

2020-21 South Australian Water Corporation **Annual Report**

FOR THE YEAR ENDING 30 JUNE 2021





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Letter of Transmittal

30 September 2021

The Honourable David Speirs
Minister for Environment and Water

Dear Minister

On behalf of the Board of SA Water, I am pleased to present the Corporation's Annual Report for the financial year ending 30 June 2021.

The report is submitted for your information and presentation to Parliament, in accordance with requirements of the *Public Corporations Act 1993* and the *Public Sector Act 2009*.

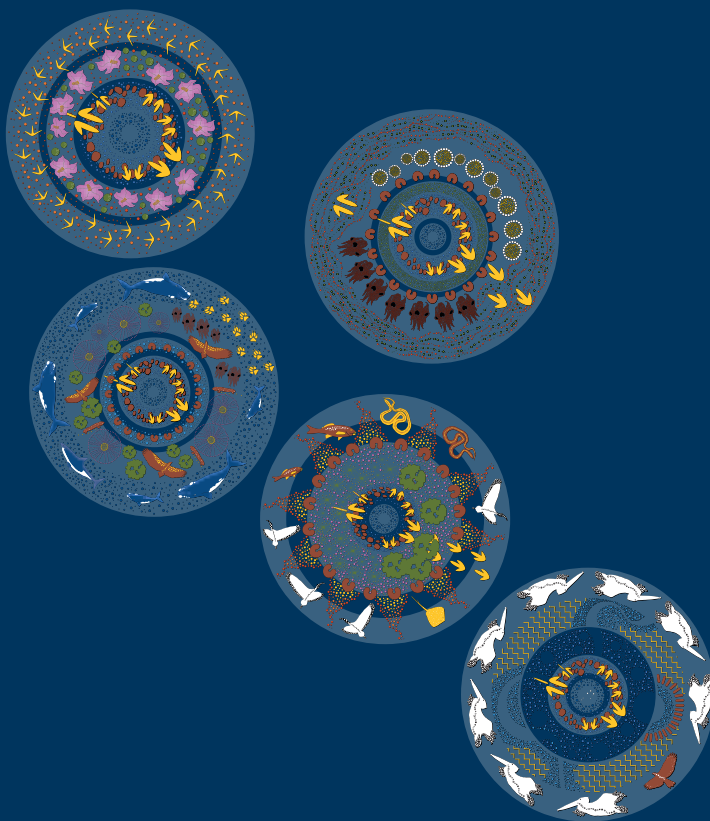
This report is verified as accurate for the purposes of annual reporting to the Parliament of South Australia.



Andrew Fletcher AO
Chair of the Board

Acknowledgement of Country

We acknowledge the traditional custodians of the lands and waters of South Australia. We pay respect to Elders past, present, emerging and future. We recognise the traditional custodians' unique connection to their lands and waters, language, lore, kinship and ceremony. Through this acknowledgement we commit to ongoing learning and understanding on our journey to reconciliation. We also pay respect to the cultural authority of Aboriginal and Torres Strait Islander people from other areas of Australia.



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A message from the Chair



This year has once again required agility, innovative thinking and courage as the Corporation worked through the second year of the COVID-19 pandemic while providing essential water services for our community.

In response to this time of extraordinary change, the Board worked with the business to set a new strategy and vision: *to deliver trusted water services for a sustainable and healthy South Australia.*

Our Strategy 2020-25 provides clear direction and charts a course for the coming five years while also maintaining a view towards 2050, in recognition that decisions can have a long-term impact on the wellbeing of customers and the community, and the future sustainability of our state.

Critical to our success is the safety and wellbeing of our people, customers and the community. It was pleasing to see a significant 53 per cent reduction in the all-injury frequency rate, down to 9.05. Strong connections with our delivery partners are being created to build a consistent and shared safety culture. In addition to physical safety, there is increased attention and resources to support our people's psychological safety.

As a significant contributor to the economy, the Corporation began delivering a new four-year capital works program which will see us invest more than \$2.2 billion through to June 2024. This year, projects across the state — from Moonta to Naracoorte and Kingscote — were fast-tracked to support the local construction industry through the pandemic. With a focus on ensuring water security into the future, planning is underway for seawater desalination plants for Kangaroo Island and the Eyre Peninsula. This sustained investment in water and wastewater infrastructure for the future is helping build a strong South Australia.

Through the *South Australian Government Climate Change Action Plan 2021-2025*, the Corporation is actively leading the delivery of a range of activities, which are aligned to *Our Strategy 2020-25*. The installation of solar panels to generate renewable energy was completed with more than 217,000 panels added to the 150,000 installed last year. This commitment to sustainability is also beginning to bring financial savings to the Corporation.

A focus on diversity and inclusion has this year seen the release of an Aboriginal and Torres Strait Islander Employment and Retention Plan, and Disability Access and Inclusion Plan. The clear and tangible actions outlined in these plans will contribute to building a workforce that represents the communities we serve.

As the alliance with Allwater drew to a close after 10 years, contracts were signed in late 2020 with our new metropolitan service providers. Lendlease will provide field services, and SUEZ Water will provide production and treatment. The new model of service delivery will achieve significant positive change that directly benefits our customers, incorporating service improvements that are aligned with customers' expectations.

Our support for the South Australian Government's COVID-19 pandemic response continued. Through the public sector mobilisation, many of our people were involved in contact tracing, SA Police administration support, State Emergency Information Contact Call Centre support and hospital concierge duties.

The program to progressively open reservoir reserves for public access delivered multiple milestones for this government priority initiative. Hope Valley Reservoir Reserve opened in late 2020 and we are working closely with the cross-government taskforce and the community at Happy Valley as we prepare for public access at the southern metropolitan reservoir reserve from late 2021.

Right across South Australia, our people showed exceptional dedication and resilience to deliver for our customers and the community. On behalf of the Board I thank all our people for their commitment and hard work.

I would also like to acknowledge the efforts of my fellow Board members including our Chief Executive, David Ryan, and his revitalised Senior Leadership Team for their leadership, commitment and dedication to the Corporation.

Andrew Fletcher AO
Chair of the Board

A message from the Chief Executive



As our business continued to deliver through times of rapid change, I'm proud of our people who have maintained their focus on safely ensuring water services for our customers and the community.

In October 2020 we launched *Our Strategy 2020-25*. The direction we have set is ambitious and success will only be possible with continued focus on understanding our customers' and stakeholders' priorities and delivering the core water services they need and value.

Key to achieving our strategy is improving the way we work. Our people are actively sharing, developing and implementing ideas that improve our business, with our online Ideas Tank now capturing ideas and guiding them through evaluation.

Exciting progress was seen this year on a significant initiative conceived by our people, with the final solar panels installed as part of our industry-leading zero cost energy future program. Over the year we have progressively energised panels at 25 sites and connected them to the grid, generating renewable energy to power our operations.

Through our smart maintenance program, our people are finding new ways to use technology to identify and forecast when assets need to be repaired or replaced. This expands our use of technology to monitor and proactively manage our network and infrastructure.

The growth of digital services continues to improve outcomes for our customers and this year brought eBilling to our commercial customers and managing agents, among others. There are now close to 236,000 properties registered for eBills up by more than 110,000 in 2020-21.

Our reservoir reserves notched up more than 226,000 visitors since April 2019, showing strong community involvement and interest in enjoying, exploring and preserving these special places across the state. Hope Valley Reservoir Reserve was opened for land-based activities in December 2020 and at Myponga, on-water access began in March 2021. Through the Reservoirs Partnership Program we are supporting grassroots activities and initiatives that use the reservoir reserves.

Supporting Aboriginal-owned businesses, sharing Indigenous knowledge and building a culturally safe workplace are key actions in our Stretch Reconciliation Action Plan.

This year we opened a community and cultural space at the new Murray Bridge Wastewater Pump Station that shares the culture of the Ngarrindjeri people and features an interpretive walking trail depicting the important water sites on Ngarrindjeri Country.

As host of the national water conference Ozwater'21, we welcomed 2,500 delegates from across Australia to Adelaide in May 2021 to share their expertise and technical knowledge with the water industry. Over three days, Ozwater'21 explored the theme 'reimagining our water future' through a diverse program of keynote speakers, technical presentations, workshops, trade exhibitions and panel discussions. Our people were involved as presenters and facilitators as well as contributing as panellists and in the exhibition hall.

It was great to be part of the first in-person event hosted by our Pride Together network. The national Pride in Water events at Ozwater'21 demonstrated the wider water industry's support for the LGBTIQ+ community and enabled people to understand the value and contribution that diverse experiences and views bring to our everyday operations.

By supporting and developing women in our business, we now have nearly 42 per cent of our leadership positions held by women, including five of our seven executive roles.

Through the first half of 2021, we worked closely with Lendlease, SUEZ and Allwater to transition ahead of the contract changeover in July 2021 for metropolitan field, and production and treatment services. The Adelaide Services Alliance finished strongly having brought innovative thinking and ideas to our state over the past decade. The lessons learnt from this alliance have informed our new direction and I am looking forward to working with our new partners.

Our business remains strong, delivering a return above budget following a warm and dry year which saw an increase in water sales, together with a reduction in electricity expenses and interest costs.

Our commitment as a participant in the United Nations Global Compact is reaffirmed as we continue to work towards delivering services and achieving positive outcomes for our community and the planet. As part of this commitment, we are a signatory to the Australian water industry's commitment to support the United Nations Sustainable Development Goals.

As the COVID-19 pandemic continued, our workforce remained adaptable and flexible, with business continuity plans in place to manage changing working environments, including a statewide circuit breaker lockdown in November 2020. Our COVID-19 wastewater testing was recognised by the Australian Water Association, winning the South Australian award for Excellence in Research and Development. In addition, our people undertook a range of activities supporting the lead agency SA Health, and other government agencies involved in keeping our community safe through the pandemic.

On behalf of the Senior Leadership Team, I thank all our people for their dedication to delivering essential water services and improving our business through a time of uncertainty. We met the challenges head-on and never lost sight of our vision to ensure a sustainable and healthy community.



David Ryan
Chief Executive

67,726 MWh
of renewable
energy generated

226,000+
visitors to reservoir
reserves since 2019

235,842
properties
receiving eBills

About SA Water

Our vision

Delivering trusted water services for a sustainable and healthy South Australia.

Our organisation

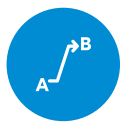
We are South Australia's leading provider of water services for more than 1.7 million people. For 165 years we have been working together with South Australians to ensure a reliable supply of safe, clean water and a dependable sewerage system. We deliver for customers by ensuring continuity of service, making smart asset decisions, responding to changing operational environments and achieving operational efficiencies to keep costs down.

As a statutory corporation we report to an independent board and balance the delivery of services in a competitive market with our responsibility to provide a financial return to government.

We are included in the portfolio of the Minister for Environment and Water, and work closely with a number of South Australian government agencies including:

- Department of the Premier and Cabinet
- Department of Treasury and Finance
- Department for Environment and Water
- SA Health
- Environment Protection Authority.





Our strategy

Our Strategy 2020-25 sets a clear direction and charts our course for five years. It maintains a view towards 2050 because decisions we make can have a long-term impact on the wellbeing of our customers and community, and the future sustainability of South Australia.

Its development was informed by extensive research and engagement with our customers and stakeholders, our owner, and our people, while also ensuring we meet our regulatory responsibilities and consider future scenarios and risks.

Our Strategy 2020-25 supports the achievement of the United Nations Sustainable Development Goals.

To achieve our vision of delivering trusted water services for a sustainable and healthy South Australia, we have five strategic areas of focus:



1. Driving customer outcomes

We provide our customers with safe, smart, reliable and affordable water services. To achieve this, we maintain trust, ensure water quality and asset reliability, and provide continuity of service by preventing or minimising temporary service interruptions. We deploy connected and intelligent assets to make smart decisions and operate efficiently so our services remain affordable.



2. Water for the future

Our production and treatment activities ensure the water we provide is fit for our customers to use, and to be recycled or returned to the environment. We harvest, store, treat, distribute and reuse water to provide fit for purpose water services to our customers to stimulate economic growth and meet customer needs.



3. Healthy communities

We support and promote the health and wellbeing of an active, thriving South Australia. This is achieved by building sustainable and liveable communities. We share new ways of using water effectively and efficiently to create comfortable, green spaces that support wellbeing. Through actions to achieve reconciliation, we support stronger Aboriginal and Torres Strait Islander communities by helping to create economic opportunities.



4. Proactive environmental leadership

As a leader in environmental management, and by partnering with our stakeholders, customers and community, we are taking action to adapt to climate change, and finding ways to reduce our greenhouse gas emissions. We make decisions that reduce waste and grow opportunities to reuse resources and by-products of our production processes to create environmental benefits.



5. Our people for the future

We proactively grow a diverse and inclusive business with people who reflect the community we serve. This brings creative thinking and diversity of thought to build innovation, embracing technology to help us be safer and more efficient. Our people work safely and are part of a high performing culture where learning and collaboration deliver great customer outcomes.

Delivering trusted water services for a sustainable and healthy South Australia



Driving customer outcomes

Safe, smart, reliable and affordable services.

Success is: maintained trust, water quality, asset reliability, service continuity, efficient and affordable



Water for the future

All water sources, delivery and service options considered.

Success is: secure customer access to fit for purpose water



Healthy communities

Promote the health and wellbeing of active, thriving communities.

Success is: greener, cooler communities, reconciliation in action



Proactive environmental leadership

Climate change action with a reduce and reuse mindset.

Success is: waste reduced, increased by-product reuse, climate change resilience



Our people for the future

A more diverse, inclusive and capable workforce.

Success is: safe and healthy workplaces, high employee engagement, creativity through diversity

The organisation we need to be:

Safe • Innovative • Trustworthy • Courageous • Agile • Collaborative

Our strategy outlines the attributes of the organisation we need to be:

Safe

Being safe from injury or harm at work is not negotiable. Our services and the way we deliver them keeps our people, customers and community safe.

Innovative

Being innovative and creative brings new ideas and uses existing ideas in new ways. We listen to learn, partner with others, seek diverse views, and problem solve to achieve smart solutions.

Trustworthy

Being trustworthy instils confidence. Our actions match our words, and we are open, transparent and ethical.

Courageous

Being courageous means considering new ways and striving for more. We are brave, bold, and prepared to lead and influence.

Agile

Being agile ensures we are responsive and quick. We actively adapt and deliver lean, efficient and effective solutions.

Collaborative

Being collaborative produces stronger outcomes. We are united with our partners and community to bring diverse thinking as we solve problems, learn and grow.

