Melbourne Water Annual Report

2021-22

VICTORIA State Government

Melbourne Water

Enhancing Life and Liveability

Our vision

Enhancing Life and Liveability

Water is central to life. It sustains the natural environment we live in, the communities we value, and the economy we depend on.

Aboriginal Acknowledgement

Melbourne Water respectfully acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land and water on which all Australians rely. We pay our respects to Bunurong, Gunaikurnai, Taungurung, Wadawurrung and Wurundjeri Woi-wurrung, their Elders past, present and future, as Traditional Owners and the custodians of the land and water on which we rely and operate.

We acknowledge and respect the continued cultural, social, economic and spiritual connections of all Aboriginal Victorians. We also acknowledge the broader Aboriginal and Torres Strait Islander community and their connections with lands and waters, and recognise and value their inherent responsibility to care for and protect them for thousands of generations.

Melbourne Water acknowledges Aboriginal Victorians as Traditional Owners and, in the spirit of reconciliation, we remain committed to developing partnerships with Traditional Owners to ensure meaningful, ongoing contributions to the future of land and water management.

About this report

The *Melbourne Water Annual Report 2021-22* describes Melbourne Water activities undertaken between 1 July 2021 and 30 June 2022 to meet our customers' needs, regulatory obligations and contribute towards achieving our vision of enhancing life and liveability.

Melbourne Water is a Victorian Government-owned statutory authority.

As part of our commitment to sustainability, a limited number of copies of this report will be printed. An online version and accessible text format of this report are available on our website[1].

If you would like a copy of this report in a different accessible format, please call Melbourne Water on 131 722 (within Victoria) or (03) 9679 7100 (outside Victoria), or email **enquiry@melbournewater.com.au**.

[1] http://www.melbournewater.com.au

Cover photo: Tarago Reservoir

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The Year in Review

Report from the Chair and Managing Director

A year of transition

It is an exciting time for Melbourne Water. Recognising that we are in a period of transition in society and the workplace, Melbourne Water has begun to lay the foundation for the next 10 years – the decade that matters. We are beginning a defining new era for the water sector as we evolve our response to challenges ranging from climate change, population growth and the impacts of the ongoing pandemic. While Melbourne Water continues to meet the needs of all Melburnians today through delivery of our essential services, we are working with the future in mind, using the smarts of our people and new technology to adopt creative solutions to the challenges we face.

We would like to take this opportunity to acknowledge the contribution of Michael Wandmaker as Managing Director who stepped down from that role in November 2021. In his eight year tenure, Michael's leadership built a culture of continuous improvement, with a strong focus on safety, commercial acumen and creating a learning organisation that is ready to take the next step in delivering for the future of the Melbourne region.

We have used this year as an exciting opportunity to undertake a strategic reset. Our new Strategic Goals tackle these challenges head on. While keeping our core services strong, the goals will drive us to progress decarbonisation, embed integrated water management and focus on new water sources and resource recovery. We will work in partnership with Traditional Owners to support self-determination and reconciliation and with our customers to address the big challenges of long-term water security, reducing greenhouse gas emissions, improving the health of our rivers and enhancing the liveability of Melbourne.

New role as Catchment Management Authority

On 1 January 2022 we took on new responsibilities as a Catchment Management Authority (CMA) following the Victorian Government's decision to integrate the Port Phillip and Westernport Catchment Authority (PPWCMA) into Melbourne Water. The integration is an exciting next step for natural resource management in Victoria and builds on the strong, collaborative working arrangements already in place between PPWCMA and Melbourne Water.

We welcome all those employees who joined us from PPWCMA. The knowledge and experience they bring to our team have already proved invaluable. We look forward to working with the CMA customers and stakeholders to ensure we unlock the value of working in this new, integrated way.

Walking Country together with Traditional Owners

Building stronger relationships with Traditional Owners is a priority for Melbourne Water. In the past year, we continued our journey with Traditional Owners towards formal partnership agreements, designed to clearly articulate our roles and agreed priority outcomes and activities to enable Traditional Owners to achieve self-determined outcomes.

Approval of Melbourne Water's first formal Partnership Agreement with Traditional Owners was an important step on this journey and forms a commitment with the Gunaikurnai Land and Waters Aboriginal Corporation to work together and support their rights to water.

Looking ahead also means learning from the past. Melbourne Water is committed to supporting the Yoorrook Justice Commission's inquiry into the impact of colonisation on First Nations peoples in Victoria. This commitment means we will be an enabler of this truth telling process and respond to any requests from the Commission with openness and transparency.

Our commitment to a sustainable society

Melbourne Water continues to support the United Nations (UN) Global Compact – the world's largest corporate sustainability initiative. As a signatory to the Compact, we continued our commitment to embed the 17 United Nations Sustainable Development Goals (SDGs) into our operations. Embedding the SDGs into our business strategy and goals provides a global context for our local solutions and allows Melbourne Water to contribute on a much larger scale.

Our Path to Net Zero program for carbon reduction also continues through established practices and planned initiatives. We are reducing our carbon emissions by 50% by 2024-25 and actively looking for innovative ways to reduce our carbon footprint to net zero emissions by 2030. Partnering with leaders equally passionate about tackling this challenge will be essential, and our longstanding research programs, established relationships and networks in Australia and internationally are helping us to unlock more opportunity.

We aspire to play a greater role in the circular economy, where waste is viewed as a valuable resource. A significant focus in our investment this year included major renewals in our sewerage treatment facilities in Werribee and Bangholme, whilst looking for ways to innovate our processes to harness waste as a resource. By driving further value from recoverable resources, such as bio solids and biogas generation, we can generate more renewable energy and continue transitioning our system towards true circularity.

Protecting Melbourne's long-term water security

We are focused on enhancing water security for Greater Melbourne by ensuring we recognise and draw on the value of all water sources available, including catchments, desalinated water, stormwater and recycled water.

Our contributions to two critical blueprints for future water security in Victoria this year, the Central and Gippsland Region Sustainable Water Strategy (CGRSWS) and the Greater Melbourne Urban Water and System Strategy: *Water for Life*,

will help address the challenges of our growing city and drying climate, and provide a thriving and reliable water supply well into the future. We have been working closely with our customers, communities, Traditional Owner partners and our independent *Water for Life* Community Panel to understand current water needs, concerns and ideas for the future. These strategies provide a real opportunity to work in true partnership across the sector for the benefit of all Victorians.

Drawing inspiration and knowledge through meaningful collaboration

Our leading practice community engagement program has provided key input on enhancing the value of our assets through opportunities for recreation, helped to revitalise creeks and waterways in our Reimagining Your Creek program, and supported collaboration and empowerment through deliberative panels and co-design approaches. Our expanded offering of digital engagement tools has combined immersive storytelling and technology to connect community with our work in their local environment. This year we took visitors on a virtual tour of the WTP, encouraged citizen scientists to contribute to our Frog Census with an improved app, and improved water literacy and waterway health through a Litter Critter augmented reality experience.

Supporting the Victorian economy

We remain focussed on running an efficient business that delivers value for money outcomes for our customers and stakeholders. Our capital investment expenditure of $609.5 million dollars in this first year of our five year pricing period meant that we renewed and built new infrastructure to deliver our essential services for all Melburnians. Our ambitious infrastructure program is set to ramp up in the next few years, supporting the Victorian economy. This includes our social procurement program, which has been designed to create the most value from every dollar we spend.

Equipping our people to shape the decade ahead

The importance of a robust digital infrastructure is essential to our business. We are constantly looking for new ways to innovate and be a smarter, more agile organisation, including the use of technology to unlock opportunities in implementing our strategy and enhancing performance.

A pioneering approach to create and sustain healthy wetlands secured Melbourne Water 4th place in the influential AFR BOSS Most Innovative Companies list. Our Wetlands Analytics Visualisation Environment (WAVE) technology is just one example of how we are creating better environmental outcomes for the communities we serve by improving the way we work.

Our aspiration to be a learning organisation means investment in new ways to empower our people to learn, be curious and become more agile in the way we work. As we emerge from a period of extended lockdowns, we launched our New Normal Ways of Working program in March 2022. The program aims to make the most of lessons learnt through the way we worked during the pandemic, and builds on our legacy approach to blended and flexible work, bringing our people together to collaborate and connect with purpose. As a business with a significant on-site presence in critical operational roles, we're also actively pursuing ways to better understand what flexibility means for our operational and in-field roles, so no-one is left behind.

A more liveable, greater Melbourne

There's a lot to do, and while we're eager and willing, we know we aren't in this alone. We look forward to continuing to strengthen our relationship with Traditional Owners, our customers and partners to design a water-secure future for greater Melbourne, while making our city even more liveable.

In accordance with the *Financial Management Act 1994*, we are pleased to present Melbourne Water's Annual Report for the year ended 30 June 2022.

John Thwaites
Chair

26 August 2022

Nerina Di Lorenzo
Managing Director

26 August 2022

Melbourne Water's Operating Area

Who We Are and How We Work

Melbourne Water is owned by the Victorian Government and is the supplier of wholesale water, sewerage, drainage and waterway management services for greater Melbourne.

About us

For over 130 years, Melbourne Water has been serving the community by planning and building for our future.

We manage water supply catchments, treat and supply drinking and recycled water, remove and treat most of Melbourne's sewage, and manage catchments, waterways and major drainage systems in the Port Phillip and Westernport regions.

Much of the infrastructure created over that time is still in use today – a testament to the ingenuity and foresight of those who came before us. We are continuing this legacy by building new and resilient infrastructure to meet the challenges of today and the future, while keeping prices as low as possible.

Guided by our vision of creating Healthy People, Healthy Places and a Healthy Environment, Melbourne Water's passionate team of experts helps make greater Melbourne a fantastic place to live. We work hard to deliver sustainable public health, financial and environmental solutions such as providing affordable, clean water for homes, gardens and businesses, keeping our city clean and people healthy with effective sewerage services, and creating opportunities for community recreation and enjoyment of the land and waterways that Melbourne Water owns.

Melbourne Water does not work alone. We engage and collaborate with a wide range of partners that include Melbourne's retail water companies, councils, developers, contractors, Traditional Owners, the community and government agencies to deliver services our customers value. We build strong relationships with our customers, stakeholders and suppliers in the community, government and industry, and care for the health and wellbeing of our people.

With the ever-present challenges of a changing population, urbanisation and an increasingly changing and variable climate, we are also working hard to build a more resilient and water-sensitive city, one with a smart and sustainable water supply.

We are responsible for the management of critical infrastructure and the delivery of essential services that supports our customers and communities. We are committed to supporting greater Melbourne communities and businesses and continuing to provide the high levels of service the community expects from us.

We are a team of diverse and capable people from a broad range of specialised professions. Our people are skilled in delivering on the immediate needs of the community and meeting the long-term requirements of the environment and future generations.

Our focus is not only to deliver exceptional and affordable essential services to the people of greater Melbourne today but help secure a sustainable and healthy community for the generations to come.

Our vision and strategic direction

Melbourne Water's vision is to enhance life and liveability across greater Melbourne and the surrounding region. We know that water is central to life. It sustains the natural environment we live in, the communities we value, and the economy we depend on.

We do this by focusing on three pillars:

Healthy People: by providing safe, affordable, world-class drinking water and sewage treatment, and supporting Melburnians to live healthy lifestyles, we protect public health and strengthen the wellbeing of our community.

Healthy Places: by managing the impacts of climate change, building our resilience to flooding across the region, and partnering to deliver sustainable land and water management, we create more desirable places to live.

Healthy Environment: by being innovative with resource recovery, reducing our emissions, improving the quality of waterways and engaging with the community, we enhance biodiversity and help protect our natural assets.

Our Values

Our values of care, integrity and courage are integral to the way we do business and treat one another. They are intrinsically linked to our vision of enhancing life and liveability, and guide all that we do.

Care: we put safety and wellbeing first at all times, and seek the best for our colleagues, community, customers and environment.

Integrity: we are open and transparent in everything we do, treating people with respect and taking full responsibility for our words and actions.

Courage: we empower each other to believe in ourselves, speak up, innovate and learn from our mistakes to continuously improve how we do things and achieve the best possible outcomes.

Delivering the Victorian Government's plan for water

Water for Victoria is the Victorian Government's statewide water plan. It identifies priorities for managing water across the state, including the Melbourne region. The plan drives improved outcomes for communities in the way water is managed and delivers shared benefits, while addressing challenges such as climate change and population growth.

We work closely with government to deliver our services, which have been crucial in supporting Melbourne to grow into the city it is today. This Annual Report outlines our achievements in 2021-22 to meet the changing needs of the Melbourne region and addresses priorities detailed in *Water for Victoria*.

Letter of Expectations

We are further guided by the Minister for Water's Letter of Expectations, which this year focused on:

- climate change
- customer and community outcomes
- water for Aboriginal cultural, spiritual and economic values
- resilient and liveable cities and towns
- leadership and culture
- financial sustainability
- recognising recreational values.

The Sustainable Development Goals

Melbourne Water is a signatory to the United Nations Global Compact, the world's largest sustainability initiative, which includes 17 Sustainable Development Goals.

The Sustainable Development Goals provide an additional lens to support our organisational decision-making and offer an insight into how to deliver greater sustainability outcomes through our work.

Water plays a vital role in maintaining environmental sustainability and supporting thriving communities and Melbourne Water is well positioned to contribute to this global effort. We recognise our ability to contribute to advancing each of the goals, both directly through our own work and indirectly through partnerships with customers, stakeholders and suppliers.

The Sustainable Development Goals provide Melbourne Water, our customers, the community and our key stakeholders with a common framework to work together to deliver ongoing community wellbeing and a sustainable, well-managed environment for future generations.

Our future focus

In early 2022, the Managing Director, Leadership Team and Board redefined our strategy for the next decade. Our new Strategic Goals and the Service Portfolio are the outcomes of this process and are fundamental to establishing a solid foundation for the decade ahead.

Our goals speak to ambitions for the future. They outline the major areas of focus we must address to enable our community and the environment to thrive and prosper.

Our new Strategic Goals are:

- Keeping our core services strong today, building resilience for future changes.
- We will walk Country together: building relationships with Traditional Owners that are productive and lead to respectful partnerships.
- Boldly progress towards decarbonisation & become leaders in climate change mitigation, adaptation, and planning.
- Embed Integrated Water Management into planning and delivery, it is a standard 'BAU' delivery model.
- Focus on new water and enhancing the value created.
- Step beyond resource recovery to a central role in the waste sector, driving resource recovery and recovering more recycled water.

Our enabling goals are:

- Managing and governing our business to support a high performing organisation.
- Financial strength
- Building Relationships and influence maturing our relationships with regulators and customers, seeking true partnerships and catalyse sector reform.

Our service portfolio is our business of today, and outlines the critical services we provide to our customers and community and our measure of success. Since Melbourne Water's Service Portfolio was first introduced in 2019, we have assumed new functions including catchment management and coastal management, and we have re-negotiated the value we provide to customers through our Price Submission. Our updated service portfolio reflects these updated roles and responsibilities, and supports discussions around how we deliver value to customers.

Blind Creek

Operating Environment: COVID-19

As the pandemic continued into 2021-22, Melbourne Water adapted and managed operations to ensure our essential services continued without interruption, and that our business remained resilient to fluctuating COVID-19 levels in the community. To do this, we adopted workforce segregation to maintain operational resilience for our services and supply lines. Throughout this uncertain period, our workforce was deployed in line with changing Victorian Government public health policies.

With the commitment to health and wellbeing of our people first and foremost, we continued to adjust our Flexible Working policy to support the many staff working with the added pressure of home schooling and caring duties. In response, we introduced extra pandemic leave and helped support parents by providing an online holiday program. In line with our organisational values, care packs were sent to staff to promote physical health and wellbeing, and our wellbeing program provided mental health and wellbeing support through seminars and our employee assistance program.

As Melbourne started to emerge from restrictions and returned to the office, Melbourne Water considered the safest and most effective way for teams to return to work. This included a new resource booking system which allowed our people to access parking, desks and working spaces while enabling social distancing and contact tracing, redesigned collaborative work spaces to leverage value from shared work, and technology improvements in meeting rooms to enhance productivity in a blended home and office working environment. Similarly, we embedded a program based on insights from our research program with Monash BehaviourWorks to help our organisation and people transition into blended and flexible work as the 'new normal way of working'.

KEY ACHIEVEMENTS FOR 2021-22

ENHANCING LIFE AND LIVEABILITY

Our strategic pillars: Healthy People, Healthy Places, Healthy Environment

WHAT WE DO:

	Water	Sewerage	Drainage	Waterways	Catchment management
DELIVERING ON THE SDGs					
Our results	**447 billion** litres delivered **38.8 billion** litres recycled water delivered	**350 billion** litres of sewage treated **45,751** dry tonnes biosolids reused from WTP, contributing to the circular economy	**25,000** new homes delivered by the development industry supported by Melbourne Water	**$9.9 million** in grants funding provided to create great outcomes for waterways across the region **30.4 billion** litres of water released for the environment	**30** hectares of new vegetation established **85,000+** hectares treated to manage pest animals **$536,000** provided in Victorian Landcare grants
Key initiatives and projects	• won the Water Industry Operator's Association (WIOA) award for Victoria's Best Tasting Tap Water for Healesville supply • played a substantial role in development of significant water strategies that will set the direction of our long term water security for the next 10 years and beyond, with the Central and Gippsland Region Sustainable Water Strategy and Greater Melbourne Urban Water and System Strategy • provided 447 billion litres to our customers, including 125 billion litres of desalinated water • continued construction of the Yan Yean Water Treatment Plant upgrade, which will enable use of water from Yan Yean Reservoir and progressed installation of a new service reservoir at Bald Hilll, supporting Melbourne's growing outer north-west.	• Launched new bouy at Boags Rocks outfall, expanding our water quality program and research into treated wastewater discharge • maintained the ability of our sewage transfer system to safely manage the sewage generated by a growing city. This includes detailed design and construction of the Yarra River crossing of the Hobson's Bay sewer, which is a critical element in Melbourne's sewerage network • commenced planning for significant investment at WTP: the 'WTP bundle' • implemented our *Sewerage Strategy*, playing a key industry role in the circular economy of waste management and utilising sewerage as a resource.	• launched the *Flood Management Strategy for Port Phillip and Westernport 2021-2031* in collaboration with our regional partners to ensure we are delivering outcomes that maximise value to the community • worked with state and local government, to confirm preferred option for urban stormwater management as part of the Melbourne Urban Stormwater Institutional Arrangements Review (MUSIA) • transforming our Developer Services to respond to urban development rise and service demand increase • approved $93 million project to increase the capacity of the Elwood Diversion Drain and decrease flood risks across the catchment • facilitated a sense of community and connection through the renewal of the Shakespeare Grove Main Drain Beach Outfall in St Kilda • worked closely with the Victorian Planning Authority (VPA), retail water companies and local councils to progress IWM planning for key development sites across Melbourne.	• delivered priority watering actions in Yarra, Werribee and Tarago rivers as described in Victorian Environmental Water Holder's Seasonal Watering Plan, including cultural watering of Annulus billabong • launched the Lower Werribee Waterway Amenity Action Plan to provide improvements to amenity, access, recreation, and cultural values for the local community and visitors alike • Finalised the first bicultural plan for the Yarra River, our Birrarung, the Yarra Strategic Plan • working with the Sunbury community on flagship regional-scale stormwater harvesting scheme. It has scope to harvest 3.8 billion litres annually of excess stormwater to support a sustainable local environment.	• Integrated the Port Philip and Westernport Catchment Management Authority into our organisation. • developed a new Port Phillip and Westernport Regional Catchment Strategy, bringing together planning and information on land, water and biodiversity • delivered coast and marine programs to improve fisheries habitat in Western Port and restore shellfish reef ecosystems at Port Phillip Bay • maintained sustainable agriculture and land management with our Regional Agriculture Landcare Facilitator and Smart Farming for Western Port projects.

KEY ACHIEVEMENTS FOR 2021-22

ENHANCING LIFE AND LIVEABILITY

Healthy People, Healthy Places, Healthy Environment

HOW WE WORK:

	Customers and Community	Safe and Inspired People	Continuous Improvement	Business Sustainability
DELIVERING ON THE SDGs				
Our results	**75.9** reputation score remains strong	**3.5** total recordable injury frequency rate (TRIFR) against a target of 2.0 **41%** female gender balance **69%** engagement score	**$5.9 million** invested in research programs, driving innovation	**42 MWh** additional megawatt generation in renewable energy forecast through new solar program **$609.5 million** capital investment in our world-class infrastructure
Key initiatives and projects	• approved and launched Melbourne Water's first formal Partnership Agreement with a Traditional Owner to work together and support water rights • finalised and launched Melbourne Water's Innovate Reconciliation Action Plan (RAP) III • signed a new Memorandum of Understanding (MoU) for the Chain of Ponds Collaboration, recommitting to create and deliver projects that enhance the values of Moonee Ponds Creek • significant customer and community engagement, collaboration for major strategic projects including Reimagining Moonee Ponds Creek, Revitalising Yan Yean Reservoir and Greening the Pipe Brooklyn • delivered a range of campaigns to support enhanced liveability outcomes for our communities, including increasing water literacy, raising community awareness and making litter extinct • maintained our strong reputation score at 75.9 and implemented our new Customer Satisfaction by Service (CSAT) framework to enrich our customer performance insights • significant new investment in Developer Services, supporting substantial sector growth and servicing increased customer demand	• designed and implemented the full curriculum of Melbourne Water's core capability framework, building capabilities to help us work in a more resilient system • extending our research program with Monash BehaviourWorks to leverage the benefits of blended and flexible work • developed our Gender Equality Action Plan with a focus on inclusion and gender in line with the requirements of the *Victorian Gender Equality Act 2020* • promoting service to the community and environment through activities such as Melbourne Water's Corranderrk Planting day in a celebration of connection to colleagues, country and culture • collaborated with Deakin University to develop immersive training environments for high-risk tasks, creating a safer environment to fail and learn • worksafe renewed ETP Major Hazard Facility licence with no conditions • reinvigorated water and sewerage operator trainee program launched supporting workplace diversity.	• developed an innovative 3D Nutrient-Phytoplankton-Zooplankton (NPZ) model (called Bubbles) to understand how the changes in catchment nitrogen inputs are impacting the basis of Port Phillip Bay's food chain • 4th place ranking in AFR Innovation Awards for digital innovation for Wetlands Analytics Visualisation Environment (WAVE) project • invested $5.9 million in a number of research programs to support our customers and community • improved internal and customer collaboration through our centralised geospatial platform, making data, maps, apps and tools accessible to any device, anywhere, at any time.	• commenced construction of solar power plants at Winneke and Eastern Treatment Plants to reduce our net greenhouse gas emissions and generate revenue that enhances affordability for our customers and the community • increased our understanding of our greenhouse gas emissions through a range of site assessments, including nitrous oxide at WTP, and GHG emissions from ETP's solids drying process • worked with DELWP to prepare new *Guidelines for Assessing the Impact of Climate Change on Wastewater Systems in Victoria*. We are now exploring how to apply the new Guidelines to our long term sewage system planning • finalised our second Modern Slavery Statement this year, which describes the risks of modern slavery practices in our operations and supply chains, and the actions we have taken to assess and address these risks • continued to implement our *Social and Sustainable Procurement Strategy* and develop meaningful KPIs, including social procurement with our strategic suppliers.

Cardinia Reservoir

Delivering Valued Services

Melbourne Water makes a vital contribution to Melbourne's enviable lifestyle by supplying high-quality drinking water, providing reliable sewerage services, integrating drainage systems, building resilience to flooding, and enhancing our waterways and land for greater community use and environmental benefit.

Supply of Water Products

A safe and secure water supply is essential to our way of life.


Yan Yean Reservoir

Our Approach

To ensure Melbourne's water supply remains secure, Melbourne Water manages catchments, water storages and the water transfer network to meet the needs of a growing city. With our variable climate we prepare for droughts, floods, bushfires and other events.

Melbourne Water supplies, treats and transfers this drinking water to the city's three metropolitan retail water companies and other regional water businesses, which in turn provide it to households and businesses across the greater Melbourne and neighbouring region.

Melbourne is one of only a few cities in the world that draws approximately half of its drinking water from protected catchments. These pristine mountain catchments throughout the Yarra Ranges act as a vast natural filter, producing some of the highest quality drinking water in the world. The water harvested from these protected catchments needs minimal treatment, providing a high-quality, low-cost source that underpins the affordability of our drinking water.

On average over the past 10 years, about 24 per cent of Melbourne's drinking water has come from open catchments, which incorporate mixed land uses like farming instead of being used exclusively to harvest water. This water undergoes additional treatment processes to ensure it meets the same quality standards as water from closed catchments.

Melbourne's water system also includes the Victorian Desalination Plant (VDP), which complements our catchments by providing a secure, rainfall independent source of high quality water. The plant can provide up to 150 billion litres of drinking water each year, and is a key component in ensuring long term water security by building a buffer in our storages and taking pressure off our reservoirs during drier periods and droughts.

Melbourne Water invested $127.1 million to support Melbourne's critical water infrastructure in 2021-22.

Central and Gippsland Region Sustainable Water Strategy

Sustainable Water Strategies (SWSs) are developed by the Department of Environment, Land, Water and Planning (DELWP) on behalf of the Minister for Water. These strategies set out long-term plans to secure future water resources at the broader regional scale, and are reviewed on a 10-year cycle.

During 2021-22, Melbourne Water contributed to the development of the draft and final *Central and Gippsland Region Sustainable Water Strategy* (CGRSWS) through DELWP-led working groups, participation in the Consultative Committee as well as discussions within the metropolitan water sector. We also supported community engagement in late 2021 in our capacity as waterway manager.

The strategy is a key opportunity to set the direction for the water sector in our region for the next 10 years. We are focused on achieving water security through a portfolio approach, where each water source has a role to play including catchments, desalinated water, stormwater and recycled water.

We are also seeking for the SWS to recover water for the environment and help enhance waterway health. Melbourne Water will continue to work closely with DELWP and the broader water sector to implement the strategy once released. Significant issues for water security raised include water-based rehabilitation in the Latrobe Valley and an opportunity to reconfigure the Werribee System.

Greater Melbourne Urban Water and System Strategy (GMUWSS)

To prepare for our needs over the next 50 years, Melbourne Water and the three metropolitan retail water corporations (Greater Western Water, South East Water and Yarra Valley Water) are developing and refining the Greater Melbourne Urban Water and System Strategy (GMUWSS), called *Water for Life*, superseding the current Melbourne Water System Strategy 2017 (MWSS) and the Urban Water Strategies produced by the retail water businesses.

Similarly to the CGRSWS, the GMUWSS is based on a portfolio approach of managing our water resources, which includes water efficiency, integrated water management and manufactured water such as recycled water. The adaptive plan demonstrates it is likely that new water supplies will need to be added to our existing system within the next 10 years, as well as several system augmentations over the next 50 years.

As most options take years of planning and investment, Melbourne Water is planning for and undertaking readiness activities now in alignment with the new water goal. The implementation of actions in *Water for Life* are aligned with those in the CGRSWS and will require a coordinated delivery effort.

Werribee System Reconfiguration

The CGRSWS proposes that by 2023, the Victorian Government will develop a business case to reconfigure the Werribee system to provide more climate-resilient water sources for non-drinking purposes and make better use of all sources of water in the local system. Melbourne Water is a project partner for the business case development, along with Greater Western Water, Southern Rural Water and DELWP.

As the driest catchment in southern Victoria, options to reconfigure the Werribee system will prioritise affordable and cost-effective water supplies for long term availability, healthier waterways by returning more water to the environment, returned river water entitlements for Traditional Owners and greater use of recycled water.

Drinking water quality improvement

Melbourne's safe and trusted water supply system is central to our customers' experience and perceptions of Melbourne Water. Our obligations are set out in the *Safe Drinking Water Act 2003* (Vic), and the Safe Drinking Water Regulations 2015 and enforced by the Department of Health (DH). Melbourne Water's *Drinking Water Quality Strategy* sets out a framework and methodology to meet tolerable risk targets, service levels and legislative obligations.

As a provider of essential services which help enhance life and liveability for the greater Melbourne population, Melbourne Water takes its responsibility for public health extremely seriously, and continually seeks to improve our water system and quality management controls.

Opportunities to improve our system controls are underway or in planning, which consider future climate and other resilience pressures so our system can adapt. To ensure a coordinated and risk-driven response, these opportunities have been collated into a single Drinking Water Quality Improvement Program (DWQIP) spanning Melbourne Water's planning, delivery and safety groups. Focus areas include improvements in foundational activities, core business processes, short- and long-term risk interventions, and emergency response.

In addition, Melbourne Water continues to work in collaboration with Department of Health, DELWP and metropolitan water corporations on a Joint Action Plan, allowing a sector wide approach to drinking water quality improvements and ensure public health is protected.

We are currently updating our *2017 Drinking Water Quality Strategy* to reflect insights gleaned since its inception and to align with government policy directions. The refreshed Drinking Water Quality Strategy will retain and build on the objectives of the current strategy to drive continuity of supply, source management actions, and to continue innovating and building trust with our customers, regulators and stakeholders.

Best tasting tap water

Healesville officially has the most delicious drinking water in the state – with the local drop taking out the award for Victoria's Best Tasting Tap Water. In June 2022, Melbourne Water won the Water Industry Operator's Association (WIOA) award for Victoria's Best Tasting Tap Water – the first time we have won this award since the competition has been running. The winning sample came from the Cresswell Water Treatment Plant, which is operated by Melbourne Water. Yarra Valley Water distributes this award-winning water to the community.

The winning sample is now in the running for Australia's Best Tasting Tap Water competition later in the year.

Building system resilience to bushfire risk

Our protected, forested water supply catchments provide safe, affordable drinking water to the majority of Melbourne without the need for mechanical filtration treatment. Bushfire represents a key risk in these catchments, potentially leading to impacts such as including debris flows into reservoirs that can raise the turbidity (water that is cloudy with sediment) of stored water for weeks or months. As part of our current *Drinking Water Quality Strategy*, we continued investigating the resilience of our water supply system to the potential impacts of bushfires on water quality and explored further options to enhance it.

This project revealed that while we currently have some resilience to the water quality impacts of bushfires, over time this resilience will be eroded by the impacts of climate change and water demand growth. To combat this, we identified a number of cost effective options likely to provide a range of multiple benefits, the first of which is now planned. In the longer term, further opportunities to enhance resilience will emerge as we integrate new sources of manufactured water into our water supply system as foreshadowed by the draft CGRSWS and *Water for Life*.

Managing water supply

In July 2021, Melbourne's 10 storages were 75.1 per cent full (1361.5 billion litres). They climbed to 90.2 per cent (1634.6 billion litres) on 13 December 2021, their highest since the start of the Millennium Drought in 1997. By June 2022, they were at 86.8 per cent (1573.2 billion litres) and well above the low of 26 per cent (453.2 billion litres) experienced in 2009.

Storages saw a welcome net increase of 11.9 per cent in 2021-22 as a result of both above average rainfall and a desalinated water order of 125 billion litres. Also, 2021-22 was the second consecutive year to experience a La Nina event with above average rainfall and streamflow in Melbourne's catchments.

Winter-spring in 2021 saw catchment rainfalls (up 32.6 per cent) and inflows (up 50.0 per cent) above the 30-year average. The monthly average rainfall chart shows that monthly rainfall across Melbourne's storage catchments varied from a low of 26 millimetres in February (2022) to a high of 167 millimetres in September (2021). The total rainfall of 1211 millimetres for the 12-month period was 15 per cent above the 30-year average.

Intense rainfall from storm events over the Upper Yarra reservoir catchment in June 2021 resulted in significant recovery activities in the region and within the supply network. Increased sediment in the Upper Yarra reservoir prevented usual water transfer for safe chlorination to Silvan. Careful management of the water supply system was supplemented with high quality desalinated water to maintain water quality levels as well as adequate water storage across the system.

The 2021-22 total inflow to Melbourne's four major harvesting storages (Thomson, Upper Yarra, Maroondah and O'Shannassy) of 643 billion litres was 34 per cent above the 481 billion litres average of the last 30 years. This was 46 per cent above average for the period since 1997, which is a DELWP scenario for future water resources planning to represent recent streamflow conditions. It was also 5 per cent above the long term average of 613 billion litres for the pre-Millennium Drought period (1913-14 to 1996-97).

As our population increases, we are relying more heavily on desalinated water to meet annual water demands, which means that its effectiveness in future drought recovery is being reduced.

Maintaining our world-class infrastructure

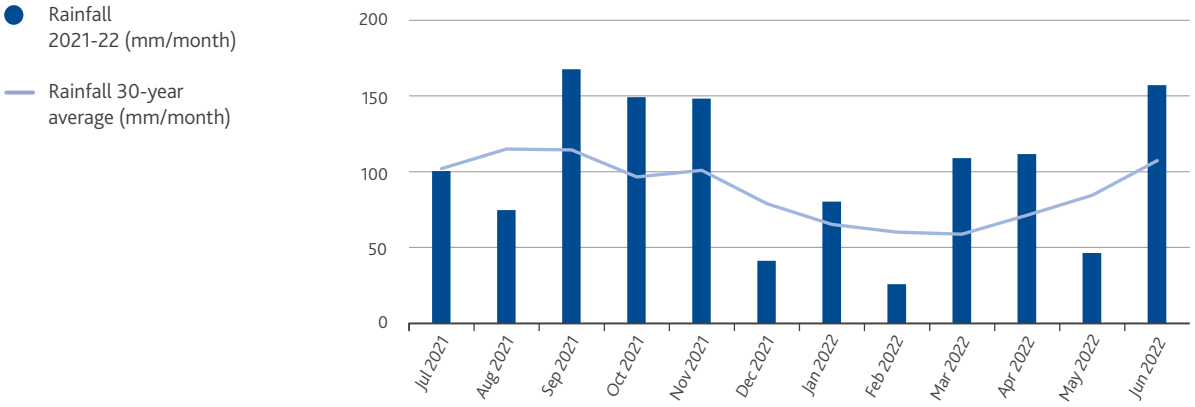
The outer north-west of Melbourne is a growing region, and Melbourne Water has been investing in providing a vital and reliable water supply to this area through a range of projects.

