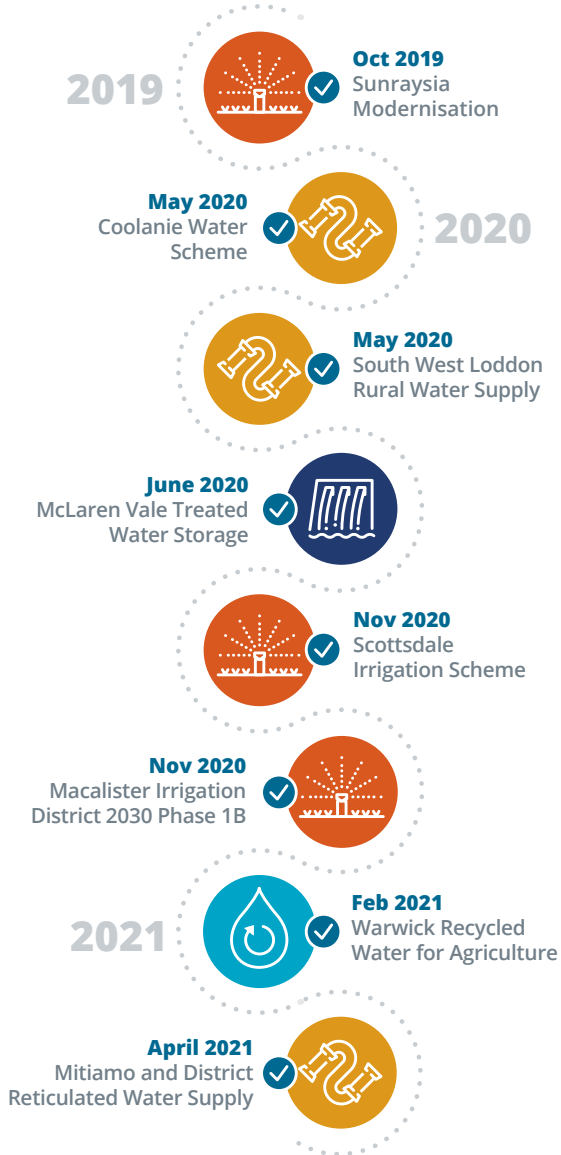
Through the National Water Grid Fund, a $3.5 billion program, the Australian Government co-funds priority water infrastructure projects that will grow agriculture and increase water security and reliability across Australia.

Since the establishment of the National Water Grid Authority in late 2019, the Australian Government has already committed over $1.5 billion to over 30 water infrastructure projects, with eight of these already complete.

The completed projects include the:

- Sunraysia Modernisation Project, Victoria
- Coolanie Water Scheme Project, South Australia
- South West Loddon Rural Water Supply Project, Victoria
- McLaren Vale Treated Water Storage Project, South Australia
- Scottsdale Irrigation Scheme Project, Tasmania
- Macalister Irrigation District 2030 Phase 1B Project, Victoria
- Warwick Recycled Water for Agriculture Project, Queensland
- Mitiamo and District Reticulated Water Supply Project, Victoria.

Completed projects



Scottsdale Irrigation Scheme, Tasmania

Completed project benefits

Securing a reliable supply of water is important for all Australians. By building the right infrastructure in the right place, we can improve water access and support new and expanding agriculture.

Our eight completed projects have seen:

- An increase in irrigable land and new areas serviced.
- New water infrastructure jobs supported by the projects during construction.
- An increase in ongoing water allocation.
- New ongoing direct and indirect jobs following the completion of the projects.

When the Australian Government invests in a new project, it considers how it would build resilience to future drought, support primary industries and promote regional prosperity, including through the creation of jobs.

Around
200,000ha
increase in irrigable land and new areas serviced

Over
570 jobs
supported during construction

Over
45,000ML
increase in ongoing annual water allocation

Over
480 jobs
supported (ongoing direct and indirect)

(Note: Excluding Mitiamo and District Reticulated Water Supply Project)

McLaren Vale Treated Water Storage, South Australia

The McLaren Vale Treated Water Storage Project established the McLaren Vale Water Storage Facility at Seaford Heights in South Australia, to store water from the Christies Beach Waste Water Treatment Plant. This is helping to meet irrigation demand for wine grapes produced in the McLaren Vale region, one of Australia's iconic wine regions.

Construction included a new 600 megalitre water storage dam and a supply connection to the existing Quarry Road pump station.

The recycled water will augment groundwater, drawn from a series of aquifers across the region.