Our services

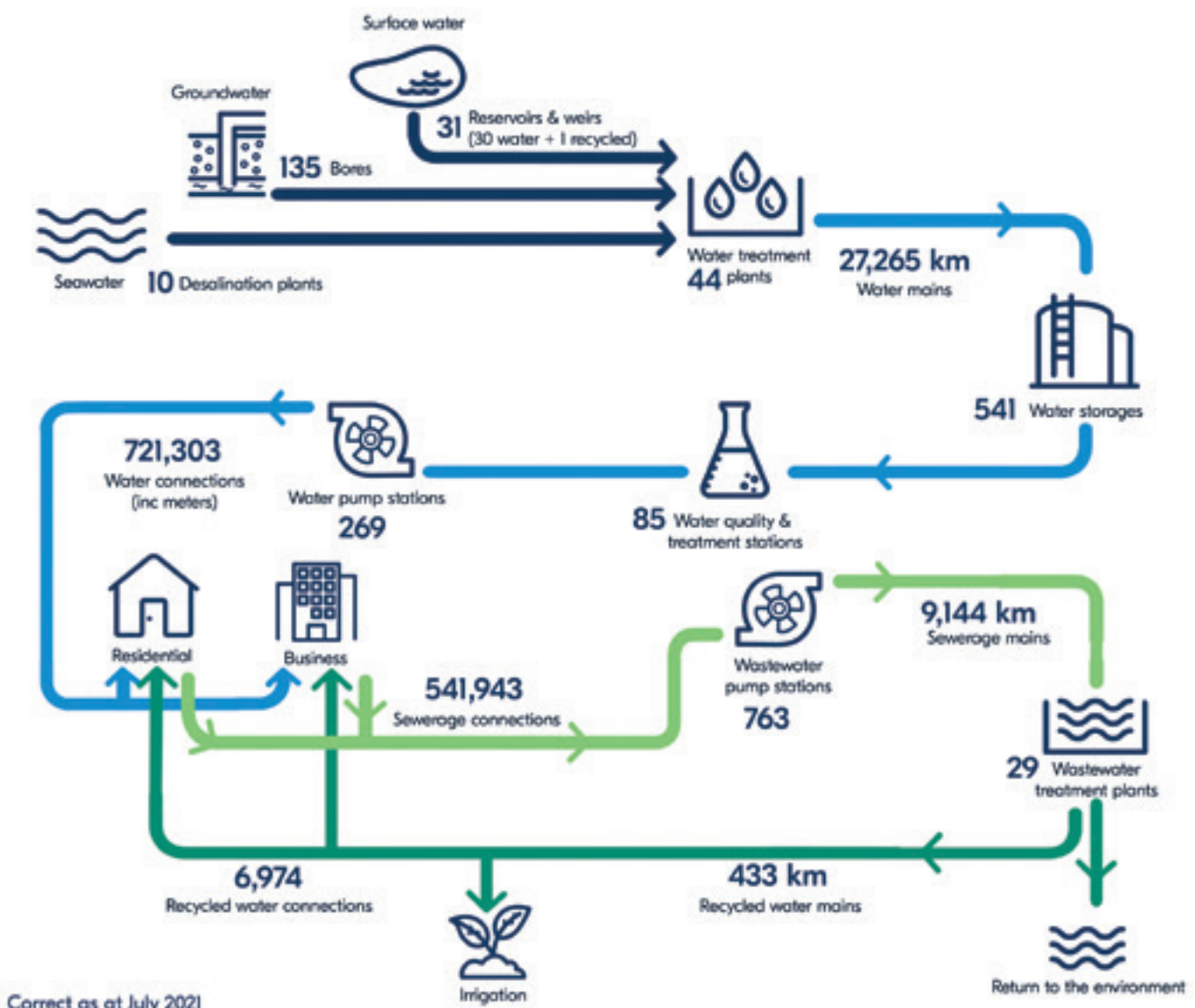
Every day we provide essential water services to cities, suburbs and towns across South Australia.

As one of the most efficient water utilities in Australia, we are continually improving the way we do this for our customers, to keep prices as low and stable as possible over time. To deliver on our commitment to efficiency, we strive to make smart, long-term investments, and the best use of new technologies.

We remain focused on meeting our legal and regulatory responsibilities as well as what is most important to our customers.

Of Australia's water utilities, we have one of the longest water mains supply networks at more than 27,000 kilometres. In addition, we manage more than 9,000 kilometres of sewerage mains and a 419-kilometre-long recycled water network.

Overview of our network and assets



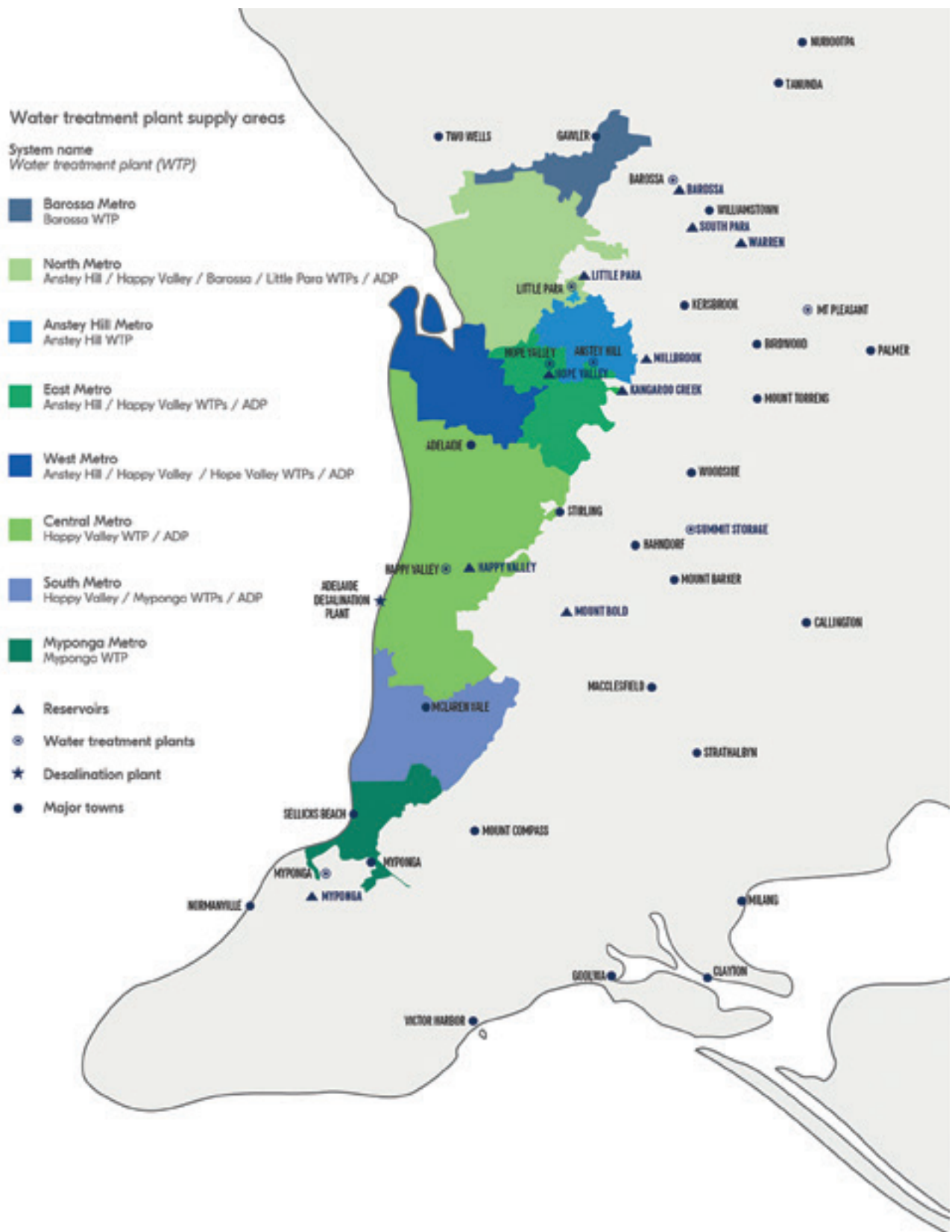
Map of our supply areas



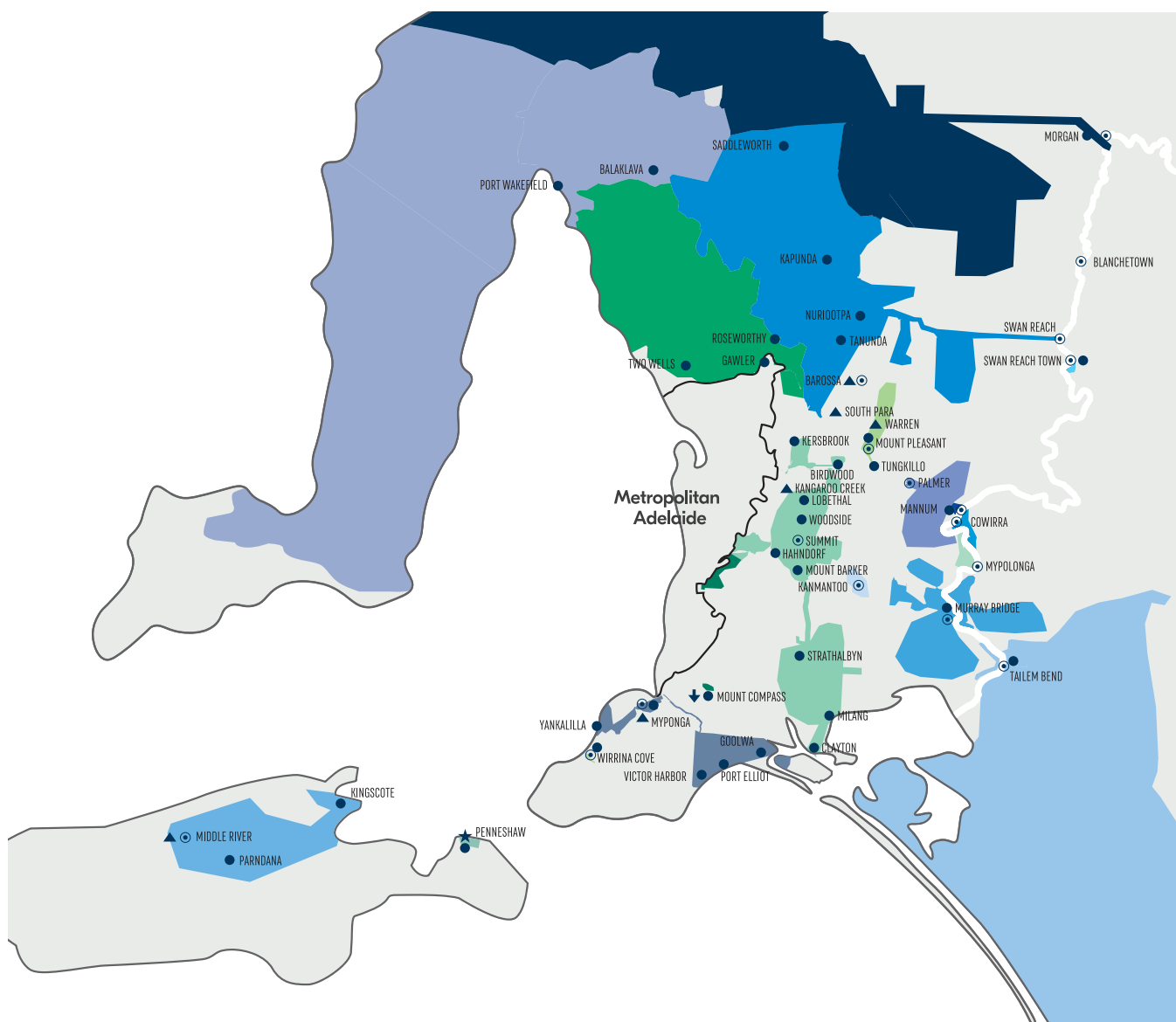
Map of our reservoirs, water treatment plants, borefields and major pipelines



Map of our reservoirs, water treatment plants and supply areas, metropolitan Adelaide



Map of our reservoirs, water treatment plants and supply areas, outer metro



Water treatment plant (WTP) supply areas

■ Morgan WTP	■ Cowirra WTP	■ Myponga WTP	↓ Borefields
■ Swan Reach WTP	■ Swan Reach Town WTP	■ Kanmantoo WTP	▲ Reservoirs
■ Mount Pleasant WTP	■ Mypolonga WTP	■ Mount Compass (bores)	○ Water treatment plants
■ Morgan-Swan Reach WTP	■ Murray Bridge WTP	■ Tailem Bend WTP	★ Desalination plant
■ Barossa WTP	■ Palmer WTP	■ Middle River WTP	● Major towns
■ Happy Valley WTP	■ Summit WTP	■ Penneshaw WTP	— Metro boundary
■ Mannum WTP	■ Wirrina WTP		







Year in review



Driving customer outcomes

We provide our customers with safe, smart, reliable and affordable water services. To achieve this, we maintain trust, ensure water quality and asset reliability, and provide continuity of service by preventing or minimising temporary service interruptions. We deploy connected and intelligent assets to make smart decisions and operate efficiently so our services remain affordable.

Price reduction for customers

A significant price reduction came into effect on 1 July 2020 with the average household saving approximately \$200 each year, and the average business receiving savings of about \$1,350.

Statewide pricing means the majority of our customers pay the same price per kilolitre of water, no matter where they live or the actual cost of supplying that location. Sewerage prices, based on the capital value of a customer's property as set by the Valuer-General, are also designed so that costs are as consistent as possible across the state.

Our pricing continues to compare favourably to our national peers, as measured in the Bureau of Meteorology's *National performance report 2019-20: urban water utilities*, which was released in February 2021. Based on 200 kilolitres, our annual residential water and sewerage bill is mid-range among 15 similar-sized utilities around the country.

Aligned with the June 2020 regulatory determination from the Essential Services Commission of South Australia, released in June 2021, it was announced that prices for 2021-22 will increase by CPI of 1.1 per cent.

Sustaining our networks

Through our ongoing work to maintain and sustain our networks, we invested \$320.9 million in our water network and infrastructure, and \$117.5 million in our wastewater network and infrastructure. This included the continued expansion of smart technologies to optimise the operation and maintenance of our networks and assets.

Through our water main management program, in 2020-21 we installed approximately 60 kilometres of new water mains with 17.6 kilometres laid in metropolitan Adelaide and 42.4 kilometres in country areas of the state.

Across our 27,000 km water network, there were 3,624 water main leaks and breaks in 2020-21.

The Bureau of Meteorology's *National Performance Report 2019-20: urban water utilities*, released in February 2021, shows we performed favourably among our peers, particularly with a reduction in the number of water main leaks and breaks, from 15 per 100 kilometres of main in 2018-19 to 13.5 in 2019-20, which is far lower than the national average of 22.3.

This positive result was reflected in our reporting for the 2020 calendar year, with a 12 per cent reduction in the number of water main incidents compared to 2019. The decrease is typical of more favourable weather conditions and buoyed by our continued strong investment in water main management.

**\$320.9
million**
invested in our
water network and
infrastructure

**\$117.5
million**
invested in our
wastewater network
and infrastructure

2019-20 regulatory performance standards achieved

In March 2021, the Essential Services Commission of South Australia (ESCOSA) reported on outcomes against our service standards for 2019-20.