This included $10.2 million of a $100 million project to install a new service reservoir at Bald Hill and a pipeline to connect it to Yan Yean. The new pipeline will improve the reliability of water supply in the northern suburbs and free up capacity to transfer more water to the western suburbs. A further $14.3 million provided an upgrade to the Yan Yean treatment plant, which was built more than 20 years ago, with works continuing next year. The upgrade will enable us to bring water from our northern catchments back into the network. We have also been engaging with the community on recreation opportunities at Yan Yean Reservoir (see page 37, revitalising yan yean).

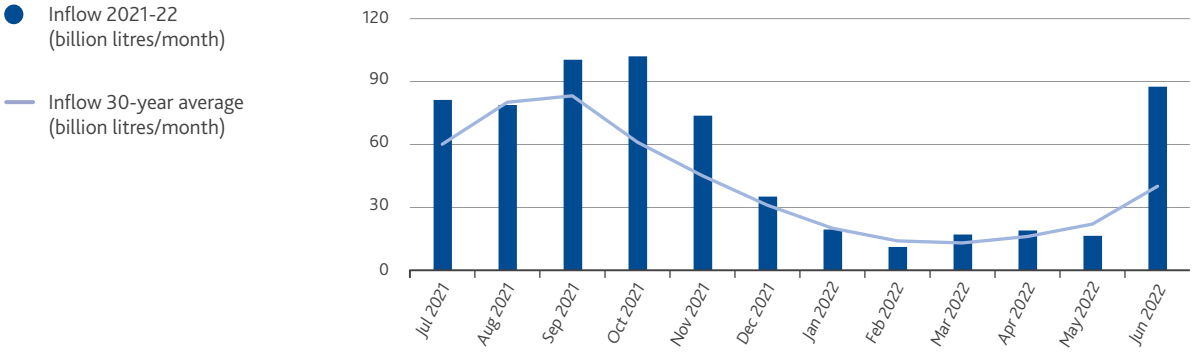
Other significant programs included $7.9 million to renew ageing water mains between Mitcham and Syndal and $7 million to finalise the Upper Yarra Reservoir Dam upgrade.

In addition, Melbourne Water received approval of the Preliminary Business Case for the replacement of Maroondah Tower and Aqueduct. This allows us to create a functional design with the project due to commence in 2025. The project will ensure timely replacement of the outlet tower and piping of the aqueduct to provide future water supply security.

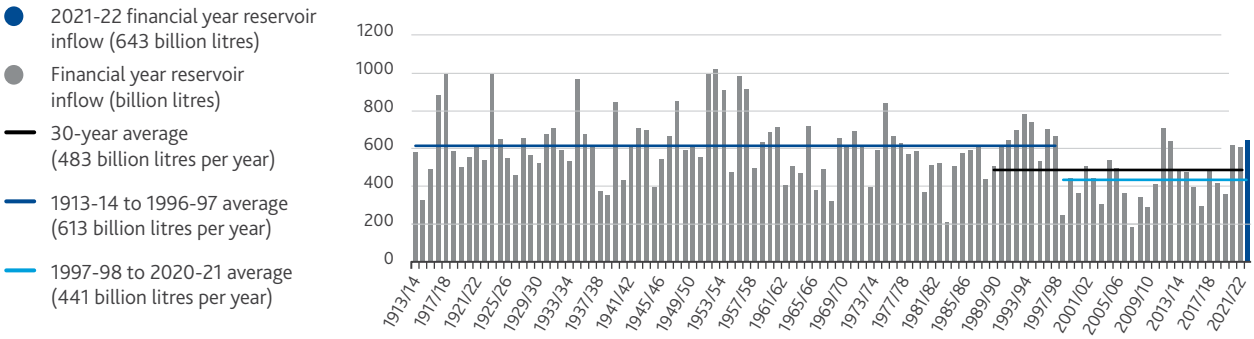
Monthly average rainfall at Melbourne's major harvesting reservoirs



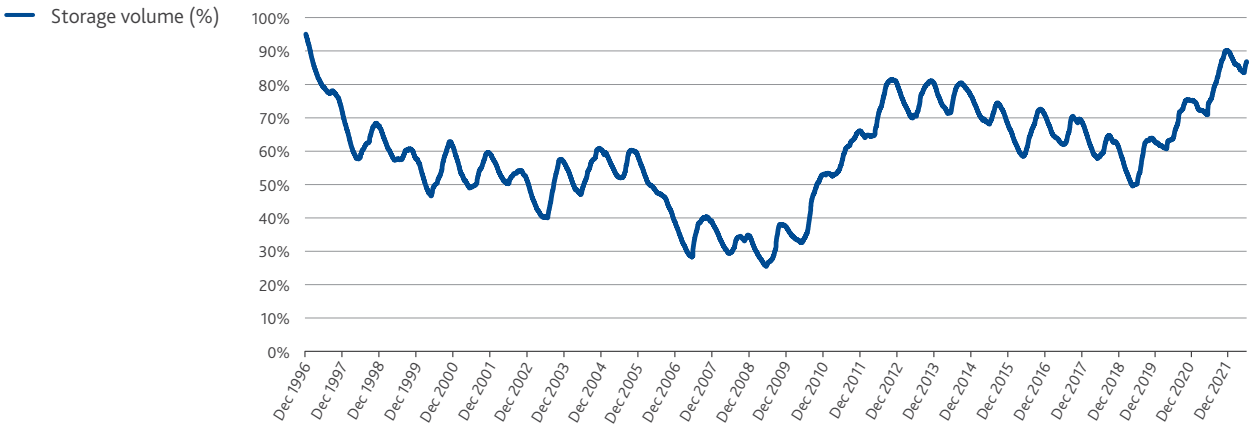
Monthly average inflow at Melbourne's major harvesting reservoirs



Long-term inflow to Melbourne's major harvesting storages (Thomson, Upper Yarra, Maroondah and O'Shannassy reservoirs)



Melbourne water storage



Water from the Victorian Desalination Plant

The Victorian Government ordered and received 125 billion litres of drinking water from the Victorian Desalination Plant (VDP) for 2021-22. The Minister for Water also announced an order for a further 15 billion litres to be delivered in 2022-23. Operational and planning advice provided by Melbourne Water and Melbourne's retail water companies helped inform this decision. Since 2017, more than 451 billion litres of water has been supplied from the VDP. Without this water, Melbourne's water storages would be around 25 per cent lower than they were on 30 June 2022.

Desalinated water is an integral part of Melbourne's water supply system and enhances the long-term security of drinking water supplies. It provides a critical element of operational flexibility during significant events, such as storms or bushfires, when parts of the system may be taken offline to manage water quality and protect the delivery of essential services. Even in the wetter years, like 2021-22, changes in population growth and climate mean desalinated water is part of the long-term strategy to help prepare the water supply system for future dry periods and increased demand.

Supplying our customers

Melbourne Water supplied 447 billion litres of water in 2021-22, which is 2 per cent more than the previous year, to meet customer demand for water.

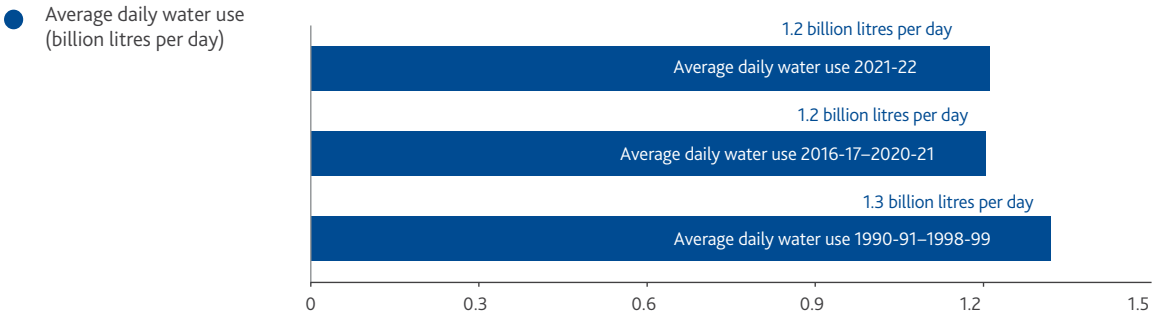
Water consumption

Permanent water saving (use) rules apply across Victoria so we continue to use water wisely. Melbourne's residential water use in 2021-22 was 166 litres per person per day[1] - 11 litres more than the Victorian Government target of 155 litres. This is 7 litres more than last year's consumption and 6 litres more than the five year average. Melburnians averaged 1.2 billion litres of water per day this year - equal to the last five-year average. This is despite growth in population over the five-year period. While water consumption has been generally increasing over the past 10 years, it is 14 per cent lower than in 1997.

2021-22 retail water consumption

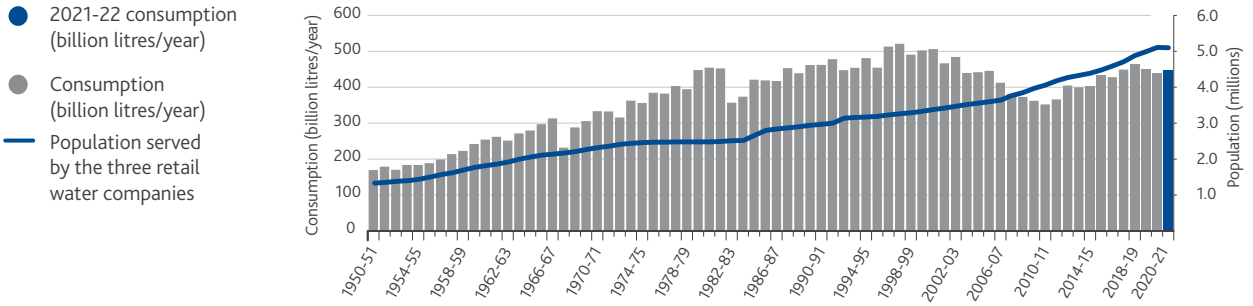
- 35.9% South East Water 160.4 billion litres
- 35.6% Yarra Valley Water 159.1 billion litres
- 27.5% Greater Western Water 122.9 billion litres
- 0.5% Gippsland Water 2.0 billion litres
- 0.3% Barwon Water 1.3 billion litres
- 0.2% South Gippsland 0.7 billion litres
- <0.1% Westernport Water 0.1 billion litres

Average daily total water use for Melbourne including non-residential



[1] This estimate uses actual water consumption for the first three quarters of 2021-22 and estimated water use for the April-June 2022 period. This approach is necessary due to the quarterly billing cycle for retail water customers, meaning that the actual data is not complete until October. Given the COVID-19 pandemic, there is significant uncertainty in the estimated water use in the April-June period related to changes in behaviour, including work-from-home arrangements.

Long-term total consumption including non-residential by financial year



Driving water conservation

Melbourne Water works closely with Melbourne's retail water companies to promote efficient water use through public education campaigns, including the Target 155 program, which encourages households to limit water consumption to 155 litres per person, per day. Our broad communications focus is on educating the community about all aspects of the water cycle to improve water-saving habits.

In 2021-22, we transitioned our advertising campaign from TV to reaching target audiences via print, digital display, YouTube paid search, outdoor signage and social media. We produced a content series, enhanced the website and launched an engagement program that asked the community to share their water-saving tips.

Our community awareness programs have contributed to Melburnians using much less water per person than they did around 20 years ago, down from 247 litres per person per day in 2000-01 to 166 litres in 2021-22.

Recycled water

Melbourne Water produces recycled water at the Western Treatment Plant and the Eastern Treatment Plant, providing recycled water to customers for a range of non-drinking purposes.

WTP Class A recycled water reliability was affected due to a significant algae bloom in the pond system, resulting in an interruption to class A recycled water supply for most of February and all of March and April, which is the peak irrigation season. These events were managed in consultation with customers. An enhanced monitoring program has been established to support research and investigation on seasonal algae blooms, and the results will inform the framework of a WTP Algae Management Plan.

We continue to explore new opportunities to increase recycled water use at both the Eastern Treatment Plant and Western Treatment Plant, to provide a sustainable water supply for greater Melbourne.

Recycled water volumes used onsite and supplied to our customers in 2021-22 are shown in Table 1.

Table 1: Recycled water produced for 2021-22

	Volume 2021-22 (ML)
Total sewage treated (not all sewage treated is available for re-use)	**349,991**
Total recycled water supplied	**38,837**
Western Treatment Plant	
Conservation flows used onsite	8,206
Non-agricultural use onsite	6
Agricultural use onsite	12,896
Southern Rural Water	N/A
– Werribee Irrigation District	2,542
– Werribee Tourist District	59
City West Water	N/A
– Werribee Employment Precinct	77
– MacKillop College	29
– Water tankers/standpipes	0
– West Werribee Dual Supply (non-residential)	0
– West Werribee Dual Supply (residential)	275
Western Treatment Plant total recycled water	**24,140**
Eastern Treatment Plant	
Re-used onsite	7,837
Trility – Eastern Irrigation Scheme	5,233
Supply to South East Water – South Eastern Outfall	1,570
Eastern Treatment Plant total recycled water	**14,697**

Sewerage Management

A reliable sewerage system is vital to the health of Melbourne's people and environment and Melbourne Water plays a critical role in safely transporting sewage to our treatment plants for processing. Increasingly, we are recovering and reusing more resources like recycled water, biosolids and energy from the sewage treatment process to reduce our impact on the environment.

Eastern Treatment Plant

Our Approach

Melbourne owes much of its liveability to the reliability of its sewerage system. Since the commissioning of the sewerage system in the 1890s the system has grown and adapted with Melbourne to ensure ongoing protection of public health and wellbeing.

Melbourne Water's system is characterised by two major treatment plants – the Western Treatment Plant (WTP) at Werribee and the Eastern Treatment Plant (ETP) at Bangholme – and the sewerage transfer system, which moves large volumes of sewage across the city via 400 kilometres of sewers and nine sewage pumping stations to these treatment plants.

Our long-term investment planning considers the implications of external factors such as population and climate change to ensure that our sewerage system continues to evolve.

Along with Melbourne's retail water companies, we are working to deliver the Melbourne Sewerage Strategy. The *Melbourne Sewerage Strategy* describes a 50-year transformation in our sewerage system from a mostly one-way process that views sewage as a waste by collecting, treating and discharging to the environment, to a circular process focused on the recovery, re-use and recycling of valuable resources like water, energy and nutrients.

In 2021-22 we invested $251 million safely manage the sewage generated by a growing city. This included starting construction on a major $200 million project that will duplicate the Hobsons Bay Main Sewer Yarra River Crossing, due for completion in 2029.

The Melbourne Sewerage Strategy

The *Melbourne Sewerage Strategy* (MSS) includes a goal to transform the sewerage system to a circular resource recovery system, while ensuring Melbourne's sewerage service continues to protect public health and the environment.

In 2021-22 we collaborated with Melbourne's water retailers to determine how we need to work together to implement this transformational change. Melbourne Water drafted strategic plans for our Western and Eastern Treatment Plants to help the plants prepare for the transition. These plans provide the next level of detail to the MSS, outline strategic objectives for both plants, and identify decision points and adaptive pathways to enable the MSS goals to be realised.

Delivering our service

Melbourne Water treated a total of 350 billion litres of sewage at the Eastern Treatment Plant and Western Treatment Plant in 2021-22. More than 24 billion litres of recycled water was re-used from the Western Treatment Plant (including conservations flows to the environment), and more than 14.5 billion litres from the Eastern Treatment Plant. Further details can be seen in Table 1 on page 16.

Our sewage treatment plants play a critical role in reducing the environmental harm sewage can cause if not managed appropriately. As part of the *Port Phillip Bay Environmental Management Plan, (2017-2027,)* the Western Treatment Plant has a three-year rolling average limit of 3,100 tonnes per annum of nitrogen that can be discharged to Port Phillip Bay.

In 2021-22, approximately 3,439 tonnes of nitrogen (three-year rolling average) was discharged from Western Treatment Plant as a result of higher than forecast nitrogen loads entering Western Treatment Plant, combined with above average rainfall, which impacts nitrogen removal performance. Planned works are underway to support reducing nitrogen loads discharged from Western Treatment Plant over the next few years, including reviewing against current forecast. This project is in detailed design and will increase nitrogen removed by the treatment process from 2024.

Bubbles model

To better understand the impact of nitrogen inputs around Port Phillip Bay on marine ecosystems, Melbourne Water worked with DELWP and an expert team to develop an innovative 3D Nutrient-Phytoplankton-Zooplankton (NPZ) model (called Bubbles).

Bubbles provided close predictions of nutrients and plankton productivity, which form the basis of the bay's food chain. Ten years of modelling has now been completed, creating a rich dataset that can be used to understand how the changes in catchment nitrogen inputs are impacting the basis of the bay's food chain.

Following the model's success, Bubbles can be applied to a broad range of uses, including scenario testing, impacts of nutrient inputs on the Port Phillip Bay ecosystem or scientific applications to understand primary production, which underpins marine life in Port Phillip Bay. Management actions to protect or enhance bay health can also be identified.

Research driving innovation

Melbourne Water is changing the way we monitor water quality at Boags Rocks outfall off Gunnamatta Beach. In May 2022 a new buoy – fitted with an automatic identification system (AIS) and GPS monitoring device – was installed. The buoy enables us to capture live data about the quality of water at Boag's Rocks where high quality Class A recycled water is discharged from the Eastern Treatment Plant.

This world-class technology is being used to calibrate a sophisticated, 3D hydrodynamic model of the treated wastewater discharge environment at Boags Rocks, designed in house by Melbourne Water. The model is helping to improve the way we assess impacts on the near-shore environment and associated aquatic ecosystems, and inform biological monitoring programs and research activities.

COVID-19 wastewater research

Melbourne Water has supported the Department of Health (DH) during the pandemic through wastewater surveillance for SARS-CoV-2, starting back in 2019 with the Collaboration on Sewage Surveillance of SARS-COV-2 (ColloSSuS) program. The program has involved continuous innovation and improvement to provide relevant intelligence to inform public health decisions and actions. This included surveillance for early warning of unknown local community transmission from wastewater influent, to within-network monitoring and localised surveillance. Ongoing wastewater surveillance is monitoring for new variants incursion and spread (such as the current Omicron BA.4/5 variants). The surveillance has been expanded to include detection of influenza and other respiratory pathogens. Further applications may have relevance for other emerging Victorian pathogens and health problems.

Expanding our treatment system

Melbourne Water is making significant investments to upgrade the Western Treatment Plant (WTP) to service a growing population and incorporate new innovations into our processes.

Planning for the delivery of a major package of capital projects to increase and improve the primary treatment and solids treatment capacities at the Western Treatment Plant has commenced. Known as the WTP bundle, this significant package of capital works includes a new mechanised primary treatment plant, a new solids management system including solids thickening, an anaerobic digestion system and a biogas handling system to capture the biogas for power generation.

Melbourne Water is the using the opportunity provided by this infrastructure and process upgrade to expand the existing liquid co-digestion facility and integrate the approach for liquid food organic waste processing with the new primary treatment and solids management system. This will generate a more renewable energy and revenue stream via new customers for anaerobic digestion, providing a valuable outlet for this waste stream.

Increasing capacity and biogas supply at Eastern Treatment Plant

We have recently completed construction and are commissioning a recuperative thickening facility at the Eastern Treatment Plant. This will increase our capacity to anaerobically digest sludge produced by the wastewater treatment process. Anaerobic digestion reduces sludge quantity and odour, and produces biogas for renewable energy generation. The increased sludge thickness will also accelerate subsequent dewatering in the sludge drying pans.

Complementing this project, we invested a further $13 million to upgrade our digester biogas handling system which is well into construction. Once completed in 2023, it will improve the capacity and reliability of biogas supply to our onsite power station, enhancing our ability to generate renewable electricity.

Improving infrastructure to support Melbourne's growing population

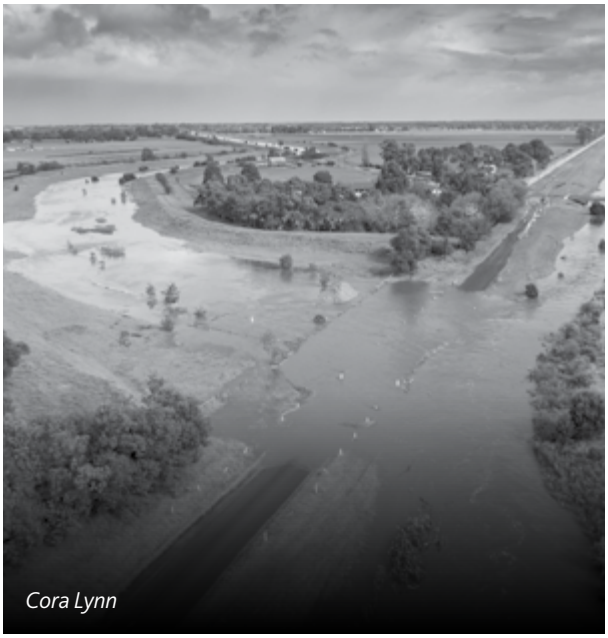
The Hobsons Bay Main Sewer is a critical part of Melbourne's sewer network, transferring around 30 per cent of Melbourne's wastewater to the WTP. The existing sewer was first constructed in the 1960s and requires rehabilitation to extend its service life.

Due to the volume of sewage carried by the Hobsons Bay Main Sewer, a second sewer will be built under the Yarra River and connected into the existing sewer located at Scienceworks. This will allow sewage flows to be diverted and rehabilitation works to be undertaken on the existing sewer. Once completed, both sewers will operate together, building resilience into this critical part of our sewage transfer network. As part of the project Melbourne Water collaborated with John Holland and Scienceworks to install more than 200m of vinyl banners on the hoardings to educate Scienceworks visitors on water literacy and also turn the project into an exhibition in its own right. Nine viewing windows allow visitors to Scienceworks to view the construction site.

These critical works form part of a broader Melbourne Water sewer program on a number of ageing sewers around the city, including Stage Two works to upgrade the Hawthorn Main Sewer ($52 million total cost).

Flood Resilience and Drainage

As the floodplain manager for the Port Phillip and Westernport catchments, Melbourne Water enhances liveability for our communities through flood prevention, and response and recovery initiatives delivered collaboratively with our partners and local communities.



Cora Lynn

Our Approach

As the region's floodplain manager, Melbourne Water plays an important role in coordinating the delivery of strategies as required under the Victorian Government's *Floodplain Management Strategy*.

Flooding is a natural occurrence in the Port Phillip and Westernport regions. Climate change, sea level rise and urban densification are increasing flood risk. Despite an overall decrease in rainfall, climate scientists are projecting more frequent and severe floods, more intense rainfall events and continued sea level rise.

Melbourne Water is building resilience into our flood and drainage management, using appropriate planning controls and the latest flood modelling. We are making use of the most recent and best available data and science, and continuing to work with the development sector on climate change and updating our flood levels.

Melbourne Water provides important contributions across the breadth of land development, from greenfield areas on the city's margins, through to urban renewal and development in established suburbs. We regulate development to help deliver flood resilient communities and provide for stormwater treatment to protect the health of waterways and bays, with water-sensitive urban design principles supporting more resilient and liveable cities and towns.

During 2021-22, $23.1 million was allocated to renewing and enhancing our drainage and flood protection assets, including $8.6 million (of a total project cost of approximately $18 million) to renew the Shakespeare Grove main drain beach outlet. In addition, $150 million was allocated to create new drainage and stormwater quality assets (such as wetlands) to support the development of new land.

Flood management strategy

The annual average cost of flood damage in the Port Philip and Westernport region is estimated to be $735 million. This cost is forecast to increase significantly over the next 80 years due to the impacts of climate change and increasing urbanisation.

The new *Flood Management Strategy for Port Phillip and Westernport 2021-2031* sets the direction for flood management in the region over the next decade. It was noted by the Minister for Water in November 2021 and endorsed by 35 partner organisations following an extensive co-development process that engaged 65 partners and stakeholders.

Partners will work together to plan for, avoid and reduce flood risks while supporting emergency preparation and response. The strategy's key directions focus on managing climate change, empowering diverse communities, and managing flooding to achieve multiple benefits for water security, liveability and sustainability.

Melbourne Urban Stormwater Institutional Arrangements review

This year, the Melbourne Urban Stormwater Institutional Arrangements (MUSIA) review was concluded. The MUSIA review aimed to better delineate roles and responsibilities for public urban stormwater assets and services and escalate the regional flood mapping program to include best practice climate, coastal inundation and sea level rise information.

This will establish a clear, flexible, adaptable and holistic catchment-based approach where stormwater is managed as part of the complete water cycle to achieve greatest community value.

Melbourne Water, DELWP and the Municipal Association of Victoria (MAV) agreed in principle to a preferred option for urban stormwater management. This followed extensive consultation with local councils and the water industry and is published in the *Closing the Loop* report. Councils and Melbourne Water are now working to understand and assess the key aspects of the proposed change in greater detail.

Flood mapping

Melbourne Water is working in partnership with local councils to provide clear and current flood information for communities within each municipality. This is a change from the flood information provided within smaller areas occupied by drainage catchments. Now, we are providing one set of information that each council and Melbourne Water can share with residents, businesses and other interested parties. It allows flexibility for future updates in the event of changing flood conditions and requirements. Our ambition is to update all municipality-wide information over the next five years. Our 2021-22 results are noted in Table 2.

Flood awareness and engagement

We partner with the University of Melbourne to deliver a Community Engagement for Disaster Risk Reduction (CEDRR) program to empower communities to be more flood-ready, by equipping them with information that can be used to make informed decisions and prepare for flood events. This program includes both online and face to face engagement to flood-prone properties. It will measure changes such as awareness, risk and intentions to take action to mitigate risks as a result of the engagement.

Improving our ability to prioritise flood management investment

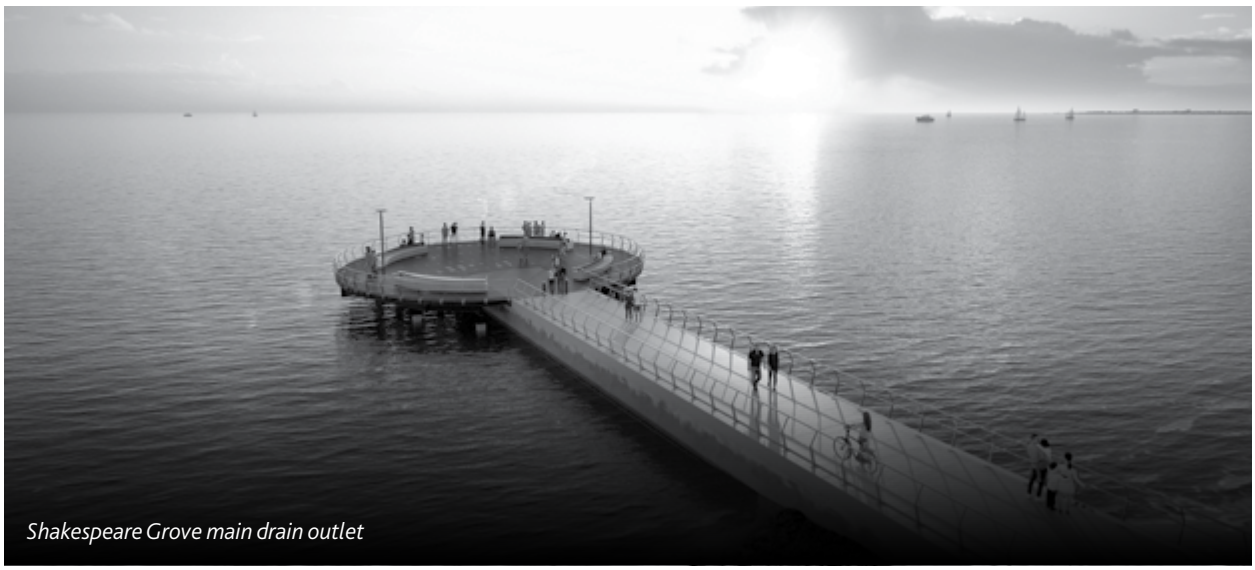
Flood mitigation projects can take years to develop. From 2021-22, we have prioritised flood mitigation works across our region based on an evolved, compressed method that rapidly assesses flooding at locations and prioritises this against other known flood hotspots. This improved identification and rapid assessment ability, combined with improvements in our flood information, means we have a better ability to evaluate the viability of options.

We are currently evaluating option viability for five flood hotspots with further viability projects scoped and planned for 2022-23.

Table 2: Summary of proportion of Melbourne Water drainage assets that have flood maps available (for further detail, see Appendix E)

	Total Length of MW Assets[1] (km)	% Length mapped for design flood magnitudes			
		5yr ARI	10yr ARI	20yr ARI	100yr ARI
Underground drains	1,095	28%	29%	41%	55%
Natural waterways	6,545	9%	10%	13%	71%
Channels	1,979	N/A	N/A	N/A	85%
Total	9,619	N/A	N/A	N/A	72%

[1] Excludes drainage scheme areas, forested areas and French Island.



Shakespeare Grove main drain outlet

Flood management in urban renewal areas

Melbourne Water has worked with state and local government to develop integrated and innovative flood and drainage solutions for the Fishermans Bend and Arden-Macaulay urban renewal areas. The strategies include an integrated mix of infrastructure and use of public spaces for greening and stormwater capture and harvesting, at both lot scale and precinct scale.

We are working closely with planning agencies on the upcoming planning scheme amendments for these precincts to deliver flood management in major urban renewal areas. A key focus this year has been ensuring there is necessary drainage infrastructure to enable development of the precinct and making sure these places are resilient to climate change impacts on flooding.

Urban Drainage Visualisation: HydroNET

This year we have continued to innovate in our flood management approach using real-time data capture and dynamic asset maintenance via smart technology.

While we currently have a broad hydrometric coverage of the river catchments, the urban drainage area has very minimal live data for operations, flood mapping, flood warning and maintenance needs, or a means to visualise what is happening in the suburbs. HydroNET is a visualisation platform that integrates our time series data, including our live water, rainfall, asset monitoring cameras and forecast Bureau of Meteorology weather data in dashboard views. It uses the Internet of Things (IoT) monitoring devices to collect data in pipes and drains.

This year we commenced an Urban Drainage Visualisation project using HydroNET, which will improve management of our assets through live data feeds, asset operating alerts and greater information sharing. Melbourne Water is in the early phases of implementing HydroNET and has recently signed an agreement with Casey Council to share HydroNET dashboards under a pilot.

Shakespeare Grove outfall completed

This year, we invested $8.5 million to complete the Shakespeare Grove main drain outlet renewal project. This stormwater outfall extends 60 metres into Port Philip Bay. The upgrade involved significant consultation with key stakeholders and the community to determine the preferred concept design, which resulted in building a new Circle of Reflection Viewing Platform for the community to enjoy.

The new infrastructure means that the outfall will reduce the risk of flooding to nearby suburbs for many more years to come, while the impressive viewing platform, suspended above the end of the renewed outlet, allows people to access, experience and learn about the marine environment and fosters community connection at the iconic St Kilda beach location.

Reducing flood risk in the Elster Creek catchment

The Elster Creek Catchment has always been prone to flooding. The area is low lying and despite progressive engineering interventions in the past, this hasn't been sufficient to facilitate drainage of the upstream catchment. Development has exacerbated the drainage issue and has led to significant flooding during large storm events.

Melbourne Water is working in partnership with the cities of Bayside, Glen Eira, Kingston and Port Phillip to implement the Elster Creek Catchment Flood Management Plan 2019-24. The plan was developed in close consultation with the local community, and focused on three key areas to ensure a holistic approach to flood planning in the catchment: on-ground solutions, influencing development across the catchment, and ensuring the community is well informed, well prepared and actively engaged. The on-ground solutions build on previous infrastructure investments to reduce flood risks across the catchment.

This includes a $93 million project to increase the capacity of the Elwood Diversion Drain and investigating flood mitigation options in and around Elsternwick Park. The design and early construction costs of Elsternwick Main Drain Augmentation were included in the 2021 Pricing Submission. The project has gained approval at our Preliminary Business Case stage with the next major business case gate currently scheduled to occur toward the end of 2023.

Responding to development growth

Urban development in Melbourne is occurring at a rate never seen before, and due to initiatives such as First Homebuyer Grants, Stamp Duty Exemptions, development and construction activity is at a historic high. This has resulted in more than a 40 per cent increase in demand for our developer services in the past three years, and based on the VPA Work Program, we know the current intensity and pattern of land development is set to continue.

To respond to this increase in demand for our services, and to get ready for the challenges of the future together with our partners, Melbourne Water is transforming the operating model of Statutory Developer Services team within service delivery, as well as growing our capacity with new skilled and experienced urban planning and engineering experts in land development.

More sophisticated flood overlays are now embedded in planning scheme amendments which better consider the increased impacts of flooding and climate change to our urban environments and communities. Our revised service is also providing additional customer benefits through more timely responses, greater transparency in issues management, decision making and complaints resolution.

