

OUR WATER IS GOOD

A plan to ensure our water future to 2050



Government
of South Australia

Where do we currently get our water from?

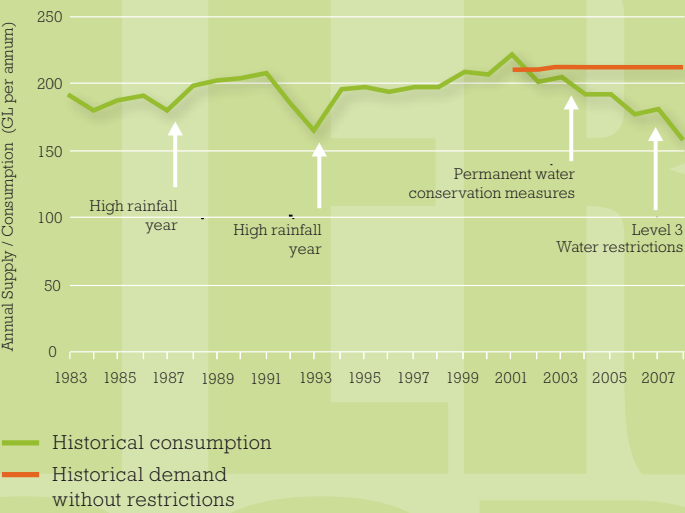
Historically, South Australia has relied on three rain-dependent sources. When there is lower than average rainfall, we rely much more on the reservoirs, which provide 85% of our mains drinking water supply. Our reservoirs provide

How much water do we use?

South Australia currently uses approximately 1200 gigalitres of water each year for human needs, agriculture, business, recreation, household use and industry.

Greater Adelaide uses approximately 200 gigalitres of water each year from our mains drinking water supply when we are not on water restrictions and regional South Australia uses approximately 50 gigalitres.

Water use for Greater Adelaide (from our mains water supply)



Our changing climate

South Australia is experiencing particularly dry weather, which is most likely the result of climate change.

Less rain means a reduction of flows into traditional water sources such as our reservoirs, rivers and groundwater.

The CSIRO believes we can anticipate an overall decline in rainfall of between 15 to 30% by 2050. How permanent this change in our climate will be is uncertain, but for the good of our state we can't simply assume that it is temporary.

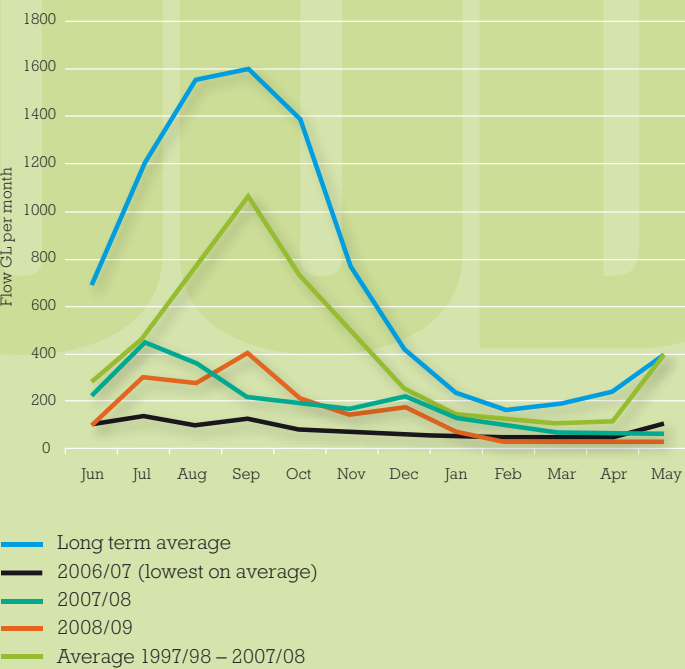
South Australia has traditionally relied on the River Murray for much of its water but that resource is under threat, not only because there has been less rain but because of a history of over-allocation and over-use.

Restoring the health of the River Murray is crucial as it will continue to be an important source of water to supply regional towns, cities and the irrigation industry.