Of the 18 service standards, 17 were met outright and the final standard considered to have been achieved on best endeavours, on the basis that it was within one per cent of the target and with mitigating circumstances for a proportion of the missed events.

In 2019-20, we met or exceeded all standards in the metropolitan and regional areas for restoration timeliness for water and sewerage service interruptions.

While the duration of unplanned sewer interruptions was identified as an area for improvement, initiatives we have implemented resulted in a reduction in the duration of unplanned water interruptions in 2019-20. It came down in metropolitan areas from 243 minutes in 2018-19 to 204 minutes, and in regional areas from 233 minutes in 2018-19 to 201 minutes.

In addition, we reported fewer unplanned service interruptions in the water network in 2019-20 compared to the two previous years.

We have implemented plans to investigate and reduce the frequency and duration of unplanned interruptions and continue to monitor our performance improvements in this area.

In metropolitan areas in 2019-20, our crews attended 100 per cent of water network breaks and leaks within target timeframes, and in regional areas they attended 99 per cent within target timeframes.

The number of customer complaints across both water and sewerage services, remained steady at 1,597, compared with 1,568 in 2018-19 and we responded to 98 per cent of written complaints in a timely manner. According to the Bureau of Meteorology's *National performance report 2019-20: urban water utilities*, we are among the major national water utilities receiving the least water and sewerage complaints, with two per 1,000 properties in 2019-20.

ESCOSA's annual Regulatory Performance Report details our performance against regulatory requirements relating to customer service, financial assistance provided to customers, and the reliability of drinking water and sewerage services.

The targets are based on average historical performance, and are set high to meet our customers' expectations.

For a full copy of the 2019-20 SA Water Regulatory Performance Report, visit escosa.sa.gov.au.

Digital services for customers

In 2020-21, our Customer Relationship Management (CRM) system has expanded to include our commercial customers, conveyancers, plumbers and managing agents, giving these customers the option to take up eBilling.

In addition, the CRM is now being used to capture and manage feedback and complaints enabling us to improve our customer service responses through better understanding of our customers.

At 30 June 2021, there were 235,842 properties receiving eBills, up from 154,054 the previous year. Of these, nearly 149,000 properties were registered with mySAWater, our online account management service.

The range of digital forms available on our website continues to grow with eight added to the suite this year including trade waste, irrigated open spaces and deceased estates.

Technology enhances business

Technology is used in a range of leading ways across our business and has continued to improve how we operate and provide services for our customers. Here are some examples of how we have introduced and/or used technology in 2020-21.

Smart maintenance

Through the installation of sensors on pumps in our network in 2020-21, we are using technology to identify and forecast when a pump repair or replacement is needed before failure occurs.

The smart condition monitoring technologies provide accurate insight into an asset's health by measuring vibration displacement of the shaft, and bearing vibrations on our operating rotating equipment such as pumps. Waveform data is captured and analysed using machine learning, and an alert is raised if the asset is showing signs of known fault conditions, or if the pump is vibrating outside normal parameters. This enables well-informed decisions to be made about the urgency of repair, rehabilitation options or asset replacement.



The onsite condition-based monitoring control panel at Murray Bridge which houses equipment that collects data from sensors on pump sets.



Underwater robotics

This year we trialled the use of underwater robotics to optimise operational activities and asset inspections.

To understand its capabilities and benefits, we used the innovative underwater remote operated vehicle (uROV) to inspect water storage tanks, reservoir infrastructure, and at water treatment plants.

The robot provides high resolution underwater imaging to enable internal inspections of our underwater assets and structures that must remain operating to maintain supply for our customers.

The uROV is an innovative tool that reduces risk to safety, water quality and continuity of supply when undertaking inspections of online water storage and processes. Beyond the trial it continues to be used across our business.



Virtual reality

Using 3D modelling, our Engineering team is improving the way we work. The virtual reality tool provides a physical representation of a new asset and this year was used in Safety in Design workshops and training scenarios for high-risk activities. The 3D technology helps identify risks and hazards that are difficult to spot in a 2D engineering drawing.

In 2020-21 we conducted 103 virtual tours and completed 18 laser scans, which are used to create 3D maps. The 40 maps available are being used for a range of tasks including:

- creating virtual reality environments
- remote condition assessments for infrastructure
- detailed design
- Safety in Design
- reducing or eliminating the need for site visits
- virtual tours.

Far left: Deploying Roxy, the underwater remote operated vehicle.

Left: Our virtual reality tool was on display at the Ozwater'21 conference in Adelaide in May.

Aerial solar panel inspections

Our fleet of drones was used to conduct aerial inspections of our solar panel arrays as part of regular maintenance on the panels to ensure their optimal performance. The drones use thermal image analysis to diagnose any faults and check for overloaded components, uneven voltage distribution, failed or fatigued components, and dead battery cells.

Apps for field teams

Our field-based teams across the state are using new technology with the release of the myWork and Cappture apps which reduce manual processes and support improved response times. Both apps were developed and built by our people to ensure they meet the specific needs of our business.

The myWork app enables our field operations, maintenance, and production and treatment workers to raise new work requirements quickly and easily without having to contact multiple colleagues. This streamlines and brings efficiency to their workflow.

Cappture provides a robust, reliable and efficient single point entry for data collected by our Production and Treatment team. Data captured in the app is immediately available on a web-based dashboard enabling our people to see trends in the real-time data and identify treatment performance changes over time.



Top: Project Engineer Tim DeGennaro of the McConnell Dowell Diona joint venture with former General Manager Mark Gobbie at the worksite for the Barossa growth project in Two Wells.

Above: Project Engineer Manager Anusha Perera with Lazlo Bachmayer from the John Holland Guidera O'Connor joint venture at the Myponga Water Treatment Plant.

New capital works program begins

Our new four-year capital works program has begun, to ensure water services continue to improve for South Australians.

In July 2020, work began on four key projects being delivered as part of the capital program:

1. Working with our new water north delivery partner, McConnell Dowell Diona joint venture, the \$7.5 million Barossa Growth project will see about 4,500 metres of new water mains laid across the Northern Adelaide plains near Two Wells and Gawler. This will overcome water pressure challenges and enable ongoing growth in the region.
2. With our new wastewater framework partner Fulton Hogan, the \$5 million upgrade of the Glenelg Wastewater Treatment Plant is set to improve the quality of treated water that is recycled to green the Adelaide Park Lands or released back to the environment.
3. At Myponga Water Treatment Plant we worked together with our water south framework partner, John Holland Guidera O'Connor joint venture, to repair concrete bunds. This work prevents any potential processing chemical spills from impacting the surrounding environment and enable swift and safe clean up.
4. Work began on the installation of UV disinfection at the Happy Valley Water Treatment Plant. This \$21.4 million project is being delivered by our framework partner John Holland Guidera O'Connor joint venture. Construction started in October 2020 and the UV reactors arrived on site in June 2021. When complete, this project will help keep drinking water supplied by the treatment plant clean and safe for our customers.

Wastewater upgrades ensure reliability

In 2020-21, work to ensure reliable wastewater services included:

- **Tea Tree Gully Sustainable Sewers** – work began at two pilot sites in Modbury with 134 metres of sewer main laid and 10 of 17 customers in Glenere Drive connected to our sewer network by 30 June 2021. Significant engagement with Tea Tree Gully customers has ensured their active involvement in the project, influencing how it will be rolled out.
- **Anaerobic digester at Port Lincoln Wastewater Treatment Plant** – in late 2020, the eight-metre-high digester began operating. The digester is used in one of the final treatment stages, helping to process sludge and transform it into a source of renewable energy called biogas. The biogas is used to help power the treatment plant, ensuring sustainable waste management and resource recovery which reduces the plant's carbon footprint. Other works delivered in 2020-21 include installation of the new odour control system, dewatering plant, and general site drainage and road upgrades.
- **Finger Point pipeline upgrade** – this \$11 million project was completed in early 2021 with the installation of about seven kilometres of new sewer main near Finger Point. This replaced a section of the 30-kilometre pipe responsible for delivering the wastewater from around 26,000 Mount Gambier residents and businesses to the region's wastewater treatment facility.

Water storage boost for Port Lincoln

A new 10-million-litre concrete tank to boost Port Lincoln's water storage capacity was finished in June 2021.

Part of our ongoing investment to ensure a reliable supply for Eyre Peninsula customers, especially during the warmer months, the six-metre-high tank joins two existing concrete water tanks, increasing total storage at the site to 19 million litres of safe, clean drinking water.

The tank is 51 metres in diameter and covered with a specialised liner to ensure the safety of treated drinking water within the network.

Working with our contractor, we reduced construction time by 75 per cent, delivering the project in six months, significantly less than the traditional timeframe of two years.

This was achieved by fabricating the pre-cast concrete panels off site and craning them into place. This method also reduced the working at height risks and was less labour intensive onsite.



Above: Significant engagement with customers has ensured their active involvement in the Tea Tree Gully Sustainable Sewers project.

Left: The new Summit Storage Tank near Port Lincoln during construction.



Our team was on the ground to keep customers informed through the changeover process in Yankalilla, Normanville and Carrickalinga.

Improved water quality for Fleurieu customers

In March 2021, the drinking water treatment method for customers in Yankalilla, Normanville and Carrickalinga was changed from chlorine to chloramine.

The change completed stage two of the Fleurieu Water Quality Improvement project.

The final disinfection process for customers in these three towns is applied to cleaned and filtered drinking water sourced from the Myponga Reservoir.

Changing from chlorine to chloramine ensures water supplied to customers on the Fleurieu Peninsula remains clean and safe to drink, but with a slightly different and improved flavour profile.

Engaging with the local communities, our team on the ground kept customers informed through the changeover process, including answering questions and offering a taste of the new and improved water supply.

SCADA centralisation a national finalist

The centralisation of our Supervisory Control and Data Acquisition (SCADA) system was acknowledged as a finalist in the 2020 Digital Utility Awards.

SCADA is critical infrastructure that monitors and controls our assets that provide water to our customers' taps, and safely transport and treat wastewater.

Until now, general SCADA practice has been decentralised with critical infrastructure onsite to operate and manage assets. This means if there are failures or issues, site visits are required to assess and undertake repairs. Our team looked for a new and more efficient way to operate and our industry-leading approach to virtualise SCADA has delivered a more robust, resilient and cost effective system that enables us to remotely monitor, control, upgrade and provide quicker operational and disaster recovery support.

The project to centralise SCADA saw:

- the system extended and developed to support additional assets as our network grows
- replacement of our decentralised platform to a central, virtual solution
- our ongoing operational stability and delivery of essential water services with minimal impact on services in any situation, ranging from isolated issues to statewide power interruptions or targeted cyber-attacks.

Woolpunda water wins

Water produced at our Woolpunda Treatment Plant in the Riverland was awarded South Australia's top drop in the annual Water Industry Operators Association of Australia best tasting tap water competition.

Water in the Woolpunda system is treated with chloramine and last won in 2018. State winners from the past five years have all come from the Riverland.

Clear result

Customers interested in learning more about the quality and content of their drinking water can now use our online search tool, [Your Drinking Water Profile](#), launched in July 2020.

This new tool presents our water quality data in a simple and accessible way for our customers.

After entering their postcode or suburb name, customers can see water quality information for their location. It is tailored to four popular topics:

1. essentials
2. appliances
3. baristas, brewers or bakers
4. aquariums.

There is also the option to download a print-friendly report that provides a complete analysis of what makes up their drinking water.

Laboratory expertise expands

The Australian Water Quality Centre (AWQC), our national laboratory service, began a three-year partnership in July 2020 with Yarra Valley Water in Victoria. The partnership sees our AWQC Laboratory Services Team supply field sampling and testing, laboratory analysis and reporting services across a network which serves more than 1.9 million people in Melbourne's northern and eastern suburbs.

The AWQC's Melbourne laboratory is the base for the new contract, with our Adelaide team supporting the work with various specialised services and technology.

Following storms in Victoria in late August 2020, the AWQC responded quickly when Melbourne Water and Yarra Valley Water issued a boil water notice to about 200,000 residents living in more than 100 suburbs.

AWQC field technicians and water quality scientists played a critical role in providing the required water quality monitoring services by continuously sampling and testing water to assess the quality to protect public health. The boil water notice was lifted after two days when the Victorian Department of Health and Human Services was confident the water supply had not been contaminated.

In June 2021 when severe storms again hit parts of Melbourne and the Dandenong Ranges, the AWQC provided critical monitoring services for Yarra Valley Water whose customers in Kallista, Sherbrooke and The Patch were directed not to drink tap water after a water tank was damaged.

Laboratory Services teams worked around the clock to provide emergency water quality sampling and testing services at sampling points across the affected suburbs.



Left: The new drinking water profile tool on our website presents simple and accessible water quality data.

Below (left and right): The AWQC team in Melbourne provided sampling and testing for Melbourne Water and Yarra Valley Water following storms in August 2020.





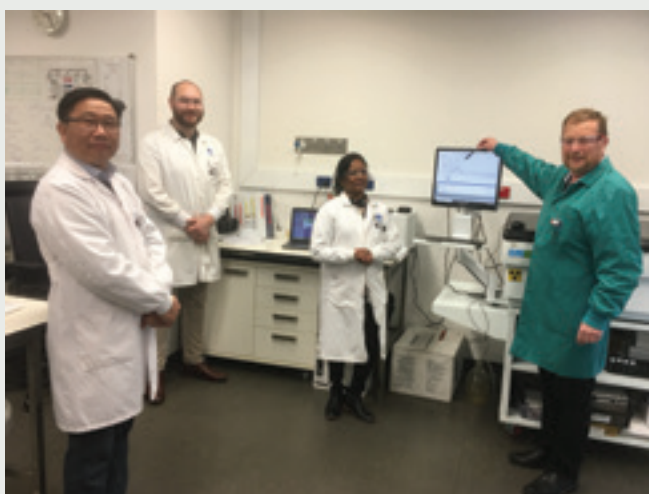
Our Melbourne-based AWQC team moved into new laboratories in April 2021. Equipped with advanced instrumentation for the analysis of water and wastewater, the facilities enable us to accommodate increasing demand for sampling, field testing and laboratory analysis services from eastern states water utilities.

In January 2021, the AWQC attained National Association of Testing Authorities accreditation for the analysis of radiation in waters, sediments and sludges, and now provides this valuable service to our business and other utilities and organisations around the country.

Informed decision-making through risk management

Strategic risk management supports our forward planning and critical thinking to enable well-informed decision-making across our operations. We work to the principles of risk management as set out in the international risk management standard AS ISO 31000:2018 Risk Management — Guidelines.

To ensure we have appropriate and adequate control measures in place, an updated risk profile was developed in 2020-21.



Above: The AWQC's new purpose-built laboratory in Melbourne.

Left: Dzung Bui, Andrew Kay and Foyjunnessa Foyjunnessa from our Metals, Physical and Radiation team with project consultant John Waters.