Land development: supporting a resilient and liveable Melbourne

More than 1060 hectares of residential development land in growth areas met Melbourne Water's requirements for planning compliance, meaning Melbourne Water supported the development industry to deliver more than 25,000 new homes in 2021-22. We provided written development advice to over 2200 landowners, developers, consultants and community members who intend to build in flood affected areas, and worked with local government to prepare for and amend existing flood hazard mapping and controls in planning schemes.

By determining over 9,000 applications for statutory planning and statutory building applications, we controlled the development of over 100,000 new homes, community facilities and places of work and ensured all determinations make new places and spaces safe in future flood events.

Melbourne Water delivers the Development Services Schemes – a future infrastructure delivery mechanism for drainage, flood protection, stormwater quality treatment and waterway management – through precinct structure plans. This service continued to provide water infrastructure planning across Melbourne's growth corridors this year for upcoming precincts such as Melton East, Beveridge North West and Croskell.

We also provided input for stormwater and drainage planning for major Victorian Government infrastructure projects, including Suburban Rail Loop, Metro Tunnel, Level Crossing Removal Project, Melbourne Airport Rail and Major Road Projects Victoria to ensure asset protection and achievement of mutually beneficial outcomes for the projects and community.

Waterway Management

The health of Melbourne's waterways is central to the liveability of the region.


Dandenong Creek

Our Approach

Healthy rivers, estuaries and wetlands play a vital role in many aspects of our daily life. Our community engagement has highlighted how much the people of greater Melbourne value waterways in supporting environmental health and their overall quality of life.

Across our region, Melbourne Water monitors and provides targeted maintenance and improvement works for 25,000 kilometres of rivers and creeks, 33 estuaries and wetlands as well as more than 1000 stormwater treatment systems, including constructed wetlands. We work together with state and local government, non-government organisations and community groups to enhance the environmental, social, cultural and economic value of our waterways and protect them from a variety of impacts, including climate change and population growth.

Our waterways sustain a diversity of life, including birds, fish, frogs, platypus, macroinvertebrates and vegetation. They provide places for people to gather, exercise and relax and they are important sites of cultural significance. They support our growth and prosperity by providing drainage and flood mitigation. They also provide economic benefits by supplying water for agriculture, recreational fishing, commercial industries and tourism opportunities.

The *Healthy Waterways Strategy* is a shared strategy across Melbourne Water, state and local government, water corporations, Traditional Owners and land management councils, non-government organisations and the community. The strategy provides a shared regional and catchment-specific vision for the health of rivers, estuaries and wetlands in the Port Phillip and Westernport regions and contributes to delivery of the *Port Phillip and Westernport Regional Catchment Strategy and Victorian Waterway Management Strategy*.

In 2021-22 Melbourne Water invested $33.4 million to repair and protect our waterways from a variety of threats, including those posed by climate change and population growth. Of this, $6.9 million was spent on improving stormwater quality through renewing and revegetating wetlands (such as Lilydale Lake Wetland, Laverton Mt St Joseph Wetland and Hallam Valley Wetland), and $26.5 million on improving waterway condition.

Driving evidence-based delivery of the *Healthy Waterways Strategy*

The Region-wide Leadership Group (RLG) continues to guide co-delivery of the strategy and met regularly in 2021-22 to progress focus areas including natural wetland protection, stormwater and litter and pollution.

The RLG also plays a key role in the implementation of the strategy in their own organisations, advocates for the strategy and identifies and advises on the resolution of emerging strategic and systemic issues affecting implementation. The group is independently chaired and includes members from the Municipal Association Victoria, Parks Victoria, DELWP, the Environment Protection Authority and Melbourne Water.

Following RLG Chair Rob Vertessy's resignation in April 2022, Cheryl Batagol was appointed as the new Independent Chair. We acknowledge Rob's commitment and service on both the strategy development and its implementation to date, and look forward to Cheryl's leadership, experience and understanding of waterways across the region to help drive the next implementation phase.

The Healthy Waterways Catchment Forum Week was held virtually in November 2021. More than 865 people registered to hear about the progress of the *Healthy Waterways Strategy*, based on the 2021 Draft Report Card, sharing success stories and be updated about collaboration focus areas for 2022.

Melbourne Water's Waterways and Wetlands Research program has supported the mid-term evaluation of the *Healthy Waterways Strategy*, and we have commissioned an independent review of our major research partnerships with the University of Melbourne and RMIT University to optimise the value of Melbourne Water's investment in waterways and wetlands research.

Waterways research

In 2021-22 we continued to address key research areas, deliver communications and engagement activities, and work collaboratively to achieve the *Healthy Waterways Strategy* performance objectives, including:

- working with Traditional Owners to share knowledge on waterway health issues and management opportunities, undertaking collaborative waterway research (billabong watering), and developing a knowledge sharing protocol to inform future collaborative research projects
- partnering with the University of Melbourne (Melbourne Waterway Research-Practice Partnership) to conduct research including improved works prioritisation tools, vegetation and instream habitat management, performance assessment of stormwater treatment wetlands, implications of citizen science through digital platforms, and real-time monitoring and control of urban water to support Integrated Water Management
- partnering with The University of Melbourne ARC Training Centre for Optimisation Technologies, Integrated Methodologies and Applications (OPTIMA), researching approaches to optimise releases of water from digitally networked urban water storages (e.g. rainwater tanks, urban lakes) for environmental flows in Monbulk Creek to support threatened platypus, while balancing other benefits such as reduced localised flood risk, reduce impacts of urban stormwater on river health and augmentation of household water use
- researching aquatic pollution prevention methods with RMIT University (Aquatic Pollution Prevention Partnership)
- investigating the potential business benefits of genetic approaches (DNA metabarcoding) to identify aquatic macroinvertebrates as part of waterway health assessments and waterway works prioritisation across greater Melbourne
- developing tools to support Melbourne Water's stormwater wetland asset management and performance
- examining community engagement with blue and green spaces (land and water) before, during and after COVID-19 restrictions to better understand community sentiments regarding the importance, quality and availability of these spaces to support health and wellbeing.

Improving the health of Birrarung's billabongs

Billabongs are iconic places in the Australian landscape and vital to Birrarung's (Yarra's) floodplain. Changes to river flows mean that billabongs don't get the water they need to be healthy. Melbourne Water is working with Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation to determine water requirements, deliver water and seek long-term solutions for the billabongs to support cultural, ecological and liveability values.

During September 2021, water was delivered to Annulus Billabong, close to Heidelberg, on behalf of the Victorian Environmental Water Holder. This was informed by On Country monitoring of the vegetation response undertaken by University of Melbourne, Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation Narrap rangers and Melbourne Water. Benefits to frogs, birds and vegetation were significant with positive outcomes observed and recorded during the watering. This information will inform the long-term watering solution for this site, which is being scoped.

An On Country knowledge day was held with the Narrap Team, Melbourne Water and the University of Melbourne to discuss findings and explore opportunities for Traditional Owner lead research topics. A celebration day was held at Annulus in May 2022 which began with a smoking ceremony by a Wurundjeri elder and was accompanied by dance from the Djirri Djirri dancers. All partners attending had the opportunity to discuss and share what Healthy Country meant to them.

Liveable Communities, Liveable Waterways

In October 2021, Melbourne Water launched our new integrated Incentives System, which allows customers to apply for funding online at any time of the year, and track the progress of their applications. This coincided with the final transition stage of customers from our historic separate grant programs to the single Liveable Communities Liveable Waterways Program.

Anyone in Melbourne Water's operating area is now eligible to apply for an incentive across four themes – Connected habitats and catchments; Integrated water management enablers; Science, innovation and technology; and Liveable cities. More information is available at http://www.melbournewater.com.au/liveable-communities-liveable-waterways.

Since the new system was introduced, we have received 670 applications and in 2021-22, we awarded $9.9 million in funding over multiple years across 838 projects. Funded projects will improve the management of waterway frontages through activities such as weed control, revegetation and pest animal management, better manage runoff from urban and rural stormwater and improve water resource management. The funding will also help to reduce impacts on waterways through harvesting and infiltrating stormwater, and deliver multiple liveability benefits for the community.

Yarra Strategic Plan

This year, the first bicultural plan for the Yarra River, our Birrarung, was released.

Melbourne Water is the lead agency for implementing the Yarra Strategic Plan (Burndap Birrarung burndap umarkoo) 2022–32. Melbourne Water, in partnership with responsible public entities (including local councils, DELWP and Parks Victoria) is committed to embedding continued inclusion of Traditional Owners to ensure the Birrarung and its parklands are co-managed as one living and integrated natural entity.

The plan was built on a 50-year vision developed with more than 2,500 Victorians who recognise – as per the name of the plan – that what's good for the Birrarung is good for all. It fosters river management without borders - state and local government authorities involved in managing the river and its parklands co-designed this plan and will work together, with communities, to protect the Yarra along its length. It connects planning law and water management for the first time to protect the natural beauty and health of the Yarra River's landscapes.

Traditional Owners are represented on the Yarra Collaboration Committee, which provides strategic and operational advice to support implementation of the plan. Under the plan, Melbourne Water is working with Traditional Owners on two of the five priority projects, including the Yarra Flats Billabongs watering project in the Bulleen precinct, and the Yering Billabongs project. Both of these projects will reconnect remnant billabongs and improve flood plain conditions and water quality upstream from the offtake to Sugarloaf Reservoir.

Lower Werribee Waterway Action Plan

In April 2022, the Lower Werribee Waterway Amenity Action Plan was launched on the banks of the Wirribi Yaluk (Werribee River). The project was born out of DELWP's Waterways of the West initiative, with its increased focus on waterway amenity, including cultural values, vegetation extents and access.

The plan articulates a shared vision for the Lower Werribee waterway and open space corridor which will provide improvements to amenity, access, recreation, and cultural values for the local community and visitors alike. It also has linkages to the Werribee System Reconfiguration project (see page 12, water supply), which more broadly considers management of the Werribee catchment by using integrated water management to help better plan for, store and deliver water to meet growing demand.

The Lower Werribee Waterway Amenity Action Plan demonstrates the multiple benefits to be achieved through a collaborative approach, and aligns effort on strategic projects in the Lower Werribee area, including the Werribee irrigation district reconfiguration, planning for the new Werribee Township Regional Park, delivery of on-water recreational assets (such as paddling platforms) and enhanced visitation and ecotourism to the WTP.

Werribee River

Delivering environmental water releases

To maintain and enhance waterway values, Melbourne Water is a delegated delivery partner for the Victorian Environmental Water Holder (VEWH) and works to release water to improve seasonal flow within regulated river systems across the Port Phillip and Westernport regions.

These releases, also known as water for the environment, help improve the health of rivers by moving sediments, maintaining native vegetation and supporting fish migration. Water for the environment also improves the quality of habitat for platypus, macroinvertebrates, fish and frogs.

We engage with a range of organisations when planning the release of water for the environment so they can make the most of them. This includes community groups such as canoeing clubs and river-based businesses like caravan parks. Understanding their preferences means we try to schedule water for the environment releases at times when they deliver the most benefits to recreational users of the rivers as well as achieving their ecological objectives. Traditional Owners are consulted during the preparation of the Seasonal Watering Proposal to ensure cultural values are considered as part of the water for the environment release planning process. We also advise all stakeholders and the broader public of these flows in advance, so they can take advantage of the higher water levels.

During 2021-22, state of the art fish monitoring was undertaken on the Tarago and Bunyip rivers to track fish movements in response to environmental water releases, improving the way we deliver water for the environment. On the Yarra (Birrarung) fish and macroinvertebrate monitoring was undertaken in conjunction with Wurundjeri Woi Wurrung Narrap rangers to help improve our understanding of the water for the environment requirements for the upper reaches near the upper Yarra Reservoir. In the lower suburban reaches the implementation of a landscape scale approach with partners has helped inform the way we deliver water for the environment to billabongs along the Yarra (Birrarung) floodplain. Responses of vegetation and waterbirds to water for the environment delivery are also being investigated.

With wet conditions experienced for much of 2021-22, some environmental watering actions were achieved with unregulated catchment inflows. However, 30 environmental watering actions were met using 30.4 GL of water for the environment, as shown in Table 3.

Table 3: Environmental water delivered for 2021-22

River	Volume	Outcomes
Yarra *(Birrarung)*	26,945 ML	The Yarra River (Birrarung) has experienced wet conditions for much of the 2021-22 year resulting in some achievement of environmental watering actions with unregulated catchment inflows. This has included inundation of Yering Backswamp, Bolin Bolin Billabong and Banyule Billabong. Two winter/spring freshes, one spring high flow, two summer/autumn freshes and an autumn high flow have been delivered with water for the environment. Low flows have also been topped up when they have fallen below the minimum recommended level during the year. The environmental water release for summer/autumn freshes and autumn high flow aimed to improve aquatic habitat and channel form, maintain bank vegetation and provide opportunities for fish movement. Water for the environment was also delivered to Annulus Billabong on the lower Yarra floodplain to improve wetland vegetation and provide habitat for frogs and birds. Works were completed at Bolin Bolin billabong to reconnect this significant site to the Yarra (Birrarung).
Tarago and Bunyip rivers	951 ML	Tarago Reservoir spilled on several occasions. These spills and unregulated catchment inflows have helped to meet environmental water demands. Three summer/autumn freshes and one autumn high flow were achieved with utilising water for the environment. Two summer freshes coincided with long weekends to provide recreational opportunities in addition to supporting the ecology. These releases help to enhance habitats, maintain vegetation communities and facilitate movement and spawning of various fish species including the endangered Australia Grayling. The autumn high flow event was timed with the full moon to support native fish migration; movement was recorded of Common Galaxias, Australian Grayling and Tupong on this event.
Werribee *(Wirribi Yaluk)*	2,135 ML	Werribee River (*Wirribi Yaluk*) experienced wet conditions with unregulated catchment inflows contributing to the achievement of low flow targets throughout the year. The lower Werribee also benefited from enhanced releases through Southern Rural Water's Bulk Entitlement - 15 ML/d from Melton Reservoir (May to Aug 2022) and 10 ML/d from Werribee Diversion Weir (January to June 2022). Water for the environment was delivered to Pyrites Creek (Reach 6) for low flows, and four spring freshes. These flows maintain channel form, habitat and vegetation, and allow for fish movement between pools. In the lower Werribee River, below Melton Reservoir (reach 8 and 9) and into the estuary, flows were enhanced with water for the environment releases to provide two spring high flow events and five summer/autumn freshes. Freshes and high flows improve habitat, maintain vegetation and support fish and frog populations.
Maribyrnong *(Mirrangbamurn)*	314.5 ML	315 ML of environmental water was secured through temporary trade of unused irrigation allocations. Seven partial summer freshes were delivered targeting improved water quality and connectivity between in-stream habitats. They are considered partial as operational constraints limit the maximum release from the reservoir. Enhanced water quality and flow variability was recorded.

In 2021-22, as storage operator and delivery partner Melbourne Water has delivered 18,960 ML from Thomson Reservoir in partnership with the West Gippsland Catchment Management Authority and on behalf of the Victorian Environmental Water Holder.

Managing the health of our rivers, creeks, wetlands and estuaries

In 2021-22, we contributed to the health of our waterways through direct maintenance works, capital works and incentive programs, including:

- 724 sites where active weed control was completed to protect native vegetation and habitat quality for a wide range of native animals
- 193 sites where sections of waterway were replanted with native vegetation to improve streamside vegetation connectivity and habitat for platypus and other significant species
- 39 sites of biodiversity significance along waterways that were protected via active maintenance or capital improvement including weed and pest animal control, and replanting
- one site where native fish passage was restored by removing in-stream barriers and renewing existing fishways
- one site where habitat for threatened species (Southern Toadlet) was created
- over 51 sites where maintenance and monitoring of existing fishways has sustained native fish passage
- four sites where erosion in the bed or banks of waterways was controlled by installing or renewing grade control and bank protection structures
- 414 sites where erosion in the bed of waterways has been controlled by continued maintenance and monitoring of existing grade control structures
- 536 sites where grass cutting, vegetation maintenance and litter removal activities were completed to provide more amenable public open space
- three sites where projects focused on enhancing social values, such as urban cooling, were commenced
- removing over 37,200 cubic metres of silt and 1835 cubic metres of litter and debris from our drainage system, to protect the quality of water in Melbourne's waterways. This prevents silt, litter and debris from entering waterways, in accordance with our obligations under the State Environment Protection Policy (Waters).

Werribee River

Catchment Management

The Port Phillip and Westernport Catchment Management Authority (PPWCMA) was integrated into Melbourne Water, effective from 1 January 2022. Melbourne Water is now the Catchment Management Authority for the region, and the PPWCMA's responsibilities and projects are now part of Melbourne Water.

The integration creates a single, integrated entity with a shared vision for catchment and waterways management for the Port Phillip and Western Port region, in line with arrangements in other Catchment Management Authorities (CMAs) across the state.

Our Approach

Melbourne Water's additional roles, responsibilities and obligations as the region's Catchment Management Authority provide us with a remit to take a more holistic and integrated approach to catchment management. This includes consideration and input into the integrated management of land, water, biodiversity, coasts and marine environments across the region, and is expected to include extensive collaboration with diverse stakeholders and communities. Our new role provides unique opportunities for Melbourne Water to expand our planning, collaboration and implementation activities.

Melbourne Water's new statutory functions, powers and responsibilities are set out in the *Catchment and Land Protection Act 1994*, including the requirement to prepare a Regional Catchment Strategy (RCS).

Regional catchment strategy

In 2021, prior to integration with Melbourne Water, the PPWCMA developed a new *Port Phillip and Westernport Regional Catchment Strategy* (RCS), which Melbourne Water is now the custodian of. This is the fourth edition of the Regional Catchment Strategy since the first in 1995. The refreshed RCS builds on 25 years of collaborative achievements and knowledge and brings together planning and information on land, water and biodiversity, demonstrating how these connect across the region. It also identifies targets for the future health and resilience of our environment.

The RCS is founded on the principle that collaboration by many organisations is vital to achieve environmental improvement for our region. It highlights the important roles and plans of councils, government agencies, Traditional Owners, NGOs, industry bodies, community organisations and others, and shows how each is part of the whole region's conservation enterprise. More than 120 organisations were consulted during the development of the RCS, which will be submitted to the Minister for Water in July 2022 for consideration and approval on behalf of the Victorian Government.

Protecting Ramsar wetlands

The long-term vision is for the Ramsar wetlands in the Port Phillip and Western Port region to be healthy and resilient, with their ecological condition at high levels and threats contained at low levels. This vision includes creating diverse, healthy habitats and native animal populations and increasingly healthy populations of threatened species, including birds and mammals. In 2021-22, investment from the Australian and Victorian Governments was prioritised to protect high-value ecological assets across the Port Phillip Bay (western shoreline) and Bellarine Peninsula, and Western Port Ramsar sites. This included:

- delivering over 35,000 hectares of pest animal control, helping to reduce the impacts on critical wetland habitat, and reducing the predatory impacts of feral cats and foxes on waterbirds and shorebirds. This has resulted in native wildlife, including Red-capped Plover, King Quail and Long-nosed Potoroo flourishing on French, Phillip and Quail Islands, while coastal saltmarsh vegetation communities recover following the eradication of feral pigs from Quail Island
- securing a new partnership with Traditional Owners, leading to the appointment of an Indigenous Ramsar Ranger position at Bunurong Land Council. This role will collaborate extensively with Melbourne Water and our stakeholder network to work On Country to support the protection and enhancement of Ramsar sites across the region
- continued community engagement events aimed at raising awareness of the values and threats to the Port Phillip Bay (western shoreline) and Bellarine Peninsula Ramsar site. Hobsons Bay City Council coordinated highly successful events, including bike rides and kayak tours, along the coastline between Williamstown and Point Cook, which provides important habitat for waterbirds and shorebirds.

Grow West

Grow West is a long-term, collaborative environmental program working to rejuvenate degrade landscapes in the Upper Werribee Catchment and create vegetation connections between the YouYangs Regional Park, Brisbane Ranges National Park, Werribee Gorge State Park and Lerderderg State Park. In 2021-22, delivery of Grow West projects included Three Rivers Enhancement Project, a multi-agency project focusing on improving the biodiversity and health of the Werribee, Lerderderg and Moorabool rivers. This project is significant in extending the Grow West area to the Moorabool River for the first time.

Revegetation programs planted 4,000 indigenous plants of 43 different species at the Kel Shields Flora Reserve in Bacchus Marsh. This is a 5 ha reserve that forms an important urban biolink, connecting the escarpment with the Werribee River that runs through town. Through DELWP's Iconic Urban Waterways funding stream, Grow West secured funding for the next two years to engage with and connect the local community in valuing and protecting their waterways. A significant social outcome of this project will be an increase in community participation rates in citizen science programs within the Grow West area.

Yarra4Life

Established in 2006, Yarra4Life is a multi-agency collaborative program that brings together 14 agencies, non-government organisations and community groups to protect and enhance the unique environmental values of the Yarra Valley.

The Yarra4Life program area takes in roughly 82,000 ha of the Yarra Valley, on the eastern outskirts of Melbourne's fringe. It extends from the foothills of the Yarra Ranges in the north to the Cardinia Reservoir in the south and is flanked by the Dandenong Ranges to the west and Kurth Kiln Regional Park and Bunyip State Park to the east.

In 2021, Yarra4Life focused on securing funding for and delivering the following projects:

- improving Country at Nunganala
- Yering Gorge to Yarra Junction Integrated Catchment Management Project
- securing a future for lowland leadbeater's possum project

There was also progress in the planning for Yarra4Life's 15th anniversary and review of the strategic plan (2017-2022).

Protecting threatened wildlife at French Island

Feral Cat Free French Island is a five-year project which aims to create a safe haven for French Island's threatened wildlife by eradicating feral cats. Partnerships are a key component of the project, with collaboration between government agencies and community groups vital for its success. In 2021-22, the project continued to use a combination of trapping and other tools, humanely removing over 200 feral cats and significantly reducing the feral cat population.

Camera monitoring and fauna surveys continue to measure the response of wildlife to the reduction in predation pressure by feral cats. A positive response is already visible with Long-nosed potoroos normally nocturnal being seen during the day, and Lewin's rail expanding their distribution to new areas of the island.

Living Links

Of the five major catchments surrounding Melbourne, Dandenong catchment in the city's south east is the most urbanised, with around 60 per cent urban land cover. Living Links is an urban nature program working to create a web of green spaces across Melbourne's south-east. Melbourne Water hosts the coordination of Living Links on behalf of its partners, which include local government, government agencies and community groups.

A key focus for 2021-22 was the development of the Our Catchment, Our Communities – Urban Forest. The Living Links Urban Forest aims to enhance integrated water management, biodiversity protection, climate change mitigation, urban cooling and shading, and enhance human health and wellbeing. Research shows that urban forests offer a wide range of benefits, including integrated water management (IWM), biodiversity protection, climate change mitigation, urban cooling and shading, and enhanced human health and wellbeing through a cooler landscape and greater connection to place. On ground works are scheduled to start early in 2022-23.

Marine restoration

Shellfish reef habitats are one of the most threatened marine habitats on earth and Port Phillip Bay is an important spawning and recruitment area for many fish species. The Port Phillip Bay Community Reef project helps restore functionally extinct shellfish reef ecosystems in eastern Port Phillip Bay by working with recreational fishers to deploy recycled shell substrate and live shellfish from recreational vessels at priority locations.

In 2021-22, work was completed on identifying the project's restoration sites through baseline surveys using Baited Remote Underwater Video (BRUV) and dive surveys conducted by the University of Melbourne. The surveys established that there are sites in 8 metres of water approximately 300 metres from shore near Mornington that appear to be highly suitable for restoration efforts. The project will begin to work with recreational fishers to prepare and deploy recycled shell substrate and live shellfish from recreational vessels in Spring/ Summer 2022-23.

Improving fisheries habitat

A fully functioning and resilient Western Port fishery requires a healthy coastal ecosystem, including seagrass, mangroves and saltmarsh communities. The mangrove forests of Western Port provide structurally complex habitat for many recreational fish species, particularly shelter for juveniles by supporting fish growth and survival. The Reel Big Fish - Western Port project entered its second year in 2021-22, and has contributed to improving fisheries habitat.

During the year, Bass Coast Landcare Network planted over 5,000 mangrove seedlings at priority sites throughout the internationally significant Western Port Ramsar site. Children from the nearby school also planted mangroves seeds within the intertidal zone at a site near Queensferry.

Recreational fishing organisation OzFish delivered a number of community engagement events to highlight the importance of mangroves for native fish species. OzFish is working to establish a new recreational fishing chapter across Western Port to support and promote sustainable fishing practices in the region.

Landcare support

There are hundreds of community groups in the Port Phillip and Western Port region that are active and influential in the protection and enhancement of natural resources. These include Landcare groups, Friends groups and committees of management. Melbourne Water has continued the PPWCMA's longstanding strategic support for the Landcare movement in the region, providing Landcare governance, community capacity building and grants provision. This is helping to maintain a strong, active, capable and well-connected Landcare movement playing a valuable role in natural resource management.

This year $536,081 was provided for Victorian Landcare grants (21 project, 88 support) in the Port Phillip and Western Port region. Grants were awarded to Landcare and environmental volunteering groups and networks that have a focus on on-ground land and natural environment improvement work.

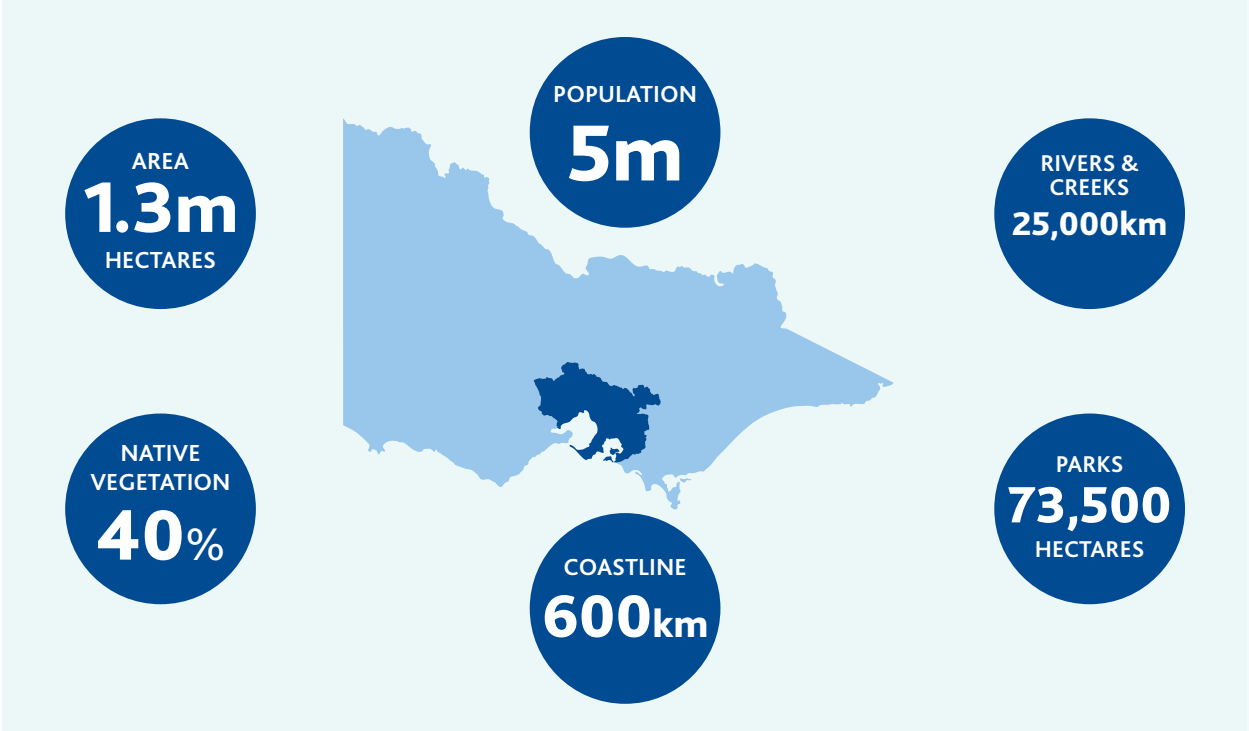
Sustainable agriculture and land management

Melbourne Water is committed to maintaining sustainable agriculture and undertaking land management through delivering or supporting projects funded by the Victorian Government and Australian Government.

Through our Regional Agriculture Landcare Facilitator, we have engaged with and informed farmers, community groups and agricultural industries about emerging ideas, climate change activities, on-farm innovations and best practices and relevant new government policy to help improve the sustainability, productivity and profitability of agriculture in this region. The Smart Farming for Western Port project delivered by Western Port Catchment Landcare Network worked with farmers to increase awareness and adoption of land management practices that improve and protect the condition of soil, biodiversity and vegetation in the catchment.

The Regional Agriculture Landcare Facilitator and Smart Farming for Western Port projects are supported by Melbourne Water through funding from the Australian Government's National Landcare Program.

Catchment Condition Report



Context

This report provides a snapshot of some aspects of the environmental condition of the Port Phillip and Western Port region – the state of its biodiversity, waterways, land, coast, bays and community stewardship. It fulfils Melbourne Water's responsibility under the Catchment and Land Protection Act 1994 to submit a report on the condition and management of land and water resources in its region. The information in this report is taken from the *Port Phillip and Western Port Regional Catchment Strategy*. For detailed information visit portphillipwesternport.rcs.vic.gov.au. Information is also taken from the *Health Waterways Strategy*. For detailed information visit healthywaterways.com.au.

Regional Overview

Significant natural features: Port Phillip Bay, Western Port, Phillip Island, Dandenong Ranges National Park, Yarra Ranges National Park, Brisbane Ranges National Park.

Major waterways: Yarra River, Maribyrnong River, Werribee River, Edithvale-Seaford Wetlands (Ramsar-listed), Port Phillip Bay (western shoreline) and Bellarine Peninsula Ramsar site, Dandenong Creek, Bunyip River, Lang Lang River, Bass River.

Registered Aboriginal Parties: Bunurong Land Council Aboriginal Corporation, Wadawurrung Traditional Owners Aboriginal Corporation and Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation.

Summary of project outputs in 2021-22

30
hectares of new vegetation established

4,081
hectares treated to manage weeds

86,619
hectares treated to manage pest animals

3,512
participants at engagement events

160
publications produced and distributed

141
assessments and surveys undertaken

36
plans developed or maintained

Summary of PPWCMA Trend

Theme	2021-22 Assessment	Previous three year assessment	Condition rating*	Summary of condition assessment
Water	Concerned	Concerned	Unknown	Government bodies and communities are actively contributing to waterway health, however urbanisation, population growth and climate change are key threats that need to be managed. As our population has grown, pressure has been placed on our waterways by extracting water which impacts on environmental flows, damaging riverbanks and important habitat and letting toxic pollutants enter our waterways via stormwater drainage and runoff. In addition, the impacts of climate damage are set to intensify. This has significant implications for our water supply, the future of our communities and the animals and wetlands that depend on healthy river systems.
Waterways	Concerned			
Water supply and use	Concerned			
Groundwater	Neutral			
Biodiversity	Concerned	Concerned	Unknown	Biodiversity in the region is declining due to significant pressure on native plants and animals from various sources including urban development, invasive species and climate change.
Native vegetation	Concerned			
Native animals	Concerned			
Land	Concerned	Concerned	Unknown	Loss of agricultural land to urban uses is a concern alongside future impacts on viable agricultural land of climate change.
Land use	Concerned			
Sustainable agriculture	Neutral			
Soil health	Neutral			
Coast & Marine	Concerned	Concerned (coasts), positive (bays)	Unknown	Coastal development, invasive species and climate change continue to contribute to a decline in environmental condition of coastal areas, however the region's bays are in good condition. Regular environmental monitoring occurs and numerous programs work to enhance bay health.
Marine environment	Positive			
Estuaries	Neutral			
Coasts	Concerned			
Community, volunteers and landcare	Positive	Positive	Unknown	There is a strong community contribution to environmental management in this region particularly from Landcare and community environmental groups. The representation and role of Traditional Owners in natural resource management is increasing.
Integrated Catchment Management	Unknown	Unknown	Unknown	Not Available

Note: Catchment Condition Assessment is noted in Appendix F – Catchment Condition Report Assessment

* The Port Philip and Westernport Regional Catchment Strategy is currently being finalised. Once approved, a Monitoring, Evaluation, Reporting and Improvement framework will be developed. Catchment condition indicators will be included in this framework and will provide a basis for consistency in reporting catchment condition from 2022-23 onwards.

Key Management Challenges

The Port Phillip and Westernport region continues to face significant and complex challenges including climate change, increasing urbanisation, population growth, land use pressures and loss of biodiversity.

Important decisions need to be made and actions undertaken to address established and emerging problems including:

Water

Protecting our waterways: Urban development dramatically changes the way water moves through the landscape and it is one of the biggest threats to waterway health. Protecting floodplains and headwater streams in urban growth areas and ensuring appropriate buffers provides ecosystem system services such as carbon and nutrient processing, natural attenuation of floods as well as helps protect downstream waterway health. Managing our waterway landscape to reduce the impact of pests is a key foundational management activity for maintaining high value riparian vegetation and protecting native animals like birds, fish and platypus. Everyday chemicals in the environment threaten animal life such as macroinvertebrates and insects that birds, fish and platypus rely on for food. Infiltrating water into soils protects base flows in waterways, which we know is critical in a drier climate with more intensive storms. Retaining water in the landscape is also important for urban cooling and there are multiple benefits to be made through achieving ambitious stormwater infiltration targets.