Project funding:	Project cost: $7.4 million Australian Government funding: $2.5 million
Project type:	Water storage
Project status:	The McLaren Vale Treated Water Storage Project is **complete**. Construction commenced in October 2019 and the project was completed in June 2020.

Project benefits

The project has boosted water security and enhanced the economic resilience for the local industry and broader region.

The additional storage has the capability to supply up to 750 megalitres of treated water for irrigation of high-value horticultural crops, as well as enable vineyard expansion by up to 500 hectares.

This will increase premium grape production by up to 3,750 tonnes, worth $5.5 million annually in farm gate revenue, making the premium wine production worth around $33.75 million annually.

The improvements have reduced wastewater discharge into the Gulf Saint Vincent, improving water quality and sustainability.

The project is supporting approximately 170 ongoing new winery and vineyard farm jobs in the McLaren Vale, Willunga and Sellicks regions.

By boosting agricultural productivity, we can create thousands of jobs and bring considerable prosperity to regional Australia, through increased population and associated economic activity in our regional towns and communities.

Increased storage

Greater irrigable area

Recycled water

Better supply

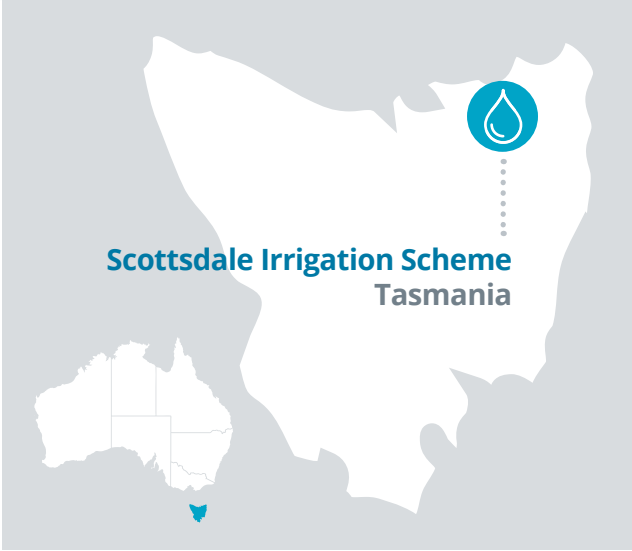
Scottsdale Irrigation Scheme, Tasmania

The Scottsdale Irrigation Scheme Project is located in northern Tasmania and serves the communities of Scottsdale, Bridport, Springfield, Nabowla, and Waterhouse.

Water from the irrigation scheme is used for pasture-based enterprises (such as dairying and livestock finishing), as well as poppies, potatoes and fresh vegetable production.

Construction included a 9.3 gigalitre earth and rock-fill embankment dam on the Camden Rivulet, a pump station on St Patricks River and a 92 kilometre underground pipeline network, delivered under gravity pressure.

The irrigation scheme is complemented by the construction of a mini-hydro power station at South Springfield, estimated to generate 623 kilowatt-hour/megalitre.



Project funding:	Project cost: $57.3 million Australian Government funding: $25.3 million
Project type:	Water storage and distribution
Project status:	The Scottsdale Irrigation Scheme Project is **complete.** Construction commenced in December 2018 and the irrigation infrastructure was completed in late 2020, with the first water delivered in November 2020.

Project benefits

The project has built resilience to drought for northern Tasmanian producers. It is facilitating the expansion and intensification of agriculture in the region through delivering an affordable source of high-reliability water to irrigators and farmers.

There will be an 8.6 gigalitre annual yield at a proposed 95 per cent reliability, with the potential to expand dairy processing and increasing irrigation by around 13,100 hectares. This is expected to generate up to $13.9 million direct economic benefits. Allowing a move from low-return livestock finishing to higher value pursuits.

During construction, the project supported over 60 water infrastructure jobs, and is expected to support a further 45 full time ongoing jobs.

> **Our water purchase will allow us to expand our irrigated dairy grazing area by 50 per cent to milk an additional 300 cows ... Smart irrigation technology will minimise additional labour costs for managing the equipment, though we will probably put on extra staff to help with the larger herd.**