We have also seen significantly less rain and run-off in the Mt Lofty Ranges catchment area, which feeds our reservoirs. Our groundwater supplies are also showing signs of stress.

Water use in cities and regional areas around the State is currently restricted and in summer many home gardens and community open spaces show the effects.

River Murray Inflows (excluding Menindee and Snowy)



sources of water - the River Murray, Mt Lofty Ranges and groundwater. The River Murray. South Australia currently relies on the River to provide 8% and our groundwater provides 7%.

Water for our growing State

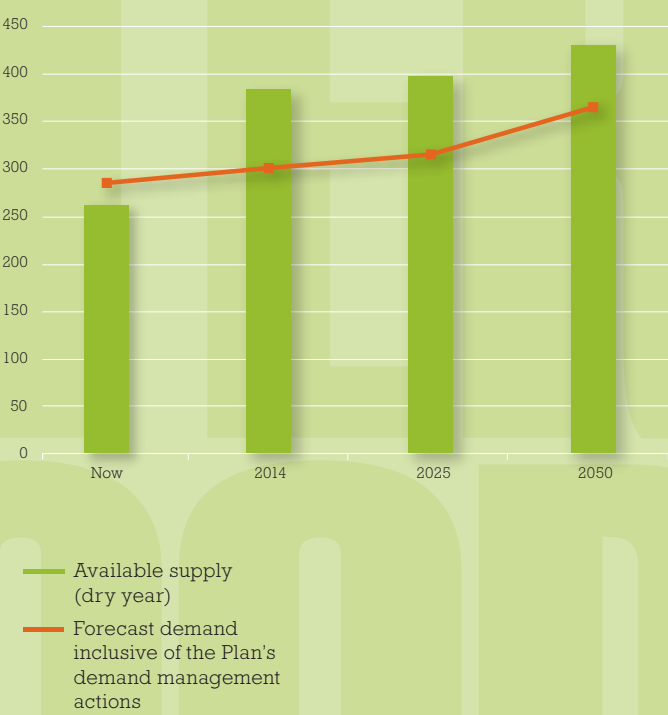
South Australia’s population is expected to reach 2 million people by 2027. A growing and diverse population helps drive prosperity and economic growth – but this growth depends on reliable water resources.

Many new developments in mining, defence, renewable energy and other sectors are ensuring a prosperous future. Compared to the national economy, South Australia is expected to perform better than average in the years ahead.

Our sources of water must also grow to accommodate the amount of water South Australia's growing population will use in the future. We must diversify our water sources and find innovative ways to harvest and reuse water while sustaining our environment.

Currently, Greater Adelaide’s water supply for drinking and non-drinking purposes falls short of our demand. This shortfall is managed by water restrictions.

Water needs for greater Adelaide
(for drinking and non-drinking purposes)



How much water is that?

Kilolitre (kL)

One kilolitre is 1000 litres. Kilolitres are the units most commonly used in referring to household water use, with the average Adelaide household using between 200-250 kL each year when we are not on water restrictions.

Megalitre (ML)

One megalitre is 1000 kL or one million litres and is roughly the volume of most 50 metre public swimming pools. The Torrens Lake between Hackney Road and the Torrens Lake weir holds about 600 ML.

Gigalitre (GL)

One gigalitre is 1000 ML or 1 billion litres and represents a volume of water one square kilometre by one metre deep. When full, the Hope Valley reservoir holds about 2.8 GL and the Happy Valley reservoir holds 11.6 GL.

Our future water sources

Water for Good is a plan that builds on the work underway for new and diverse sources of water that are not entirely dependant on rain.

Water for Good plans to reduce our reliance on our rivers, reservoirs and aquifers by developing new water sources and by working smarter with the water we do have.

Desalination

Some of these new sources have already been announced. Work on the new Adelaide Desalination plant is underway and will deliver its first water by December 2010, rising to 100 gigalitres a year by the end of 2012.

Investigations recommended by Water for Good include the potential for a desalination plant for the Eyre Peninsula, and regional townships where water quality has been identified as an issue.