Protecting our wetlands: Protecting wetlands from development including natural wetlands in urban growth areas. In the 2019 *Healthy Waterways Strategy* (HWS) annual report, three priority natural wetlands had been effectively removed by development activities and in 2020 a further 15 priority wetlands were identified to be at risk. The 2021 assessment suggests Sewell's Road Swamp is now so reduced and altered by urbanisation as to have effectively lost the natural values for which it was recognised, but we must await on-ground assessment before determining the status of this wetland. Finding avenues to protect wetlands, including their function and form and connectivity in the landscape, is even more critical as they can provide carbon sequestration and through improved condition could do so increasingly. Managing vegetation buffers and pests are key activities for wetlands as these protect the wetland function and provide habitat for other values. Managing for the use and application of chemicals in the environment so that wetlands can support animal life is also a critical challenge. Additionally, natural wetlands have been a focus of the Region-wide Leadership Group (RLG) since 2020. To help progress actions, in 2021 a multi-agency working group was also established. Represented on the working group are Melbourne Water, DELWP, VPA, EPA, Parks Victoria, Wurundjeri and local government. They are currently developing a decision/risk framework and identifying mechanisms for wetland protection.

Environmental water allocation: There is an important and substantial challenge to achieve adequate environmental water allocations for stressed rivers. In the past, environmental water allocations have tended to be secondary to consumptive needs, however, this has now been recognised and highlighted as a priority in key strategies such as Waterways of the West, Yarra Strategic Plan, *Healthy Waterways Strategy* and the *Central and Gippsland Sustainable Water Strategy*, but needs to be financially supported and brought to reality.

Land and sustainable agriculture

Sustainable agriculture: Major urban development is continuing to generate reduction wildlife habitat and put pressure on remaining agricultural land. Agricultural land has significant potential to support biodiversity and provide key habitat connectivity, and still drive productive business outcomes. Continued work is needed to engage landholders in the multiple benefits of sustainable agriculture, and from a planning perspective there is a need for strengthened protection of green wedges. There is a process in place to review and strengthen the protection and management of green wedges, but this will need to be implemented.

Biodiversity

Native vegetation/animals: Native species are experiencing vulnerability due to longstanding reduction and fragmentation of habitat. A practical response is habitat protection programs that increase key habitat types in priority areas and create connections and buffers across landscapes. However, a reliable and climate adapted seed supply needs to be created to support the enormous number of programs required in the decade that matters for climate change and biodiversity conservation and is a priority in the Victorian Government's *Biodiversity 2037*.

Pest and weed management: The region continues to face longstanding weeds and pest animals issues across the landscapes and in particular environmental assets and priority areas such as parks, Ramsar wetlands and French Island.

Community

Community and partnerships: There is an opportunity for increased engagement of urban councils, organisations, industries and communities in programs that educate and assist adoption of practices such as native plant gardens (Gardens for wildlife), rooftop gardens, reduced domestic and industrial water and power use, urban revegetation and cooling, volunteering for local environmental stewardship work, and other sustainability and environmental actions. This would be a major support in to one of the key goals in Biodiversity 2037 which is to connect people with nature and support community volunteering and stewardship.

Maribyrnong River

Delivering for Liveability

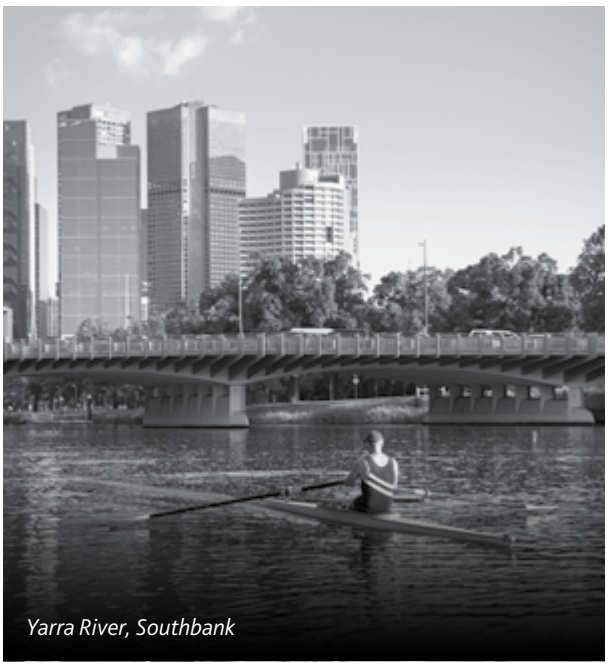
At Melbourne Water we consider that liveability reflects the wellbeing of a community and the many characteristics that make a city a place where people want to live, now and into the future.

We listen to our customers to ensure that the essential services we provide remain affordable and sustainable, and help make our region a better place to live.

We engage with Traditional Owners as sovereign partners in land and water management, working to strengthen relationships and connection to Aboriginal Victorians and Traditional Owner organisations.

Resilient Cities and Towns

Melbourne Water has a significant role to play in ensuring that greater Melbourne remains resilient and liveable. As a custodian of significant land and water assets, we are uniquely placed to transform and reimagine activation of under-utilised sites for multiple community benefits.



Yarra River, Southbank

Our Approach

The combined pressures of ongoing population growth and climate change affect the entire water cycle. These impacts range from an increase in demand for water to generating more stormwater in the urban environment, as well as a reduction in the amount of water captured by our water supply catchments. To meet these challenges, we need to work together, or integrate with, all organisations with an interest in the water cycle and with communities to make smart investments and future-focused decisions, and identify the solutions that deliver the best long-term value to the community.

Melbourne's long-term resilience and water security depends on Integrated Water Management (IWM). This is the concept that all parts of the water cycle are connected, from water supply to sewage management, wastewater treatment, flooding and stormwater capture. By adopting an integrated approach when planning and delivering these services, we can achieve improved value for the community and better outcomes for the environment over the long term.

The *Melbourne Water System Strategy, Melbourne Sewerage Strategy, Flood Management Strategy* and *Healthy Waterways Strategy* each take an integrated approach to considering the water cycle, particularly in how we respond to future growth and climate change.

Sunbury stormwater harvesting scheme

We are working with Greater Western Water and the Sunbury community to plan for future water management in this growing region.

The Sunbury Stormwater Harvesting (SWH) Scheme is a flagship regional-scale stormwater harvesting scheme. It has scope to prevent 3.8 billion litres annually of excess stormwater entering the local waterways of Emu and Jacksons Creek, helping to maintain their environmental health.

The Sunbury SWH Scheme also provides a significant opportunity to contribute to the alternative water targets outlined in Water for Life and the CGRSWS. Through adaptive planning we are exploring a number of potential options that have the potential to reliably use excess stormwater such as stormwater to potable, environmental flows and agriculture.

Community feedback: Sunbury's Water Future

Since 2018, we've been working with the Sunbury community to develop the Sunbury SWH Scheme. The Sunbury region is largely reliant on drinking water supplies from outside the region. With limited harvest from local water catchments, reduced rainfall and a population that is expected to more than double in the next 20 years, innovative solutions are required to limit cost and environmental impacts.

In November 2021, Melbourne Water and Greater Western Water delivered, with support from DELWP and Hume City Council, a community research program which tested community views and preferences for a range of water sources and end uses. This research program tested views on manufactured water and the use of stormwater to supplement drinking water in the future. The community research program has shared the key findings on the Melbourne Water community engagement website YourSay.

Analysis of the results indicated that ongoing information sharing for alternative water sources will be a necessary component of any future engagement program to further understand community sentiment regarding treated stormwater for drinking.

Integrated Water Management forums

During 2021-22, Melbourne Water participated in seven DELWP-led IWM forums and 17 working group meetings across the Port Phillip and Westernport regions. The catchment-scale integrated water management (CSIWM) plans for each catchment were completed and endorsed, and include targets for IWM outcomes across the five IWM forums for 2030 and 2050.

The CSIWM plans play a critical role in progressing and delivering the IWM options which can recover environmental water. These plans contain targets for a range of IWM outcomes including use of alternative water, greening and flood mitigation. Melbourne Water and the forum participants are working to produce the action plans which outline a process for bringing the targets to life.

Facilitating Integrated Water Management for urban development

Melbourne Water has worked closely with the Victorian Planning Authority (VPA), retail water companies and local councils to progress Integrated Water Management outcomes for key development sites in Melbourne, Aviators Field and Bacchus Marsh.

Early engagement and collaboration has delivered an IWM plan for the sites in advance of precinct structure planning, and increases opportunities to embed IWM outcomes in future planning processes. This program is delivered in partnership with Greater Western Water, VPA and Wyndham City Council.

Clearwater

Clearwater is a leading capacity building program, recognised for its role in providing customer driven programs that equip the water industry with the skills, knowledge and networks to drive the implementation of IWM practice. Melbourne Water co-funds Clearwater along with DELWP.

In 2021-22, all programs continued to be delivered virtually, building on the increased preference from our customers and improved online accessibility. Learning sessions and online resources were developed and delivered in collaboration between DELWP and Clearwater. These capacity building initiatives support urban development applicants and council planning assessors meet Victoria's stormwater planning requirements under the Victoria Planning Provisions for cooler, greener environments and healthier waterways and bays.

Clearwater and DELWP were highly commended in the 2022 Stormwater Victoria Awards in the Excellence in Policy/ Education category. The award was granted for excellence in stormwater planning capacity building initiatives for urban developments in Victoria.

Revitalising Yan Yean Reservoir

Yan Yean Reservoir Park is accessible to the public and is a valuable recreation space and a popular spot for walking and picnics. As part of Melbourne Water's treatment plant upgrades, we are exploring ways Yan Yean Reservoir can offer enhanced recreational and open space opportunities for the community.

As part of the Revitalising Yan Yean Reservoir project, we have been visiting the community to learn what they love about Yan Yean Reservoir and what additional features and activities would make it more enjoyable. In April to May 2022, 936 community members contributed to the recent engagement program. Participants highlighted the strong value the community holds for the site, particularly in relation to opportunities to enjoy the scenery, peacefulness, and exercise.

In addition, Melbourne Water also engaged Traditional Owners, Wurundjeri Woi Wurrung Cultural Heritage Aboriginal Corporation, to produce a Cultural Values Assessment for the Yan Yean Reservoir Catchment. The assessment documents the Wurundjeri Woi Wurrung people's use and occupancy of the reservoir catchment and describes its attributes as a cultural landscape. The recommendations aim to embed Wurundjeri Woi Wurrung cultural values into the next stages of work, including site zoning, cultural value management and protection and exploring how cultural heritage is celebrated and shared with public users of the site. We will collaborate with Traditional Owners to ensure recommendations are implemented in a way that preserves and protects cultural values and ensures drinking water supply requirements are met.

Building on the background technical assessments, social research and the recent community engagement, the Revitalising Yan Yean Reservoir project continues to explore ideas that will be used to inform the development of a Draft Master Plan for Yan Yean Reservoir.

Increasing recreational use of Melbourne's waterways

The water supply catchments and reservoirs around greater Melbourne are state significant assets worth around $10 billion to the Victorian community. In 2018 the Catchment Management Optimisation Program (CMOP) was started to inform how Melbourne Water will approach complying with water quality requirements while also meeting the Victorian Government's expectations to increase access and recreation to our catchments.

Melbourne Water timed summer freshes for the Yarra (Birrarung) and Tarrago rivers over long weekends to support canoeing, fishing and camping along the waterways. The summer/autumn freshes along Jacksons Creek provided enhanced water quality for amenity value through the popular parks in Gisborne.

We also evaluate our options for managing waterways and land with both environmental outcomes and social values in mind. We have implemented several small-scale projects and programs and engaged with our communities to evaluate their perceptions and preferences around recreation in catchment areas, including Reimagining Your Creek (see below), Revitalising Yan Yean Reservoir project (see page 37), Greening the Pipeline Program and opening up land for community purposes via the Our Space Your Place website.

Reimagining Your Creek

Reimagining Your Creek is a multi-partner, multi-site program that transforms heavily engineered concrete channels and pipes into natural places the community can enjoy, with significant improvements in liveability and environmental outcomes. This is especially important in suburbs with limited natural or open space available for exercise, recreation and relaxation. Reimagining Your Creek uses a co-design approach with local communities to ensure we achieve the best liveability outcomes based on local knowledge, suggestions and values.

The projects are delivered in partnership with DELWP to ensure strategic alignment with IWM policies and secure funding for projects. We also work in collaboration with Traditional Owners, local government and communities as part of the design, planning and delivery phases of the projects.

In 2021-22 we completed significant works to a 550-metre stretch of the Tarralla Creek. The $9 million project includes a new waterway channel, more than 80,000 new plants, a revitalised wetland, a bird hide, informal creek crossings, gathering spaces, a new bridge and paths and the Wurundjeri Sensory Garden. The works also deliver improved flood mitigation and improved quality of water flowing from our urban areas into Tarralla Creek and eventually Port Phillip Bay. The project was co-funded by Maroondah City Council and Melbourne Water.

In June 2022, the Minister for Water announced $2.5 million in funding towards the rejuvenation of 1,650 metres of Blind Creek at the base of the Dandenong Ranges. The project will create three new wetlands, a range of paths, a boardwalk and other amenities for the community to enjoy. The project will also harvest around 250 million litres a year of stormwater that can be used to irrigate local sports ovals and community gardens.

Reimagining Your Creek has been the subject of leading industry awards, including winner of the Australian Water Association's Victorian awards for infrastructure project innovation, and Awards of Excellence for Infrastructure at the Australian Institute of Landscape Architecture's 2021 Victorian and National Landscape Architecture Awards.

Blue-green corridor planning

Melbourne Water is facilitating and supporting different streams of government and key stakeholders to work together on waterway corridors (land and water). Forming strategic partnerships builds stronger relationships, strategic linkages, and provides one voice to the community. It allows for stronger place-based planning with better outcomes for the community and Traditional Owners, and financial efficiencies, collectively achieving greater impact together than we can individually. By understanding waterways and their lands as integrated and living natural entities we can plan beyond management boundaries and precincts.

Along with 12 partner organisations, we signed a new Memorandum of Understanding (MoU) for the Chain of Ponds Collaboration, recommitting to continue working together to identify, create and deliver projects that enhance the environmental, cultural and social values of Moonee Ponds Creek. Since it was established in 2018, the Chain of Ponds partners have made decisions together and co-delivered real solutions to transform Moonee Ponds Creek. A new collaboration in Gardiners Creek (KooyongKoot), is in early stages, bringing together local councils, water authorities, educational organisations, peak environmental, sport and recreational bodies and community groups to provide direction on the scope and required strategic planning for the catchment.

Other key programs this year have included launching the Lower Werribee Waterway Amenity Action Plan (see 26) and the the Yarra Strategic Plan (see 26).

Research Partnerships

Melbourne Water joined Water Sensitive Cities Australia (WSCA) as a tier 1 member in July, 2021. Other tier 1 members are South East Water (Vic), DELWP, the Department of Water and Environment Regulation (WA), Water Corporation (WA), the Department of Biodiversity, Conservation and Attractions (WA) and the Department of Communities (WA). The aim of WSCA is to make water sensitive practices a mainstream activity by bringing people and organisations together to create a shared vision for their city, and by advocating for improved policy and practice. WSCA will also focus on the integration of structural, non-structural and nature-based solutions, together with empowerment of communities for managing urban water. Research by WSCA will also identify context specific solutions which can be applied at different scales.

Customers and Community

Melbourne Water provides a range of valued services to customers and the community, who are at the centre of everything we do.


Maribyrnong River

Our Approach

The essential services Melbourne Water delivers are shaped and influenced by the current and future needs and priorities of our customers and community. We engage with them extensively as our strategies, plans and projects are designed to embed the outcomes that are most valued.

We develop relationships with our customers and partner with them to deliver shared services to our community. Our community represents those that are engaged, invested in, contribute to or are impacted by the decisions we make. Our community resides in the greater Melbourne region and benefits from the services we provide with our customers and partners. Our *Melbourne Water Customer and Community Strategy* guides our approach to customers and the community, and outlines our plan to better manage and respond to their needs.

Customer segments

To assist Melbourne Water to define and understand our customers, we separate our customer base into key segments. These are:

- State Government
- local government
- retail water companies
- industry leadership
- direct service customers (including developers)
- suppliers
- engaged community groups
- community.

Next Generation Engagement Program

This year, we have further evolved our leading practice engagement program (NextGen). As COVID-19 restrictions continued to challenge us to engage with our customers in different ways, we have adopted an ongoing approach to engagement that integrates digital and face to face methods. This approach is driven by insights into our customer's preferences for engagement and information sharing, expands our reach, and creates meaningful and accessible opportunities for greater diversity and inclusivity in our engagement practices.

Our YourSay community engagement platform uses a variety of interactive tools like 'Q&A and 'Gather' to facilitate two-way, place-based conversations and generate brainstorming of ideas with community. We are also piloting language translation features to support greater participation from multicultural communities. YourSay hosted a number of multi-stage engagement programs for major strategic projects including Reimagining Moonee Ponds Creek, Revitalising Yan Yean Reservoir and Greening the Pipeline Brooklyn. These projects involved significant customer and community engagement, collaboration and empowerment, including deliberative panels and co-design approaches.

In addition, 338 capital projects as well as hundreds of local community projects (such as tree planting, weed control and grass cutting) and emergency management events were delivered to improve our local communities and protect the environment. We engaged the community in a range of ways, from community bulletins, focus groups, doorknocks and pop-up events to innovative and online approaches such as deliberative panels, co-design, digital platforms and social media.

Digital engagement

Our expanded digital engagement products and services combine immersive storytelling and technology to connect community with their local context and values. In 2021-22 there were 8050 participants in our education and citizen science programs including attending workshops, events and presentations either online or in person. More than 18,000 users engaged with us digitally by subscribing to newsletters, monitoring frogs or using our innovative website resources such as Drip Trip and the Western Treatment Plant Virtual Tour.

Our digital engagement tools include our Frog Census App, Litter Critter Augmented Reality experience and QR code system. The Frog Census App was developed five years ago and has been downloaded more than 10,000 times. This year we upgraded the Frog Census App to improve the user experience and added gamification features to reward users for their data accuracy, which provides important contributions to Melbourne Water's HWS reporting targets. Two new projects commenced; the WTP Digital Education Centre, anchored in the refurbished Cocoroc Hall, and the Digital Learning Gateway.

Western Treatment Plant virtual tour enhancements

We have continued to innovate our digital engagement and education through expansion of the successful Western Treatment Plant (WTP) virtual tour with more content and greater accessibility and usability features. The app uses augmented reality to take users into the WTP site, enabling them to explore its vast features including the sewage inlet and the substantial lagoons that are used to clean up around half of Melbourne's sewage.

The enhanced tour includes a hands-free tour option, more engaging and shareable content. The enhancements also broaden the appeal of the content beyond school users to include engineering and environmental science tertiary students. Since the launch of the upgraded features, audience participation has increased by 105 per cent.

Managing Directors' Workshops

Collaboration with our delivery partners is critical as we move forward into the decade that matters. The shared challenges the sector is facing can't be tackled alone and we have to work with shared purpose to continue delivering for the community. Over the last quarter of the year, Managing Directors from across the metropolitan water corporations and Barwon Water have been working to build a shared vision for the sector and principles to govern how we work together on difficult issues. This will form the basis of a re-set of some of the key instruments that define how our sector collaborates, including the Bulk Service Agreements.

Improving water literacy

Improving community water literacy is a key strategic priority for Melbourne Water, supported by a significant work program reaching across our services and customer delivery. In a water-literate community, customers are informed about water cycle management and empowered to participate in shaping the future of Melbourne's water.

An evidence-based approach and behaviour change framework underpin Melbourne Water's approach to connecting with customers in an engaging way to improve the water literacy of all Melburnians. We engaged with Culturally and Linguistically Diverse (CALD) audiences by creating relatable content pieces in multiple languages, using people from diverse backgrounds. 'Let's Talk Water' aimed to have important conversations about the water security of Melbourne by celebrating Melbourne's cultural diversity.

Through our partnerships with Zoos Victoria and the Inflatable Regatta we have focused on educating and engaging audiences, asking community to help 'Make Litter Extinct' via an AR activation designed to educate community on the impact litter has on our wildlife and the health of our rivers and creeks. The 2021-22 financial year marked our final year as a major sponsor of the Kids Teaching Kids Conference, while a new partnership with Museums Victoria commenced, with water education events hosted at Scienceworks during the autumn school holidays.

Voice of Customer

We use data and insights from our customers to continue to evolve our customer service approach. Our customers have told us they want to share information, access tools, communicate and self-serve their basic needs through a secure digital platform, and these elements have shaped our design for the next phase of our enhanced customer portal.

Customer feedback is an important way for us to not only assess how well we're meeting our customer's expectations, but also to help to shape our future service delivery. For example, this year our Voice of Customer program identified that customers were having challenges interacting with us when they needed to apply to build near, or over one of our assets. We conducted a deeper analysis into the contributing factors for this, including customer journey mapping and interviews with customers during May and June 2022. The insights and recommendations from this work will ensure we are aligning our service and processes to the needs of our customers.

Our customer performance

To better understand our customers, we use a broad and evolving range of tools including targeted research projects, internal data analysis and direct feedback. This informs our customer strategies and plans.

Our half-yearly Reputation Study tracks customer and community perceptions (both separately and combined) of Melbourne Water and includes metrics relating to trust, esteem, admiration and respect. Our reputation with the community remains strong, and in December 2021, we received our first ever 'Excellent' score of over 80 (81.1) for our community reputation, which was repeated in June 2022. We are also ranked in the top tier of RepTrak's Benchmark 60, which ranks organisations according to their reputation. Melbourne Water was one of only four organisations to achieve a community reputation score over 80 between January and March 2022.

Our combined customer and community reputation score was 75.9 (June 2022) which is slightly down from the December 2021 score of 77.1. This sits within the 'Strong' reputation range defined by RepTrak. Other customer reputation scores have lowered, contributing to an overall fall from last year's reputation result of 79.9.

This score remains strong despite known pain points with our customers, which are reflected in our overall results. Efforts to improve engagement and deeper partnerships with water retail companies are yielding results, with an improvement in this customer segment. Further customer improvement planning is underway, supported by capability uplift, improved governance and other change initiatives.

To deepen our understanding of customer satisfaction, this year we fully implemented our new Customer Satisfaction by Service (CSAT) framework. The survey was rolled out to the majority of customers and measured their satisfaction with all aspects of Melbourne Water's services.

Results for June 2022 are shown against agreed aspirational benchmarks assigned by the Essential Services Commission (ESC).

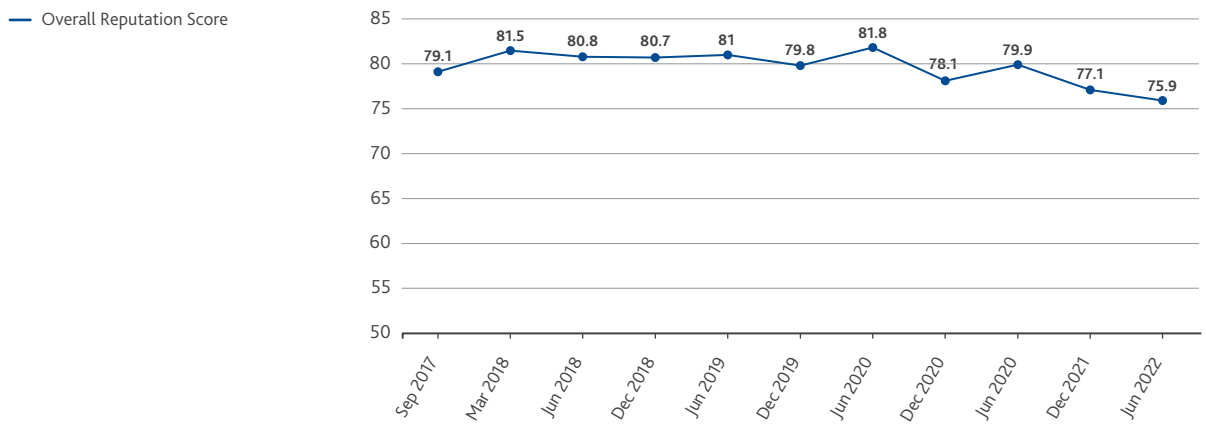
Over the past year, CSAT insights have helped us to identify areas on which to focus service performance improvements, including streamlining of business processes to remove problems or barriers faced by our key customers. Melbourne Water is required to report on customer outcomes to the ESC every August of the 2021-26 price period.

Our Customer Service Centre continued to deliver a very high standard of service to our customers and the community. In 2021-22, it managed nearly 40,000 phone calls, 10,000 emails and 5,700 social media messages (a 530 per cent increase in social media messages compared to 2020-21), while maintaining its top-10 industry call quality ranking.

Our digital customer service program resulted in an uplift in customers using our digital channels, with website use 40 per cent higher than 2020-21. This was due to content improvements and merging our PPWCMA and Melbourne Water channels. Our social media audience grew by 9 per cent from 2020-21.

Service	Overall Satisfaction Score (out of 10) Jun 2022	ESC Benchmark (2022-23 Milestone)
Water	**7.1**	7.9
Sewage	**7.1**	7.9
Waterways	**6.6**	6.8
Drainage	**5.5**	6.5

Melbourne Water Reputation Score – Community and Customers



Water for Aboriginal Cultural, Spiritual and Economic Value

Melbourne Water supports Traditional Owner self-determination and delivering on our commitment to reconciliation.

Our Approach

Melbourne Water's approach to Traditional Owner relationships and engagement aligns with our *Customer and Community Strategy* but has the fundamental distinction of considering Traditional Owner organisations as sovereign partners in land and water management, not customers or stakeholders to be consulted in relation to these matters.

In 2021-22, we continued to develop as a culturally competent organisation by partnering with Traditional Owners on a range of activities and projects, and by transitioning to our third Innovate Reconciliation Action Plan (RAP).

Traditional Owner engagement

Melbourne Water places a high priority on working with Traditional Owners (particularly those registered with Aboriginal Party status), in recognition of the Victorian Government system for determining the right people for Country.

We facilitated Traditional Owner involvement and contribution to key strategies during the year, including the *Yarra Strategic Plan* (Burndap Birrarung burndap unmarkoo), H*ealthy Waterways Strategy* and *Waterways of the West*.

We also finalised an innovative plan to allow Traditional Owners to have confidence in Melbourne Water's use of Cultural Knowledge, data sovereignty and intellectual property of Traditional Owners developed through projects with us. We continued to support Traditional Owner cultural burning projects with our own cultural burning plan on Melbourne Water land, helping to build skills and capacity in fire management (Wurundjeri Narrap team at Macedon and Yan Yean Reservoir and fire planning with Wadawurrung at WTP).

Traditional Owner partnership agreement

This year, we continued our journey with Traditional Owners towards formal partnership agreements, which are designed to clearly articulate our roles and agreed priority outcomes and activities to enable Traditional Owners to achieve self-determined outcomes.

We are developing strong partnerships with Traditional Owners – particularly Wadawurrung, Wurundjeri Woi Wurrung and Bunurong - who represent most of the land within our operating area. We also work with Taungurung and Gunaikurnai as significant partners, although they have much smaller areas of land within our operating area.

In a significant step forward, Executive staff from Melbourne Water completed a walk on Country with Elders, members and staff from the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC). This important face to face event underpinned our shared commitment to our partnership, and supported final approval of Melbourne Water's first formal Partnership Agreement with a Traditional Owner in July 2022. This Agreement was co-designed between Melbourne Water and GLaWAC Elders, leaders and community over 2021-22 and forms a commitment to GLaWAC to work together and support their rights to water.

Reconciliation Action Plan

In June 2022 Reconciliation Australia endorsed Melbourne Water's Innovate Reconciliation Action Plan (RAP) III, which was formally launched internally in August 2022, with a celebration planned later in the year. This follows the implementation of our Innovate RAP II which spanned 2018-2021. Our next RAP and its themes of Respect, Relationships, Opportunities, Governance and Going Beyond, provides a continued measurable progression on our cultural journey. We focus on respectful relationships, embedding protocols and procedures, ensuring a culturally safe workplace, continuous growth in our cultural learning, supporting self-determination and Traditional Owner aspirations, and opportunities to support Aboriginal business prosperity.

Melbourne Water's Innovate RAP II delivered in 2020-21 has four focus areas: Aboriginal employment and retention; procurement; cultural awareness training and cultural safety. While we have made good progress and achieved 80 per cent of the 82 commitments made in our previous RAP, we recognise there are some areas – particularly employment and retention – that are more challenging. In our new RAP, we have targeted actions designed to improve our ability to meet our commitments in these areas.

Key activities completed 2021-22 include:

Aboriginal employment and retention

In 2021, 10 staff identified as Aboriginal, so we have some way to go before we achieve our target of 3 per cent Aboriginal employment. We engaged external specialists to assist with the development of the Aboriginal and Torres Strait Islander Employment and Retention Plan and Career Tracker to create pathways for employment to support recruitment and retention of Aboriginal people to specific roles.

Although our Traditional Owner businesses (Wurundjeri, Bunurong, Wadawurrung, Taungurung or Gunaikurnai) do not presently provide a civil works service, we continue to actively support the development of their capacity to provide valued services to Melbourne Water in other key areas which include caring for culturally sensitive sites, cultural burning and landscape management.

Procurement

We continued to focus on Aboriginal business procurement. Our procurement includes weighted social value procurement criteria to better inform buyers with this information and our Procurement Team is working with Kinaway (the Victorian Aboriginal Chamber of Commerce), to link members with opportunities across our supply chain. In 2021-22, we increased our Aboriginal procurement spend to more than $1.7 million, supporting self-determined businesses to thrive.

Melbourne Water is proud to partner with 100 per cent Indigenous owned construction project 'Wara Paring', which aims to create further job opportunities and career pathways for Indigenous young people across the water industry. In 2021, we won the Organisational Excellence Award at the National AWA Awards for the partnership with Aqua Metro Services and Wara Paring Indigenous Civil Engineering Project, as well as an inaugural Kinaway Business Award for its outstanding record of effective Indigenous collaboration and engagement.

Focus on cultural competency and training

Making Melbourne Water a culturally safe place to work has driven our program this year, supported through annual week-long events, of cultural immersion to improve our cultural safety, knowledge and connections – National Reconciliation Week (May), NAIDOC Week (July).

We developed a Cultural Awareness Training plan that includes online cultural competency and awareness training for employees. Our cultural awareness training plan includes a three-tiered approach comprising online learning, training by third-party providers (not Traditional Owners) and by Traditional Owners delivered on Country at Western Treatment Plant and Werribee River You Yangs, Wadawarrung, Wurundjeri Woi Wurrung. More than 70 per cent of Melbourne Water employees have now completed a Cultural Awareness Training session.

As part of National Reconciliation Week 2022, we held a yarning circle led by Jaynaya Winmar and Dean Heta and supported by guests from the Aboriginal business community, to build respectful relationships and a safe space to promote interaction and connection.

We have further embedded the principles of making Melbourne Water a culturally safe workplace this year, including the widespread use of Aboriginal art in all office locations, using Traditional Owner endorsed language for rooms and in co-delivered projects as well as using consistent protocols for Welcome to Country and Acknowledgement, the latter of which appears in every foyer and meeting room.

Yoorrook Justice Commission

In March 2022, the Yoorrook Justice Commission officially began. It was established as a Royal Commission to lead the inquiry into the impact of colonisation on First Nations peoples in Victoria, and is the first of its kind in Australia. The Commission will establish an official public record and develop a shared understanding of the impact of colonisation on First Peoples in Victoria, and make recommendations for healing, system reform and practical changes to laws, policy and education, as well as matters to be included in future treaties. The Commission is due to deliver its final report in June 2024.

The Commission may request Melbourne Water, as a state government entity, to provide documents or other evidence on current and past practices and policies. We will be an enabler of this truth telling process and respond to any requests from the Commission with openness and transparency.

Werribee River, K Road Cliffs

Delivering for Environment

Melbourne Water aims to reduce the impact of our operations on the environment and contribute to the environmental sustainability of greater Melbourne.

The Victorian water sector is the single largest contributor to the State Government's total carbon emissions. Melbourne Water accounts for over half of the Victorian water sector's emissions. Getting water to homes as well as removing and treating sewage takes a lot of energy. We process more than 90 per cent of Melbourne's sewage. Sewage treatment is energy intensive and releases direct emissions (including methane and nitrous oxide). The energy and direct emissions associated with sewage transfer and treatment contributes around 85 per cent of Melbourne Water's total GHG emissions.

Our challenge is to reduce our GHG emissions and achieve or exceed our carbon pledge targets. In addition, we are planning for climate change to impact the availability of water supply and the impact on our operations from climate-change impact projections.

Climate Change and Adaptation

Our Approach

Melbourne Water's goal is to boldly progress towards decarbonisation and become leaders in climate change mitigation, adaptation and planning.

This year we have further enhanced our disclosures, in line with the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

Climate risks

Climate change creates challenges for all of Melbourne Water's services, the natural environment and the liveability of our region. The future will bring less rainfall, more drought, rising sea levels, more intense storms and flooding, and more risk of fires. Increasing temperatures and extreme weather are already affecting our services and the way we operate. A transition to a low-carbon economy is anticipated to create new costs, standards and obligations, that will in turn affect how we operate and invest. Melbourne Water is working to understand and respond to both the physical and transitional risks of climate change, and to develop adaptation options for our services and the region.

Scenario planning

Our service strategies outline potential future climate scenarios and impacts, informed by the best available climate science, and our own targeted local modelling and research. Service strategies assess key risks and propose priority adaptation responses that draw on community and stakeholder input. We use and develop climate scenarios that are tailored to the unique requirements and best practices for each service and type of risk. Scenario analysis and planning generally includes a Representative Concentration Pathway of 8.5 as defined by the Intergovernmental Panel on Climate Change (IPCC) to explore potential 'worst case' future climate impacts, along with other scenarios that may be relevant. In 2022, the IPCC updated its Representative Concentration Pathway scenarios to a new Shared Socio-Economic Pathway scenario framework and we are exploring how to transition modelling and research into the new framework.