Stuart Bush, Dairy Farmer, Lientinna


Surface water capture


Increased storage


Hydro-electric power


Climate resilient supply


Greater irrigable area

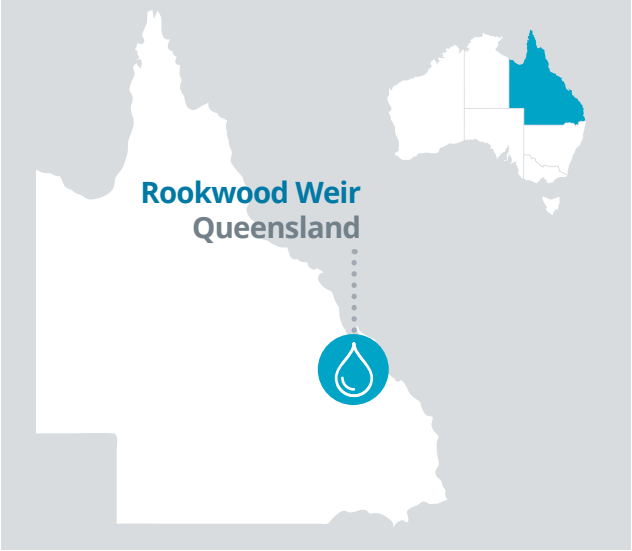

Better supply

Rookwood Weir, Queensland

The Rookwood Weir Project involves constructing a new concrete weir on the lower Fitzroy River, 66 kilometers southwest of Rockhampton, Queensland. The Weir will feature a spillway approximately 16 metres above the riverbed and will be approximately 200 metres in length, to supply yield of approximately 86,000 megalitres of water to users.

The project includes enabling works to upgrade existing road infrastructure to support the construction and operation of the Weir. Many enabling works have already been completed, including the Thirsty Creek Road upgrade, Capricorn Highway Intersection upgrade and the construction of a new 260 metre long Riverslea Bridge to replace the existing crossing. The Foleyvale Bridge and approach roads will also be upgraded.

The Weir will provide water security to help grow and diversify agriculture in the region, and support industrial and urban water use around the Gladstone, Capricorn Coast and Rockhampton regions.



Project funding:	Project cost: $367.2 million Australian Government funding: $183.6 million
Project type:	Water storage
Project status:	The Rookwood Weir Project is **under construction**. Early works commenced in October 2020 with the site camp established and a number of the supporting road infrastructure components already completed. In-river and main construction on the Weir commenced in 2021. The project is expected to be completed by mid 2023.

Project benefits

Increased water allocations will support the growth and diversification of agricultural production. A significant percentage of water allocations created by the Weir will be directed towards primary producers, enabling the transition to high value crops such as macadamias, citrus, grapes, and vegetables, as well as cattle feedlots.

The construction of the Weir will support the creation of new water markets, providing the opportunity for agricultural users to buy and sell water.

Increased water storage will provide additional urban water to meet the long term water demand and improve water security for Rockhampton, Gladstone and Livingstone Shire Council.

During the design and construction phase of the project, approximately 200 jobs will be supported.

The benefits achieved through the construction of the Rookwood Weir continue to deliver on the Australian Government's commitments announced through the White Paper on Developing Northern Australia.

The availability of reliable water allocations via the Rookwood Weir is critical to our plans to develop irrigation areas for cropping and cattle production as well as up to 2,500 hectares of macadamia orchards. Converting grazing land to higher value permanent cropping enterprises will require a significant local workforce, and access to goods and services from local suppliers in the region.

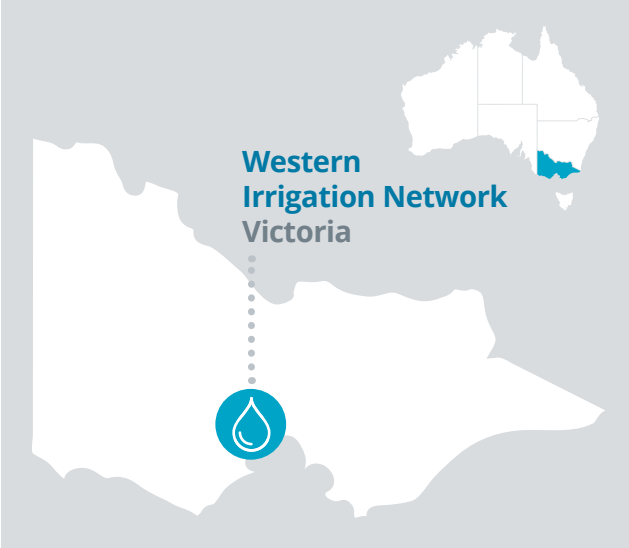
Tim Sheridan, Chief Operating Officer, Rural Funds Management Limited

Western Irrigation Network, Victoria

The Western Irrigation Network Project aims to enable high value agriculture, regional economic growth and liveability in western Victoria (50 kilometres from Melbourne) by establishing a climate change resilient irrigation scheme in the Parwan and Balliang area.

The project will construct approximately 58 kilometres of transfer pipes connecting Sunbury and Melton recycled water plants, 3.3 gigalitres of storage and three high capacity pump stations.