Water for the future

Our production and treatment activities ensure the water we provide is fit for our customers to use, and to be recycled or returned to the environment. We harvest, store, treat, distribute and reuse water to provide fit for purpose water services to our customers to stimulate economic growth and meet customer needs.

Water security for Kangaroo Island

In 2020-21 we continued our extensive customer engagement with the Kangaroo Island community as we progressed planning for a new desalination plant for the Island.

Face-to-face and online meetings were held in late 2020 and early 2021 with the wider Kangaroo Island community and businesses interested in helping deliver the project. This was supported by information sessions in January for the towns of American River, Baudin Beach, Island Beach and Sapphire town.

Feedback from residents in these towns helped identify the level of interest for a new water connection from the new desalination plant and enabled us to share project information.

To inform the preferred location of the new desalination plant and ensure we protect and preserve the surrounding natural environment both during construction and once the plant is operational, we have also carried out environment and geotechnical investigations in a number of locations. These works will contribute to the design development of the new desalination plant.

Eyre Peninsula desalination site options explored

Investigations into potential alternative sites for the planned Eyre Peninsula seawater desalination plant were undertaken in 2020-21.

Through our ongoing engagement with the Eyre Peninsula community on future water security for the region, we continued to have conversations with local stakeholders as part of our assessment process for an alternative site that enables cost-effective delivery.

Extensive industry and community consultation was undertaken through a series of meetings, presentations and sessions including with:

- aquaculture and fisheries representatives
- southern Eyre Peninsula councils
- Eyre Peninsula-based government agencies
- community drop-in sessions.

Feedback has reinforced the importance of water security and timely project delivery, as well as maintaining the marine and terrestrial environment.

The drinking water supply for Eyre Peninsula residents remains secure until the desalination plant is complete.



State-of-the-art desalination plant for Yalata

Construction began in June 2021 on a \$2.3 million desalination plant in the Aboriginal community of Yalata on the state's far west coast, ensuring a continued, reliable and safe supply of drinking water to local residents and businesses.

The predominantly solar powered 160 kilolitre/day plant will replace the existing facility, which is nearing the end of its useful asset life. About 3.8 kilometres of dual-connecting pipework servicing local customers will also be replaced.

Through construction and operation, the Yalata Desalination Plant supports goals in our stretch Reconciliation Action Plan for 2020-23 including:

- supporting liveability and a better life in Aboriginal and Torres Strait Islander communities
- supporting communities with safe drinking water and wastewater services.

New connection demand increases

Following the announcement of the federal government's HomeBuilder grant in June 2020, demand for land surged with developers managing an increase in major land development projects in the preliminary stages.

Working closely with land developers, we provided water, wastewater and recycled water services to these development projects. We met an increase in both minor land development (subdivision) applications as well as projects under construction being supported by our Major Land Development team.

The new desalination plant under construction at Yalata.



Healthy communities

We support and promote the health and wellbeing of an active, thriving South Australia. This is achieved by building sustainable and liveable communities. We share new ways of using water effectively and efficiently to create comfortable green spaces that support wellbeing. Through actions to achieve reconciliation, we support stronger Aboriginal and Torres Strait Islander communities by helping to create economic opportunities.

Delivering our Stretch Reconciliation Action Plan

Delivering our Stretch Reconciliation Action Plan 2020-23 began in July 2020.

The plan focuses on actions in four areas:

5. community relationships
6. respect cultural and social recognition
7. economic opportunities and improving life and liveability
8. good governance and reporting.

Among the actions is increased support for Aboriginal and Torres Strait Islander businesses through direct employment for various capital projects as well as encouraging our major contractors and partners to set supplier diversity targets and procurement policies.

In 2020-21, we spent more than \$2.3 million with Aboriginal businesses, comprising a direct spend in excess of \$500,000 and indirect spend of more than \$1.7 million.

Other achievements this year:

- At 30 June 2021, Aboriginal employment was 2.80 per cent, having peaked at 2.95 per cent in May.
- Acknowledgment of Country on entry signs were installed outside all Adelaide metropolitan operational sites.
- Cultural awareness training continued to be provided for our people with 60 per cent having completed the training as at 30 June 2021.
- Our Water Wisdom video series was broadcast on the ABC's education channel, ABC ME, and made available on ABC iView.
- Our Twinning Program continued, this year supporting Tauondi Aboriginal College.

We continued to deliver a plumbing course that empowers community members to fix water leaks. In 2020-21 we expanded to offer the course to Aboriginal communities on the far west coast of South Australia. Across the west coast and Anangu Pitjantjatjara Yankunytjatjara (APY) Lands, 220 community members took part in the course this year.



Behind the scenes filming our Water Wisdom series with Jack Buckskin and Uncle Clyde Rigney Senior.



Top left: Project Manager Government Information and Value Karen Harding with Jason Wauchope from Tauondi College. Karen worked with the college to catalogue historical items as part of our Twinning Program.

Top right: Students on the APY Lands took part in the hands-on plumbing course.
Above: Jack James, Paul Herzich and Andrew Beare with the Kungari nga:tadi sculptures.

Community and cultural space opens

In November 2020, the community and cultural space at our new Murray Bridge Wastewater Pump Station on Jervois Road in Swanport was opened, following the completion of unique design, artwork and planting of about 7,400 native plants.

The landscape and architectural design of the pump station site shares the culture of the Ngarrindjeri people, who are the region's Traditional Owners, and their connection to water. Aboriginal architect and visual artist Paul Herzich guided the process to bring the landscape design to life. The plants are irrigated with recycled water from the nearby wastewater treatment plant.

The pump station has been given the Ngarrindjeri name 'Nankeri tapatawangk', meaning 'place of good water'.

An interpretive walking trail at the site depicts the important water sites within Ngarrindjeri Country, including the River Murray, Long Island, Murray Mouth, Coorong, Lake Alexandrina and Lake Albert. The trail will eventually connect into the Rural City of Murray Bridge's section of the Murray Coorong Trail.

Installed at the head of the trail are two large mosaic-covered sculptures of 'Kungari nga:tadi' — black swan eggs — which were crafted by Adelaide artist Andrew Stock, with contribution from students at Unity College in Murray Bridge.

The space creates a visually appealing southern entrance to Murray Bridge.

Reconciliation partnerships

In 2020-21, we partnered with seven community organisations and events through our inaugural Reconciliation Partnerships Program known as Pirku-ltya, the Kurna word meaning 'for community'.

Pirku-ltya supports grassroots Aboriginal organisations and not-for-profits across South Australia to run events and programs which contribute to important reconciliation outcomes. The program is an action from our Stretch Reconciliation Action Plan 2020-23.

From helping the Nipapanha Aboriginal Community Corporation to create a cultural heritage museum at Irish Well Hut in the northern Flinders Ranges, to establishing a native foods garden with Moonta's Nharangga Aboriginal Progress Association, each of our partnerships are making a real difference in helping achieve reconciliation outcomes.

More than a word

National Reconciliation Week in 2021 focused on the theme *More than a word. Reconciliation takes action.*

Through the week, we used our social media channels to share what the theme means to our people.

We brought many of our people together in Adelaide, Berri, Goolwa and Port Lincoln to acknowledge the unique and rich cultural connection through ceremony, dance, enjoying native foods and flavours.

In addition, we participated in the National Reconciliation Week breakfast and the Aboriginal Power Cup Carnival which engages young people with Aboriginal culture, education, healthy lifestyle choices, and teamwork, leadership, resilience and life skills.



Left: Aboriginal Elders from Nipapanha Community at the South Australian Museum to research Aboriginal artefacts for the Cultural Museum project at Irish Well Hut.

Below: Uncle Moogy Sumner performed the Smoking Ceremony outside SA Water House.



Right: Innovation Specialist Alex Czura with Lesley Wanganeen from the Nharangga Aboriginal Progress Association scoped the Native Plants Community Garden project on Country at Moonta.





Left: The Berri Workshop team gathered to celebrate National Reconciliation Week.

Bottom far left: The landscaping at the Ethelton Pump Station improved visual amenity of the site and is featured on our website as a demonstration site for the community to learn about creating cool, green spaces.

Bottom left: Planting at our Port Augusta depot.



Creating green spaces

In 2020-21 we adopted a new approach to our property holdings and land around our infrastructure looking for ways to transform these into greener spaces to support thriving communities.

Land and vegetation were refreshed at Glenelg Wastewater Treatment Plant and Ethelton Wastewater Pump Station as demonstration sites for Indigenous landscaping, water sensitive urban design and stormwater reuse.

In addition, greening and cooling was improved at our depots in Clare, Port Augusta and Woodside.





Liveability through urban planning

By building new partnerships with communities, and state and local government, we are developing and sharing new ways of using water to create green spaces which support wellbeing and liveability in South Australia.

Through these relationships, we have influenced and shared ways to use water effectively to create greening and cooling.

This year we collaborated with organisations including:

- Nharangga Aboriginal Progress Association
- Australian Institute of Landscape Architects
- Nursery Garden Industry of South Australia
- SA Autumn Garden Festival
- St Mary's College
- Westside Housing
- Anangu Pitjantjatjara Yankunytjatjara (APY) Lands.

Misting systems were installed at four community schools on the APY Lands, to help keep students cool. In addition, we worked with teachers and students to share knowledge about how to fix their own water taps. To support ongoing education and effective water use, we also provided the schools with soil moisture probes and air temperature sensors.

Through our ongoing focus on effective water use we continue to explore new technology and innovative approaches. In 2020-21, we installed smart irrigation services for four local councils, two in metropolitan Adelaide and two in regional areas, helping them maintain affordable green open spaces by enabling improved management and optimisation of their water use.

To prevent tree root intrusion in our water and wastewater networks, we worked together with local councils to install four tree root barriers. This trial tests a low-cost option to minimise temporary service interruptions for our customers by reducing blockages caused by tree roots.

Smart irrigation services were installed for four local councils.

Expanded access at reservoir reserves

The progressive opening of reservoir reserves for recreational access has continued.

In December 2020, Hope Valley Reservoir Reserve was opened for land-based activities, and in March 2021 at Myponga Reservoir Reserve, on-water access was opened and the accessible land-based area expanded.

An upgrade to facilities at Warren Reservoir Reserve was completed in April 2021 providing visitors with improved car parking, increased picnic facilities, additional toilets and a kayak launch facility.

The kayak launch facilities at Myponga and Warren reservoir reserves are fully accessible and are the first of their kind in South Australia.

To support recreational fishing, about 90,000 native fish were stocked across South Para, Beetaloo and Bundaleer reservoirs.

Community engagement was undertaken on plans for Happy Valley, Mount Bold and Little Para reservoir reserves.

The concept plans for Happy Valley Reservoir Reserve, released in April 2021, were developed with the local community and representatives from environmental and recreational groups.

There was unanimous support for the concept which balances a range of land-based and on-water activities with the natural environment and protection of water quality.

In June 2021, we reached more than 226,000 visitors to reservoir reserves since April 2019.

The first Reservoirs Partnership Program opened in late 2020 providing sponsorship opportunities for grassroots activities and initiatives using the reservoir reserves. Four community groups were selected to receive support with outcomes from these activities to be seen in 2021-22.



226,000+
visitors to reservoir
reserves since 2019



Above: On-water activities were introduced at Myponga Reservoir Reserve.

Right: Hope Valley Reservoir Reserve was opened in December 2020.

Supporting the state's COVID-19 response

In the second year of the COVID-19 pandemic, we continued to support our customers, the South Australian community and our people.

As part of the South Australian Government public sector workforce mobilisation, we provided personnel to undertake a range of tasks including contact tracing, SA Police administration support, State Emergency Information Contact Call Centre support and hospital concierge duties.

With business continuity plans in place, our people responded rapidly to the statewide circuit breaker lockdown in November 2020. Frontline teams implemented operating models to protect their health and office-based workers able to work from home did so. This enabled business-critical teams to continue working safely at our shared workplaces.

Services for customers remained unaffected by the lockdown. Throughout this period, we kept our people and customers safe by implementing and maintaining state government community and public sector risk measures.

Working on behalf of the Murray Darling Basin Authority, our River Murray operations team continued their work along the river, including in New South Wales and Victoria through periods of border restrictions.

Sewer subs

Building on the work done in 2019-20, this year we continued to provide COVID-19 wastewater testing for South Australia and began testing for Tasmania, as well as some businesses.

In early 2021, we began trialling submarine-like devices in our COVID-19 wastewater testing. The devices are sent into our wastewater network to test for COVID-19 in untreated sewage, fast-tracking our ability to help with the state's pandemic response.

The 20-centimetre-long 'sewer submarines' are 3D printed in-house and can be submerged in wastewater for up to 24 hours. They enable higher resolution of testing results.

Quite quickly the technology proved to be an effective sampling tool bringing improved efficiency to the process.

Sewage surveillance awarded

In November 2020, our nation-leading efforts to monitor and detect COVID-19 in wastewater was awarded at the Australian Water Association's South Australian Water Awards.

Won together with Water Research Australia, the award for Excellence in Research and Development recognised our efforts with SA Health to monitor and identify possible COVID-19 cases through analysing wastewater samples from eight wastewater treatment plants across metropolitan and regional South Australia.

Trusting tap

To support people completing 14 days of quarantine when returning home to South Australia from overseas, we worked with SA Health to provide information about the safety of our tap water.

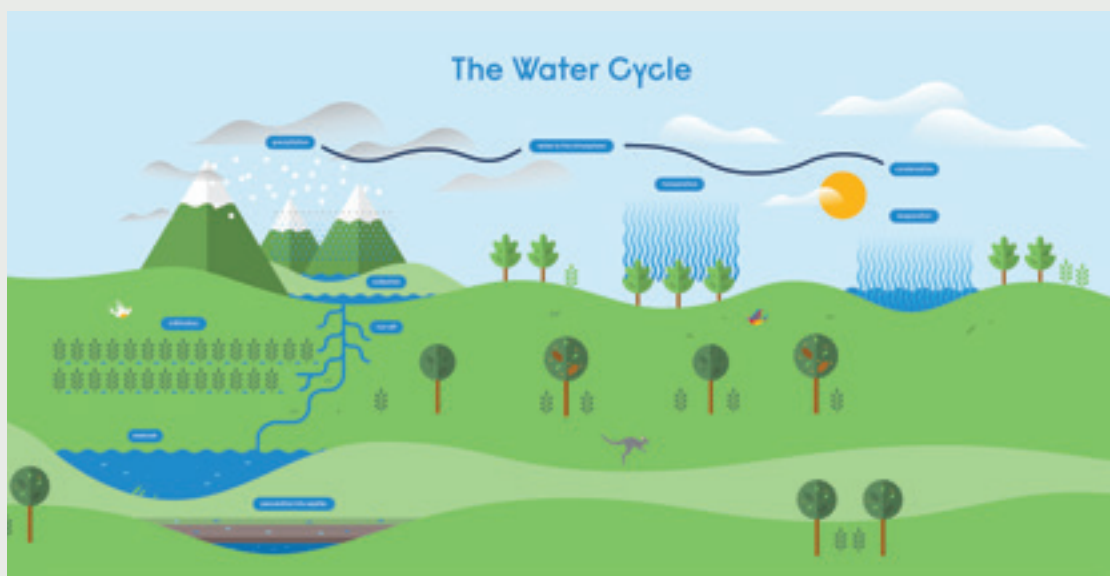
A tap tag was developed to reassure returning travellers of the stringent drinking water standards we meet to provide clean, safe tap water.