We are also working to understand the possible impact of future emissions targets, regulations and carbon prices on the cost of providing our services. Other future changes such as urban growth are considered alongside climate projections to help us plan.

Climate risk governance and management

We manage and govern climate risks through a business-wide risk framework that identifies our most material risks, establishes a lead manager for each risk, and enables regular reporting on progress. We also manage risks and prepare for future climate scenarios through ongoing service planning and investment processes. Climate risks, planning and responses are reported to the Board through quarterly risk reports, as part of ongoing operational reporting and periodic detailed discussion of priority risk topics.

We conduct regular environment scanning and ongoing research and modelling programs to ensure we have the best available climate data and identify emerging risks and opportunities. We engage with regulators, research institutions and other government bodies in our region to share climate knowledge and coordinate our efforts.

In June 2022, Melbourne Water's Board approved a new Environmental Sustainability Policy confirming that Melbourne Water is committed to assist Victoria as it transitions to an environmentally sustainable future, and prepare for the challenges of climate change. This policy acknowledges physical and transition climate risk obligations and sustainable adaptation commitments. We will continue to engage with DELWP to support delivery of the state wide Water Cycle Climate Change Adaptation Action Plan.

Climate planning and response

In 2021-22, our climate planning and response activities included:

- drafting the *Greater Melbourne Urban Water and System Strategy* (GMUWSS) using the updated *Guidelines for Assessing the Impact of Climate Change on Water Availability in Victoria* (DELWP), which use scenarios based on Representative Concentration Pathway 8.5 to assess how climate change could affect availability of water from the current supply system over the next 50 years
- investigating the risk of bushfire in water supply catchments using historical data and *Phoenix Rapidfire* bushfire modelling software to inform water quality and supply planning
- undertaking a major update of our Network Outlook, including new modelling using updated scenarios for climate change, population growth, and future population distribution. The Network Outlook provides a long-term view of the capacity of Melbourne Water's water supply and sewerage trunk networks to provide services in the context of future uncertainty including climate change. It also highlights where existing assets, such as sewers and pump stations, may come under increased strain if severe rainstorms become more frequent
- supporting DELWP to prepare new *Guidelines for Assessing the Impact of Climate Change on Wastewater Systems in Victoria*. We are now exploring how to apply the new Guidelines to our long term sewage system planning
- We are conducting a range of emissions reduction research, investment and planning activities, as outlined in Our Path to Net Zero (see page 49).

Table 4: Actions to address climate risk

Water

Climate risks for water supply include declining rainfall in catchments, rising future demand, and increasing risks to water quality from events such as bushfire and extreme storm events causing turbidity issues from catchment flows. Increasing requirements for environmental water as natural streamflows decline is also expected. Water supply and demand modelling for the draft *Greater Melbourne Urban Water and System Strategy* identifies a potential need to build the next supply augmentation within the next 10 years. Other opportunities to address changing climate conditions include developing new sources such as stormwater harvesting, water recycling and making efficient use of the water we have from existing sources. We are currently raising community awareness, maximising the volume of water held in storage for immediate security, and working with government through long-term urban planning and water strategy processes to enable investment in new water sources at the appropriate time.

KPIs:

Collaborate through Integrated Water Management forums and plans to deliver up to 80 GL per year from alternative water sources by 2065

Sewerage

Climate risks Climate risks to sewerage systems include more intense rainfalls leading to more water entering transfer and treatment networks, sea level rise and erosion affecting coastal assets, and rising regulatory requirements and costs for managing greenhouse gas emissions associated with wastewater. Severe weather already creates challenges for sewerage treatment systems, highlighting where climate change may amplify risks.

Erosion is already occurring along the foreshore at the Western Treatment Plant, and recent La Niña weather patterns and high rainfall have affected the performance of annual sludge drying processes at the Eastern Treatment Plant, which in turn affects annual capacity.

The Western Treatment Plant uses natural treatment processes that rely on gravity and biological processes to treat sewage. Increased rainfall and cooler temperatures extending through spring can affect this treatment process and the removal of nitrogen. Algal blooms in treatment lagoons can affect our ability to supply recycled water; supples were interrupted for a period during 2022. Sea level rise could further affect the performance of lagoon treatment. Adaptation may be necessary to maintain capacity and effectiveness of all treatment systems.

KPIs:

Reducing reportable greenhouse gas emission to 204,380 tonnes CO2-e by 2025 and to net zero by 2030

Using 100% renewable electricity by 2025

Flood and Drainage

Climate risks for flood and drainage services and the community include more intense storms and sea level rise, leading to more frequent and costly floods in future. Risks from more intense storms and sea level rise are now being explored and modelled out to 2100. Opportunities include well-designed new urban developments and renovations that make buildings safer, and that reduce runoff by slowing or harvesting stormwater, and building community awareness to enable wider flood planning and safety investments.

We are currently investing in flood risk modelling, improvements to urban drainage and flood systems, building community awareness, and working with planning authorities to inform design of new urban development.

KPIs:

Flood information renewed in 25% of rural catchments and 35% of urban catchments subject to flooding from 2021-22 to 2025-26

Reduction in flood damages of $155 million achieved over the life of the works for assets created in period from 2021-22 to 2025-26

Waterways

Climate risks for waterways and catchments are complex and multi-faceted, as physical climate changes interact with ecology and may amplify environmental impacts of urbanisation and pollution.

Climate impacts may include:

- less water for the environment as overall water availability declines, more frequent droughts and shifting rainfall patterns lower water levels and change catchment, wetland and waterway wetting and drying cycles
- higher water temperatures that affect habitat, algal blooms and chemistry in waterways and wetlands
- increased frequency of severe rain storms leading to faster in-stream flow velocities when storms occur, and erosion of stream banks and beds and vulnerable landscapes
- sea level rise changing the movement of salt water in estuaries and through groundwater, affecting biogeochemistry, vegetation and water quality
- fire and heat affecting all flora, fauna and ecosystems along waterways and across catchments
- ocean acidification affecting flora, fauna and ecosystems in the bays and in coastal estuaries, wetlands, lakes and streams.

Opportunities for managing climate-related impacts include:

- advocacy and engagement in urban planning processes to minimise negative impacts of development that in turn reduce resilience and adaptive capacity of ecosystems
- encouraging more stormwater re-use and groundwater infiltration to help slow down run-off and retain more water for catchment vegetation
- stream side revegetation programs to cool instream temperatures, protect stream banks and provide refuge for animals during high-velocity flows
- increasing fish passage and connectivity to enable more species to find water and refuge during hot, dry conditions
- seeking more water for the environment as part of long-term state water planning.

We are currently monitoring and managing environmental water, fish passage and revegetation programs, working with other government agencies to improve urban stormwater re-use opportunities, and providing long-term state water strategies with information about future environmental requirements.

KPIs:

Contribute to capturing and reusing 80 GL/year of stormwater to protect and/or restore waterways

Stormwater harvesting and infiltration capacity will increase by 8 GL/year through Melbourne Water programs from 2021-22 to 2025-26

Climate and resilience highlights from 2021-22 delivery program by service

	Functional business areas						
	Timeframe	Source waters and demand	Built assets	Natural environment	People and workplace	Interdependencies	Customer and product delivery
Water							
• Delivered annual 'Water Outlook' and Desalinated Water Order Advice, to support long-term water security for all Victorians.	●	●				●	●
• Development of investment programs and operating improvements that help us supply reliable water even under dry and extreme weather conditions, whist planning for future climate adaptive additional water sources.	●	●	●			●	●
• Delivery of water supply catchment bushfire management to improve fire response times, fuel management, and debris flow mitigation, in partnership with EMV and DELWP and investigating future climate bushfire risk and impacts on water quality.	●	●	●		●	●	●
• Research and modelling to understand climate risks to catchments, including hydrology, vegetation and impacts of climate change on water quality, supply and assets.	●	●	●	●		●	●
• Participated in Integrated Water Management Forums led by DELWP, contributing catchment and water resource information, and support for modelling and development of climate-related targets and indicators.	●	●	●	●		●	●
• Water literacy and education programs in partnership with metropolitan water businesses to build awareness of water systems and engagement with conservation.	●	●				●	●
Sewerage							
• Updated modelling for the future sewage transfer system which considers possible effects of including possible effects of more intense storms, drier catchments and the potential for sea level rise to submerge some emergency release points.	◐		●	●		●	●
• Developing strategic future plans for both the Eastern and Western Treatment Plants which will be used to support joint planning for the future metropolitan sewage system with all stakeholders, so that climate risks can be addressed alongside our other goals for sewerage systems.	◐	●	●	●	●	●	●
• Coastal Hazard Assessment for the Western Treatment Plant to better understand the potential implications of sea level rise and coastal erosion for the natural environment, biodiversity values and treatment assets.	◐		●	●		●	●
• Renewable energy and emissions reduction programs to support a climate adapted Victorian economy.	●		●	●		●	●
• Program of research on topics related to water recycling and re-use to improve the potential usefulness of this water resource.	●	●		●		●	●
Flood and Drainage							
• Mapping potential future climate-related flood risks in priority catchments in partnership with local councils.	●		●			●	●
• Supporting councils to include climate change related flood risks in their local planning schemes and adaptation planning.	●		●	●		●	●
• Supported DELWP's development of a Coastal Hazard Assessment for Port Philip Bay, and conducted scoping for future use of information in urban development and coastal advisory processes.	◐		●	●	●	●	●
• Potential climate change impacts, and actions to improve community resilience to climate change are included in the new *Flood Management Strategy Port Phillip and Westernport 2021-31*, and associated action plan.	◐		●			●	●
• Provided future coastal inundation information for urban development purposes.	●		●			●	●
• Commenced a program of work to understand the level of flood service required by levee banks in priority catchments, including heights that may be beneficial to help address future climate change needs	◐		●				●
Waterways and catchment management							
• Explored opportunities to retain more water in urban landscapes to reduce stormwater impacts on waterways while supporting greener, cooler neighbourhoods and climate adaptation.	●	●		●		●	●
• Delivered urban cooling plantings to provide shade for waterway parklands and trails and to improve habitat, community engagement and appreciation of waterways.	◐		●	●	●	●	●
• Monitored high-value drought refuge sites (key wetlands and waterways) and maintained response plans to enable response if conditions become critical.	●	●		●			
• Research into climate threats to rivers, wetlands, estuaries and bays, and opportunities to build resilience into our natural and constructed assets, as well as research program to model the risks posed by climate change to key vegetation species.	●		●	●		●	●
• Trialled novel real-time techniques for monitoring and control of environmental water in Monbulk Creek, using urban stormwater to help deliver environmental outcomes and support appropriate stream flow.	●	●		●		●	●
• Refining indicator tools to help improve models of the link between water quality and environmental values, with the goal of achieving more accurate predictions of future risk under climate change.	◐	●		●		●	●

Short term ○ A significant component that has been completed or will be completed within approx. 1 year. May also have ongoing elements e.g. capital delivery programs associated with a plan.

Medium term ◐ Work will continue over 1 – 5 years

Ongoing ● A long term program

Our Path to Net Zero

Our Approach

Melbourne Water is progressing Our Path to Net Zero in line with the long-term Victorian Government's target of net zero greenhouse gas emissions by 2050. This includes an action for the metropolitan water corporations (including Melbourne Water) to examine accelerated progress to reach net zero emissions by 2030.

1. A reduction to 204,380 tonnes CO2-e by 2025 (which represents a 50 per cent reduction of our average emissions between 2011 and 2016).
2. To source 100 per cent of our electricity from renewable sources by 2025
3. To reduce our reported emissions to net zero by 2030.

Increasing our understanding of our greenhouse gas emissions

There are range of uncertainties in determining GHG emissions. To improve our emissions reporting, provide increased transparency of actual emissions, and identify opportunities for reducing emissions across our treatment plants, we have conducted a range of site-specific assessments of our emissions. In 2021-22 we:

- partnered with the University of Melbourne to measure GHG emissions from the solids drying process at the Eastern Treatment Plant. This process used open path lasers, wind data and inverse dispersion modelling to estimate methane emissions and the findings will be used to support future business cases for emissions reduction
- partnered with the University of Queensland to measure and understand chemical reaction pathways associated with nitrous oxide emissions from the Western Treatment Plant's nitrogen reduction treatment process. This work will also identify potential low emission operating windows
- conducted an emissions measurement scoping study to test a range of site-wide emission measurement techniques, including down/upwind measurement techniques and tracer gas release. These techniques are combined with real-time weather conditions, and aim to determine how these techniques could be used in the future to estimate emissions at the site level to enable a comparison to reporting emissions using the National Greenhouse Emissions Reporting Scheme (NGERS)
- continued to undertake research with the University of Western Australia that will inform our understanding and modelling of GHG emissions from the lagoons at our Western Treatment Plant.

Our emission reduction performance

Melbourne Water's first emission reduction target is a 50 per cent reduction by 2024-2025. Figure 1 shows Melbourne Water's current forecast to achieving our carbon pledge. To achieve this and our 2030 target of net zero emissions, we are implementing a portfolio of approaches which include innovation (to reduce Scope 1 or 'fugitive' emissions from our operations), carbon offsets and increasing the generation and procurement of renewable energy.

A breakdown of our GHG emissions for 2021-22 across our services is provided in Table 5. The largest source of emissions within Melbourne Water is associated with sewage treatment and management, producing around 85 per cent of our total emissions, in comparison to the water supply system which uses less energy and has low direct emissions.

There are many factors that must be considered in estimating our future GHG emissions such as climatic conditions, customer water use, rainfall and maintenance activities that affect our operations. The variance of 8.3 per cent of actual against our forecast emissions reflects the significance of the influence of these factors. We remain on track to meet our carbon pledge through onsite renewable energy generation, procurement of renewable energy and market-based carbon instruments (offsets).

In 2021-22 we progressed our emissions reduction commitments by:

- concluding phase 1 of laboratory scale tests partnering with RMIT University to explore a proposed new low-emission sewage treatment process of the future. This work resulted from a global competition seeking innovative ways to reduce emissions. Results support the technical feasibility of the proposed process and Melbourne Water is currently evaluating the long-term development and implementation of this technology
- working with the wider Victorian water sector to develop a framework for future sourcing of carbon offsets that will ensure integrity, transparency and cost-effectiveness. Along with other Victorian water authorities, Melbourne Water will need to use carbon offsets alongside renewable energy and other investments to reach our emissions targets.
- beginning the process of creating pilot-scale biodiverse carbon forests on Melbourne Water land. We are also working with Greater Western Water and Yarra Valley Water to partner with communities and deliver biodiverse carbon plantings across the wider region
- continued our renewable energy program (see Renewable energy, page 51).

Figure 1: Melbourne Water's path to achieving 50% reduction in CO2-e by 2024-25, as required as part of the Statement of Obligations

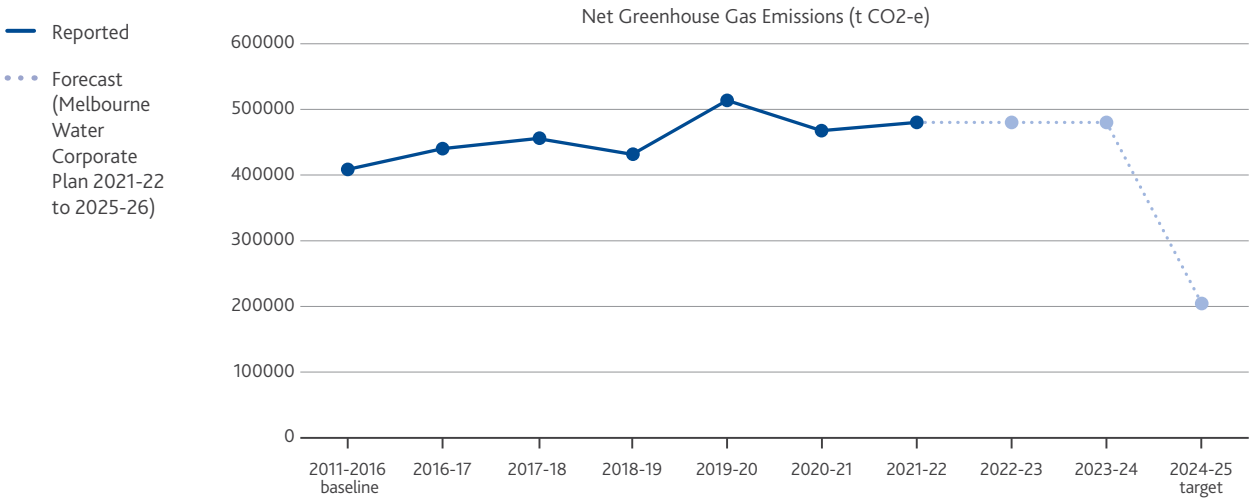


Table 5: 2021-22 greenhouse gas emission performance, by service

Service delivery category	Greenhouse gas emissions (t CO_2-e)				Variance (%)
	21-22 Projected emissions	21-22 Result			
		Scope 1 emissions	Scope 2 emissions	Total emissions[1]	
Water treatment and supply	N/A	9	64,769	64,778	N/A
Sewerage treatment and management	N/A	245,291	161,595	406,886	N/A
Transport	N/A	1,854	0	1,854	N/A
Waterways	N/A	299	919	1,218	N/A
Other (e.g. offices, depots, etc.)	N/A		297	297	N/A
Total Emissions (a)	**480,000[2]**	**247,454**	**227,580**	**475,034**	**-1.0%[3]**
Carbon offsets (self-generated) retired	N/A	0	0	0	N/A
Carbon offsets (other) retired	N/A	0	0	0	N/A
Total Offsets (b)	N/A	0	0	0	N/A
Net Emissions (a – b)	**480,000[2]**	**247,454**	**227,580**	**475,034**	**-1.0%[3]**

[1] Sum of scope 1 and 2 emissions.
[2] From Melbourne Water Corporate Plan 2021-22 to 2025-26.
[3] Melbourne Water is committed to emissions reduction and is currently pursuing a range of emission reduction projects.

Energy consumption

Melbourne Water's electricity consumption across our services and other operations in megawatt hours (MWh) is set out in Table 6.

Across all of Melbourne Water operations there was a slight increase in grid electricity consumption. As more employees return to offices, there has been a slight increase in electricity consumption at Melbourne Water headquarters. Increased grid electricity consumption was recorded at the Eastern Treatment Plant and the Western Treatment Plant coupled with a small reduction in sewerage pumping across the sewage transport network.

In 2021-2022, there has been a decrease in biogas generation at both treatment plants. In the production and distribution of water the consumption of grid electricity was equal to the previous years consumption. The generation of hydro-electricity across the water network was less than last year.

Within the water system, there was a decrease in grid electricity use in water storage reservoirs and an increase in opportunistic pumping from the Yarra River at Yering Gorge. Waterways saw a decrease in drainage pumping which reduced consumption of grid electricity.

Renewable energy

Melbourne Water has an extensive portfolio of onsite renewable energy generation facilities, throughout our water system and wastewater treatment plants.

Resilient Affordable Clean Energy Plan

Melbourne Water is developing a Resilient Affordable Clean Energy (RACE) Plan. The plan recognises that we are in a unique position to harness our resource recovery, land and other opportunities to generate and recover low carbon intensity energy and provide community benefits.

The plan's objectives are to ensure that energy supply to our sites is resilient, affordable and renewable (clean). Existing project and infrastructure to support these goals includes our biogas power plants operating at the Eastern and Western Treatment plants, mini-hydros in the water treatment network and approved large scale solar installations under construction at the Eastern Treatment Plant and Winneke.

New solar farms

Along with hydropower and bioelectricity, solar is an exciting opportunity to expand Melbourne Water's portfolio of renewable energy generation.

In 2021-22 we started construction of new solar farms at the Eastern Treatment Plant and Winneke Treatment Plant. Partial activation will take place in late 2022 with full activation expected by 2023. Eastern Treatment Plant already includes a biogas facility that generates approximately 30 per cent of the electricity required each year to run the plant.

These solar projects will increase our portfolio of renewable energy generation by an expected 30,000 megawatt hours per year at ETP and 12,000 megawatt hours per year at Winneke, lowering our carbon emissions while enhancing affordability for our customers and the community.

Mini-hydro power stations

Melbourne Water's current system capacity can generate up to 70,000 megawatt hours of power per year via hydroelectric generation – enough to power approximately 14,100 homes. At this level, we are preventing over 75,800 tonnes of carbon dioxide emissions, which is equivalent to taking more than 29,200 cars off the road.

We are expanding our generation of hydroelectricity through our water transfer system with three new mini-hydro power stations at St Albans, O'Shannassy and Upper Yarra which are scheduled to be commissioned in 2023. These three additional mini-hydros will be able to collectively produce, on average, 7100 megawatt hours of electricity each year.

Table 6: Total electricity consumption across our services

Service delivery category	20-21 Result (MWh)	21-22 Result (MWh)	Commentary
Water treatment and supply	65,246	67,640	Opportunistic pumping at Yearing Gorge from the Yarra River
Sewerage treatment and management	263,444	261,438	Biogas generation decrease at ETP and WTP, and increased grid electricity consumption
Waterways	1,013	957	Reduction in drainage pumping
Other (office, workshops, depots etc.)	310	340	Increase in employees returning to work in the office
Total	**330,014**	**330,375**	

Table 7 shows our volume and proportion of renewable energy consumption based on mandated, voluntary and incumbent offsets. Approximately 40.6 per cent of our total electricity use could be offset from self-produced renewable electricity generation within 2021-22, however the Renewable Energy Certificates (RECs) associated with this production were sold and cannot be claimed within our renewable energy reporting.

Table 7: Total renewable electricity consumption, by type (MWh)

	2020-21	2021-22	2021-22 Renewable energy as % of total consumption	Commentary
Grid-sourced[1]	**42,002**	**43,222**	**18.67%**	In 2021-22, Melbourne Water consumed 229,599 MWh electricity from the grid for our contracted large sites and 1,941 MWh for our small sites. Of this, 43,222 MWh is classifiedas renewable due to mandatory surrender of RECs to meet the Commonwealth Renewable Energy Target.
Self-sourced[2]				
Biogas	18,755	18,755	17.54%	In 2021-22, we produced a further 85,577 MWh from our biogas electricity generation facilities but sold the associated RECs, therefore this additional amount is not considered as renewable electricity consumed by Melbourne Water
Hydroelectric	0	0	0%	In 2021-22, Melbourne Water produced 34,736 MWh electricity from on-site hydro generation assets. This is not accounted for within our renewable energy consumption data as all RECs associated with this activity were sold.
Solar	0	0	0%	Presently we do not have any commissioned solar assets generating electricity
Wind	0	0	0%	Presently we do not have any wind assets in our portfolio
Total self-sourced	**18,755**	**18,755**		
Total renewable electricity consumption	**60,789**	**61,977**		

[1] Renewable electricity consumption, based on mandatory surrender of RECs via our retail electricity contract, to comply with the Commonwealth Government's Large-scale Renewable Energy Target (LRET).

[2] Renewable electricity consumption as a result of activities and initiatives led by Melbourne Water.

Melbourne Water Corporate Water Consumption

Melbourne Water's corporate water consumption for 2021-22 was 78.69 KL or 69.2 L/FTE/year based on our operations at our corporate office at 990 LaTrobe Street.

Statutory obligations

Enhancing biodiversity

Melbourne Water manages significant landholdings that support diverse communities of native plants and animals. We also have a critical role in managing the waterways, estuaries and wetlands which are essential to the survival of much of our region's biodiversity.

We develop and implement strategies that protect native biodiversity, in compliance with Victorian and Commonwealth biodiversity obligations, our Corporate Biodiversity Conservation Action Plan 2020, our new role as custodian of the Catchment and Land Protection Act, our *Healthy Waterways Strategy* and our *Regional Catchment Strategy*.

As part of the PPWCMA integration in January 2022, Melbourne Water became the host agency for a range of catchment-scale programs – including Grow West, Yarra4Life and Living Links – that contribute to enhancing catchment biodiversity, protecting threatened species and creating biolinks.

Melbourne Water also became the lead agency of the Ramsar Protection Program, following the integration with the Port Phillip and Westernport Catchment Management Authority. The Ramsar Protection Program is a long-term, collaborative environmental program working to maintain or improve the ecological values of the Western Port and Port Phillip Bay western shoreline Ramsar wetlands sites. Further details can be found on page 30.

In addition, Melbourne Water manages the Two Great Ramsar Wetlands Project (at the Western Treatment Plant and Edithvale-Seaford Wetlands Ramsar site) and Western Port Enhancement Project.

Our Western Treatment Plant lagoon-based sewage treatment ponds support a wide range of biodiversity values including coastal saltmarsh, temperate grasslands, waterfowl, shorebirds, Growling Grass Frogs and Orange-bellied Parrots. To maintain the right hydrological regime essential to support these values, we updated our Environmental Flow Recommendations drawing on latest monitoring data. Level loggers in key habitat ponds were installed to assist with achieving the correct conditions for shorebirds and Growling Grass Frogs.

The Ramsar-listed Edithvale-Seaford Wetlands are the largest remaining part of the former Carrum Carrum Swamp and home to many bird species, most significantly the endangered Australasian Bittern. Works in 2021-22 included:

- progressing the feasibility study into the possible use of recycled water from the Eastern Treatment Plant to reduce impacts of climate change at Seaford Wetlands
- initiating a Climate Change Cost Benefit Analysis project to help understand future management options for the wetlands under a changing climate
- continuing work with RMIT to undertake research into water and sediment quality at both Edithvale and Seaford wetlands. This research is improving our understanding of the macroinvertebrates living in the sediment and their tolerance to pollution
- scoping a number of ecologically based projects as part of DELWP's $5 million Suburban Parks Program at Seaford Wetlands. Revegetation within the Seaford wetlands buffer zone will commence in spring 2022, with other projects, including a habitat improvement plan (looking at nest boxes, woody debris and revegetation), flora and fauna surveying and a review of the Pest Animal Management plan to be completed by June 2023.

In 2021-22, Melbourne Water continued implementation of the Growling Grass Frog (GGF) Masterplan Program in Melbourne's urban growth areas under an agreement with DELWP. As urban development occurs over the next 30 years, Melbourne Water will construct around 80 GGF habitat wetlands and manage around 2,000 hectares of GGF conservation area. The first constructed GGF habitat wetland was launched in Aintree Estate near Rockbank in December 2021. We also initiated capital works to monitor and manage the wetland's watering regime, including automation of groundwater fills.

State Environment Protection Policy (Waters of Victoria)

The State Environment Protection Policy (SEPP) (Waters) governs the protection and management of Victorian waterways, bays and coastal waters. It provides environmental quality objectives that reflect the latest scientific understanding and national standards. The *Environment Protection Act 2017* came into effect on 1 July 2021, and the State Environment Protection Policy objectives were mostly transitioned to the new Act, subordinate regulations or the Environmental Reference Standard. Two clauses on urban stormwater management and pollutant load targets for sewerage treatment plants were not transitioned. Melbourne Water is working with the Environment Protection Authority (EPA) on how these two saved clauses will be accounted for under the new subordinate regulations once the saved clauses are retired in June 2023.

We manage our sewerage treatment plants at Werribee and Bangholme to meet the State Environment Protection Policy water quality targets for Port Phillip and Western Port bays. Details on our performance are noted in Sewerage Management (see page 17).

Melbourne Water is investing in a range of other activities across sewerage, stormwater and waterways programs to protect our waters into the future:

- working with Department of Environment, Land, Water and Planning to deliver the *Port Philip Bay Environmental Management Plan*, to improve water quality in the bay. The plan aims to foster stewardship of the bay across community, industry and government, improve the bay's environmental health and support thriving marine life and habitats
- renewing assets and undertaking preventative maintenance across our 400-kilometre sewerage system to minimise spills, sewer overflows and leakages (see Sewerage Management, page 17)
- conducting waterways and stormwater research programs, which help to deliver on our *Healthy Waterways Strategy* targets for water quality (see Waterway Management, page 24)
- implementing sediment management programs to remove silt, litter and debris from our drainage system and protect waterway quality (see Waterway Management, page 24).

General Environment Duty

The *Environment Protection Act 2017* (the Act) came into effect on 1 July 2021 and represents the most significant reform to Victoria's environment protection framework in two generations. It changes how the Environment Protection Authority regulates pollution, waste and contamination in Victoria. Significant to Melbourne Water is a change from regulating polluting activities to passing the risk and management of emissions and waste management back on to the generator, or receiver for treatment plant situations, termed the General Environment Duty (GED). These changes will affect many operational and planning aspects of our work and influence how we design and commission major developments. In 2021-22 we delivered training to our people to educate them about the changes to environmental duties that have come into force as part of the new Act.

Managing streamflow

Melbourne Water produces streamflow management plans, local management rules and a *Drought Response Plan* to document the ways in which water is managed to ensure it is shared fairly between diverters and the environment. Further information about water use by our diverter customers can be found in Appendix D – Private Diversion Licences.

During 2021-22 Melbourne Water maintained streamflow management plans for seven stream systems in the Yarra catchment. The objectives of the plans are to manage the water resources of the catchments, develop sustainable allocations for agriculture and other uses, and maintain an environmental water regime to sustain waterway health.

A draft local management plan has been developed to convert several low-risk local management plans in the Lower Yarra Catchment into a single management plan. This plan will include the water supply protection area currently covered by the Plenty River Stream Flow Management Plan, which is being revoked.

We have undertaken studies covered by the Steels, Pauls and Dixon Stream Flow Management Plan to investigate the various impacts of climate change, irrigator behaviour and stock, domestic and farm dams, on the reliability of the streamflow resource. This will inform any proposed future amendments.

We are working with Traditional Owners to better engage them on their roles and opportunities in the Stream Flow Management Plan process, and to build Traditional Owner cultural values into any future amendments to management plans.

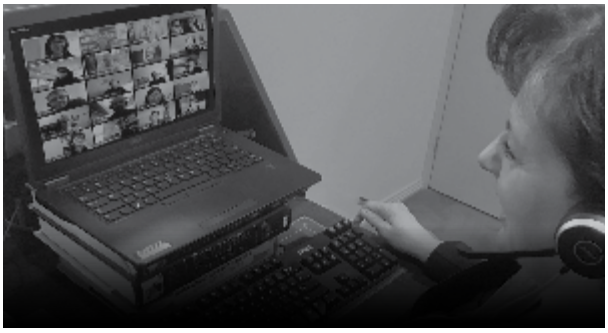
Werribee River

Our People

Our organisation is our people. It's the way we work with each other and our customers, the tools we use to support our work and the culture that binds us together. With safety our top priority, Melbourne Water aspires to be a leader in delivering our services. We're developing our people so we are able to respond to today's challenges, while preparing our workforce to be future-ready – bringing agility, creativity and resilience to design solutions in the decade that matters.

Inspired People

Melbourne Water's people are central to our ability to deliver essential services to Melbourne.



Our Approach

As the Stage 4 COVID-19 restrictions in Victoria were lifted in late 2021, our organisation emerged with a clear focus on embedding the best of remote and place-based working to benefit our customers, foster collaboration and learning, and enable our people to work flexibly. Attracting and retaining talent, enabling diverse and effective learning experiences, and building employee engagement and satisfaction are critical to our success.

Growing the diversity of our workforce and fostering an inclusive workplace culture is very important to us. We recognise that actively creating and supporting diversity and inclusion enables us to attract, retain and develop diverse talent. It also contributes to a safer and more engaged workforce, increases our capacity for high performance, and enables us to better understand and respond to the needs of the community we serve.

Culture and engagement

Organisational culture and employee engagement are directly related to performance, productivity, retention, advocacy and wellbeing.

Our most recent culture and engagement survey showed that 69 per cent of Melbourne Water's employees are engaged. While this is 8 per cent below the 2021 engagement score, it is aligned with 2022 Culture Amp Australian overall and Resources and Utilities sector benchmarks. During the pandemic we have seen engagement levels across the world maintain or drop slightly, with the biggest shifts in employee commitment, given the impacts of The Great Resignation, low national unemployment and the domino effect of employees reconsidering what really matters to them in life and at work.

A strong sense of work life balance and flexibility exists at Melbourne Water. Our employees have confidence in their collective ability to achieve business outcomes no matter where they're located, and trust and enablement are greatly appreciated by our people. Our employees are extremely proud of the role Melbourne Water plays in making a positive difference to the quality of life of Melbourne, and they feel a sense of direct responsibility to their customers. The sense of belonging and connection at the local team level is strong across Melbourne Water.

It's important to recognise that Melbourne Water has and continues to experience a significant amount of change and transformation, which is being felt throughout the organisation. Employees are looking to senior leadership to lead and inspire them through the change journey, and are keen to understand Melbourne Water's long-term direction to achieve its vision and to see continued emphasis on feedback and recognition, which was a key focus area from 2021.

Learning organisation

Our ambition to be a learning organisation remains one of our biggest priorities. Our focus now is to shift the perception of learning as scheduled training to a culture integrated into the flow of our work. This requires a shift in mindsets and behaviours to support our people to be curious to learn, grow and be resilient to change.

This year we designed and implemented the full curriculum of Melbourne Water's core capability framework, building capabilities to help us work in a more resilient system. In looking ahead to help deliver on the decade that matters, we are embedding learning behaviours and capabilities that support our people and systems to be adaptive so we are well prepared to meet the challenges of the future.