Stormwater and wastewater

The use of stormwater for purposes other than drinking will also play a big part in South Australia's water future. By 2014, we will be capable of harvesting more than double the amount of stormwater we currently capture and reuse, with Commonwealth assistance and in partnership with local government and the private sector. The use of recycled wastewater will also be an important resource for irrigation and industry.

A further key action is an emphasis on all tiers of government and private enterprise to work together to develop further stormwater projects in the Adelaide region and across the State.

Using and saving water

In tandem with these short and long term goals to diversify supply is a renewed emphasis on educating everyone about the value of water and encouraging them to use water more efficiently and effectively. New information sources and education campaigns are part of the Water for Good plan, as are a range of rebates to encourage the use of water saving technologies in the home.

Improvements in irrigation and industry water use are recommended in Water for Good. Major new developments in mining and other major development or infrastructure projects will need to take into account water sourcing, prudent water use, water recycling where possible, and stormwater recycling.

Irrigation efficiencies will also be brought to open space watering, public buildings will become more water efficient, and leak detection in the water supply network will be improved.

Our prosperous future

As everyone becomes more responsible for water and as new water sources become available as a result of the Water for Good initiatives, South Australia will become less reliant on the issues of 'water supply' and more focussed on the benefits of being 'water-sensitive'. This will not only ensure our water future, but make us true world leaders in dry-region water management.

Water for Good the plan in summary

Water is our most valuable resource. It's fundamental to our health, our way of life, our economy and our environment.

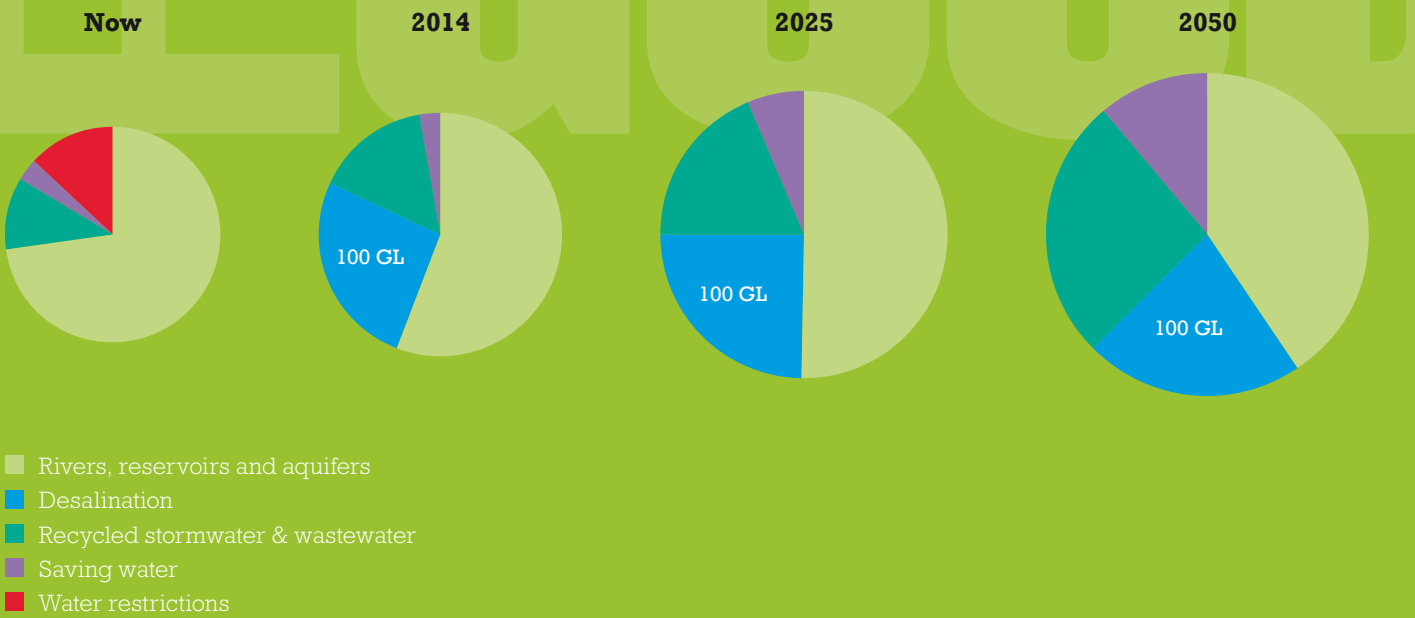
Our growing population and reduced rainfall means South Australians think more about water than ever before. We are not only more aware of water issues, we are also placing greater value on water and instinctively taking action to save it.