In addition, we provided a BYOB bottle with a brochure that explained how we meet or exceed national drinking water quality targets that are regulated by SA Health, and that we follow the Australian framework endorsed by the National Health and Medical Research Council.



Above: Dr Daniel Hoefel and Kelly Hill from Water RA with the award for Excellence in Research and Development.

Left: COVID-19 wastewater sampling continued this year.



Clockwise from top:

New branding for The Well.

Hands-on learning for students from Koonibba Aboriginal School on the APY Lands using our water rig.

Our virtual reality experience was popular with students at Science Alive!

Students from St Aloysius College take part in an interactive workshop about our wastewater treatment process.

Community education, events and engagement

In 2020-21 we updated our education program – The Well. This included a refreshed suite of Australian Curriculum-aligned workshops and sessions for school students.

Participation in our education and community programs was lower than usual due to COVID-19 restrictions. Over the year we had 5,060 students participate in The Well, including 250 Aboriginal students on the APY Lands and the far west coast of the state.

The Kauwi Centre at the Adelaide Desalination Plant was updated to create a space for water exploration which supports delivery of The Well sessions and workshops, as well as community tours of the desalination plant.

With approval from SA Health, in September 2020 we resumed providing our Quench Benches at community events. Through to the end of June 2021, we delivered 9,000 litres of safe, clean drinking water at 35 events including:

- Tasting Australia
- Festival of Cycling
- Ozwater'21
- Coastrek
- Southern Deadly Fun Run.

Through our Water Talks website, we engaged with 15,957 people on a range of projects underway across the state including:

- Kangaroo Island desalination plant
- recreational access to reservoirs
- Tea Tree Gully wastewater connection
- Eyre Peninsula desalination plant.



Water Talks was used to support community involvement in our art on infrastructure project at Myponga Reservoir Reserve.





Partnerships support grass-roots community activities

This year we supported nine community projects through our Community Partnerships Program. The program offers small scale financial or in-kind support to not-for-profit community organisations to deliver events and projects across regional and metropolitan South Australia. The successful recipients deliver water-related events or programs and help us achieve our goal of being a partner organisation within communities.



Top: Innovation Specialist Alex Czura with Westside Housing tenants who took part in Water Wise Westside.

Above left: Vegetation Services Specialist Shaun Kennedy and Innovation Specialist Alex Czura presented at the SA Autumn Garden Festival in Clare.

Above right: Novita installed a pool platform and ceiling track hoist to support its hydrotherapy program.



Proactive environmental leadership

As a leader in environmental management, and by partnering with our stakeholders, customers and community, we are taking action to adapt to climate change, and finding ways to reduce our greenhouse gas emissions. We make decisions that reduce waste and grow opportunities to reuse resources and by-products of our production processes to create environmental benefits.

Our zero cost energy future

In early 2021 the final solar panels were installed as part of our industry-leading zero cost energy future initiative.

About 217,000 panels were installed this year at sites including Happy Valley, Mount Pleasant, Mallala and Swan Reach as well as Port Lincoln, Kimba, Lock, Arno Bay and Caralue Bluff on the Eyre Peninsula.

To help power our energy intensive water and wastewater treatment and pumping operations, we have installed more than 367,000 panels at 33 sites across the state. Panels at 25 sites are energised and connected to the grid, generating about 18 gigawatt hours of electricity in 2020-21 and nearly 34 megawatt hours of battery storage is installed.

While we still draw electricity from the grid, this project enables us to store and sell energy at other times while helping to buffer our business from the volatility of the electricity spot market and therefore keeping operating costs down.



The solar panel array at Morgan to Whyalla Pipeline Pump Station Number 3.

367,000

solar panels installed
at 33 sites

18 GWh

of electricity was
generated in 2020-21



Bushfire response and recovery

Following the January 2020 bushfire on Kangaroo Island, we finalised repairs at the Middle River Water Treatment Plant. The main switchboard was replaced and repairs to the magnetic ion exchange plant structure were completed.

The upgrade of the main switchboard means the treatment plant can be powered by a generator, helping ensure future continual operation and security of water to our customers on the Island.

Fires in Cherry Gardens in late January 2021 burnt 19,000 hectares around our Mount Bold Reservoir catchment.

Our bushfire preparedness activities helped contain the ease and speed at which the fire could spread. Maintaining and creating fire breaks as part of our pre-bushfire season significantly contributed to the Country Fire Service's success in containing the fire.

With experienced teams managing the impacts of bushfire within our catchment areas, we were able to minimise water quality and treatment challenges and potential impacts on drinking water supplies.

Ahead of heavy rainfall after the fires, our teams worked alongside the Department for Environment and Water to install sediment control structures to prevent residue from the high-intensity fires reaching the reservoir.

In addition, we used the flexibility in our water management system to move water north and south to prevent water quality issues.

Reducing waste

As a first step to achieve zero net waste, a waste audit was conducted to identify areas and ways to reduce waste and develop principles to guide us in this endeavour.

Through a business-wide innovation challenge, our people were asked for ideas to reduce waste and maximise reuse, aligned to our zero net waste aim. More than 400 people participated and 93 ideas were generated and assessed, with 53 identified as potentially viable improvement solutions. From this, seven were developed, and tested for implementation during the challenge, with the remainder progressing via our Ideas Tank.

One idea implemented reduces waste by refurbishing quality older valves and reusing them, rather than sending them to become scrap. A refurbished older valve has been used to replace a failed valve and was successfully operated in a shut down. We plan to refurbish a further six valves using our in-house skills and resources.



Top: Sediment captured by traps set in the Mount Bold Reservoir Reserve following the Cherry Gardens fires.

Above: Installing the refurbished valve.

Building capability for climate change adaptation

To address the challenges of adapting to climate change and improve decision-making for water utilities, we partnered with Water Research Australia and its members to develop a new online resource for climate change adaptation information.

The Resiliwiki is designed to provide climate change adaptation guidance for water utilities. Building on the Water Services Association of Australia climate change adaptation guidelines, the site provides suggested best-practice assessment approaches.

There are four key resources available at Resiliwiki:

9. A review of global good practice in climate change adaptation.
10. The pathfinder tool that helps identify appropriate assessment approaches and data.
11. A climate change syllabus that outlines fundamental competencies needed by practitioners.
12. A guide for future directions which identifies key areas for improvement by water utilities for improved data-driven decision-making.

The site is available for use by all members of Water Research Australia.

New community drinking fountains

The network of community drinking fountains expanded in 2020-21.

There are now 63 fountains across South Australia connected to our mains supply for members of the community to use. They include both bottle refill and bubbler options, with some also featuring an in-ground dog bowl. Built-in solar lighting makes them bright and easy to find at night.

In collaboration with local councils, 10 drinking fountains were installed this year:

1. Glenelg foreshore
2. Two Wells Village Green
3. Millicent Domain Skatepark and Nature Playground
4. John Watson Drive (Blue Lake/ War War), Mount Gambier
5. Goldenfields Reserve, Golden Grove
6. Port MacDonnell foreshore
7. Steamroller Park, Stirling
8. Bentley Reserve, Holden Hill
9. Port Adelaide Visitor Information Centre
10. Ralli Park, Balaklava

In January 2021 we announced that up to 80 more drinking fountains will be installed across the state over the coming four years.

Our BYOB app maps these and other fountains through an interactive map that displays more than 1,000 drinking fountains in South Australia.

Smart irrigation wins

In late March 2021, we were the only South Australian organisation to be commended at the 2021 iTnews Benchmark Awards when our smart irrigation initiative won the Industrial and Primary Production category.

Through the smart irrigation project, which began in December 2019, we are working with customers to help maintain cool, green open spaces that build healthy communities, while also providing cost and water saving benefits through more effective and site-specific use of water.

This is achieved using real-time data from an integrated system of soil moisture probes, daily weather forecasts and smart water meters, with information provided to water users through a weekly irrigation schedule to optimise water efficiency.



Above: The new drinking fountain at Ralli Park, Balaklava.

Right: Our smart irrigation initiative was recognised at the 2021 iTnews Benchmark Awards.



Finger Point cultural burn

A prescribed burn on land near the Finger Point Wastewater Treatment Plant in March 2021 incorporated fire burning practices used by the Traditional Owners, the Boandik people.

Working in partnership with Burrendies Aboriginal Corporation, the Department for Environment and Water, and the Limestone Coast Landscape Board, the burn acknowledged Finger Point as a culturally significant site.

This was the first time we have collaborated with First Nations people to incorporate traditional fire knowledge into a prescribed burn, and we will look for opportunities to continue this in the future. It was also the first time in about 100 years that there has been a dedicated cultural burn in the area.

Abattoir's recycled wastewater grows livestock fodder

A circular economy is thriving in the Adelaide Hills, where we created an ongoing loop that connects pasture cultivation, livestock grazing, abattoir production and reuse of recycled processing wastewater.

The sustainable outcome enables a climate-independent supply of nutrient-rich water for a primary producer to grow fodder. It helps Thomas Foods International, which

processes the producer's livestock, avoid the cost of additional on-site treatment infrastructure. In addition, we increased the volume of water recycled for productive use at our Bird in Hand Wastewater Treatment Plant.

The solution's design came after a fire at Thomas Foods International's Murray Bridge facility saw them shift a large amount of production to their Lobethal base, increasing the processing waste they were discharging into our local sewerage network.

Challenging gravity

Our involvement in the GRAVITY Challenge in late 2020 at Lot Fourteen was part of our drive for innovation.

The challenge brought businesses, government agencies and universities together with innovators including tech start-ups, entrepreneurs and subject matter experts, to collaborate and co-create solutions to some of society's biggest challenges.

Through a collaboration with UK company Spottitt, experts in earth observations satellite and geographic information system analysis, we looked at how satellites might be used to better manage bushfires and detect water leaks.

This involved a retrospective analysis of the Middle River fire on Kangaroo

Island to see if satellite imagery, together with data on vegetation and soil moisture, could be found and analysed to predict a fire and enable prevention.

The other issue explored was a timebound observation of Elliston on the Eyre Peninsula to see if satellite monitoring and artificial intelligence algorithms could be used to identify leaks in our underground network.

The challenge provided access to technology not normally used in the water industry as we seek new ways to provide safe, reliable and cost-effective water services.

Feral focus

This year 454 goats were removed from Kangaroo Creek and Montacute, through an aerial muster and an aerial cull.

Proactive removal of the pest species reduces environmental impacts to our Kangaroo Creek Reservoir catchment and help us maintain high quality drinking water for customers across Adelaide.

These collaborative operations took place across lands owned by several agencies including the Department for Environment and Water, National Parks and Wildlife, Forestry SA, Landscape South Australia Hills and Fleurieu, as well as private land.



Above: Matthew Hartman from the Department for Environment and Water with Candice Nayda at the cultural burn on land near Finger Point Wastewater Treatment Plant.

Left: The mustering team with some of the goats removed from Kangaroo Creek and Montacute.



Our people for the future

We proactively grow a diverse and inclusive business with people who reflect the community we serve. This brings creative thinking and diversity of thought to build innovation, embracing technology to help us be safer and more efficient. Our people work safely and are part of a high performing culture where learning and collaboration deliver great customer outcomes.

Improving safety and wellbeing

Our people-centred approach to health, safety and wellbeing continues to yield results with our wellbeing measure achieving above target results, and our all injury frequency rate significantly improving by 53 per cent from 19.52 in 2019-20 to 9.05 in 2020-21. These results have been well supported by our enhanced critical risk review approach, our broadened offering of wellbeing-related training, the technical training verification of competency program, and the introduction of Business Group reporting to improve visibility and accountability of performance.

Taking a harm-based approach to safety, we focus on the potential outcome of an incident as well as the actual outcome. Our resources are prioritised and focused on high potential incidents to prevent a recurrence. There was a slight increase in our high potential incident frequency rate from 1.56 in 2019-20 to 1.89 in 2020-21. While not a desired result, all reported high potential incidents have been near miss incidents with no actual harm, and the engagement and lessons learnt has been positive.

The measurement and monitoring of combined health and safety performance indicators began in July 2020, inclusive of SA Water, Allwater and contractor performance. This is considered a more comprehensive indicator of health and safety performance as it includes the performance of our major partners and contractors when working on our behalf. High potential incident frequency rate, total recordable injury frequency rate and lost time injury frequency rate all improved throughout the 12-month reporting period.

There has been significant effort in the transition to our new metropolitan service delivery model to establish strong relationships with a commitment from our new partners to share, align and standardise health and safety requirements wherever possible.

Our Health and Safety Improvement Plan was revised with additional inputs following a health and safety management system review. The review assessed our systems, frameworks and processes for managing health and safety, including wellbeing and psychosocial risk. This revised plan continues our people-centred approach, with increased focus on risk management and systems.

Technology improves safety and collaboration

In 2020-21, the expansion of our cloud environment, together with enhanced video conferencing facilities, has significantly improved the way our regional and office-based people stay connected, communicate and collaborate, regardless of their location or device. This cohesive functionality has simplified how we connect with external partners, enabling our people to improve their performance and decision-making, and deliver on customer outcomes.

Our vehicle fleet has in-vehicle safety devices installed that will detect a vehicle rollover or panic alert and trigger an alarm to our 24-hour Operations Control Centre in Adelaide.

The safety of our field teams continues to improve with the introduction of field safety alerts. Our field teams across the state receive alerts on their mobile devices about any potential property hazards. This ensures our people can be prepared and take appropriate action to improve safety before arriving onsite.



Strength in diversity and inclusion

Our Diversity and Inclusion Plan outlines four priorities and in 2020-21 we delivered a range of activities and outcomes to achieve our diversity and inclusion targets.

1. Women at SA Water

At 30 June 2021, 41.86 per cent of our leadership positions were held by women as we continue to grow opportunities to develop and support women in our business.

Our Together for Women network marked its first anniversary in March with members of the network taking part in the live-streamed event hosted by the Adelaide International Women's Day Breakfast Committee.

2. Aboriginal and Torres Strait Islander employment and retention

Aboriginal employment was 2.80 per cent at 30 June 2021, having peaked at 2.95 per cent in May.

In April we launched our Aboriginal and Torres Strait Islander Employment and Retention Plan which will help us achieve sustainable employment pathways for future and existing Aboriginal employees by creating development opportunities within our business.

The Collective, a network for our Aboriginal and Torres Strait Islander people, continued to provide opportunities to share experiences, foster culturally appropriate support structures and connect across our business.

Clockwise from top:

Gayle Polley, Chris Bennett, Mikalie Nakos, Jill Sears, Brendon Moore, Princess Laya and Jacqui Moon at the Pride in Water event.