This will supply recycled water to support irrigated agriculture and connect three existing recycled water sources in Sunbury, Melton and Bacchus Marsh, to supply to the new Parwan Balliang Irrigation District.



Project funding:	Project cost: $116.3 million Australian Government funding: $48.1 million
Project type:	Water storage and distribution
Project status:	The Western Irrigation Network Project is **under construction**. Construction commenced in December 2020 with the Melton Storage component. The tender processes are currently underway for the Melton to Bacchus Marsh pipeline and pump stations. The project is expected to be completed by mid 2025.

Project benefits

The project will provide improved water security through the supply of 4.2 gigalitres/year of recycled water with an expected long term goal of 18.3 gigalitres/year of recycled water by 2050.

This new, secure source of water for agriculture in Melbourne's west will remove farmers' reliance on constant rainfall. In addition, the project will support viable agricultural business expansion and related food and fibre production in the Parwan Balliang region by protecting local waterways for future generations.

It is further expected to generate a sustainable increase in economic activity in the region with a net economic benefit of $45 million.

During construction, the project is expected to support 40 jobs, and is expected to support a further eight ongoing jobs.

> **Traditionally a very low rainfall region, the access to reliable water for irrigation will provide our business and other growers in the scheme the ability to explore a diversity in crop selection and value add opportunities.**
>
> Chris Sharkey, Western Irrigation Network Farmer

Increased storage

Climate resilient supply

Recycled water

Greater irrigable area

Investing for the long term with science

Underpinning investments in new water infrastructure projects is our Science Program. The Science Program provides an evidence base for new investment, informing the Australian Government's long term pipeline of water infrastructure projects.

Through consideration of water efficiency and resource sustainability, we can determine where and how Australia's water resources can be sustainably developed, to increase security and reliability of supply.

The Australian Government is working closely with our leading national science institutions, such as Geoscience Australia, CSIRO and the Bureau of Meteorology, as well as state and territory governments. By working in partnership, we aim to deliver scientific research that will inform the planning and investment of the next generation of water infrastructure for Australia.

Already, the Science Program has:

- Examined the opportunities that Managed Aquifer Recharge may offer to increase water security.
- Commissioned CSIRO to undertake a technical feasibility and economic review of the Bradfield Scheme.
- Reviewed opportunities for low-cost water desalination in ocean and inland regions.
- Undertaken a rapid appraisal of new infrastructure opportunities for agriculture to inform planning.
- Begun investigating new and emerging water technologies to ensure world-class science informs our investment in water infrastructure.
- Begun assessing groundwater resources and opportunities for agriculture in the Northern Territory.

Science plays an important role in identifying the infrastructure that may be best suited to improving water security in Australia's regions, and in delivering the next generation of Australia's water infrastructure through the National Water Grid.

Northern Australia Water Resource Assessment, Mitchell Catchment, Queensland

Northern Australia Water Resource Assessment, Mitchell Catchment, Queensland

Did you know?

The Science Program has been developed around three themes to support the delivery of the National Water Grid.

Water resource analysis

The investment in science-based advice to identify and develop water resources that will support Australia's agriculture and primary industry sectors.

Alternative and emerging options

The assessment of emerging opportunities and new technologies to enhance the capacity of existing water infrastructure and improve water security.

New information resources and communicating the science

Developing new information tools and resources that support decision-making, community awareness and informing the water infrastructure investment and development process.

Working in partnership

Good planning is at the heart of good investment decisions. That is why the Australian Government is working in partnership with state and territory governments to take a long term strategic view to water infrastructure investment to deliver the National Water Grid.

While the Australian Government makes a critical contribution to delivering the next generation of water infrastructure, success can only be achieved through strong partnerships with the state and territory governments. That is why we developed the National Water Grid Investment Framework (the Framework) in collaboration with states and territory governments.

The Framework ensures a shared vision across government is in place to provide a strategic, long term view to water infrastructure investment.

Submissions can be made at any time and the Australian Government will make investment decisions on project proposals at least twice yearly.

The Australian Government is committed to working in partnership to ensure the best possible outcomes are achieved through project delivery for our Australian communities.

The National Water Grid Investment Framework

Under the Framework, the Australian Government will identify and invest in projects that:

1. **Support primary industries and unlock potential**

   Improving water access and security for agricultural and industrial use will support growth and open up new opportunities.

2. **Promote the growth and sustainability of regional economies**

   Increasing water supply certainty for farmers, businesses and primary industries will encourage long term planning and investment and position regions so that access to reliable water sources is not a limiting factor to growth.