Water is vital for the preservation of both quality of life and the environment for all South Australians. It also underpins growth in population and the economy – and these are critical to the State's future prosperity.

Water for Good is a plan that ensures there will always be enough water in South Australia. Most importantly, it will enable us to diversify our supplies to reduce our reliance on the River Murray and other rain-dependent water sources.

In this summary we outline our current water situation, predictions for the future, and the key actions being taken to ensure our water future.

Greater Adelaide's water supply from all sources for both drinking and non-drinking purposes





CD Format

This CD includes a full copy of
Water for Good

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The Hon Mike Rann MP

Premier of South Australia
Minister for Sustainability and Climate Change

Water is undeniably our most precious resource.

South Australia continues to experience unprecedented dry weather patterns, and the impact of climate change is becoming increasingly apparent.

As a result, our communities have adopted a range of water-saving measures that have significantly reduced consumption, and we lead the nation in stormwater capture and re-use, irrigation practices, wastewater recycling and rainwater tank ownership.

Water for Good builds on these important initiatives, and outlines a comprehensive strategy to ensure our State has the most secure water supply in southern Australia.

That includes doubling the capacity of the Adelaide Desalination Plant, securing access to upstream water storage facilities, and investing further in innovative stormwater harvesting and wastewater recycling projects.

It provides a blueprint for improved, sustainable water practices in all aspects of our lives – in cities and regions, for domestic, commercial and agricultural use – and allows us to further develop water sources that are not dependent on rainfall.

By placing even greater value on our existing water resources and finding new and effective ways to protect and supplement them, South Australia will continue to lead the nation in water supply innovation.

Water for Good provides certainty for the future of our most prized resource, and reassurance that South Australia's water supply will continue to support our economy, our lifestyle and our environment.



The Hon Karlene Maywald MP

Minister for the River Murray
Minister for Water Security

The State Government's top priority is ensuring that all South Australians have sufficient water supplies for a sustainable lifestyle, economy and environment for good.

And this goal will be achieved through developing a diverse range of water supplies.

Extreme drought in the Murray-Darling Basin and the Mt Lofty Ranges has meant we can no longer use water as we have in the past – we need to be more efficient and much wiser when using our most precious resource.

The actions outlined in **Water for Good** will reduce our reliance on the River Murray and other rain-dependent water sources. Through this prudent forward-planning, we will be well-placed to meet the needs of a growing population and business community, particularly in times of drought.

In future, our water supplies will feature climate-independent water through desalination. This ensures a portion of our water needs is guaranteed, despite increasing climate variability expected in future.

We already lead the nation on stormwater and wastewater recycling projects and we will continue with more of these projects to reduce the draw on our potable supplies.

Across regional South Australia, local communities will play a key role in developing water supply and demand plans that account for future growth and local supply issues.

Water for Good provides greater emphasis on water conservation, transparent decision-making and independent scrutiny of service delivery and pricing. New legislation will be enacted to better reflect the needs of a modern, more competitive and diverse water industry.

Water for Good ensures we will be well placed to meet new challenges and manage future demands for water right through until 2050 - for generations of South Australians to come.



Robyn McLeod

Commissioner for Water Security

Water for Good is a robust multidimensional plan to ensure water security for South Australia into the future.

Sustainable water sources underpin economic growth, the health of our environment and our quality of life.

Changing rainfall patterns mean in future we must no longer rely on the River Murray or even our reservoirs or aquifers for our total water sources.

Diversity and innovation in our water products is critical as we move to more non rain-dependent water sources.

Desalination will represent a significant part of our water future, as will opportunities to recycle stormwater and wastewater for non-potable uses.

To provide this security, water will have to become more expensive to reflect its true value.