Patrick Squire, Georgia Leske, Ikshula Chopra and Jack Lowe with the paper rainbow chain carrying messages of support to mark International Day Against Homophobia, Biphobia, Interphobia and Transphobia.

Bianca Schutz, Candice Nayda and Shane Adderton were appointed to leadership positions for The Collective.

Alex Monterosso, Beth Ivory, Hoda Adelkhah and Chela Bett joined International Women's Day celebrations.



Participants of our graduate program.

3. Flexible and inclusive workforce

Our Disability Access and Inclusion Plan was launched in November 2020, outlining 39 actions that will guide how we embrace and celebrate the active inclusion of people with diverse life experiences and circumstances. This year our Disability Network was formed with members involved in co-designing action outcomes for the plan. In a South Australian first, we installed accessible kayak launch facilities at Myponga and Warren reservoir reserves. In addition, pathways to work experience opportunities for people living with a disability were created and we piloted face-to-face awareness training with Purple Orange.

In May, our Pride Together network, which connects the LGBTIQ+ community and their allies across our business, hosted its first event in partnership with national network Pride in Water. The Pride in Water events at the Ozwater'21 conference in Adelaide demonstrated the wider water industry's support and enabled people to understand the value and contribution people with diverse experiences and views bring to our everyday operations.

4. Emerging workforce

Diversity in our apprentice programs continues to grow with 40 per cent of the intake in 2020-21 being female or Aboriginal people.

As at 30 June 2021:

- 37 per cent of our trainees are Aboriginal
- 32 per cent of our apprentices are Aboriginal or female
- 60 per cent of our cadets are Aboriginal or female.

Our support continued this year for the University of Adelaide's Women in STEM Careers Program which supports 100 women studying in the STEM fields, a number of whom have gone on to join our graduate program.

Spotlight on innovation and excellence

The 2020 Innovation and Excellence Awards recognised people from across our business who had shown excellence and new thinking to serve our customers.

Safety Leadership

Lana Haigh from our Engineering Team was acknowledged for her work to develop and present Safety in Design training.

The training provided participants with an understanding of why Safety in Design processes need to be implemented and areas where we can drive improvements.

Lana's efforts inspired our people to do things differently and bring improved design, and better safety practices, plus cost-efficient outcomes for our customers.

Together

Our Business Relations, Trade Waste, Wastewater & Environment, and Systems Planning teams came together to develop an innovative solution for two customers in the Adelaide Hills.

Taking an open-minded approach to a challenge presented by one of our largest customers, Thomas Foods International, they identified an opportunity for a local farmer to access recycled water from our Bird in Hand Wastewater Treatment which provided economic and environmental value to both customers.

Better Life

A collaborative team effort drove great customer outcomes and widespread benefits including savings and fairer bills for residential and business, regional, retirement village and trade waste customers.

The team worked together to influence long-held pricing policies, fee structures and billing practices, while also delivering a key government initiative to reduce the cost of living and doing business in South Australia.

Innovation

Harry Roberts, from our Wastewater and Environment team, implemented a new approach to managing midge flies at Bolivar Wastewater Treatment Plant.

An irrigated vegetation screen was created between the lagoons and the Northern Connector expressway. By screening the lights from the expressway, and providing a cool, attractive resting place for the midge flies, the number reaching the expressway has been reduced by 50 to 70 per cent.

This project has improved the quality of life of residents living near Bolivar and mitigated the risks associated with midge flies for tens of thousands of commuters on the Northern Connector every day.

Strength in Diversity and Inclusion

This new award for 2020 was won by Pride Together, a group developed by our graduates to provide visibility, awareness and allies for LGBTIQ+ people across our business, ensuring they feel safe, included and valued.

Having perspectives across our business that represent the diverse community we serve helps us make better and more informed decisions about the services we provide.

Pride Together generates pride among our people for being part of an organisation that has an inclusive culture where everyone belongs, is valued and respected.

Environment

Our BYOB campaign won the Environment Award for promoting drinking tap water, one of the best choices anyone can make for their health, their wallet, and the environment.

The campaign brought together tap water messaging with our re-useable BYOB bottle, public drinking fountains, the BYOB app, and our presence at community events with the Quench Benches and Miss Isla. Together, these elements encourage people to change their behaviour and reduce demand for single-use plastic, and to drink tap water more often.

Above and Beyond

The three joint winners of this award represented a range of teams who responded with resilience, innovation and compassion to support our people and our customers through the first year of the COVID-19 pandemic. The teams provided:

- proactive customer assistance to support our most vulnerable customers through the financial impact of the pandemic
- IT support for working from home, enabling a new way of working to ensure service continuity for our customers and the community
- internal communication to keep our people informed and safe to ensure our essential services workforce remained empowered, engaged and resilient.

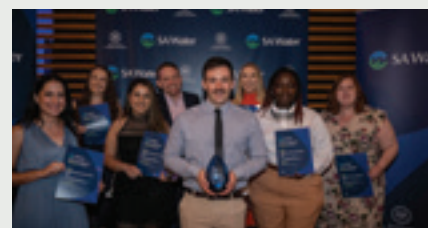
Inspirational Leadership

David Coombe was acknowledged as a highly motivating leader of our Customer Experience team, driving creativity, innovation, and high performance to improve the experience we provide to our customers.

David's empowering approach enabled his team members to bring their whole selves to work, while holding them accountable for contributing to both team and organisation-wide objectives.

Engagement survey

In April 2021 we took part in the public sector-wide I Work for SA Your Voice survey. When made available in 2021-22, results will provide insights into employee perceptions of workplace practices, identifying areas that are effective and areas for improvement. Our response rate of 78 per cent was the highest compared to similar-sized government agencies and departments.



Left: Paul Premnath, Joe Gesti and Stacey Smith, representing the winning team for the Together Award.

Top: The Pride Together network won the inaugural Strength in Diversity and Inclusion Award.

Above: The BYOB campaign team, winners of the Environment Award.

Research focus

Our Research team undertakes a range of research projects, and in 2020-21 there were 76 active projects.

The research program has a broad scope, from customer perceptions of drinking water, to increasing water recycling, smart technology and improved land management.

We work closely with other water utilities and research organisations with the view to improving the services we provide to customers.

As part of our research in 2020-21, we looked at mathematical modelling for calcite dissolution and plume migration, as well as improving detection of cyanobacterial taste and odour production.

Mathematical modelling for calcite dissolution and plume migration

Aim

To better understand calcium dissolution impact and use an updated groundwater model to predict different scenarios to inform risk assessment and future planning.

Situation

The Aldinga Managed Aquifer Recharge (MAR) is used to store recycled water from Christies Beach Wastewater Treatment Plant. Benefits of storing recycled water include decreasing the volume of treated effluent discharged to the Gulf St Vincent in winter when irrigation demand is low, and supplying it for use in the warmer months when irrigation demand increases.

This increases the water available for vineyard irrigation and associated business growth in the Willunga Basin area while reducing dependence on local groundwater sources which have been over-used.

Injection of recycled water into the aquifer at Aldinga causes some degree of calcium dissolution due to the reactions between the injected water and the aquifer water. The impact and degree of dissolution caused by the Aldinga MAR is largely unknown.

Outcome

This research project seeks to understand and address environmental risks associated with calcite dissolution for bore instability and aquifer weathering, and to predict scenario-based plume migration behaviour as a mitigation measure.

2020-21 achievements

Starting in March 2021, three final year undergraduate maths students from UniSA have worked on this project as part of the university's Mathematics Clinic. The students have been coached by two UniSA academic staff and worked with our Wastewater and Environment team.

They have developed a software package to model calcium dissolution in aquifers and to explore potential mitigation measures.

This collaboration with UniSA is the only program of its kind in Australia, giving students hands-on experience with a large real world research project.

Work on this project will continue in 2021-22.



The UniSA Student research team at Christies Beach Wastewater Treatment Plant.

Improving detection of cyanobacterial taste and odour production

Aim

To determine if fluorescent dissolved organic matter (fDOM) used with algal detecting sensors can provide further information on cyanobacterial taste and odour production or cyanobacterial cell health.

Situation

Cyanobacteria and their associated metabolites remain a challenge for water utilities around the world. Our treatment plants deal with earthy and musty taste and odour compounds from our source water catchments due to cyanobacterial blooms.

Managing these compounds is critical to ensuring our customers receive drinking water that does not taste earthy or musty. We do this through multibarrier water treatment processes. Our current monitoring program, while extensive, can be limited in providing time sensitive results to water treatment plant operators who need to adjust the treatment response to the formation and decline of blooms.

Previous studies have established that the use of fluorescence sensors can provide near real-time monitoring for cyanobacterial cells. Preliminary studies have shown that fDOM can be a strong surrogate for dissolved organic compounds and potentially can be used for cyanobacterial-derived organic matter and cell activity, as well as taste and odour compound release.

If fluorescence sensors can be used as a surrogate for cyanobacterial-derived compounds, these measurements can be used by operators to rapidly make decisions about taste and odour treatment options, an improvement on traditional methods that can take at least 24 hours.

This research is being conducted by our Water Science team with support from treatment plant operators at Happy Valley and Myponga.

Outcome

This research project seeks to determine if fluorescence can be used to monitor dissolved organic matter and, by extension, cyanobacterial-derived metabolites that can be linked to dissolved taste and odours, toxins, and cell health.

2020-21 achievements

The study has established a good correlation between fDOM and dissolved organic carbon.

The preliminary data has shown that fDOM measurements combined with other algal measurements can be potentially linked to dissolved taste and odour compounds. Further monitoring is required to validate these preliminary results.

The data generated from this project has resulted in the first working iteration of an algal dashboard for Happy Valley and Myponga reservoirs. This dashboard provides a clear, user-friendly display for algal and cyanobacterial-related information at the inlet of our drinking water treatment plants in near real-time which aids the management of cyanobacteria.

Work on this project will continue in 2021-22.



Our Water Science team is researching how to improve the detection of cyanobacterial taste and odour production.

Water quality

SA Health statement

SA Health and SA Water work cooperatively to ensure the continued protection of public health in relation to the supply of drinking water across the state. SA Water complied with all requirements under the *Safe Drinking Water Act 2011* including the notification of incidents under the interagency Water/Wastewater Incident Notification and Communication Protocol.

During 2020-21, SA Water collected 46,401 samples from drinking water supplies throughout the state. Samples were analysed for compliance with the Australian Drinking Water Guidelines (2011) (ADWG) and results reported to SA Health in line with agreed reporting protocols. Compliance with the ADWG for *E. coli* was achieved in 100 per cent of metropolitan Adelaide samples, 99.96 per cent of country samples and 100 per cent of remote Aboriginal community samples. Overall compliance with the ADWG for health-related parameters was 100 per cent for metropolitan systems, 99.94 per cent for country areas and 99.83 per cent for remote Aboriginal community supplies.

The total number of incidents notified by SA Water during 2020-21 was similar to 2019-20. There was an increase in the number of incidents arising from unauthorised activities at drinking water reservoir reserves, access to which was expanded and they were visited by a growing number of people. These activities did not have a measurable impact on drinking water quality. An extensive proactive flushing program initiated to improve aesthetic aspects of drinking water and remove corrosion products from ageing sections of distribution networks resulted in a greater number of reported chemical exceedances. However, these exceedances were temporary and resolved as part of the program. An audit of properties supplied by the Virginia Pipeline Scheme led to detection of a number of cross connections between drinking water and recycled water pipework. These cross-connections were detected within property boundaries. There was no evidence that recycled



water had entered the public drinking water supply. Protection of the drinking water network has been increased. Incidents associated with contamination of drinking water storage tanks also increased.

There was a reduction in numbers of incidents reported due to detection of cyanobacteria and enteric protozoa in source water. Cooler summer temperatures and lower winter rainfall may have contributed to the reduction. Incidents associated with water filtration and disinfection were reduced in 2020-21 compared to 2019-20. The number of incidents arising from customer complaints about dirty water was also lower.

Water quality incidents were notified by SA Water in a timely manner. Appropriate remedial actions were implemented and ensured the protection of public health was maintained at all times. No incidents required public notification during the reporting period.

Safe drinking water legislation

The *Safe Drinking Water Act 2011* provides the regulatory framework for drinking water providers in South Australia and is administered primarily by SA Health with assistance from local government. Provisions in the Act are underpinned by the ADWG and prescribe requirements for drinking water providers, including:

- registration of drinking water providers with SA Health
- development and implementation of risk management plans (RMPs)
- establishment of approved drinking water quality monitoring programs
- notification of incidents or non-compliance
- audits and inspections to determine compliance with the Act
- use of National Association of Testing Authorities accredited laboratories for sample testing
- reporting of water quality test results to SA Health and providing consumers with drinking water quality information.

SA Water is registered as a drinking water provider and has established RMPs including approved monitoring programs and an incident notification protocol. SA Water provided water quality testing reports for metropolitan, country and remote community water supplies on a monthly basis with results showing a very high level of compliance.

Under the Act, SA Water is required to undergo an annual independent audit. In 2020-21, the seventh audit of SA Water was undertaken since the Act took effect. A number of representative SA Water drinking water supplies were included in the audit. The audit concluded that SA Water had a very strong culture of prioritising drinking water safety and was operating in compliance with the requirements and intent of the Act.

The level of compliance was improved in comparison to the six previous audits and no significant non-compliances were detected. Some opportunities for improvement were identified.

Further information on the *Safe Drinking Water Act 2011* can be found at sohealth.sa.gov.au/safedrinkingwateract.

SA Water also provides additional information regarding water quality which can be found at sawater.com.au.

Catchment to tap

We manage drinking water quality from catchment to tap in line with our Drinking Water Quality Management System to ensure a consistent and reliable supply of high quality, safe drinking water for our customers.

This management system is based on the Framework for Management of Drinking Water Quality outlined in the ADWG and endorsed by the National Health and Medical Research Council. The framework outlines good drinking water supply management, based on the best available scientific evidence that will assure drinking water quality and safety at the tap.

Water quality monitoring and testing

The 85 drinking water supplies we operate serve customers across metropolitan, country and remote Aboriginal communities within South Australia.

To maintain quality, we have SA Health-approved drinking water quality monitoring programs with samples collected and analysed throughout all aspects of the water supply system, including catchment and source water, treatment processes and the distribution network up to the water meter on individual properties.

We monitor for health and aesthetic compliance and to optimise water quality. Samples are collected by our trained field workers to make sure they are taken correctly, and field results have a high degree of integrity. Laboratory analyses are carried out by our Australian Water Quality Centre in accordance with ISO 9001 Quality Systems and the requirements of the National Association of Testing Authorities.

The following table summarises routine monitoring and testing activities in our SA Health-registered drinking water supply systems in 2020-21.