We are upskilling our employees in key areas of digital literacy, foresight, customer capability and innovation, as well as embedding the habits and mindsets necessary to work in a more integrated way.

We refreshed our learning and development offering, launching a LinkedIn Learning partnership with curated content on building awareness of our core capabilities and mindsets. This self-directed, mobile-enabled (on demand) learning includes over 16,000 short videos and 9,000 courses from global thought leaders.

Since its launch we have seen strong engagement from staff, with 551 activating their licence for LinkedIn Learning. There have been 618 LinkedIn Learning course views, 93 courses completed, 3,141 LinkedIn Learning videos viewed and 3,062 LinkedIn Learning videos completed.

New ways of working

Melbourne Water developed a New Normal Ways of Working program to validate the idea that by shifting to blended and flexible work as 'the way we work now', that there will be benefits at the individual, organisational and societal levels.

While ambitious, this program builds on Melbourne Water's longstanding commitment to workplace flexibility, and recognises that flexibility is harder to achieve – but not impossible – for operational and field-based roles.

Key initiatives to assist our transition to blended and flexibility as 'the way we work now' in 2021-22 included:

- extending our research program with Monash BehaviourWorks to understand what barriers and enablers exist to providing greater flexibility for operational and field-based roles so we leave nobody behind as part of our shift to blended and flexible work
- supporting teams to deliver social contracts around the purpose of their work at a local level – being conscious and agreeing reasons why we need to come together in person to collaborate and connect, and when tasks can be achieved alone or blended
- committing to a redesign of some of our spaces through a 'test and try' approach to figure out what our people need to genuinely collaborate, learn and create, and applying these insights to other sites over time
- being deliberate about the changes we are making and evaluating the results to see what's working and what's not for our people, the organisation and our customers.

Diversity and inclusion

We are midway through implementation of our *Diversity and Inclusion Strategy (2020-25)*. The strategy expands our focus areas to include culturally and linguistically diverse and socially disadvantaged communities, and adopts an increasingly holistic approach that influences our work both internally and externally, embedding diversity and inclusion in all that we do.

This year our strategy implementation included a continued focus on enabling our people to apply a diversity and inclusion lens when planning and delivering projects and services; enhancing Melbourne Water's ability to consider and embed partners and customers' needs and diversity and inclusion principles when planning and delivering our work; intersectionality, and development of new plans specific to Cultural and Linguistic Diversity and Social Disadvantage.

Our highly successful career Pathways Program that supports individuals from culturally and linguistically diverse backgrounds was expanded this year to an enterprise-wide program, and our graduate and internship program further supports recent arrivals, refugees and people with a lived experience of disability. Partnering with others, we participated in two applied academic research studies designed with a diversity and inclusion lens with Monash and Monash BehaviourWorks. We also established a water sector working group to partner with the Australian Career Education Association to highlight diversity in the sector and promote careers within it.

This year we developed our Gender Equality Action Plan in consultation with our workforce, including our diversity and inclusion employee networks and other stakeholders and in line with the requirements of the *Victorian Gender Equality Act 2020*. This was approved by the Commission for Gender Equality in the Public Sector in June 2022.

Our Gender Equality Action Plan identified four priority focus areas:

- continuing our good progress towards inclusion and gender balance in traditionally held male roles
- removing barriers to greater diversity and intersectionality
- building organisational awareness, competence and maturity on issues of gender
- embedding gender equity as a key business and strategic focus.

Melbourne Water's representation of women has increased by 6 per cent over the previous five years to sit at 41.1 per cent. 10.8 per cent of our team report as living with a disability, up 3.8 per cent since same reporting period and 5.1 per cent identify as members of the LGBTIQ+ community, up 0.9 per cent. The number of our team who identify as Aboriginal and Torres Strait Islander has reduced by 0.6 per cent and now sits at 0.4 per cent. A key area of focus of our next Innovate Reconciliation Plan (RAP) III is to drive greater Aboriginal employment and retention, and to support this, an Aboriginal and Torres Strait Islander Employment Plan has been developed in partnership with an Aboriginal consultant to design a variety of actions to drive an increase in our representation.

Female representation of our workforce increased to 41.1 per cent over 2021-22, up from 40.2 per cent in June 2021. Females now represent 50.7 per cent of our senior leadership team roles, and an external audit of our remuneration over the financial year demonstrated a zero per cent pay gap.

Accessibility Inclusion Plan

The inclusion of people with disability continues to be an important part of our strategy. Progress was made on completing outstanding actions in our current plan, ahead of designing the process for developing of our new Accessibility Inclusion Plan (2023-2026).

The plan's delivery supports Melbourne Water's compliance with the *Disability Act 2006*. We continued to focus on creating a more accessible and inclusive work environment for people with disability, including creating opportunities for participation within the Melbourne Water workforce and removing barriers that prevent people with disability from participating. This provides opportunities for us to grow our diverse talent pipeline and our managers' and teams' capability to work with people with diverse backgrounds. Melbourne Water participated in the 2021 and 2022 Positive Action towards Career Engagement Mentoring program with the Australian Network on Disability. Fifteen Melbourne Water employees participated as mentors and were paired with job seekers with a disability for the 16-week program.

Paid internships have also been offered to students with a disability. These programs provide the opportunity to support participants to build skills and confidence and provide visibility of career opportunities in the water sector.

Kaleidoscope, Melbourne Waters Accessibility Employee Network Group, in partnership with Goulburn Murray Water delivered an event focussed on Accessibility in the Water Sector for International Day of People with a Disability. The event attracted 300 participants and included an employee with lived experience of disability from both organisations.

Our workforce in numbers

In 2021-22 Melbourne Water:

- employed 1232 people compared to 1223 in 2020-21
- continued to actively support greater diversity in our workforce. Females now comprise 41 per cent of our workforce compared to 40 per cent in 2020-21
- has 59 per cent of employees covered by the Enterprise Agreement
- filled 46 per cent of our vacant roles via internal candidates, consistent with our focus on career development

Employment Data

The following employee-related statistics are provided as additional information in support of statutory reporting and other obligations. Employees have been correctly classified in workforce data collections, and are presented in Table 8.

Table 8: Employee profile data by type for the past two years

		All Employees		Ongoing			Fixed term and casual	
		Number (headcount)	FTE	Full time (headcount)	Part time (headcount)	FTE	Number (headcount)	FTE
June 2022								
Demographic Data	**Gender**							
	Male	725	701	624	154	662	48	38
	Female	506	436	313	52	407	40	29
	Self described	1	1	1	0	1	0	0
	Age							
	Under 25	26	22	15	1	16	10	6
	25-34	259	236	223	20	223	16	13
	35-44	451	412	320	105	389	26	22
	45-54	311	294	240	57	283	14	11
	55-64	156	149	120	21	138	15	11
	Over 65	29	25	20	2	21	7	4
Classification Data	**Classification**							
	Casual	27	10					
	Enterprise Agreement (EA) Total	**729**	**681**	**568**	**110**	**634**	**78**	**58**
	EA Level 1	4	4	3	0	3	2	1
	EA Level 2	75	70	58	8	62	14	9
	EA Level 3	78	74	75	1	72	6	4
	EA Level 4	45	39	31	11	37	4	3
	EA Level 5	88	84	73	9	78	9	8
	EA Level 6	141	134	109	14	117	21	18
	EA Level 7	285	263	209	64	252	20	15
	EA Senior Officer	13	13	10	3	13	2	1
	Management Contract Total	**476**	**446**	**370**	**96**	**437**	**10**	**9**
	Senior managers	464	434	358	96	425	10	9
	Executives	12	12	12	0	12	0	0
	Total Employees	**1,232**	**1,138**	**938**	**206**	**1071**	**88**	**67**
June 2021								
Demographic Data	**Gender**							
	Male	730	716	632	49	675	49	41
	Female	492	447	302	139	406	51	41
	Self described	1	1	1	0	1	0	0
	Age							
	Under 25	36	32	23	0	23	13	9
	25-34	283	278	237	19	253	27	25
	35-44	444	413	304	105	384	35	29
	45-54	288	277	231	45	267	12	10
	55-64	146	140	119	16	132	11	8
	Over 65	26	24	21	3	23	2	1
Classification Data	**Classification**							
	Casual	21	9					
	Enterprise Agreement (EA) Total	**756**	**724**	**577**	**111**	**661**	**89**	**72**
	EA Level 1	7	7	3	0	3	9	7
	EA Level 2	72	70	61	4	64	8	6
	EA Level 3	86	85	83	0	83	5	3
	EA Level 4	50	45	35	9	41	8	5
	EA Level 5	102	98	77	11	86	17	14
	EA Level 6	139	135	109	14	119	18	17
	EA Level 7	279	263	194	69	248	22	17
	EA Senior Officer	21	20	15	4	18	2	2
	Management Contract Total	**446**	**431**	**358**	**77**	**421**	**11**	**10**
	Senior managers	433	418	345	77	408	11	10
	Executives	13	13	13	0	13	0	0
	Total Employees	**1,223**	**1,164**	**935**	**188**	**1,082**	**100**	**82**

Notes:
- Graduates are excluded from workforce data, as per FRD 29C guidance
- Employees on leave without pay or maternity leave without pay are excluded, as per FRD 29C guidance
- Employees on secondment have been included, as per FRD 29C guidance

Local Jobs First

The *Local Jobs First Act 2003* enshrined the Victoria Industry Participation Policy (VIPP) and the Major Project Skills Guarantee (MPSG) in August 2018. The policy is designed to assist local Small and Medium Enterprises (SMEs) and is mandated for all Victorian Government departments and agencies as well as contractors. Departments and public bodies are required to apply the policy to all procurement activities of $3 million or more in metropolitan Melbourne and $1 million or more in regional Victoria. Projects with the budgeted value of less than $50 million are classified as Standard Projects and Strategic Projects are projects where the budgeted value is $50 million or more. Melbourne Water considers the program of work delivered by the Major Framework Panel as all Strategic Projects regardless of the individual project budgets. The Local Jobs First Policy (LJFP) supports Victorian businesses and workers by maximising opportunities for local industry capability and employment on government procurement of goods and services such as infrastructure projects and manufacturing. Local Jobs First projects have set local content requirements that the contractors and their supply chain must commit to achieving. This is monitored and reported throughout the life of the project. The policy is supported by the Local Jobs First Commissioner. Annualised Employee Equivalent (AEE) were used to calculate job figures.

Projects Commenced – Local Jobs First Standard

Melbourne Water commenced six Local Jobs First standard projects in metropolitan Melbourne totalling $20,021,039. MPSG did not apply to any of these projects that commenced in 2021-22.

The average of local content commitment is 92.52 percent and a total of 24 jobs are to be retained.

Projects Completed – Local Jobs First Standard

During 2021-22, Melbourne Water completed three projects in metropolitan Melbourne totalling $23,689,709.

The average commitment was 99 per cent and an average of 97 per cent was achieved.

Projects Commenced – LJF Strategic

Melbourne Water commenced 12 strategic projects in metropolitan Melbourne and regional Victoria totalling $397,605,056.

The outcomes expected from the implementation of the Local Jobs First Policy to these projects are as follows:

- the average commitment is 87 per cent local content
- a total of 266 jobs to be created
- retention of 382 jobs
- eight new positions for apprentices to be created and 7 positions to be retained
- creation of 19 new trainees and retention of 11 existing trainees
- creation of 16 new cadets and retention of 28 existing cadets

Projects Completed – LJF Strategic

There were three completed strategic project engagements totalling $16,010,060 with the following outcomes:

- the average commitment was 92 per cent and an average of 62 per cent was achieved
- a total of 24 jobs were committed and a total of 39 local jobs were achieved

Safety,Health and Wellbeing

Keeping our people and the community safe.

Our Approach

Keeping people safe is our highest priority, whether they are employees, contractors, delivery partners, volunteers or visitors.

Since 2017 we have been striving towards a Generative Safety Culture. This means that we need to embed safety in everything we do by making it an intrinsic value we hold and share. We go beyond compliance and responding to safety events, as we work towards building a culture where safety is a 'whole of life' experience, starting in the home and reinforced in the workplace.

Industry collaborations

Developing immersive training environments for high-risk tasks enables people to fail and learn in a safe environment. In collaboration with Deakin University, we are building a Low Voltage Electrical Safety virtual reality (VR) experience. Participants will work through job planning, risk assessment, energy isolation and lock out tag out (LOTO) in a virtual environment. A robot will simulate an electrocution scenario if things go wrong during the work.

Another project collaboration between Deakin University, Melbourne Water, and Innovative Manufacturing CRC is investigating whether VR can improve training effectiveness when compared to traditional approaches. Participants from a range of industries worked through our ozone generator isolation procedure, either by VR or a traditional method.

Virtual George brings safety into a new realm

In 2008, George Vagias, a sewerage transfer operator, was involved in a high voltage switching incident, which nearly cost him his life. He suffered burns to 65 per cent of his body, hearing loss and was in a coma for over a month. The 62-year-old shared his remarkable story of survival and return to work with Melbourne Water via new technology developed in collaboration with Deakin University's Virtual Reality Lab.

Virtual George is an interactive interview experience that will help to avoid such incidents in the future. Within the atmospheric setting of a darkened booth, the user sits opposite a screen displaying a pre-filmed, life-size George where they can select from 80 questions via a touchscreen about his ordeal – from the last thing he remembers before his accident to how he felt on his first day back on the job. It is a new way of communicating lessons learned around safety by sharing what happened on the day of the incident, George's return-to-work journey and the safety improvements implemented since it happened.

George won the prestigious Worker Return to Work Achievement Award at the annual WorkSafe Awards ceremony. The award recognised his achievement in returning to work following a workplace injury many years ago.

Whole of life safety: enhanced wellbeing

Our Wellbeing Program includes a range of activities to support employee mental health, promote the benefits of getting physical, provide volunteering opportunities in the community and helping to build a healthy work environment through evidence-based practices.

In 2021-22, we supported our people through the Stage 4 COVID-19 restrictions and return to onsite work. This was done through initiatives and regular campaigns and events promoting exercise, mental health and social connection.

Highlights include:

- health and wellbeing webinars related to life and work challenges in a field-based role. These featured crew members presenting on a range of topics including parenting and pregnancy through to mens' health
- connection-building events such as Melbourne Water Cup (step challenge), RUOK Day events and our annual Safety Santa Song Showcase
- promoting service to the community and environment through activities such as Melbourne Water's Corranderrk Planting day in May. More than 200 Melbourne Water employees worked alongside Uncle Dave Wandin to sow 10,000 Indigenous seedlings, in a celebration of connection to colleagues, country and culture
- our #PrepareNow campaign to promote emergency preparedness and resilience in our personal lives. The idea for the campaign came about following the higher-than-usual number of emergencies Victorians faced throughout 2021, including a major storm event, flooding, and the largest earthquake in our region since European settlement.

Our performance

Melbourne Water successfully transitioned our certified OHS Management System from AS4801 to the internationally recognised ISO 45001 standard, which sets a higher bar for compliance.

We also participated in the WSAA People and Productivity Benchmarking Project which explored a range of contemporary, lead-focused measures to improve OHS performance.

Our hazards, near miss events and incidents are notified, investigated and analysed in order to identify facts, draw conclusions and develop corrective actions to prevent reoccurrences. In the previous 12-month period, 17 injuries were recorded for our combined workforce. Fifteen of these were for injuries where treatment or alternative duties saw the injured person return to normal work in less than a week. The total lost days were 95. For further information and data on our expanded safety results, see Table 9 and Table 10.

Figure 2: Total Recordable Injury Frequency Rate (TRIFR)

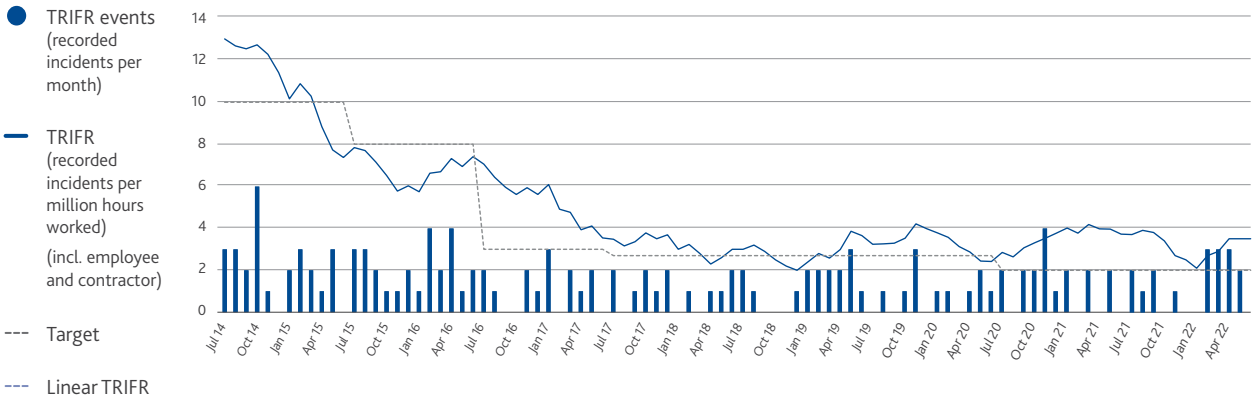


Table 9: Number of reported safety incidents and lost time standard claims per 100 full time equivalent (FTE) staff

		Hazards		Incidents		Total (Hazards + Incidents)		Lost time standard claims		
Year	FTE	No.	No./100 FTE	No.	No./100 FTE	No.	No./100 FTE	No.	No./100 FTE	Average cost per claim[1]
2016-17	1002	503	50.2	438	43.7	941	93.9	1	0.10	$65,339
2017-18	1029	546	53.1	303	29.4	763	74.1	3	0.30	$59,736
2018-19	1096	529	48.3	333	30.4	862	78.6	4	0.36	$77,333
2019-20	1132	426	37.6	247	21.8	673	59.4	5	0.44	$79,392
2020-21	1164	395	33.9	322	27.6	717	61.6	7	0.60	$94,746
2021-22	1138	456	40.1	363	31.9	819	72.0	3	0.26	$82,190

[1]Includes payments to date and estimates of outstanding claim costs advised by WorkCover.

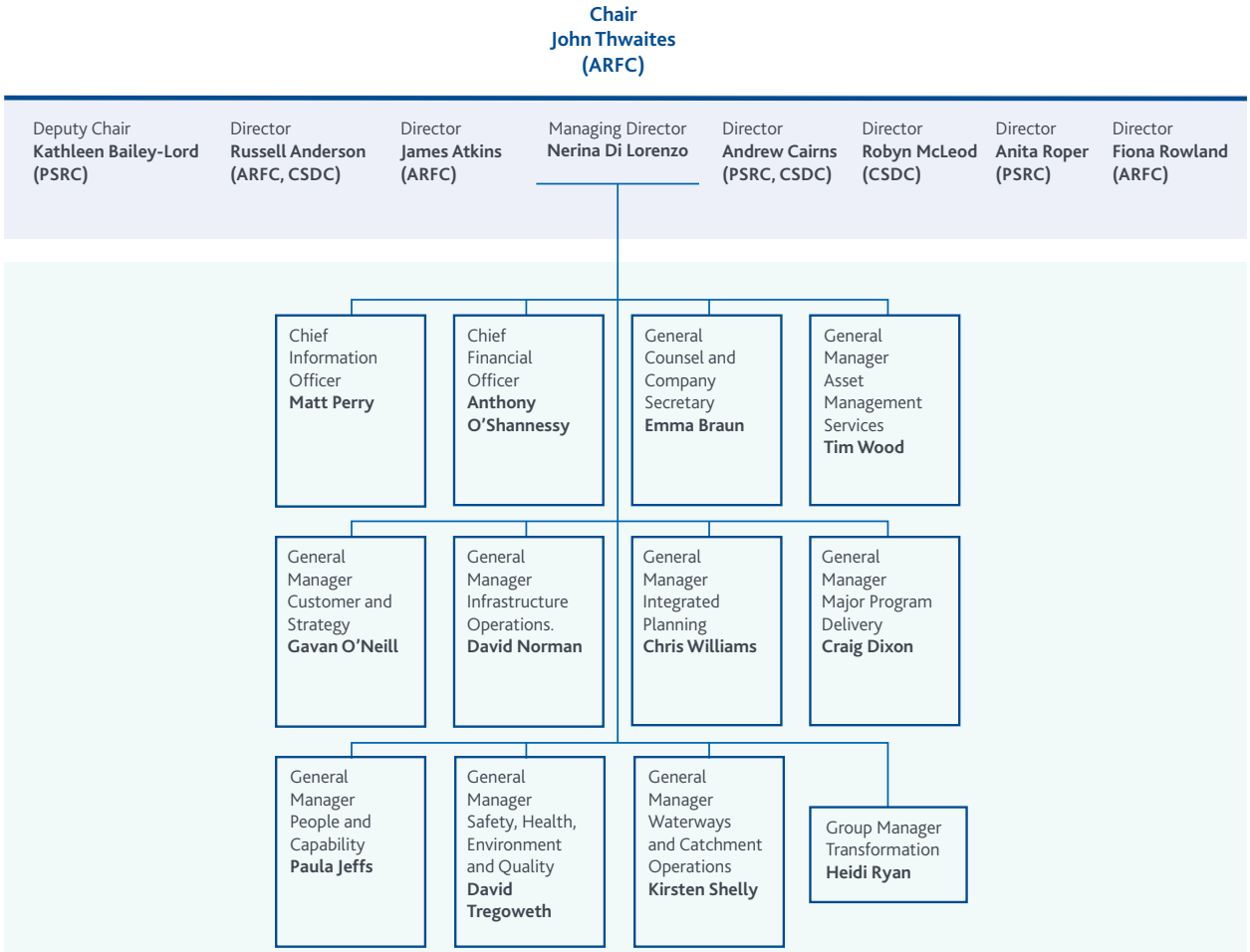
Table 10: Types of Injury

Item	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Lost time injury (LTI)	6	3	7	7	7	7
Restricted work injury (RWI) / Medical treatment injury (MTI)	6	10	9	4	10	10
First Aid	78	74	59	47	72	70
Total	**90**	**88**	**75**	**58**	**89**	**87**

Our Business

When delivering services, Melbourne Water always considers social responsibility and financial accountability.

Organisational Structure



Legend:

Board Subcommittees

ARFC: Audit, Risk and Finance Committee

PSRC: People, Safety and Remuneration Committee

CSDC: Customer and Service Delivery Committee

Corporate Governance

Melbourne Water is committed to ensuring that its corporate governance framework, policies and practices are of a high standard. Delivering on this commitment requires Melbourne Water to have a sound understanding of current governance requirements and practices as well as being attuned to emerging governance trends and shifting stakeholder expectations.

Ethics and values

Melbourne Water's directors and employees are committed to operating ethically and in the best interests of customers, the Victorian Government, employees, suppliers and other stakeholders. The organisation has adopted the *Melbourne Water Code of Conduct*.

All directors, managers and employees are expected to perform their duties with integrity and honesty. This expectation extends to dealing with our people, customers, suppliers and the community. Melbourne Water employees and managers must comply with the *Melbourne Water Code of Conduct*.

Policies and procedures exist for directors and employees in relation to the identification of actual and potential conflicts of interest. These documents are regularly updated. The Company Secretary maintains a Register of Directors' Interests and a register of gifts and invitations accepted by directors and employees.

As part of maintaining a safe and healthy working environment, the Board has approved behavioural and workplace policies for specific purposes, such as health and safety, and equal opportunity. These policies are widely publicised and made available to our employees.

Powers and accountability

Melbourne Water operates under the *Water Act 1989*.

Melbourne Water has one by-law: *Extension By-Law No. 1: Water Supply Protection (2018)*.

The Minister for Water has delegated powers of management under the Water Act relating to licensed private water diversions from waterways to Melbourne Water, effective as of 1 July 1999. The Act and by-laws are available at the Victorian Legislation website[2].

The responsible Minister for the period from 1 July 2021 to 27 June 2022 was the Hon Lisa Neville MP, Minister for Water and for the period from 27 June to 30 June 2022 was the Hon Harriet Shing MP, Minister for Water. The Hon Richard Wynne acted as the Minister for Water from 1 July 2021 to 22 August 2021. Melbourne Water works with officers of the Department of Environment, Land, Water and Planning (DELWP) and the Department of Treasury and Finance (DTF). Statutory and other reports are provided, covering Melbourne Water's performance against the objectives and performance indicators stated in the *Corporate Plan*.

There have been no recorded incidents of non-compliance with laws or regulations in 2021-22 resulting in sanctions or fines.

[2]https://www.legislation.vic.gov.au/.

Primary responsibilities

Melbourne Water's Board has adopted a charter that defines its role and responsibilities within the legislative framework provided by the *Water Act 1989* and other applicable legislation including the *Public Administration Act 2004*. The Board makes plans to achieve specific objectives, including:

- long-term, sustainable, outcomes – based on a triple bottom line approach
- approval of corporate plans together with key performance indicators linked to objectives
- approval of annual financial statements and monitoring of performance against objectives and risks
- monitoring safety, health and environmental standards and management systems.

The Board has ratified a *Corporate Governance Statement*. Key features of its activities include:

- ensuring the Board meets frequently enough to fulfil its duties and obligations, holding 10 Board meetings during 2021-22, and undertaking site visits and strategy workshops with Melbourne Water's Leadership Team. Special Board and committee meetings are convened as required to meet the needs of the business
- a structured induction program for new Board and committee members
- development opportunities for Board members on an ongoing basis
- conflicts of interest are declared and a director does not participate in decisions where such a conflict exists
- directors have the right to seek independent professional advice, at Melbourne Water's expense, in connection with their duties and responsibilities
- declarations of pecuniary interest by directors are made upon appointment, and thereafter annually, and confirmed at each Board meeting
- there is an annual review of Board performance.

The Board has three committees, and from April 2022 these have been comprised of non-executive directors, who meet periodically to focus on: risk, audit, finance and sustainability (four non-executive directors); people, safety and remuneration (three non-executive directors); and customer and service delivery (three non-executive directors) respectively. The Managing Director and the relevant General Manager attend committee meetings by invitation. The Board approves the charter for each committee.

Audit, Risk and Finance Committee

The role of the Audit, Risk and Finance Committee (ARFC) is to assist the Board of Directors in fulfilling its responsibilities relating to:

- financial management framework and reporting process
- review and monitor the Enterprise Risk Profile, and emerging sources of risks and the mitigation measures in place to deal with those risks, including in relation to Information Technology security and climate change
- corporate governance
- audit (internal and external) and assurance
- information technology.

The Audit, Risk and Finance Committee comprised for the period 1 July 2021 to 1 October 2021 Merran Kelsall (former Chair), Hugh Gleeson (former Director), John Thwaites and Fiona Rowland. From 4 April 2022 the ARFC compromised Fiona Rowland (Chair), John Thwaites, Russell Anderson and James Atkins. A report about the activities of the Audit, Risk and Finance Committee in fulfilling its charter is prepared annually.

People, Safety and Remuneration Committee

The role of the People, Safety and Remuneration Committee (PSRC) is to assist the Board of Directors in fulfilling its responsibilities relating to:

- workplace health and safety
- workplace culture
- strategic human resources (including but not limited to diversity and inclusion, change management, employee engagement)
- organisational capability
- remuneration.

For details of directors' and executives' remuneration, refer to the financial statements.

The People, Safety and Remuneration Committee comprised for the period 1 July 2021 to 1 October 2021 Kathleen Bailey-Lord (Chair), Hugh Gleeson, Robyn McLeod and Russell Anderson. From 4 April 2022 the People, Safety and Remuneration Committee comprised Anita Roper (Chair), Kathleen Bailey-Lord and Andrew Cairns. A report about the activities of the People, Safety and Remuneration Committee in fulfilling its charter is prepared annually.

Customer and Service Delivery Committee

The role of the Customer and Service Delivery Committee (CSDC) is to assist the Board in fulfilling its business objectives and responsibilities relating to:

- delivery of services and experiences our customers and community value
- affordable asset delivery to enable these services
- protecting the environment and public health

The Customer and Service Delivery Committee comprised for the period 1 July 2021 to 1 October 2021 Garry Smith (Chair), Russell Anderson, Fiona Rowland and Robyn McLeod. From 4 April 2022 the Customer and Service Delivery Committee comprised Russell Anderson (Chair), Robyn McLeod and Andrew Cairns. A report about the activities of the Customer and Service Delivery Committee in fulfilling its charter is prepared annually.

Board of Directors

The Minister for Water, in consultation with the Treasurer, appoints the directors of Melbourne Water for terms of up to four years and the Victorian Government sets their remuneration. Directors are eligible for reappointment for subsequent terms.

In making new appointments to the Board, the Victorian Government ensures the Board has the necessary combination of skills and experience. The Managing Director is appointed by the Board, subject to the approval of the Minister in consultation with the Treasurer, for a term of up to five years.

Typically, annual reviews are conducted on the performance of the Board as a whole and of individual members pursuant to a Statement of Obligations issued by the Minister. The outcomes of these performance reviews are reported to the Treasurer and the Minister.

The Board of Directors currently comprises a non-executive chair, seven non-executive directors and the Managing Director.

John Thwaites, Chair

John Thwaites is Chair of Melbourne Water.

Mr Thwaites is a Professorial Fellow at Monash University and Chair of the Monash Sustainable Development Institute and ClimateWorks Centre. He is the Interim Chair of the McKinnon Institute for Political Leadership.

Mr Thwaites is a Co-Chair of the Leadership Council of the UN Sustainable Development Solutions Network (SDSN) launched by the Secretary General of the United Nations to provide expert advice and support on the Sustainable Development Goals. He is also a director of Fair Trade ANZ. In 2013, John was named as one of the 100 Global Sustainability Leaders by ABC Carbon Express.

Mr Thwaites was Deputy Premier of Victoria from 1999 until his retirement in 2007. During this period he was Minister for Health, Minister for Planning, Minister for Environment, Minister for Water, Minister for Victorian Communities and Victoria's first Minister for Climate Change. In these portfolios he was responsible for major reforms in social policy, health, environment and water.

Prior to being elected to Parliament, he was a barrister and Mayor of South Melbourne. He has degrees in Law (Honours) and Science from Monash University.

Mr Thwaites was appointed as Chair of Melbourne Water on 1 October, 2015.

Nerina Di Lorenzo, Managing Director

Dr Nerina Di Lorenzo is the Managing Director of Melbourne Water Corporation. She leads Melbourne Water's vision of enhancing life and liveability for the greater Melbourne region, encompassing the provision of water supply, sewerage, drainage, waterway health and catchment management services.

Prior to this appointment Dr Di Lorenzo was the Executive General Manager of Service Delivery at Melbourne Water. Dr Di Lorenzo has over 21 years of experience in senior leadership roles, including as CEO of Moreland City Council for five years. She brings a strong focus on delivering strategy and performance improvement focussed on customer and stakeholder outcomes, along with extensive experience in Asset Management, Infrastructure Operations, Project Delivery and Business Improvement.

Dr Di Lorenzo commenced her early career in the oil industry working on the oil rigs in Bass Strait. Dr Di Lorenzo holds a Bachelor of Engineering, a Bachelor of Business and a PhD centring on the topic of organisational change management.

Kathleen Bailey-Lord, Deputy Chair

Kathleen Bailey-Lord is an experienced company director and has served on boards across public, private and for-purpose sectors. Her executive career spanned the technology, financial services and professional services sectors. Ms Bailey-Lord's experience in digital technology and disruptive change has seen her lead large businesses through complex and transformational change.

Ms Bailey-Lord currently serves as a Non-Executive Director of Alinta Energy, QBE Insurance (Australia, New Zealand and Pacific), Janison, Datacom and Monash College. Previous board roles include Bank of Queensland (BOQ); the Australian Government Solicitor (AGS); Trinity College, University of Melbourne; Chief Executive Women and the Diversity Council of Australia.

Ms Bailey-Lord is a Fellow of the Australian Institute of Company Directors (AICD), a member of the AICD Victorian Council and the AICD Governance of Technology and Innovation Panel and a Chief Executive Women member.

Ms Bailey-Lord was appointed to the Melbourne Water Board on 1 October, 2015. She chaired the People, Safety and Remuneration Committee from 2016-2022 was appointed the Deputy Chair of the Board in 2022.

Russell Anderson, Director

Mr Russell Anderson was appointed as a Director of Western Region Water Corporate from 2007 to 2017 and is a former director of the Loddon Mallee Waste and Resource Recovery Group.

Mr Anderson is currently Strategy, Governance and Risk Advisor at Australian Health Service Alliance Ltd and is also self-employed as a governance consultant. In May 2022 Mr Anderson was appointed a member of the VicWater Board.

Mr Anderson's previous roles include Strategy, Risk and Corporate Governance Manager for Australian Air Express Pty Ltd and Chief Internal Auditor, Air New Zealand Group. Mr Anderson has a Bachelor of Commerce and a Graduate Diploma of Applied Corporate Governance and is a Fellow of the Governance Institute of Australia.

Mr Anderson was appointed to the Melbourne Water Board on 1 October, 2017 and was appointed Chair of the Board's Customer and Service Delivery Committee in 2022.

James Atkins

Mr James Atkins FAICD is an experienced business advisor, marketing strategist and company director with over 35 years of experience working at a senior level in the retail, financial services and energy sectors. He is currently the Chair of Greening Australia and BIG4 Holiday Parks and a Board member of the Connective Group and .au Domain Administration. James is also director of Vantage Strategy, a consulting firm that provides business advisory services to commercial, government, and not-for-profit organisations.

Mr Atkins was appointed to the Melbourne Water Board on 1 October, 2021.