This 21st century water industry must be managed by best practice legislation and independent regulatory regimes.

And innovation in future augmentation options should be encouraged through adaptive regional planning, competition, market development and third party access regimes.

But most importantly, our citizens need to continue to value water and use it wisely.

Best practice models and the most up-to-date thinking in Australia have been brought together to develop **Water for Good** and I thank the many people from the water industry, academia, government and the private sector who have contributed to its development.

Constant review and adaptability will be necessary to ensure we stay on track.

Summary of actions

Actions now

Water for Good

identifies over 90 key actions to help diversify our water sources, improve water conservation and efficiency, plus improve and modernise our water industry.

Much has already been done in recent years to improve water use and management. South Australians lead the nation in stormwater capture and reuse, irrigation practices, rainwater tank ownership and wastewater recycling. Our current water sensitive practices will be equally important in future too.

Desalination Plant: We are currently building a Desalination Plant capable of delivering up to half of Adelaide's current water needs (100 gigalitres) by the end of 2012.

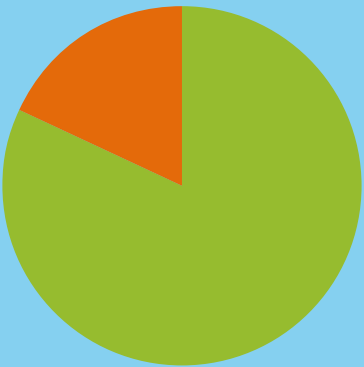
This new water will enable water restrictions to be lifted, however permanent water conservation measures will always be maintained.

Stormwater and Wastewater: Recycled stormwater and wastewater are playing increasing roles to help reduce our reliance on the River Murray. Recycled water is not fit for drinking purposes, but is a valuable source for agriculture, horticulture, new housing developments, community open space, and in some areas of industry.

Murray-Darling Basin: We will continue to maximise the water available to South Australia. Also, by 2011 the Murray-Darling Basin Authority will deliver its plan for sustainable management of the Basin's waters – and a healthier River Murray.

Water Storage: To supplement our existing State storages, we have successfully negotiated access to storage in the Hume and Dartmouth dams in the upper reaches of the River Murray.

Now
Mix to supply 200 GL of drinking water in a dry year



End of 2012
Mix to supply 200 GL of drinking water in a dry year



- River Murray
- Reservoirs
- Desalination

Actions by 2014

Most of the Water for Good plan will be put into action before 2014. Over the next five years we will be making critical improvements to South Australia's water infrastructure.

Adelaide Desalination Plant: Our new Desalination Plant, powered by renewable energy, will be operational and have the capacity to deliver up to half of Adelaide's drinking water (100 gigalitres).

Recycled Stormwater: By 2013, we will be capable of harvesting 20 GL/a for non-drinking purposes in Greater Adelaide – more than double the amount of stormwater currently harvested. This will have been achieved in partnership with other governments and the private sector.

Subject to Commonwealth assistance and in partnership with local government, stormwater harvesting and recycling will be underway, including

- in the western metropolitan area including Cheltenham Park, Riverside Golf Club, Old Port Road and Adelaide Airport
- in the southern metropolitan area, building on the first stage of Water Proofing the South
- in Playford and Salisbury, creating further capacity in the northern area, building on Waterproofing Northern Adelaide
- at the Adelaide Botanic Gardens, and
- at Barker Inlet

Recycled Wastewater: By 2013, we will be recycling 45% of our wastewater for use in agriculture, industry and Adelaide's parks and gardens.

Regional Plans: Water demand and supply plans will cover all regions of the State to ensure long-term solutions are based on a thorough understanding of the state of local resources, the demand for them and likely future pressures.

Water Monitoring System: The statewide water monitoring system will be enhanced to provide accurate information on the state and condition of all water resources, particularly groundwater.

Pricing: The price of water will increase to reflect its true value and encourage wise water use. Low-income households will continue to be supported through transparent, targeted concession schemes.

Water Conservation: Permanent water conservation measures will be maintained when new sources of water come on-line and water restrictions can be lifted.