Number of sample locations and test analytes – statewide, metropolitan, country and remote Aboriginal communities water supply systems, 2020-21

Drinking water systems	Statewide	Metropolitan	Country	Remote Aboriginal communities
Supply systems	85	8	59	18
Customer tap sample locations	511	177	314	20
Catchment to tap sample locations*	1,478	365	982	131
Catchment to tap routine test analytes	357,957	83,126	264,376	10,455

* Includes customer tap sample locations

Drinking water quality and performance

In 2020-21, we demonstrated robust management of water quality by consistently providing safe, clean drinking water to our customers.

The following table summarises our performance for health-related parameters of routine samples at customer tap sample locations.

Statewide, metropolitan, country and remote Aboriginal communities drinking water supply systems health-related performance, 2020-21

Health-related parameters	Statewide systems (number of test analytes)	Metropolitan systems (number of test analytes)	Country systems (number of test analytes)	Remote Aboriginal communities (number of test analytes)
Samples free from <i>E. coli</i>	99.97% (10,064)	100% (3,228)	99.96 (6,732)	100% (104)
Samples compliant with ADWG health parameters*	99.96% (46,401) Target: 99.90%	100% (13,309) Target: 100%	99.94% (32,496) Target: 99.80%	99.83% (596) Target: 99.80%

* Percentage of routine results at customer tap sample locations within drinking water systems which comply with the ADWG health limits (including *E. coli*).

Direct exceedances of the ADWG were used rather than the 95th percentiles for compliance of individual chemical parameters.

Prior to calculating per cent compliance for health-related chemicals, individual results are rounded to the same number of significant figures as the guideline value in the ADWG (as prescribed in the ADWG and agreed with SA Health).

We analysed 46,401 routine test analytes from our drinking water supplies (customer tap sample locations) throughout South Australia to determine health-related compliance.

- We achieved 99.97 per cent *E. coli* compliance across customer tap sample locations with exceptions in three country systems.
- Compliance with ADWG health-related parameters across customer tap sample locations was above target at 99.93 per cent.

Although we aim for 100 per cent compliance all the time, the ADWG recognises that occasional exceedances may occur with most guidelines for chemicals based on a lifetime of exposure. In accordance with the guidelines and the interagency Water/Wastewater Incident Notification and Communication Protocol, all detections were immediately communicated to SA Health, investigated by us and corrective actions implemented as agreed with SA Health.

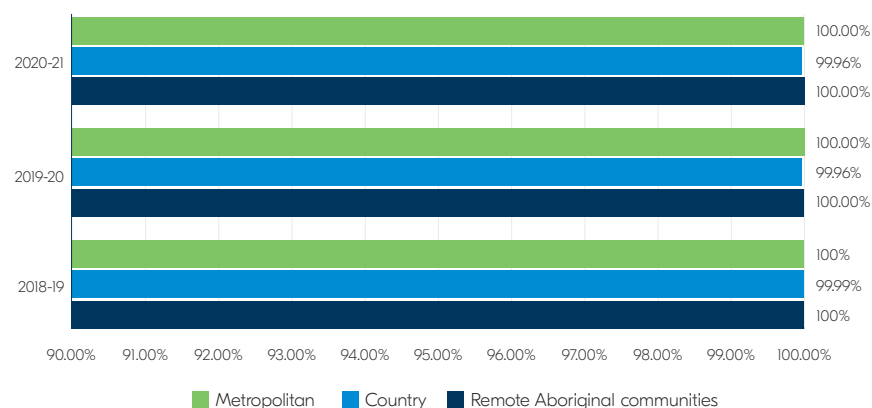
SA Health has confirmed that drinking water provided to customers by us was safe and appropriate responses and corrective actions were implemented in all cases and these mitigated any risks to public health.

A number of our surface water sources contain high amounts of natural organic matter. As a result, we continue to work towards reducing disinfection by-products that occur due to the interaction between this organic matter and chlorine used as a disinfectant. In 2020-21 we made significant improvements nearly halving the number of disinfection by-product exceedances when compared to the previous financial year. For example, the construction of a granular activated carbon plant within the Wirrina Cove system significantly reduced disinfection by-products from the water.

With a goal to further reduce disinfection by-products, as well as improve the taste and smell of the water, we are progressing with changing the treatment chemicals used to disinfect the water within the Myponga system from chlorine to chloramine. After receiving positive feedback from the Myponga township residents following this change, we completed the second stage of this project in March 2021, which has expanded the chloraminated area to include the townships of Yankalilla, Normanville and Carrickalinga.

In 2020-21 we also undertook planning, design and construction works which will see the remainder of the Myponga system receive chloraminated water in 2021-22, including the major townships of Sellicks Beach, Encounter Bay, Goolwa, Port Elliot, Victor Harbor and Hindmarsh Island.

***E. coli* compliance at metropolitan, country and remote Aboriginal communities drinking water supply system customer tap sample locations since 2018-19 (customer tap sample location tests free from *E. coli*)**



46,401
samples were
collected statewide

100%
compliance achieved in
metropolitan systems

Incident management

We apply the ADWG Framework for Management of Drinking Water Quality which includes two components for the management of incidents:

11. communication
12. incident and emergency response protocols.

Our Water Quality Incident and Emergency Management Protocol is in place and we have a web-based incident management system to record and generate notifications of water quality incidents. These are aligned to the interagency Water/Wastewater Incident Notification and Communication Protocol that is maintained by SA Health to adopt the principles of the ADWG and satisfy requirements of the *Safe Drinking Water Act 2011* and *Safe Drinking Water Regulations 2012*.

SA Health defines three types of health-related incident classifications based on a precautionary approach.

1. Priority Type 1 incident notification

An incident that, without immediate appropriate response or intervention, could cause serious risk to human health and is likely to require immediate interagency meetings to consider responses. Procedures for Type 1 incident notifications also apply.

2. Type 1 incident notification

An incident that, without appropriate response or intervention, could cause serious risk to human health.

3. Type 2 incident notifications

An incident that, without appropriate response or intervention, represents a low risk to human health.

Following is a comparative summary of the Priority Type 1, Type 1 and Type 2 incident notifications reported against the interagency Water/Wastewater Incident Notification and Communication Protocol.

Statewide drinking water supplies number of incidents (metropolitan, country and remote Aboriginal communities)

Reporting period	Priority Type 1	Type 1	Type 2
2020-21	1	45	57
2019-20	1	36	63
2018-19	1	24	54
2017-18*	2	42	90
2016-17 [#]	2	48	159

Note: these notifications do not include wastewater, recycled water and non-drinking supplies.

* Remote Aboriginal communities incidents included in annual reporting from 2017-18.

[#] Impacted by River Murray blackwater event.

Priority Type 1 and Type 1 incidents are immediately reported to SA Health, while all Type 2 notifications are reportable within 24 hours, in line with the interagency Water/Wastewater Incident Notification and Communication Protocol.

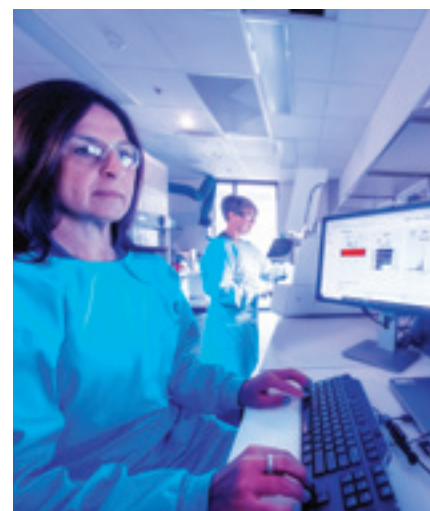
The Priority Type 1 incident was due to high levels of the blue green algae *Dolichospermum circinale* at Wirrina Cove Water Treatment Plant inlet. The plant was taken offline while it was treated with algicide. During the incident, drinking water was transported from the nearby areas of Normanville, Yankalilla and Myponga to supplement the storage tank at Wirrina Cove.

In 2020-21, the number of Type 1 notifications increased and Type 2 notifications decreased compared with 2019-20. The increase in Type 1 notifications was largely attributed to an increase in recreational access-related incidents, with visitations more than doubling in 2020-21 as reservoir reserves were progressively opened for public access and activities were expanded. When taking into account the increased visitations, the incident rate per 1,000 visitors declined when compared to 2019-20, showing the overwhelming majority of visitors are doing the right thing when enjoying these spaces. These activities did not have a measurable impact on drinking water quality as considered by SA Health.

There was an increase in cross-connections between drinking water and recycled water reported due to an audit of properties supplied by the Virginia Pipeline Scheme. These occurred within property boundaries with no evidence that recycled water had entered the drinking water network. As part of the audit, these cross connections have been removed and we will continue work with SA Health and the Office of the Technical Regulator to further safeguard these systems. There was also a decrease in cyanobacteria incidents in our source waters. The reduction in Type 2 notifications is due to a significant decrease in clusters of customer complaints and enteric protozoa incidents.

In 2020-21, we continued our focus on early detection and reporting to external agencies, briefing the Minister for Environment and Water, ensuring prompt corrective action and addressing the causes of preventable Type 1 notifications, such as disinfection failures and filtered water turbidity exceedances. Strategies used to achieve this include refresher training for incident managers and operators, optimisation of our drinking water quality monitoring program, ongoing operational and capital improvements, and continuous improvement of our Drinking Water Quality Management System.

The proactive water quality management of targeted water supply systems and detection and management of risks continued during 2020-21. Changes in reporting criteria issued by SA Health in the interagency Water/Wastewater Incident Notification and Communication Protocol also occurred and contributed to a change in reporting requirements.



Incident Response Index

The Incident Response Index (IRI) drives and guides correct responses when a Priority Type 1 or Type 1 incident is detected. The IRI is assessed against a number of criteria, with each component in the IRI designed to help manage water quality incidents, including reporting, initial response and longer-term preventive measures. The overall 2020-21 strategic target for the IRI was 85 per cent compliance.

Criteria used in the Incident Response Index (based on total reportable SA Health Priority Type 1 and Type 1 incident notifications)

Incident reported to relevant agencies by phone immediately (less than one hour)

Incident entered into the incident management system in less than two hours

Initial effective response taken within three hours

Written report to Minister for Environment and Water by 3pm next business day

Root cause analysis completed within 10 working days

Preventive actions implemented within agreed timeframes

Overall strategic
2020-21 target: 85%

The continual review and improvement of our incident management processes has positively impacted our overall water quality incident response and performance, maintaining an overall score well above our target.

The Incident Response Index achieved in metropolitan, country, remote Aboriginal communities and overall for 2020-21, compared to 2019-20

System	IRI 2019-20 Target: 85%	IRI 2020-21 Target: 85%
Statewide (weighted combined metropolitan, country and remote Aboriginal communities)	98%	93%
Metropolitan	98%	99%
Country	98%	90%
Remote Aboriginal communities	100%	100%

Safe Drinking Water Act audit

In February 2021, we were audited under the *Safe Drinking Water Act 2011* (the Act), and successfully met all our legislative requirements. The successful outcome of the audit found that:

- we, and our partner organisations, have a very strong culture of prioritising drinking water safety. This is embedded deeply within the organisation
- the drinking water quality management plan is mature and well implemented. As such there are no major gaps or systemic issues identified within the audit
- the risk assessment planning for recreational access was in the auditors view international best practice
- we are acting in compliance with the requirements of the Act, and that the drinking water in the schemes audited is managed in accordance with the intent of the Australian Drinking Water Guidelines.

Overall, the auditor concluded there was a very high level of compliance and the identified improvement actions and non-conformances have not impacted the provision of safe drinking water supply.



Effective governance

Legislation

SA Water was established as a public corporation on 1 July 1995 under the *South Australian Water Corporation Act 1994*. Legislation guides SA Water's operations, the most significant include:

- *Public Corporations Act 1993*
- *Water Industry Act 2012*
- *Safe Drinking Water Act 2011*
- *South Australian Public Health Act 2011*
- *Work, Health and Safety Act 2012*
- *Environment Protection Act 1993*
- *Landscape South Australia Act 2019*.

Key regulators

The Essential Services Commission of South Australia is the state's independent economic regulator and so sets service standards and revenue caps for the essential water and sewerage services we deliver for our customers.

SA Health sets and monitors standards for drinking water quality and regulates recycled water use in the state.

The Office of the Technical Regulator sets standards and requirements for water and sewerage infrastructure, and the operation of that infrastructure, to ensure public safety.

The Environment Protection Authority sets standards for acceptable discharge from wastewater treatment facilities and monitors our operations and activities to minimise impact on the environment.

The Department for Environment and Water regulates access to natural water sources, protects water catchments and native vegetation and is the state body responsible for the River Murray as part of arrangements for managing the Murray-Darling Basin.

The Board

The Board is appointed under the *South Australian Water Corporation Act 1994* to govern the business on behalf of the state government, reporting to the Minister for Environment and Water. The Board sets our strategic direction and monitors performance, driving efficiency and protecting our long-term financial viability in accordance with the *Public Corporations Act 1993*.

The following Board directors, appointed by the Governor of South Australia, served during 2020-21:

- Andrew Fletcher AO, Chair
- John Bastian AM
- Sue Filby
- Janet Finlay
- Chris Ford
- Fiona Hele
- David Ryan.

Day to day management of the business is delegated by the Board through the Chief Executive to the Senior Leadership Team. Pursuant to section 18 of the *South Australian Water Corporation Act 1994*, the Minister has delegated authority to the Board of SA Water to approve procurements of up to \$10 million and expenditure up to \$4 million on any one project.

A charter prepared by the Minister and the Treasurer, in consultation with the Board, was in place for 2020-21 in accordance with section 12 of the *Public Corporations Act 1993*. The charter guided the Board in seeking to balance community service with prudent commercial principles.

Directors' interests and benefits

For 2020-21, no director had an interest in any contract or proposed contract with SA Water, other than contracts in the ordinary course of business. No benefits were received by any director of SA Water by virtue of a contract that was made with SA Water, other than in normal course of business as set out in the financial statements.

Board committees

The Board has established a committee structure to assist it in meeting its responsibilities. Each committee has a charter that guides its functions and duties and is reviewed regularly.

Governance, Finance and Risk Committee

— supports the Board in fulfilling its governance and oversight responsibilities in relation to our financial planning and reporting, internal and external audit, internal control processes, risk management systems, legal compliance, and fraud control.