Andrew Cairns, Director

Mr Andrew Cairns has extensive experience in the water industry, having served on the Board of Coliban Water and as Chair of Western Water. His professional career has spanned a number of industries in Australia and internationally, including manufacturing, telecommunications and finance. Andrew is a strong believer in the importance of corporate social responsibility. As CEO of Haven Home Safe, he works collaboratively with government, public and private partners to keep Victorians in safe, secure and affordable homes.

Mr Cairns was appointed to the Melbourne Water Board on 1 October, 2021.

Robyn McLeod, Director

Ms Robyn McLeod has held the positions of Independent Commissioner for Water Security in South Australia, National Director of Water at KPMG and Executive Director of Major Projects, Water with the Department of Sustainability and Environment, Victoria.

Ms McLeod is currently a Director of Clean Teq Water Limited (CNQ) and has been on the board of Monash Health Services since 2019, and recently completed her time as Director of VicWater.

She was Chief of Staff to the Victorian Energy Resources and Ports Minister and an Advisor to the Victorian Environment and Education Minister. Ms McLeod has previously worked in higher education, industrial relations and secondary teaching.

Robyn is a graduate of the Australian Institute of Company Directors and has completed the Senior Executive Fellows Program at The Kennedy School of Government, Harvard University. Previous Board positions include as an inaugural Director of The Australian Centre for Social Innovation.

Ms McLeod was appointed to the Melbourne Water Board on 1 October, 2015.

Anita Roper, Director

Ms Anita Roper joins from the Board of Yarra Valley Water and has experience in senior management roles working with business, government, communities and multilateral agencies in Australia, Canada, the UK and the USA. Her executive career spans the private and public sectors, including Chief Executive Officer at Sustainability Victoria and Global Director of Sustainability with Alcoa in New York. Anita is currently Chair of the Aluminium Stewardship Initiative. She has previously held the role of Chair of the Stroke Association of Victoria and has served on numerous boards and advisory panels.

She is also a Graduate of the Australian Institute of Company Directors and a Fellow of the Institute of Managers and Leaders ANZ.

Ms Roper was appointed to the Melbourne Water Board on 1 October, 2021 and was appointed the Chair of this organisations People, Safety and Remuneration Committee in 2022.

Fiona Rowland, Director

Ms Fiona Rowland is an experienced Non-Executive Director, and former CEO, in public, private, government and for purpose sectors with significant experience in leading established and disruptor businesses through transformational and regulatory change.

Ms Rowland has deep experience in the financial services and infrastructure sectors. Prior to her board career, she was a CEO and executive director with 18 years' executive management and CEO experience at the Bennelong Group, National Australia Bank, Australia and New Zealand Banking Group, UBS AG and UBS Wealth Management. Ms Rowland is currently appointed to the boards of Macquarie Investment Services Limited (Chair), Macquarie Life Limited, Infrastructure Specialist Asset Management Limited and St Vincent's Institute of Medical Research. In addition, Ms Rowland serves as a Member of the Audit, Risk and Compliance Committee of Unisuper Limited and Unisuper Management Pty Ltd and the External Compliance Committee of Franklin Templeton Australia Limited. Ms Rowland holds a Bachelor of Arts, a Bachelor of Laws (Honours) and is admitted as a legal practitioner in Victoria. She is also a Graduate of the Australian Institute of Company Directors.

Ms Rowland was appointed to the Melbourne Water Board on 1 October, 2017 and Chairs the Audit, Risk and Finance Committee (effective 2022).

Risk, Emergency and Asset Management

Risk management is central to ensuring Melbourne Water understands and manages risks and uncertainties to enhance life and liveability.

As a provider of essential services, strict regulatory compliance and strong risk management are critical to what we do. To meet these requirements, we have robust business systems and processes in place to monitor and report on our performance and to alert us early when we are off track.

Melbourne Water maintains an *Enterprise Risk Management Framework* consistent with the International Risk Management Standard (ISO 31000:2018) and the requirements of the Victorian Government's *Risk Management Framework*.

Melbourne Water's Enterprise Risk Management Framework comprises a number of key elements which, when combined, create an environment for effectively managing risk and pursuing opportunities. This includes:

- an established Risk Management Policy and Risk Appetite Statement
- ongoing management of strategic, operational, financial and compliance risks that may impact on the achievement of our strategic direction, operational objectives and compliance obligations
- embedding physical and transition climate risks in our risk management process. These climate risks are considered by the Board at strategy workshops and regular risk briefings
- ongoing education and development of risk capability across the organisation and maintaining a positive risk culture
- providing ongoing assurance over our control environment through a comprehensive risk-based audit program, based on the three lines of defence
- a comprehensive insurance portfolio.

Melbourne Water also maintains and tests our *Emergency Management Framework*, which outlines controls with respect to the preparation, response and recovery from internal and external emergencies. The Framework aligns to Australian Inter-service Incident Management System 2017 (AIIMS) and includes contingency, business continuity, emergency response and disaster recovery planning.

Last year, Melbourne Water participated in a range of inter-agency emergency management exercises aimed at testing and improving the plans and arrangements in place for response to emergency events. These included:

- exercise CIMEX with the metropolitan water retailers, Victoria Police, DELWP and Department of Health, which examined a whole of metropolitan Melbourne drinking water supply issue and the combined water industry response
- a number of dam safety emergency plan exercises involving DELWP and the State Emergency Service, focusing on responses to incidents such as extreme wet weather, flooding and earthquake.

Key improvement opportunities identified during these exercises include the need to ensure strong multi-agency engagement and representation through the state's Regional Emergency Management Team structures, along with an enhancement and formalisation of water sector mutual aid arrangements.

Social Sustainability

Ethical Sourcing and Modern Slavery Statement

Our second Modern Slavery Statement was finalised this year, which describes the risks of modern slavery practices in our operations and supply chains, and the actions we have taken to assess and address these risks. This statement was lodged with the online register of the Australian Border Force by 31 December 2021, in compliance with the requirements of the *Modern Slavery Act 2018* (Cth) (the Act). Development of the statement was guided by our commitments to the Victorian Charter of Human Rights and Responsibilities (2006) and the United Nations Sustainable Development Goals (SDGs).

Melbourne Water is proud of the progress it has made to date. While we have not identified any specific instances of modern slavery harm in our operations or supply chain, we recognise that our journey of mitigating modern slavery risk has only just begun. Our Board and leaders are committed to addressing the risk of modern slavery occurring within our operations and supply chains, and will continue to pursue efforts to promote awareness of our responsibilities through the implementation of policies, processes and training.

Social procurement

Melbourne Water is operationalising its Social Procurement Strategy in line with the Victorian Government's Social Procurement Framework. We are building our social procurement capability across the business by focusing on leadership, policy and process, technology and tools, sourcing and contract management, people and culture, performance management and supplier engagement. We have established minimum requirements across value thresholds that meet expectations of the Victorian Government Social Procurement Framework and best advance Melbourne Water's identified social procurement opportunities.

We have included weighted selection criteria for social value in our market tenders which supports delivery of social and sustainable outcomes across priority objectives including opportunities for Victorian Aboriginal people, women's equality and safety, opportunities for disadvantaged Victorians and environmentally sustainable outputs.

Our social procurement response to COVID-19 has continued to focus on procurement delivery which created jobs for women and young people (cohorts most impacted by the pandemic). We are contributing to reconciliation by supporting Traditional Owner businesses, delivering cultural awareness training internally, targeting the procurement team. We have been actively engaging with Aboriginal-owned businesses to explore ways of working together, leveraging our Kinaway (Victorian Aboriginal Chamber of Commerce) relationship. We have continued to support our partnership with Wara Paring through training and the delivery of projects for Melbourne Water.

Financial Sustainability

Our financial decisions have business efficiency and a commercial focus at their core to ensure customer affordability.

Financial sustainability is well embedded into Melbourne Water's strategic objectives. We define financial sustainability as:

- continuing to deliver our valued services at the lowest cost to customers
- meeting our financial obligations both today and in the future
- providing a return to our shareholder.

Our financial performance in 2021-22 continues to be robust. We have recorded a positive net profit after tax result of $130.1 million ($192.0 million in 2020-21).

Total revenues for the financial year were $1,935.9 million ($1,988.7 million in 2020-21). Our net revenue for bulk water and sewage treatment is lower than previous year due to a decrease in average prices partially offset by increased demand. Our revenue from waterways and drainage charges are higher due to growth in customer numbers and an increase in average charges in line with the Price Determination that reflects our customers expectation of healthier waterways. Revenue associated with land development services has increased on the prior year due to continued strong growth in the development sector.

Capital Expenditure of $609.5 million ($627.8 million in 2020-21) was incurred during the year, which was required to meet the growth in demand and renew existing infrastructure. The capital expenditure has contributed to an increase in total assets to $16,829.6 million from $16,330.1 million as at 30 June 2021.

During 2021-22, Melbourne Water made cash payments to the Victorian Government of $199.0 million which was a decrease from the $235.2 million paid in 2020-21.

We have closely monitored the impacts of the COVID-19 pandemic on our business and have not experienced any material adverse impacts in the 2021-22 financial year.

We remain focussed on driving an efficient business that delivers value for money outcomes for our customers and stakeholders. Maintaining our financial strength is a key business goal that will help us to meet future challenges and deliver on the commitment we made to customers in our 2021 Price Determination to keep bills low. We aim to do this by continuing our focus on realising opportunities through our procurement processes, embedding commercial skills and using our organisational data to drive targeted performance objectives. We have an unwavering commitment to excellence in financial management across all facets of our business.

Five-Year Financial Summary

Summary of Financial Results

Statement of Profit or Loss For the year ended 30 June – Extract	2022 $M	2021 $M	2020 $M	2019 $M	2018 $M
Total revenue	1,935.9	1,988.7	1,997.6	1,938.8	1,890.4
Operating and other expenses	(718.6)	(672.0)	(636.2)	(595.1)	(525.2)
Depreciation and amortisation expenses	(456.3)	(450.1)	(434.7)	(408.1)	(392.1)
Finance expenses	(547.2)	(573.9)	(601.8)	(618.2)	(645.3)
Net profit from operations before tax	**213.8**	**292.7**	**324.9**	**317.3**	**327.7**
Tax expense	(83.7)	(100.7)	(121.6)	(116.4)	(118.9)
Net profit for the period after tax	**130.1**	**192.0**	**203.3**	**201.0**	**208.8**

Statement of Financial Position as at 30 June – Extract	2022 $M	2021 $M	2020 $M	2019 $M	2018 $M
Current assets	154.9	145.2	143.6	153.4	115.7
Non-current assets	16,674.7	16,184.9	15,246.8	15,125.5	15,212.9
Total assets	**16,829.6**	**16,330.1**	**15,390.4**	**15,278.9**	**15,328.6**
Current liabilities	1,261.8	886.8	1,073.5	1,163.5	1,216.4
Non-current liabilities	8,532.2	8,788.6	8,443.4	8,372.4	8,497.2
Total liabilities	**9,794.0**	**9,675.4**	**9,516.9**	**9,535.9**	**9,713.6**
Net assets/Total equity	**7,035.6**	**6,654.7**	**5,873.5**	**5,743.0**	**5,615.0**

Statement of Cash Flows for the year ended 30 June – Extract	2022 $M	2021 $M	2020 $M	2019 $M	2018 $M
Net cash inflow from operating activities	545.3	594.9	555.3	534.9	465.8
Net cash (outflow) from investing activities	(545.3)	(589.1)	(455.6)	(513.0)	(446.2)
Net cash inflow/(outflow) from financing activities	2.6	(16.4)	(103.0)	(6.3)	(21.2)

Summary of Financial Performance

Key Financial Performance Indicators

Performance Indicators	2022 $M	2021 $M	2020 $M	2019 $M	2018 $M
Cash Interest Cover	**2.2**	2.2	2.2	2.1	1.9
Gearing Ratio	**47.0%**	48.1%	50.8%	51.2%	52.6%
Internal Financing Ratio	**92.8%**	87.2%	98.0%	93.4%	78.6%
Current Ratio	**0.14 times**	0.19 times	0.15 times	0.15 times	0.10 times
Return on Assets	**4.6%**	5.5%	6.0%	6.1%	6.4%
Return on Equity	**1.9%**	3.1%	3.5%	3.5%	3.8%
EBITDA margin	**62.9%**	66.2%	68.1%	69.3%	72.2%

Explanatory notes:

Refer to the Performance Report for definitions of financial performance indicators and reporting of all 2021-22 performance indicators (financial and non-financial) against targets with supporting explanations for any significant variations.

Directors' Report

Directors

The Directors of Melbourne Water Corporation ('the Corporation') in office during the 2021-22 financial year were:

John Thwaites (Chair)

Nerina Di Lorenzo (Managing Director) (commenced 1 December 2021)

Kathleen Bailey-Lord (Deputy Chair)

Russell Anderson

James Atkins (commenced 1 October 2021)

Andrew Cairns (commenced 1 October 2021)

Robyn McLeod

Anita Roper (commenced 1 October 2021)

Fiona Rowland

Michael Wandmaker (former Managing Director) (ceased 30 November 2021)

Merran Kelsall (former Deputy Chair) (ceased 30 September 2021)

Garry Smith (former Director) (ceased 30 September 2021)

Hugh Gleeson (former Director) (ceased 30 September 2021)

Particulars of the directors' qualifications, experience and special responsibilities are set out on pages 67- 70 of this report.

Directors' Meetings

During the financial period, the Corporation held 10 scheduled meetings of directors.

Attendance at meetings of the Board and its committees were:

	Board		Audit, Risk and Finance Committee		People, Safety and Remuneration Committee		Customer and Service Delivery Committee	
	Attended	Maximum held	Attended	Maximum held	Attended	Maximum held	Attended	Maximum held
John Thwaites (Chair)	10	10	4	4	-	-	-	-
Nerina Di Lorenzo (Managing Director)[a]	6	6	2	4	1	1	2	2
Kathleen Bailey-Lord (Deputy Chair)	9	10	3	3	3	4	-	-
Russell Anderson	10	10	3	4	3	3	4	4
James Atkins	7	8	3	4	2	2	-	-
Andrew Cairns	8	8	-	-	1	2	-	1
Robyn McLeod	9	10	2	4	3	3	3	4
Fiona Rowland	10	10	4	4	1	1	4	4
Anita Roper	8	8	2	2	2	2	2	2
Michael Wandmaker (former Managing Director)[a]	2	4	2	4	1	2	1	2
Merran Kelsall (former Deputy Chair)	2	2	1	1	-	-	-	-
Garry Smith (former Director)	2	2	1	1	-	-	1	1
Hugh Gleeson (former Director)	2	2	1	1	2	3	-	-

(a) While the Managing Director is not a member of Board committees, they are invited to attend all committee meetings.

The Managing Director is invited to attend all committee meetings. Although the Managing Director is not a member of these committees their attendance has been included. Further, where a director has attended a committee meeting of which they are not a member, this attendance has also been included.

In addition to the regular Board and committee meetings, the Corporation held the following special meetings during the year.

	Special Audit, Risk and Finance Committee meetings	
	Attended	Maximum held
John Thwaites (Chair)	1	1
Kathleen Bailey-Lord (Deputy Chair)	1	1
Russell Anderson	1	1
Robyn McLeod	1	1
Fiona Rowland	1	1
Michael Wandmaker (former Managing Director)	1	1
Merran Kelsall (former Deputy Chair)	1	1
Garry Smith (former Director)	-	1
Hugh Gleeson (former Director)	1	1

Director benefits

No director has received, or become entitled to receive, a benefit (other than a benefit included in Notes 7.2 and 7.4 in the Financial Statements) because of a contract that the director, a firm of which the director is a member, or an entity in which the director has a substantial financial interest, has made (during the period ended 30 June 2022 or at any other time) with:

(a.) the Corporation; or

(b.) an entity that the Corporation controlled, or a body corporate that was related to the Corporation, when the contract was made or when the director received, or became entitled to receive, the benefit.

Directors' and officers' liability insurance

During the financial year, the Corporation paid premiums to insure all directors and officers against certain liabilities. Disclosure of policy terms and the total amount of the premiums paid under this insurance policy is not permitted under the confidentiality provisions of the insurance contract.

Interest in contracts

No contracts involving directors' interests were entered into since the end of the previous financial year, or existed at the end of the 2021-22 financial year, other than the transactions detailed in Notes 7.2 and 7.4 to the Financial Statements.

Principal activities

The Corporation is owned by the State of Victoria. The Corporation manages and maintains Melbourne's water supply catchments, removes and treats most of Melbourne's sewage, and manages rivers, creeks and major waterways and drainage systems in the Port Phillip and Westernport regions. From 1 January 2022 Melbourne Water assumed the role of Catchment Management Authority for the catchments within the Port Philip and Westernport region. The Corporation delivers innovative integrated planning to establish Melbourne as a water sensitive city.

The Corporation also provides wholesale water and sewerage services to Melbourne's three metropolitan retail water companies, Greater Western Water, South East Water and Yarra Valley Water, and water services to Gippsland Water. The Corporation also has the capability to provide water services to other entities including South Gippsland Water, Westernport Water and Barwon Water. The Corporation works with local government, developers and the community to provide waterways and drainage services.

Operating results

The Corporation's profit, after providing for income tax was $130.1 million.

Review of operations

The directors' review of the Corporation's operations during the financial year ended 30 June 2022 is set out in the Report from the Chair and Managing Director on pages 2-3 of this report.

State of affairs

There were no significant changes in the state of affairs of the Corporation during the financial period ended 30 June 2022.

Melbourne Water Financial Management Compliance Attestation

I, John Thwaites, on behalf of the Board, certify that Melbourne Water has no Material Compliance Deficiency with respect to the applicable Standing Directions under the *Financial Management Act 1994* and Instructions.

John Thwaites
Chair

26 August 2022

Financial Report

How this Report is Structured

Melbourne Water Corporation ('the Corporation') presents its audited general purpose financial statements for the financial year ended 30 June 2022. The following structure provides users with information about the Corporation's stewardship of resources entrusted to it.

Notes to the financial statements (continued)

Melbourne Water Corporation
Statement by Directors and Chief Financial Officer

We certify the attached financial statements for Melbourne Water Corporation ('the Corporation') have been prepared in accordance with applicable *Financial Reporting Directions* and *Direction 5.2 of the Standing Directions* of the Assistant Treasurer, both enforced by the *Financial Management Act 1994*, Australian Accounting Standards and Interpretations and other mandatory professional reporting requirements.

We further state that, in our opinion, the information set out in the Statement of Profit or Loss and Other Comprehensive Income, Statement of Financial Position, Statement of Changes in Equity, Statement of Cash Flows and accompanying notes, presents fairly the financial transactions during the year ended 30 June 2022 and the financial position of the Corporation as at 30 June 2022.

At the time of signing, we are not aware of any circumstance which would render any particulars included in the financial statements to be misleading or inaccurate.

The financial statements were authorised for issue by the Directors on 26 August 2022.

On behalf of the Board:

John Thwaites
Chair

26 August 2022

Dr Nerina Di Lorenzo
Managing Director

26 August 2022

Anthony O'Shannessy
Chief Financial Officer

26 August 2022

Statement of Profit or Loss and Other Comprehensive Income

For the year ended 30 June 2022

($ thousands)

	Notes	2022	2021
Revenue			
Revenue from contracts with customers	**2.1**	1,891,265	1,939,504
Other income	**2.2**	10,941	10,021
Net gain on revaluation of non-financial assets	**4.1.2.2**	33,743	39,219
Total revenue		**1,935,949**	**1,988,744**
Expenses			
Depreciation and amortisation expenses	**4.1.3**	(456,342)	(450,146)
Operational expenses	**3.1**	(319,166)	(304,859)
Employee benefits expenses	**3.2**	(145,936)	(146,119)
Repairs and maintenance expenses	**3.3**	(106,443)	(95,412)
Administrative expenses	**3.4**	(54,572)	(42,773)
Finance expenses	**5.1.1**	(547,178)	(573,914)
Government rates and taxes	**3.5**	(41,310)	(29,814)
Asset transfers to councils	**3.6**	(40,902)	(40,553)
Other expenses	**3.7**	(10,234)	(12,477)
Total expenses		**(1,722,083)**	**(1,696,067)**
Net profit from operations before tax		**213,866**	**292,677**
Tax expense	**3.8.1**	(83,738)	(100,671)
Net profit for the period after tax		**130,128**	**192,006**
Other comprehensive income after tax			
Items that will not be reclassified to profit or loss			
Actuarial gain/(loss) on defined benefit superannuation plan asset[(a)]	**7.1**	5,602	7,195
Net gain on revaluation of non-financial assets[(b)]	**4.1.2.1 & 3.8.1**	291,808	644,732
Decrease in asset revaluation reserve due to disposal of land, buildings and infrastructure[(c)]		(12,030)	(4,461)
Asset revaluation reserve transferred to retained profits on disposal of land, buildings and infrastructure		12,134	4,500
Decrease in retained earnings from integration of Port Philip and Westernport Catchment Management Authority (PPWCMA)[(d)]		(2,087)	-
Other comprehensive income/(loss) for the period after tax		**295,427**	**651,966**
Total comprehensive income for the period after tax		**425,555**	**843,972**

The above Statement of Profit or Loss and Other Comprehensive Income should be read in conjunction with the accompanying notes on pages 85 through to 141.

Note:
(a) Pre-tax actuarial gain on defined benefit superannuation plan asset $8.0 million (2020-21: gain of $10.3 million).
(b) Pre-tax net gain on revaluation of non-financial assets $318.7 million (2020-21: gain of $734.8 million).
(c) Pre-tax decrease in asset revaluation reserve due to disposal of land, buildings and infrastructure $12.1 million (2020-21: decrease of $4.5 million).
(d) Pre-tax decrease in retained earnings as a result of accounting and tax adjustments following integration of assets/liabilities from PPWCMA into the Corporation $3.1 million (2020-21: zero).

Statement of Financial Position

As at 30 June 2022

($ thousands)

	Notes	2022	2021
Assets			
Current assets			
Cash and cash equivalents		6,347	3,703
Receivables	2.3	108,497	104,659
Other current assets	3.11	18,889	17,274
Non-current assets held for sale	4.3	21,139	19,555
Total current assets		**154,872**	**145,191**
Non-current assets			
Land, buildings, infrastructure, plant and equipment and service concession arrangements	4.1	16,561,407	16,068,099
Intangible assets	4.2	47,207	49,069
Right-of-use assets and leases	4.4	38,845	47,277
Defined benefit superannuation plan asset	7.1	27,292	20,499
Total non-current assets		**16,674,751**	**16,184,944**
Total assets		**16,829,623**	**16,330,135**
Liabilities			
Current liabilities			
Payables	3.9	395,035	358,336
Contract liabilities	3.10	106,135	79,225
Interest bearing liabilities	5.1	680,160	374,568
Other provisions	3.12	9,212	5,477
Current tax liability	3.8.1	20,378	19,469
Employee benefits provision	3.2	50,831	49,775
Total current liabilities		**1,261,751**	**886,850**
Non-current liabilities			
Payables	3.9	9,034	3,014
Interest bearing liabilities	5.1	7,228,747	7,487,690
Other provisions	3.12	241	595
Net deferred tax liabilities	3.8.2	1,280,138	1,282,332
Employee benefits provision	3.2	14,082	14,957
Total non-current liabilities		**8,532,242**	**8,788,588**
Total liabilities		**9,793,993**	**9,675,438**
Net assets		**7,035,630**	**6,654,697**
Equity			
Contributed equity		470,592	507,914
Reserves		3,851,649	3,571,871
Retained profits		2,713,389	2,574,912
Total equity		**7,035,630**	**6,654,697**

The above Statement of Financial Position should be read in conjunction with the accompanying notes on pages 85 through to 141.

Statement of Changes in Equity

For the year ended 30 June 2022

	Notes	Contributed equity	Asset revaluation reserve	Retained profits	Total
		($ thousands)			
Balance at 1 July 2021		**507,914**	**3,571,871**	**2,574,912**	**6,654,697**
Comprehensive income for the period after tax					
Net result for the period after tax		-	-	130,128	**130,128**
Other comprehensive income/(loss) for the period after tax		-	279,778	15,649	**295,427**
Total comprehensive income for the period after tax		-	**279,778**	**145,777**	**425,555**
Transactions with equity holders					
Dividends paid [a]		-	-	(7,300)	**(7,300)**
Capital repatriation paid [b]		(40,410)	-	-	**(40,410)**
Integration of PPWCMA [c]	**4.5**	3,088	-	-	**3,088**
Total transactions with owners		**(37,322)**	**-**	**(7,300)**	**(44,622)**
Balance at 30 June 2022		**470,592**	**3,851,649**	**2,713,389**	**7,035,630**
Balance at 1 July 2020		**507,914**	**2,931,600**	**2,434,011**	**5,873,525**
Comprehensive income for the period after tax					
Net result for the period after tax		-	-	192,006	**192,006**
Other comprehensive income for the period after tax		-	640,271	11,695	**651,966**
Total comprehensive income for the period after tax		**-**	**640,271**	**203,701**	**843,972**
Transactions with equity holders					
Dividends paid[a]		-	-	(62,800)	**(62,800)**
Total transactions with owners		-	-	(62,800)	**(62,800)**
Balance at 30 June 2021		**507,914**	**3,571,871**	**2,574,912**	**6,654,697**

The above Statement of Changes in Equity should be read in conjunction with the accompanying notes on pages 85 through to 141.

Note:

(a) During 2021-22 the Corporation paid total dividends of $7.3 million (2020-21 $62.8 million). Dividends are determined by the Treasurer of Victoria after consultation with the Corporation's Board of Directors and the Minister for Water.

(b) During 2021-22 the Corporation paid total capital repatriations of $40.4 million (2020-21: nil). Capital repatriations are determined by the Treasurer of Victoria after consultation with the Corporation's Board of Directors and the Minister for Water.

(c) Integration of Port Philip and Westernport Catchment Management Authority (PPWCMA) into the Corporation.

Statement of Cash Flows

For the year ended 30 June 2022

		($ thousands)	
	Notes	2022	2021
Cash flows from operating activities			
Receipts from contracts with customers (inclusive of Goods and Service Tax)		2,023,987	2,048,095
Payments to suppliers and employees (inclusive of Goods and Service Tax)		(836,697)	(755,324)
Income tax paid		(113,086)	(130,613)
Interest received		14	110
Interest and other costs of finance paid		(549,648)	(579,960)
Other receipts		23,788	15,121
Payments for low-value, short-term and variable lease payments		(3,022)	(2,565)
Net cash inflow from operating activities	**5.2**	**545,336**	**594,864**
Cash flows from investing activities			
Payments for property, plant and equipment and intangibles		(579,687)	(605,952)
Proceeds from sales of property, plant and equipment and intangibles		34,379	16,820
Net cash (outflow) from investing activities		**(545,308)**	**(589,132)**
Cash flows from financing activities			
Proceeds from borrowings [(a)]		74,886	92,145
Repayments for the Victorian Desalination Plant (VDP) service concession liability		(20,994)	(39,146)
Repayments of lease liabilities		(7,242)	(6,552)
Dividends paid	**7.4**	(7,300)	(62,800)
Capital repatriation paid	**7.4**	(40,410)	-
Proceeds from PPWCMA integration	**4.5**	3,676	-
Net cash inflow / (outflow) from financing activities		**2,616**	**(16,353)**
Net (decrease)/increase in cash and cash equivalents		2,644	(10,621)
Cash and cash equivalents at the beginning of the financial year		3,703	14,324
Cash and cash equivalents at the end of the financial year		**6,347**	**3,703**

The above Statement of Cash Flows should be read in conjunction with the accompanying notes on pages 85 through to 141.

Note:
(a) Proceeds from borrowings exclude debt roll-overs and refinancing of existing debt and are shown on a net basis.

About this Report

Basis of preparation

This Annual Financial Report presents the audited general purpose financial statements of Melbourne Water Corporation ('the Corporation' or 'Melbourne Water') for the year ended 30 June 2022. This report informs users about the Corporation's stewardship of the resources entrusted to it.

A description of the nature of the Corporation's operations and principle activities is included in the report of operations which does not form part of these financial statements.

The Corporation is classified as a for-profit entity for the purposes of reporting.

Accounting policies selected and applied ensure that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events is reported.

The accrual basis of accounting has been applied, where assets, liabilities, equity, income and expenses are recognised in the reporting period to which they relate, regardless of when cash is received or paid.

These financial statements are in Australian dollars, the functional and presentation currency of Melbourne Water, and the historical cost convention is used except for the revaluation of certain classes of infrastructure, property, plant and equipment and financial instruments. Unless otherwise stated, amounts in the report have been rounded to the nearest thousand dollars.

In the determination of whether an asset or liability is current or non-current, consideration has been given to the time when each asset or liability is expected to be realised or paid. The asset or liability has been classified as current if it is expected to be turned over within the next 12 months, being the Corporation's operational cycle.

Judgements and estimates require assumptions to be made about highly uncertain external factors such as discount rates, probability factors, the effects of inflation, changing technology, political and social trends, and climate change. There are many uncertainties in the estimation process and assumptions that are valid at the time of estimation may change significantly when new information becomes available.

Judgements, estimates and assumptions are required to be made about financial information presented. The significant judgements made in the preparation of these financial statements are disclosed in the notes where amounts affected by those judgements are disclosed. The estimates and associated assumptions are based on professional judgements derived from historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates. Revisions to accounting estimates are recognised in the period in which the estimate is revised and also in future periods that are affected by the revision. Judgements and assumptions made by management in applying Australian Accounting Standards that have significant effects on the financial statements and estimates relate to:

- the fair value of land, buildings, infrastructure, plant and equipment (refer to 4.1.2)
- the fair value of right to acquire assets (refer to 4.4)
- defined benefit superannuation asset/liability (refer to 7.1)
- employee benefits expenses and provisions (refer to 3.2 and 3.12)
- useful lives of non-current assets (refer to 4.1.3)
- recognition and measurement of Software-as-a-Service (SaaS) arrangements (refer to 4.2)
- recognition of deferred tax balances (refer to 3.8)
- contingent assets and liabilities (refer to 6.3)
- VDP service concession asset and liability and operating commitments (refer to 4.1 and 5.4)
- timing of satisfaction of performance obligations (refer to 2.1)
- determining transaction price and amounts allocated to performance obligations (refer to 2.1)
- for leases, determining whether the arrangement is in substance a short-term arrangement and estimating discount rate when not implicit in the lease (refer to 4.4)
- the impacts of COVID-19 on the financial report and going concern (refer below).

About this Report (continued)

COVID-19 and going concern

The Novel Coronavirus (COVID-19) outbreak first reported in late 2019 has had an unprecedented health and economic impact both internationally and domestically. To reduce the spread of the virus, a series of public health measures were imposed across the world and in Australia, including travel restrictions, a nationwide call to work from home and significantly reduced levels of activity in both the economy and community. In response to the global health pandemic, the Federal and State governments have been providing a number of economic stimulus packages and policies in support of Victorian families and businesses.

Account balances affected by COVID-19 due to management's judgements and assumptions about the future and estimation uncertainty include: recoverability of receivables (Note 2.3); asset valuations (Note 4.1.2.1); impairment (Note 4.1.3); and defined benefit plan actuarial valuation (Note 7.1).

The Corporation has reviewed the latest forecasts to reflect expectations about the future. The Corporation does not anticipate any significant impact in our current or future operations or financial position as a result of COVID-19. Therefore it remains appropriate to prepare these financial statements on a going concern basis. The financial statements do not include any adjustments to the carrying amounts and classification of assets, liabilities and reported expenses that may otherwise be required if the going concern basis was not appropriate.

Further COVID-19 related disclosures have been added to the financial statements to reflect management's judgements and assessments. These can be found in the notes referenced above.

Compliance

These general purpose financial statements have been prepared in accordance with the *Financial Management Act 1994* and applicable Australian Accounting Standards (AAS) which include Interpretations, issued by the Australian Accounting Standards Board (AASB). They have also been prepared in compliance with applicable Financial Reporting Directions and Standing Directions issued by the Assistant Treasurer.

Accounting policies

The Corporation has updated its accounting policy for Software-as-a-Service (SaaS) arrangements following the International Financial Reporting Standards Interpretations Committee (IFRIC) agenda decisions on SaaS arrangements. Refer to Note 7.9 Changes in accounting policy for further details.

All other accounting policies applied are consistent with those of the prior year. There have been no other changes to accounting policies for the 2021-22 financial year.

Significant event

On the 8 February 2021, the Victorian Government announced the decision to integrate the Port Phillip and Westernport Catchment Management Authority (PPWCMA) into the Corporation, commencing from 1 January 2022. This means that, for the Port Phillip and Westernport (PPW) region, catchment management and waterway management functions have been brought together under one entity, the Corporation.

The PPWCMA was officially wound up on 31 December 2021 and all PPWCMA functions, powers, duties, assets, liabilities and existing employees have transferred to the Corporation from 1 January 2022 for nil consideration. The integration has been accounted for as a transfer of contributed equity as per FRD 119. The financial impacts of the integration have been disclosed in the 2021-22 financial statements for the Corporation and are not material. Refer to Note 4.5 Integration of entities for further details.

Funding Delivery of Our Services

Introduction

This section provides additional information about how the Corporation is funded and the accounting policies that are relevant for an understanding of the items recognised in the financial statements. The Corporation's vision is to enhance life and liveability within Melbourne and it achieves this through providing water, sewerage services, flood mitigation and environmental protection.