Rebates: A new mix of rebates will be available to encourage people to purchase water efficient appliances including hot water recirculators, garden goods, and swimming pool covers.

Water-sensitive Urban Design: Water-sensitive building design standards will be incorporated into all new residential and commercial urban developments.

Awards Program: Individuals, communities, schools, businesses, industry and government that are contributing to our future water security will be recognised.

Education and Information: South Australians will be better informed about water issues and how to improve water-practices through the development of a new water website and targeted water education programs.

National Recognition: South Australians will lead the nation in water-wise behaviours and be regarded nationally as a water-sensitive state.

Scientific Research: Research will be undertaken to enhance our knowledge of climate change on water resources in South Australia.

Water for Eyre Peninsula: Additional water sources including desalinated sea water will supplement the Eyre Peninsula water resources, subject to site and environmental investigations.

Improved Customer Service: Customer service will be enhanced through the establishment of a Customer Advocacy and Advisory Council and independent customer complaints service.

Consumer Interests: The long-term interests of consumers will be protected by independent pricing of water services by the Essential Services Commission of South Australia (ESCOSA).

Stormwater Management Authority: Local government has the lead role in stormwater management, owns infrastructure and is responsible for flood mitigation. Improved governance will encourage new reuse projects and stronger partnerships with industry and other levels of government.

New Water Industry & Planning Act: New legislation will allow for a 21st century approach to managing a competitive and diverse water industry.

Water Service Providers: The state's water supply provider will remain in state ownership but will be opened up to competition through third-party access to offer a range of fit-for-purpose and innovative water products.

Independent Planning Process: We will get independent recommendations for maintaining a secure water supply and encouraging the most efficient and innovative solutions to supply our future water needs.

Ensuring results: The Minister will produce an annual statement on the progress of the Water for Good plan and water security for each region.

Temporary Weir: As a last resort, build a temporary weir at Pomanda Island to protect the water supply to the 1.2 million people currently receiving it from the River Murray below Lock One. The temporary weir would only be constructed if in-flows remain at critically low levels and agreed triggers for acidification or salinity were activated and could not otherwise be prevented.

Actions by 2025

This phase of the Water for Good plan reflects a consolidation of our earlier key actions. Our capacity to recycle wastewater and stormwater will also increase. Likewise, we will become more skilled in our ability to save water.

Competitive Water Market: South Australia will continue to have increasingly open and competitive markets for both household and industry water.

Recycled Stormwater: We will target up to 35 GL/a of stormwater to be harvested in urban South Australia for non-drinking purposes to be achieved in partnership with other governments and the private sector. This will be achieved where verifiable geological data has identified suitable locations and where cost effective projects can be undertaken.

Recycled Wastewater: We will target to achieve 50 GL/a of recycled wastewater in urban South Australia to be used for non-drinking purposes

Groundwater Desalination Plants: Groundwater desalination plants or other economically viable and innovative supply options will provide water for regional townships where salinity is affecting water quality.

International Recognition: South Australia will be regarded internationally as a water-sensitive state.

Actions by 2050

Our water market will have matured. We will have greater adaptability and a constantly evolving management system for each of our water sources. By improving water use and diversifying water sources, our city will be a major contributor to a sustainable water cycle in South Australia.

Competitive water market: Mature and competitive market arrangements will be in place and consumers will have far more choice.

Recycled Stormwater: In Greater Adelaide, we will have a target to achieve the capacity to recycle at least 60 GL/a of stormwater for non-drinking purposes, with a target of up to 15 GL/a in regional areas. This will be achieved in partnership with other governments and the private sector. This will be achieved where verifiable geological data has identified suitable locations and where cost effective projects can be undertaken

Recycled Wastewater: We will target to achieve a minimum of 75 GL/a of the wastewater generated in South Australian urbanised areas to be recycled for non-drinking purposes

Saving Water: Conservation measures mean we will be using up to 50 gigalitres less water in Greater Adelaide.

Net Contributors: Cities will be net contributors to the water cycle – through improving our water use and diversifying out water supplies.

For more information, visit
www.waterforgood.sa.gov.au