Customer, Community and Business Development Committee

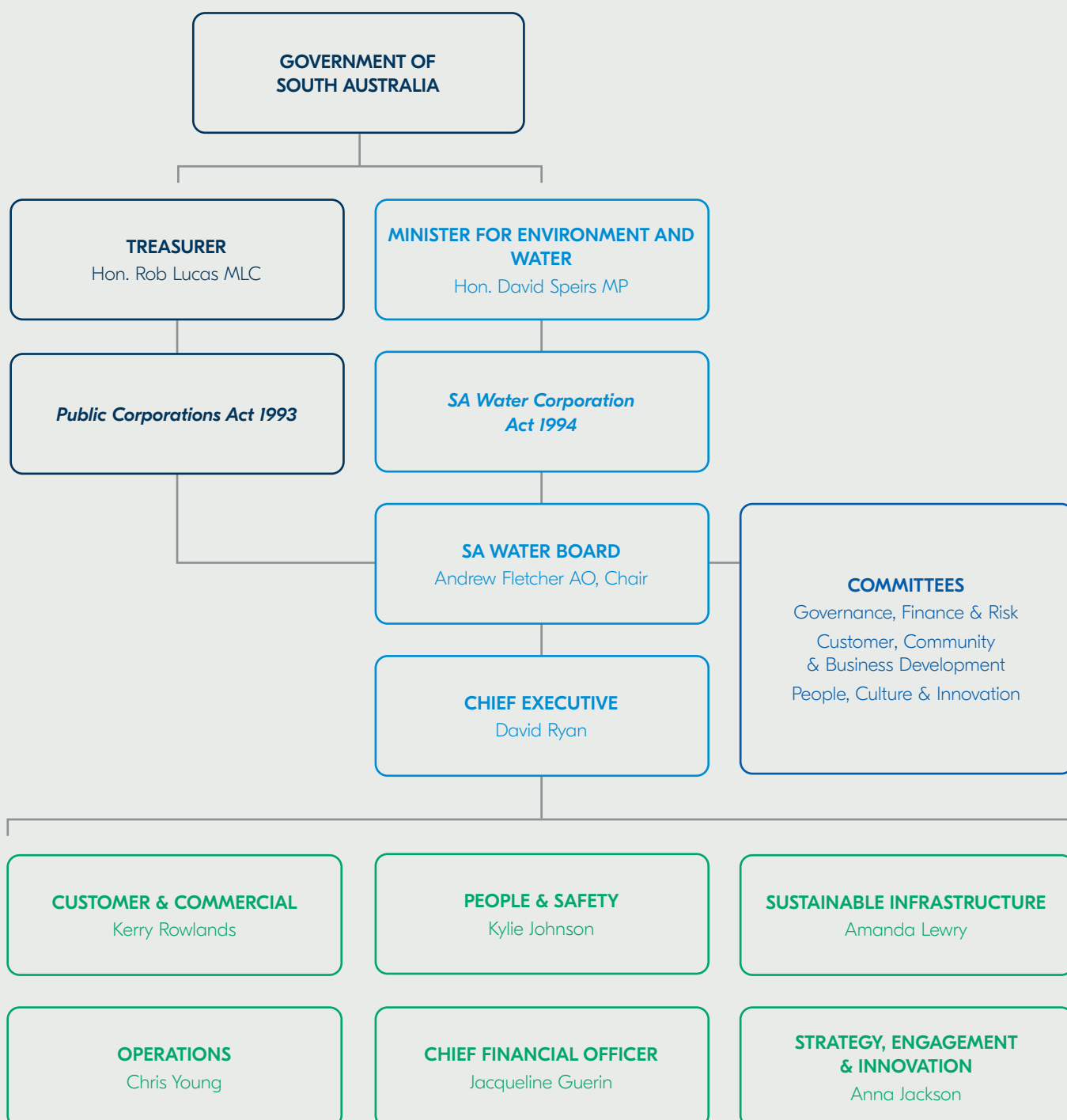
— assists the Board's oversight of customer and community needs, interactions and outcomes, to ensure they are aligned with business and brand strategy.

People, Culture and Innovation Committee

— supports the Board on matters associated with workforce planning, remuneration and corporate culture, taking into account the strategy, government policy, relevant Board policies, business needs and regulatory requirements.

Organisation structure

As at 30 June 2021







Financial performance

Financial performance summary

Our financial performance for the year was strong with a year-end profit before tax of \$99.2 million which was \$29.8 million higher than budget.

Revenue was \$54.8 million higher than budget predominantly due to:

- strong water sales due to warm and dry weather conditions throughout the year
- significant contributed assets arising from mains extensions contributions, infrastructure assets gifted to us from developers and capital contributions to us for work we perform, as a result of increased development activities across the state
- profit on sale of surplus assets that were not required for ongoing operations.

Total expenses were \$25.0 million higher than budget predominantly due to:

- production and treatment costs for higher than average water production due to warm and dry weather conditions throughout the year
- transition costs in relation to the new Adelaide Service Delivery contracts for production and treatment and field services
- site decommissioning and site remediation and restoration costs, provision for bushfire preparedness works, and retirement of replaced mains.

These increased expenses were offset by:

- reductions in interest and debt management costs due to a focus on debt management strategies to mitigate interest rate risk and minimise interest expense, including debt refinancing at favourable market interest rates
- reductions in electricity expenses through volume-managed purchases from the wholesale energy market and reductions in electricity price
- reductions in operational taxes and external fees and charges.

Amounts paid to government

As a significant revenue contributor to the South Australian government, for the broader benefit of the people of South Australia, an amount of \$275.4 million was paid in 2020-21. This saw \$72.9 million of business operating expenditure contributed to other government agencies and/or councils. Within interest expense, \$94.6 million was paid to the South Australian Financing Authority as guarantee fees and margins. An income tax equivalent of \$25.7 million and a dividend of \$82.1 million were also paid.

Contributions to government	2020-21 actuals \$'000
External fees and charges	54,013
Contract services provided	1,253
Operational taxes and tax equivalents	17,656
Total contained within operating expenses	72,922
<i>As a percentage of total operating expenses</i>	<i>12.1%</i>
Interest expense — guarantee fees*	90,388
South Australian Government Financing Authority margin fees	4,221
Additional interest paid to owner	94,609
Income tax equivalents	25,733
Dividends at 100% of profit after tax	82,093
Total amounts paid to government	275,357

* Guarantee fees are paid to the South Australian government to remove any competitive advantage SA Water might have due to its ability to borrow under the South Australian government credit rating.

Capital expenditure

This year, we spent \$479.4 million on capital expenditure, with \$25.6 million spent on information technology and \$453.9 million on infrastructure.

Information technology investments continue to focus on improving outcomes for our customers and the business as well as the safety of our people, including:

- improved service channels and customer digital experience
- increased technology security and reliability (including cyber security)
- increased business efficiency and employee experience
- innovative technologies such as smart maintenance, underwater robotics and virtual reality.

We continue to focus on improving our water and wastewater infrastructure assets and invest in major infrastructure projects, all of which have a positive impact on our customers and/or the state. In 2020-21 these included:

- Zero Cost Energy Future, with \$130.3 million spent, taking the total project spend to \$352.9 million of the \$368.2 million project
- Happy Valley Health Compliance Upgrade Project, with \$11.4 million spent towards the \$21.4 million project
- Angle Vale Wastewater Network Augmentation Project, with \$10.5 million spent towards the \$12.7 million project.

Capital expenditure has been prudent with efficient expenditure through the year. It was contained within the Essential Services Commission of South Australia's allowable expenditure and/or state budget approvals.

Consultants

The following is a summary of external consultants engaged, and the nature and cost of the work undertaken.

Consultant	Amount (\$)	Description/purpose
Less than \$10,000		
Bakjac Consulting Pty Ltd	278	Advice towards strategies and implementation of performance improvement processes.
Deloitte Touche Tohmatsu	3,000	Research paper and advice on specific accounting treatment.
VUCA	3,000	Independent review of the SA Water Board processes.
KPMG	4,959	Independent review of the major framework partnership.
Core Environmental	6,060	Independent environment advice regarding external projects.
ISC Consulting Group	6,200	Advice on State Emergency Management Council strategic action.
Between \$10,000 and \$50,000		
Red Wagon Workplace Solutions	11,268	Human resources advice.
Safearth	13,570	Independent assessment of the high voltage transformer switchboard at Bolivar Wastewater Treatment Plant.
KPMG	25,875	Review and advice on discounted cash flow model used for statutory reporting asset valuation purposes.
TonyMac Consulting Pty Ltd	31,997	Advice on the preparation of analysis and framework for enterprise agreement negotiations.
Ernst & Young	35,000	General accounting advice.
Baringa Partners LLP	48,000	Quarterly energy market report and energy market sensitivities analysis.
Greater than \$50,000		
Ernst & Young	175,000	Review of asset creation lifecycle process with business implementation recommendations.
PricewaterhouseCoopers	250,000	Review current payroll business practices.
Total	614,207	

See also tenders.sa.gov.au/tenders/index.do for a list of all external consultancies, including nature of work and value. See also the Consolidated Financial Report of the Department of Treasury and Finance at treasury.sa.gov.au for total value of consultancy contracts across the SA Public Sector.





Supplementary reporting items

Fraud

There were two instances of potential fraud reported in 2020-21. Both matters were reported to the Independent Commissioner Against Corruption South Australia (ICAC SA). One matter was found to not be substantiated and has been closed. The remaining matter is in the process of being investigated.

Strategies implemented to control and prevent fraud

We have a zero tolerance to fraud and corruption and perform a range of activities to control and prevent fraud. Key to these activities are:

- senior executive oversight of our Fraud and Corruption Control Policy and procedure by the Head of Governance and Integrity as designated Fraud and Corruption Control Coordinator
- regular assessment of fraud risks and risk management strategies for high-risk areas
- investigations of all allegations of fraud or corruption in accordance with our fraud and corruption procedures
- data analytic reviews conducted by an internal audit of payroll and accounts payable transactions
- communication to our people on the need to report matters of concern and to act in accordance with our Ethical Standards Procedure and the Code of Ethics for the South Australian Public Sector.

Public interest disclosure

Pursuant to section 12 of the *Public Interest Disclosure Act 2018*, we have appointed responsible officers and published procedures for the receipt and management of public interest disclosures. We received two public interest disclosures during 2020-21. Both matters were reported to the ICAC SA/Office for Public Integrity pursuant to the Act.

Summary of complaints

All forms of organisational feedback including complaints are seen as opportunities for us to improve our performance in delivering excellent customer experiences, as well as building customer trust and confidence and developing operational efficiencies.

We strive to capture, understand, and resolve complaints at first contact whenever possible. Our Customer Advocate team helps investigate and respond to complaints which were not able to be resolved on first contact. Additionally, we proactively look for ways to improve the feedback management processes across the business.

In 2020-21, we registered 1.99 complaints per 1,000 customers. This is a positive decrease compared with 2.05 complaints per 1,000 customers in 2019-20.

We continue to track well below the national median of 4.2 for major utilities, as reported by the Bureau of Meteorology in its *National performance report 2019-20: urban water utilities*.

Together with the Water Services Association of Australia and other Australian water utilities, we are reviewing and implementing best practice guidelines to extend our ability to capture customer complaints resolved at first contact, to build valuable insights for our business and improve the overall customer experience.

The most common complaint types received in 2020-21 related to:

13. water quality
14. repairs and maintenance of infrastructure in the metropolitan area
15. costs incurred for high water consumption.

In 2020-21, the Energy and Water Ombudsman of South Australia (EWOSA) received 163* complaints about us on a range of issues, which is a minor increase from 159 in 2019-20. The highest complaint type remains costs incurred for high water use, which is consistent with complaints in 2019-20.

This year, 98 per cent of customers who had a complaint handled by our Customer Advocate team indicated they were satisfied with our complaints handling process.

Through our complaint management process, the Customer Advocate team completes root cause analyses, post complaint reviews and case studies for complaints throughout the year. Case studies include a full account of the complaint details, a summary of the case investigation, the outcomes, and any applicable process improvement recommendations.

In response to customer feedback, we continue to implement changes, and in the past year this has included:

- improved meter reading assistance cards for customers who may have difficulty reading the meter themselves
- a review of incidents where customers have experienced repeated sewer overflows to identify opportunities for improvement in business processes and customer support
- targeted information for households about how to keep sewers healthy and free from blockages in response to objects found in the wastewater network.

* The number of EWOSA complaints referred to us may differ between our reporting and EWOSA's due to variances in reporting practices.

Ministerial direction

PUBLIC CORPORATIONS ACT 1993

SECTION 6

Direction to the South Australian Water Corporation

Background:

1. Pursuant to Section 6 of the *Public Corporations Act 1993*, and sections 6 and 7 (2)(f) of the *South Australian Water Corporation Act 1994* the South Australian Water Corporation (SA Water) is subject to control and direction by its Minister, and has the functions conferred on it by its Minister.
2. The *South Australian Water Corporation Act 1994* and the *Water Industry Act 2012* are committed to the Minister for Environment and Water (the Minister) as per Gazettal notice dated 22 March 2018 (p. 1256)
3. The Minister Directed SA Water on 28 May 2020 over the course of the third regulatory period to provide certain services, in addition to the services it is required to provide pursuant to section 7 of the *South Australian Water Corporation Act 1994*, and the Charter for SA Water, together with a number of other matters and projects, including to progressively assume responsibility for the Tea Tree Gully community wastewater management scheme with the agreement of the City of Tea Tree Gully (with the intent that from transfer of the relevant assets to SA Water, the assets, and their operation and upgrade, will be treated as part of SA Water's sewerage retails services).
4. Following recent investigative and planning works undertaken by SA Water, there is merit in clarifying certain provisions in clause M of my Direction dated 28 May 2020 which are unique to this project.
5. The Minister intends that this Direction will revoke and replace clause M of the previous Direction made to SA Water pursuant to section 6 of the *Public Corporations Act 1993* on 28 May 2020 and published in the *Gazette* on 11 June 2020 (p. 3378). All other provisions are to remain unchanged.
6. This Direction may be revoked and replaced by a subsequent direction pursuant to section 6 of the *Public Corporations Act 1993*.

Direction:

I, David Speirs, Minister for Environment and Water, direct SA Water as follows:

M. Tea Tree Gully Community Wastewater Management System

With the agreement of the City of Tea Tree Gully (and on terms and conditions acceptable to SA Water), SA Water must:

- i. provide sewerage services to properties serviced by the Tea Tree Gully Community Wastewater Management System (the Properties), in a staged manner over the third regulatory period; and
- ii. facilitate the transfer of assets currently owned and operated by the City of Tea Tree Gully Council for the provision of sewerage services to Properties where they meet SA Water standards or can be upgraded to meet standards, and where the assets currently owned and operated by the City of Tea Tree Gully cannot provide the services SA Water must make prudent and efficient investments to provide the services to the Properties, which will include but not be limited to works required to be undertaken on the Properties for SA Water to provide the Services to the Properties.

For the initial works during the third regulatory period, SA Water will fund up to \$64.1 million of capital expenditure progressively as it acquires, upgrades or constructs (including on the Properties) together with associated operating costs (including on the Properties) not exceeding \$963,000 (as per the tables below):

- i. In relation to SA Water's capital expenditure:

2020-21	2021-22	2022-23	2023-24
\$3 834 000	\$23 376 000	\$27 385 000	\$9 471 000

- ii. In relation to SA Water's operating expenditure:

2020-21	2021-22	2022-23	2023-24
\$82 000	\$160 000	\$328 000	\$393 000

These services and assets will form part of SA Water's sewerage retail services from 1 July 2020 or a date of their provision and acquisition, whichever is later.

Date: 25 March 2021

DAVID SPEIRS MP
Minister for Environment and Water