3. **Build resilience**

   Strengthening the National Water Grid will capture and store water so it is more readily available in regions when it is needed during droughts and in response to changing climate patterns.

More information on the Framework is available on our website: **www.nationalwatergrid.gov.au/framework**

Mareeba-Dimbulah Water Supply Scheme, Queensland

Priorities: the next 12 months

The NWGA has already delivered eight projects with more projects to be completed in the coming 12 months.

The 2021–22 Federal Budget has set the tone for a busy 12 months, announcing a further commitment of up to $258 million from the $3.5 billion Fund.

This includes a total of $75.7 million being invested into four new construction projects and additional funding for the Rookwood Weir Project. The new projects bring our total number of construction projects to 30.

All four new projects are expected to be under construction in the next 12 months.

Furthermore, $22.3 million will go towards the development of eight business cases that will support future investment decisions for the delivery of new infrastructure projects. These business cases show the Investment Framework in action. Across the country, we will see business cases for:

- Lostock Dam to Glennies Creek Dam Pipeline in New South Wales
- Nyngan to Cobar Pipeline in New South Wales
- Pakenham Cora Lynn Recycled Water Scheme for Agriculture in Victoria
- Coliban Rural Regional Modernisation in Victoria
- Sunbury-Bulla-Keilor Agricultural Rejuvenation in Victoria
- Tyabb-Sommerville Recycled Water Irrigation Scheme in Victoria
- New Water Infrastructure to the Barossa in South Australia
- Tasmania's South East Integration Project.

This builds on progress underway right across Australia with projects such as Rookwood Weir and Urannah Dam Business Case and Approvals Project in Queensland, the commencement of Phase 2 of the Macalister Irrigation District Modernisation Project in Victoria, and the completion of the Don Irrigation Scheme Business Case in Tasmania, the first of five projects to be delivered as part of our commitment to Tasmania Irrigation Tranche 3.

The new National Water Grid Connections funding pathway is providing up to $160 million over two years, to allow the delivery of smaller scale water infrastructure projects and provide short term economic stimulus.

Water infrastructure projects under the funding pathway have been identified and will be delivered by jurisdictions to support primary industries, increase water security and build resilience while stimulating regional economies. These will be delivered at the same time as the larger projects already in the pipeline. Under this funding pathway, there is up to $20 million available for each state and territory to deliver projects with an Australian Government contribution of up to $5 million per project.

Work will continue on existing funded construction projects. Business cases will continue to progress for new proposals to help inform the merits of future investment decisions in water infrastructure and the ongoing development of the National Water Grid.

Rookwood Weir, Queensland

Coolanie Water Scheme, South Australia

Other key priorities over the next 12 months include:

- The NWGA will continue its **work with the states and territories** to identify new nationally important water infrastructure projects in the context of regional planning.
- The **National Water Grid Advisory Body** will provide advice to the Deputy Prime Minister on potential opportunities for the Bradfield Scheme.
- The continuation of **engagement** with research organisations, and state and territory governments to ensure that potential science projects will help inform information gaps and longer term infrastructure investment decisions.
- Progressing **integrated assessments of water resources** that will support Australia's agriculture and primary industry sectors, focusing on Northern Australia.
- **Continue analysis of our regions** to understand water systems and identify areas where water can be the catalyst for regional growth.
- **Investigation of new opportunities** to enhance and augment water supplies that will support primary industries.

The National Water Grid Authority website has up to date information on all our projects. You can find out more on our website: **www.nationalwatergrid.gov.au/program**

Mareeba-Dimbulah Water Supply Scheme, Queensland

Glossary of terms

Terms that are used to describe different water storages within this publication.

Aquifer	A land formation that holds groundwater.
Dam	A barrier or structure across a stream, river or waterway to confine and control the flow of water.
Gigalitre	1,000 megalitres, which is also 1,000,000,000 litres.
High-surety	High likelihood with which a water allocation is expected to be available, having regard to the natural variability of the supply of water.
Irrigation	The artificial application of water to land for the purpose of agricultural production.
Managed aquifer recharge	The intentional recharge of water to aquifers for subsequent use or environmental benefit.
Megalitre	1,000,000 litres.
Waste water	The combination of both greywater (water from baths, showers and washing machines) and blackwater (water from toilets).
Weir	A large wall that holds back water in a waterway (e.g. river) so it can be diverted for other use, such as agriculture.

Image credits

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Cover 4: Northern Australia Water Resource Assessment Darwin Catchments, Northern Territory. CSIRO.

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Macalister Irrigation District, Victoriaw

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