Structure

2.1 Revenue from contracts with customers

($ thousands)

	2022	2021
Bulk water services	953,074	964,351
Bulk sewerage services	415,213	455,874
Waterways and drainage charges	268,660	263,930
Developer contributions	205,971	186,723
Developer contributed assets	27,879	38,484
Net gain on disposal of property, plant, equipment and intangibles	10,386	16,554
Other revenue	10,082	13,588
Total Revenue from contracts with customers	**1,891,265**	**1,939,504**

Revenue is recognised in accordance with AASB 15 Revenue from contracts with customers.

The Corporation collects **bulk water and sewerage services** revenue for providing storage operator services and bulk water and sewerage services to retail metropolitan and regional water businesses.

Bulk water and sewerage services revenues consist of a variable metered component (based on volumes of usage) and a fixed fee (for service availability). The usage charge is invoiced weekly with payment required within 7 days. The availability charge is invoiced in advance monthly with payment required within 14 days.

Bulk water and sewerage services revenue is recognised in line with the Corporation meeting its performance obligations over time as the customer simultaneously receives and consumes the services provided. An estimate is made at the end of the accounting period for unbilled revenue (refer to receivables Note 2.3).

The Corporation provides **waterways and drainage services** to residential, non residential, rural and special area customers. The charges are recognised in the year for which the charge is levied and are billed either quarterly or annually in advance, and are collected by various retail water businesses on behalf of the Corporation. A lien is held over each property to ensure that any outstanding amounts are recovered upon sale of the property.

Waterways and drainage charges revenue is recognised in line with the Corporation meeting its performance obligations over time as the customer simultaneously receives and consumes the services provided. An estimate is made at the end of the accounting period for unbilled revenue (refer to receivables Note 2.3).

Funding Delivery of Our Services (continued)

Developer contributions are collected from developers in order to fund drainage scheme infrastructure (constructed catchment assets) and stormwater quality treatment works.

The Corporation has a performance obligation in relation to developer contributions, which is to assess whether all the requirements for the issuance of a Statement of Compliance (SOC) have been met by the developer and to provide consent to the local council to issue the SOC if the requirements have been met.

The Corporation recognises developer contribution revenue at a point in time as the performance obligation is satisfied (i.e. upon provision of consent to the local council to issue an SOC). The transaction price is the total amount of cash contributions from the developer for the applicable contract, unless the transaction price is adjusted by differences between the assessed fair value of the constructed catchment assets and reimbursements to the developer for construction of those assets (see developer contributed assets policy below).

Developer contributions received in advance of the performance obligation being satisfied are recorded as contract liabilities from contracts with customers (included in Note 3.10) and then recognised as revenue as the performance obligation is satisfied for each contract.

A significant financing component is deemed to exist within a contract when developer contributions revenue is received greater than 12 months before the performance obligation is satisfied. The Corporation assesses the balance of unearned revenue from developer contributions at balance date. If a significant financing component exists then the Corporation adjusts the revenue transaction price (within unearned revenue) and recognises an interest expense (see Note 5.1) to reflect the time value of money using prevailing interest rates. When the performance obligation is satisfied the revenue is recognised based on the adjusted transaction price.

Developer contributed assets (DCAs) consist of developer constructed catchment assets transferred to the Corporation to maintain in perpetuity. Under a drainage scheme, developers may be required to undertake capital works in relation to the construction of drainage infrastructure required for their stage of development and other developers in the drainage catchment. This will be included in contracts between the Corporation and the developer as a condition of consent for an SOC. Upon completion of the works, these constructed catchment assets become the property of the Corporation. The developer will either be reimbursed by the Corporation for the construction costs at an agreed reimbursable amount (funded through developer contributions for that catchment) or the developer will fully fund the construction costs (in arrangements where there are no developer contributions).

The Corporation has a performance obligation in relation to DCAs, which is to assess whether all the requirements (including construction of catchment assets) for the issuance of an SOC have been met and to provide consent to the local council to issue the SOC if the requirements have been met.

The transaction price for DCA revenue is determined based on any difference between the assessed fair value of the constructed catchment assets and the reimbursements made to the developer (where reimbursements are applicable depending on the arrangement).

The transaction price is uncertain until the date of practical completion of the assets, which usually occurs after the performance obligation is met. Therefore at the time the performance obligation is met any revenue associated with the constructed catchment assets to be received is considered to be variable consideration.

DCA revenue (and associated infrastructure assets) are therefore recognised at the date of practical completion of the works (and their acceptance by the Corporation) when the uncertainty regarding the fair value of the assets is resolved.

Land parcels are also voluntarily transferred from developers to the Corporation (for nil consideration). These transfers relate to land set aside by developers as reserves at the point of subdivision. The transfers are made voluntarily on the basis of the Corporation being the relevant authority to hold and maintain such land for public benefit, rather than being transferred in the context of a contract with a customer. There is no exchange of goods or services from the Corporation to the developers for this land and contracts between the Corporation and the developers do not include these transfers of land. Accordingly, the transfer of land is not considered to form part of the transaction price for revenue recognition. As the transferred land satisfies the definition of property, plant and equipment under AASB 116, the initial measurement and subsequent measurement of such land is within the scope of AASB 116 i.e. the land is recognised initially at cost (being nil) and subsequently revalued in accordance with the land class of assets.

The net gain on disposal of property, plant, equipment and intangibles from sales is recognised as revenue when control over the asset has been transferred to the customer at a point in time. This is the point when the Corporation has performed its performance obligation.

Revenue is measured at the transaction price agreed under the contract. For property sales the consideration is due when it settles.

Property sales are recognised in the Statement of Profit or Loss and Other Comprehensive Income on a net basis of sale proceeds less costs.

Other revenue includes fees and charges and other miscellaneous revenue which are all recognised at a point in time when the Corporation meets the required performance obligations under the contract.

2.2 Other income

($ thousands)

	2022	2021
Interest revenue	14	110
Rental income	3,136	2,920
Government grants	7,791	6,991
Total other income	**10,941**	**10,021**

Interest revenue is recognised when earned over time and is accrued in accordance with the terms and conditions of the underlying financial instrument or other contract.

Rental income is recognised when earned over time and accrued in accordance with the terms and conditions implicit in the leasing contract.

Government grants are recognised as operating revenue when the Corporation obtains control of the contribution. Control is obtained when the Corporation receives the grant or contribution and they meet certain other criteria as outlined by *AASB 120 Accounting for Government Grants* and Disclosure of Government Assistance (i.e. when there is a reasonable assurance that the grant will be received and the Corporation will comply with all required conditions). All conditions attached to Government grants have been satisfied prior to their recognition in the Statement of Profit or Loss and Other Comprehensive Income. Government grants with unfulfilled conditions have been recognised as other unearned revenue (included in Trade and other payables Note 3.9) in the Statement of Financial Position. Any grants relating to assets that meet the conditions attached are recorded against the asset.

Funding Delivery of Our Services (continued)

2.3 Receivables

($ thousands)

Contractual receivables	2022	2021
Trade debtors	46,217	43,707
Contract assets [a]	12,980	14,945
Other receivables [a]	38,267	27,728
Less: allowance for expected credit losses	-	-
Total contractual receivables	**97,464**	**86,380**
Statutory receivables		
Net GST receivable from the ATO	11,033	18,279
Total current receivables	**108,497**	**104,659**

(a) 2020-21 contract assets and other receivables have been reclassified for consistency with the current year.

Trade debtors, contract assets and **other receivables** are recognised at the amounts receivable less any allowance for expected credit losses. Trade debtors relate to amounts receivable for bulk water services, bulk sewerage services and waterways drainage charges and other charges. Contract assets relate to developer works that have met the requirements for issuing the SOC but no contribution has yet been received. Other receivables relate to land deposits, accrued revenue and accrued GST receivable. Receivables are reviewed on an ongoing basis to identify any receivables which cannot be collected. Debts which cannot be collected are written off when identified.

The Corporation applies the AASB 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for contractual receivables. On this basis, an assessment undertaken by management has identified that historical debt write-offs and future expected losses are immaterial. This assessment took into consideration COVID-19 with no expected material impact on the future recoverability of debtors. As such, there is no allowance for expected credit losses as at 30 June 2022 (2020-21: nil).

Net Goods and Services Tax (GST) receivable from the Australian Taxation Office (ATO) is the gross amount of GST recoverable from the taxation authority and is included as part of the receivables balance. *AASB Interpretation 1031* provides that revenue, expenses and assets must be recognised, net of the amount of GST, except where GST relating to the expenditure items is not recoverable from the taxation authority, in which case the item is recognised as GST inclusive.

Ageing analysis of contractual receivables

($ thousands)

	Current	Past due but not impaired			Total
30 June 2022	0-30 days	31-60 days	61-90 days	91 days +	
Receivables					
Trade debtors [a]	27,187	5,433	1,209	12,388	**46,217**
Contract assets	12,980	-	-	-	**12,980**
Other receivables	38,267	-	-	-	**38,267**
Total contractual receivables	**78,434**	**5,433**	**1,209**	**12,388**	**97,464**

	Current	Past due but not impaired[b]			Total
30 June 2021	0-30 days	31-60 days	61-90 days	91 days +	
Receivables					
Trade debtors [a]	25,500	6,436	1,394	10,377	**43,707**
Contract assets [b]	14,945	-	-	-	**14,945**
Other receivables [b]	27,728	-	-	-	**27,728**
Total contractual receivables	**68,173**	**6,436**	**1,394**	**10,377**	**86,380**

(a) The majority of the aged receivables relate to waterways and drainage charges guaranteed by a lien on a property to ensure that any outstanding amounts are recovered upon sale of the property.

(b) 2020-21 contract assets and other receivables have been reclassified for consistency with the current year.

The Cost of Delivering Our Services

Introduction

This section provides additional information about the major components of expenditure incurred by the Corporation in relation to delivering our services during the year, as well as any related obligations outstanding as at 30 June 2022.

Structure

3.1 Operational expenses

($ thousands)

	2022	2021
VDP operating expenses	208,262	203,641
Energy expenses	41,836	42,411
External professional services expenses	32,701	23,850
Research and development expenses	6,328	6,958
Materials and chemicals expenses	10,248	11,157
Grants and contributions expenses	9,695	9,044
Transport expenses	3,288	3,391
Insurance expenses	6,095	3,749
Other expenses	713	658
Total operational expenses	**319,166**	**304,859**

Operational expenses represent the day-to-day running costs incurred in normal operations. Victorian Desalination Plant (VDP) operating expenses include the costs of water security, labour, maintenance, chemicals and energy. They are expensed in the period in which they are incurred.

The Cost of Delivering Our Services (continued)

3.2 Employee benefits expenses and employee benefits provision

($ thousands)

	2022	2021
Salary and wages expenses	114,542	113,081
Annual, long service and shift leave expenses	12,454	13,768
Defined contribution plans (superannuation accumulation fund) expense	11,509	10,795
Defined benefit superannuation plan expense	1,210	1,687
Other employee expenses	6,221	6,788
Total employee benefits expenses [a]	**145,936**	**146,119**

(a) 2021-22 includes $0.5 million of costs that would previously have been capitalised (under AASB 138 Intangible assets). Refer to Note 7.9 Changes in accounting policies for further details.

Employee benefits expenses include all expenses related to employment including: salary and wages expenses; defined contribution plans; annual, long service and shift leave expenses; defined benefit superannuation plan expense; and other employee expenses (i.e payroll tax, Work Cover (post-1985), workers' compensation (pre-1985), rostered days off, redundancy payments). They are expensed in the period in which they are incurred. Directly attributable costs for bringing an asset to the location and condition necessary for operation, such as costs of employee benefits arising directly from the construction or acquistion of the asset are capitalised via a reduction to the employee benefit expense.

Provision is made for benefits accruing to employees in respect of salaries and wages, annual leave and long service leave (LSL) up to the reporting date and recorded as an expense during the period the services are delivered.

Total employee benefits provision and on-costs at 30 June

($ thousands)

	2022	2021
Current		
Accrued salaries and wages		
Accrued salaries and wages	6,921	6,397
Annual leave		
Unconditional and expected to settle within 12 months	9,954	10,830
LSL		
Unconditional and expected to settle within 12 months	3,370	3,079
Unconditional and expected to settle after 12 months	19,118	18,652
On-costs		
Unconditional and expected to settle within 12 months	1,995	2,010
Unconditional and expected to settle after 12 months	2,932	2,763
Other employee benefits	6,541	6,044
Total current employee benefits and on-costs	**50,831**	**49,775**
Non-current		
LSL	4,259	4,662
On-costs on LSL	653	691
Other employee benefits	9,170	9,604
Total non-current employee benefits and on-costs	**14,082**	**14,957**
Total employee benefits and on-costs	**64,913**	**64,732**

Reconciliation of movement in on-costs provision ($ thousands)

	2022	2021
Opening balance	5,464	5,145
Additional provisions recognised	2,090	1,979
Additions due to LSL transfers	41	3
Reductions arising from payments/other sacrifices of future economic benefits	(2,015)	(1,663)
Closing balance	**5,580**	**5,464**
Current	4,927	4,773
Non-current	653	691

Liabilities for **salaries, wages and annual leave** are all recognised in the provision for employee benefits as 'current liabilities' as per *AASB 119 Employee Benefits*, because the Corporation does not have an unconditional right to defer settlements of these liabilities. Liabilities for salaries, wages and annual leave are measured at:

- undiscounted value, if they will be wholly settled within 12 months; or
- present value, if not expected to be wholly settled within 12 months.

Sick leave payments are made in accordance with relevant awards, determinations and Corporation policy. No provision is made in the financial statements for unused sick leave entitlements as these are non-vesting benefits (i.e. cannot be transferred or paid out when an employee leaves).

LSL is recognised in the provision for employee benefits. LSL is recognised as a current liability when there is no unconditional right to defer settlement should an employee take LSL they are entitled to within the next 12 months, even when the Corporation does not expect to settle the liability within 12 months. The components of this current LSL liability are measured at:

- undiscounted value, if they expect to be wholly settled within 12 months; or
- undiscounted value, if they expect to be wholly settled within 12 months; or
- present value, if not expected to be wholly settled within 12 months.

LSL is recognised as a non-current liability when there is an unconditional right to defer the settlement of the entitlement until the employee has completed 7 years of service. This non-current LSL liability is measured at present value. Expected future cash payments are discounted using market yields attached to the Reserve Bank of Australia's 10-year rate for semi-annual coupon bonds. The discount rate as at 30 June 2022 was 3.69% (2020-21: 1.49%). Use of this discount rate is mandated by the Department of Treasury and Finance (DTF). The valuation of LSL also incorporates wage inflation, based on DTF budget estimates with the rate at 30 June 2022 of 3.85% (2020-21: 2.95%).

Other employee benefits, current and non-current liabilities include amounts for shift leave, rostered days off, Work Cover, workers' compensation and termination benefits. The Work Cover and workers' compensation provisions are based on independent actuarial assessments. A provision of $12.5 million (2020-21 $12.7 million) has been made for outstanding claims incurred and not settled, and for claims incurred but not reported at 30 June 2022. The value of the bank guarantee to the Victorian Work Cover Authority (as part of the Corporation's Work Cover self insurance commitments) at 30 June 2022 is $10.5 million (2020-21: $10.0 million). The bank guarantee amount is not included in the provision.

Termination benefits include termination of employment payments, such as severance packages. They are payable when employment is terminated before the normal retirement date, or when an employee accepts an offer of benefits in exchange for the termination of employment. Termination benefits are recognised when the Corporation is demonstrably committed to terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal or providing termination benefits as a result of offers made for voluntary redundancy.

The Cost of Delivering Our Services (continued)

3.3 Repairs and maintenance expenses

($ thousands)

	2022	2021
Repairs and maintenance	97,180	86,008
Information technology maintenance [a]	9,263	9,404
Total repairs and maintenance expenses	**106,443**	**95,412**

(a) 2021-22 includes $0.1 million of costs that would previously have been capitalised (under AASB 138 Intangible assets). Refer to Note 7.9 Changes in accounting policies for further details.

Repairs and maintenance and minor renewal costs are expensed as incurred. Where the repair relates to the replacement of a component of an asset and the cost exceeds the capitalisation threshold of $500, the cost is capitalised and depreciated over the remaining life of the asset.

3.4 Administrative expenses

($ thousands)

	2022	2021
Waterways charges billings and collection	15,072	14,484
Information technology and telecommunication expensesa	23,025	16,350
Short-term lease expenses	252	252
Low-value lease expenses	-	2
Variable lease payment expenses	2,770	2,311
Education and training expenses	2,086	2,417
Legal expenses	3,080	1,003
Other expenses	8,287	5,954
Total administrative expenses	**54,572**	**42,773**

(a) 2021-22 includes $4.6 million of costs that would previously have been capitalised (under AASB 138 Intangible assets). Refer to Note 7.9 Changes in accounting policies for further details.

Administrative expenses are the day-to-day costs incurred in administration of the Corporation. They are expensed in the period in which they are incurred.

Expenses relating to short-term, low-value or variable lease payments are not included in the lease liability and are expensed in the year they are incurred. For further details, refer to Note 4.4.

3.5 Government rates and taxes

($ thousands)

	2022	2021
Government rates and taxes	41,310	29,814
Total government rates and taxes	**41,310**	**29,814**

Government rates and taxes are made up of Land Tax, Fringe Benefits Tax, Local Government Rates Equivalent Tax (LGRE) and other minor government charges and fees. They are expensed in the period in which they are incurred.

3.6 Asset transfers to council

($ thousands)

	2022	2021
Asset transfers to council	40,902	40,553
Total asset transfers to council	**40,902**	**40,553**

Asset transfers to council relate to Drainage Developer Scheme works within a catchment size of less than 60 hectares that are transferred to councils for ongoing maintenance (and expensed by the Corporation at book value) upon reaching formal council acceptance to transfer.

3.7 Other expenses

($ thousands)

	2022	2021
Assets written off/written down	3,946	4,172
CSO adjustments for purchased land	4,527	5,905
Allowance for expected credit loss	-	-
Other expenses	1,761	2,400
Total other expenses	**10,234**	**12,477**

Other expenses include all other miscellaneous expenses not included in operational and administrative expenses and are deemed relevant for the understanding of this financial report. They include written down assets and Community Service Obligation (CSO) adjustments for purchased land based on Valuer-General Victoria (VGV) valuation. They are expensed in the period in which they are incurred.

3.8 Income and deferred tax

The Corporation is subject to the National Tax Equivalent Regime (NTER), which is administered by the Australian Taxation Office (ATO). The difference between the NTER and the Commonwealth tax legislation is that the tax liability is paid to the Victorian State Government rather than the Commonwealth Government.

The income tax expense for the period is the tax payable on the current period's taxable income based on the national corporate income tax rate of 30%, adjusted for current tax of prior periods and changes in deferred tax assets and liabilities attributable to temporary differences between the tax bases of assets and liabilities and their carrying amounts in the financial statements.

Deferred tax assets and liabilities are recognised as temporary differences at the tax rate expected to apply when the assets are recovered or liabilities settled, based on those tax rates which are enacted or substantially enacted. The relevant tax rates are applied to the cumulative amounts of deductible and taxable temporary differences when they arise in a transaction that at the time of the transaction did not affect either accounting or taxable profit or loss. Deferred tax assets are recognised as deductible temporary differences and unused tax losses only if it is probable that future taxable amounts will be available to utilise those temporary differences and losses. Current and deferred tax is recognised in the Statement of Profit or Loss, except to the extent that it relates to items recognised in Other Comprehensive Income or directly in equity. In this case, tax is also recognised in Other Comprehensive Income or directly in equity respectively.

The Cost of Delivering Our Services (continued)

3.8.1 Income tax

Components of tax expense	($ thousands)	
	2022	2021
Current tax	119,095	137,786
Deferred tax relating to temporary differences	(35,156)	(36,511)
Adjustments for current tax of prior periods	(201)	(604)
Total tax expense	**83,738**	**100,671**

Reconciliation of income tax to prima facie tax payable	($ thousands)	
	2022	2021
Profit before income tax	213,866	292,677
Tax at the Australian tax rate of 30% (2020-21: 30%)	64,160	87,803
Tax effect of amounts which are not deductible/(taxable) in calculating taxable income:		
Adjustment in respect of income tax of previous year	(201)	(604)
Non assessable and non deductible for income tax purposes	16,258	8,882
Assessable income not booked	3,521	4,590
Income tax as reported in the Statement of Profit or Loss and Other Comprehensive Income	**83,738**	**100,671**

Income tax liability	($ thousands)	
	2022	2021
Current tax liability	20,378	19,469
Total income tax liability	**20,378**	**19,469**

Income tax recognised in other comprehensive income	($ thousands)	
	2022	2021
Deferred tax arising on items recognised in other comprehensive income		
Increase in deferred tax on land and buildings revalued	26,862	62,884
Reversal of deferred tax on disposal of land previously revalued	(104)	(39)
Increase in deferred tax on infrastructure assets revalued	-	27,173
Actuarial gains (losses) on the defined benefit plan	2,400	3,084
Loss on integration of Port Philip and Westernport Catchment Management Authority (PPWCMA)	(1,096)	-
Total income tax recognised in other comprehensive income	**28,062**	**93,102**

3.8.2 Net deferred tax liabilities – non-current

($ thousands)

	2022	2021
Amounts recognised in Profit or Loss		
Property, plant and equipment	152,226	167,485
Employee entitlements	(12,684)	(12,805)
Developer contributions	88	277
Provisions	(3,979)	(2,861)
Revenue in advance	(31,542)	(22,545)
VDP service concession liability	88,236	93,490
Other	(7,070)	(6,414)
Total recognised in Profit or Loss	**185,275**	**216,627**
Amounts recognised in Other Comprehensive Income		
Net gains on revaluation of land and buildings	146,312	119,554
Net gains on revaluation of infrastructure assets	934,758	934,758
Actuarial gain on the defined benefit plan	13,793	11,393
Total recognised in Other Comprehensive Income	**1,094,863**	**1,065,705**
Net deferred tax liability	**1,280,138**	**1,282,332**

Movements

($ thousands)

	2022	2021
Opening balance	1,282,332	1,225,818
Credited to Profit or Loss	(35,156)	(36,511)
Debited to Other Comprehensive Income	28,063	93,102
Adjustment in respect of deferred tax of prior period	4,899	(77)
Closing balance	**1,280,138**	**1,282,332**
Net deferred tax liabilities to be recovered after more than 12 months	1,320,370	1,314,932
Net deferred tax liabilities to be recovered within 12 months	(40,232)	(32,600)
Total non-current liabilities – deferred tax liabilities	**1,280,138**	**1,282,332**

The Cost of Delivering Our Services (continued)

3.9 Payables

($ thousands)

	2022	2021
Current		
Trade creditors	117,697	129,080
Interest payable	30,261	32,732
Accruals	242,149	190,326
Other payables	4,928	6,198
Total current payables	**395,035**	**358,336**
Non-current		
Other payables	9,034	3,014
Total non-current payables	**9,034**	**3,014**
Total payables	**404,069**	**361,350**

Trade creditors represent liabilities for goods or services provided to the Corporation prior to the end of the financial year, where invoices have been received and processed but not yet paid. The amounts are unsecured and are usually paid within 30 days of recognition or in accordance with contract terms. Payments for invoices with a contract value of less than $3.0 million are paid within 10 business days in line with the Victorian Government's Fair Payment Policy.

Interest payable is recognised as an expense in the reporting period in which it is payable and accrued in accordance with the terms and conditions of the underlying financial instruments or other contracts.

Accruals represent liabilities for goods or services provided to the Corporation prior to the end of the financial year, where invoices have not yet been received or processed and are not yet paid. The amounts are based on estimates, are unsecured and are usually paid within 30 days of recognition (payments for invoices with a contract value of less than $3.0 million are paid within 10 business days in line with the Victorian Government's Fair Payment Policy).

Other payables primarily represent liabilities for miscellaneous security deposits held.

3.10 Contract liabilities

($ thousands)

	2022	2021
Current		
Unearned revenue from contracts with customers	92,854	72,254
Other unearned revenue	13,281	6,971
Total current contract liabilities	**106,135**	**79,225**

Unearned revenue from contracts with customers represents consideration received in advance of the Corporation performing its contract obligations and will be recognised as revenue when the services are performed. This solely comprises developer contributions revenue. For further details refer to Note 2.1.

Unearned revenue from contracts with customers

($ thousands)

	2022	2021
Unearned revenue at the beginning of the financial year	72,254	66,523
Consideration received in the year before performance obligations are satisfied	226,571	192,452
Performance obligations satisfied during the period and recognised as revenue	(205,971)	(186,721)
Unearned revenue from contracts with customers	**92,854**	**72,254**

Other unearned revenue represents revenue received in advance in relation to other income (i.e. grants) and will be recognised as revenue when the services are performed.

3.11 Other current assets

($ thousands)

	2022	2021
Prepayments	**9,682**	**7,845**
Inventories	9,207	9,429
Total other current assets	**18,889**	**17,274**

Prepayments represent payments in advance of receipt of goods or services or that part of expenditure made in one accounting period covering a term extending beyond that period.

Inventories are used in the construction of new works and for the repair and maintenance of existing assets. Inventories are valued at the lower of cost and net realisable value.

3.12 Provisions

($ thousands)

	2022	2021
Current		
Insurance claims	184	421
Other provisions	9,028	5,056
Total provisions – current	**9,212**	**5,477**
Non-current		
Insurance claims	241	595
Total provisions – non-current	**241**	**595**
Total provisions	**9,453**	**6,072**

Reconciliation of movement in provisions

($ thousands)

	Insurance claims	Other provisions	Total
Carrying amount at 1 July 2021	1,016	5,056	6,072
Provisions recognised/(de-recognised)	(190)	6,305	6,115
Amounts utilised during the year	(401)	(2,333)	(2,734)
Carrying amount at 30 June 2022	**425**	**9,028**	**9,453**
Carrying amount at 1 July 2020	2,065	3,341	5,406
Provisions recognised/(de-recognised)	(679)	6,105	5,426
Amounts utilised during the year	(370)	(4,390)	(4,760)
Carrying amount at 30 June 2021	**1,016**	**5,056**	**6,072**

Provisions are recognised when the Corporation has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount has been reliably estimated.

The amount recognised as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation.

The recognition of provisions requires significant estimates and assumptions such as requirements of the relevant legal and regulatory frameworks, timing, cost estimation, legal disputes and climate-related risks. These uncertainties may result in future actual expenditure differing from the amounts currently provided. Provisions are periodically reviewed and updated based on the facts and circumstances available at the time.

Where a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows.

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, the receivable is recognised as an asset if it is virtually certain that recovery will be received and the amount of the receivable can be measured reliably.

The insurance claims provision represents the amounts that are likely to be payable under claims but excluding amounts over the relevant insurance policy deductable. Insurance claims are independently assessed by loss adjusters, claims managers and legal practitioners. The insurance claims provision includes claims reported but not yet paid, claims incurred but not yet reported, and the anticipated costs of settling those claims. Due to the inherent uncertainty in the estimate of the outstanding insurance claims, a risk margin is included. The risk margin is set to ensure that the liability estimate will be sufficient to cover outstanding claims. The measurement of the liability for outstanding insurance claims is on the basis of estimated costs of future claims payments. Claims classified as current are expected to be settled within 12 months. The amount classified as non-current is expected to be settled later than 12 months. The provision amounts are based on an independent assessment of claim costs.

Other provisions satisfy the recognition requirements of *AASB 137 Provisions, Contingent Liabilities and Contingent Assets* and include contractual and other provisions.

Assets Available to Support Output Delivery

Introduction

This section outlines those assets that the Corporation controls, reflecting investing activities in the current and prior years. The Corporation controls infrastructure and other assets that are utilised in fulfilling its objectives and conducting its activities. They represent the key resources that have been entrusted to the Corporation to be utilised for delivery of those objectives.

Structure

4.1 Land, buildings, infrastructure, plant and equipment, and service concession arrangements

4.1.1 Reconciliation of movements in carrying values of land, buildings, infrastructure, plant and equipment, and service concession arrangements

($ thousands)

	Total	Crown land	Freehold land	Buildings	Leasehold improvements	Plant and equipment	Fleet vehicles	Infrastructure	VDP service concession asset	Capital works in progress
Year ended 30 June 2021										
Opening balance	15,127,888	111,420	1,368,072	27,742	1,145	17,788	13,665	8,873,139	4,071,895	643,022
Purchased additions	3,952	-	-	-	-	-	3,952	-	-	-
Developer contributed assets	38,484	-	-	-	-	-	-	38,484	-	-
Disposals and write-offs	(49,171)	(11)	(4,758)	-	-	(13)	(723)	(40,951)	-	(2,715)
Depreciation and amortisation	(417,544)	-	-	(1,086)	(164)	(5,035)	(2,346)	(331,359)	(77,554)	-
Transfers between classes [a]	8	3	(3)	3,598	-	50	(38)	(3,602)	-	-
Assets classified as held for sale	(10,469)	-	(10,469)	-	-	-	-	-	-	-
Revaluation increments [b]	826,361	57,751	626,219	5,785	-	-	-	90,577	46,029	-
Revaluation decrements [b]	(58,264)	(1,560)	(55,492)	(1,212)	-	-	-	-	-	-
Impairment losses	-	-	-	-	-	-	-	-	-	-
Impairment losses reversed	-	-	-	-	-	-	-	-	-	-
Capital expenditure [c]	606,361	-	-	-	-	-	-	-	-	606,361
Capital contributions	-	-	-	-	-	-	-	-	-	-
Capitalisation of works in progress	493	-	21,585	1,915	-	2,878	-	316,201	-	(342,086)
Closing carrying amount	**16,068,099**	**167,603**	**1,945,154**	**36,742**	**981**	**15,668**	**14,510**	**8,942,489**	**4,040,370**	**904,582**
At 30 June 2021										
Gross carrying amount	16,147,443	167,603	1,945,154	36,742	2,437	83,988	24,078	8,942,489	4,040,370	904,582
Accumulated depreciation	(79,344)	-	-	-	(1,456)	(68,320)	(9,568)	-	-	-
Carrying amount	**16,068,099**	**167,603**	**1,945,154**	**36,742**	**981**	**15,668**	**14,510**	**8,942,489**	**4,040,370**	**904,582**
Year ended 30 June 2022										
Opening balance	16,068,099	167,603	1,945,154	36,742	981	15,668	14,510	8,942,489	4,040,370	904,582
Purchased additions	1,172	-	-	-	-	-	1,172	-	-	-
Developer contributed assets	27,879	-	-	-	-	-	-	27,879	-	-
Disposals and write-offs	(45,405)	(4)	(13,224)	-	-	(17)	(583)	(29,441)	-	(2,136)
Depreciation and amortisation	(424,415)	-	-	(1,419)	(163)	(4,885)	(2,334)	(337,302)	(78,312)	-
Transfers between classes [a]	-	701	(701)	-	-	-	-	-	-	-
Assets classified as held for sale	(1,584)	-	(1,584)	-	-	-	-	-	-	-
Revaluation increments [b]	352,422	25,523	326,899	-	-	-	-	-	-	-
Revaluation decrements [b]	(4,536)	(9)	(4,527)	-	-	-	-	-	-	-
Impairment losses	-	-	-	-	-	-	-	-	-	-
Impairment losses reversed	-	-	-	-	-	-	-	-	-	-
Capital expenditure [c]	587,865	-	-	-	-	-	-	-	-	587,865
Capital contributions	-	-	-	-	-	-	-	-	-	-
Capitalisation of works in progress	(90)	(0)	11,517	26	-	4,129	-	410,026	-	(425,788)
Closing carrying amount	**16,561,406**	**193,814**	**2,263,534**	**35,349**	**818**	**14,895**	**12,765**	**9,013,651**	**3,962,058**	**1,064,523**
At 30 June 2022										
Gross carrying amount	17,001,816	193,814	2,263,534	36,768	2,437	65,717	23,146	9,311,507	4,040,370	1,064,523
Accumulated depreciation	(440,409)	-	-	(1,419)	(1,619)	(50,822)	(10,381)	(297,856)	(78,312)	-
Carrying amount	**16,561,407**	**193,814**	**2,263,534**	**35,349**	**818**	**14,895**	**12,765**	**9,013,651**	**3,962,058**	**1,064,523**

Note:

(a) Includes transfers to intangible assets, refer to 4.2.

(b) Pre-tax revaluation increments and decrements (net increment balance of $347.9 million (2020-21: $768.1 million net increment) are recognised in the income statement as revenue via net gain on revaluation of non-financial assets $33.7 million (2020-21:$39.2 million), other expenses $4.5 million (Community Services Obligation discount applied for purchased land based on VGV valuation) (2020-21: $5.9 million) and increase in other comprehensive income $318.7 million (2020-21: $734.8 million). Note: Valuation decrements are expensed in the profit and loss when the reserve balance is exhausted. Valuation increments that result in reversals of previous profit and loss decrements are credited to the profit and loss. The net effect is treated as a net gain or loss on revaluation on non-financial assets.

(c) Represents total capital expenditure, exclusive of intangibles $22.6 million (2020-21 $20.2 million) (refer to 4.2) and fleet vehicles $1.2 millon (2020-21 $4.0 million) (refer to purchased additions category).

Assets Available to Support Output Delivery (continued)

If land, buildings, infrastructure and service concession assets were measured at historical cost, the carrying amounts would be as follows:

	($ thousands)	
	2022	2021
Land	887,291	882,189
Buildings	36,790	35,685
Infrastructure assets – owned	6,859,384	6,705,376
VDP service concession asset	3,916,790	3,994,341
Total	**11,700,255**	**11,617,591**

Initial recognition

All non-financial physical assets (except for service concession assets) are measured and recognised initially at cost. Service concession assets are recognised initially at current replacement cost in accordance with the cost approach to fair value in AASB 13 (Fair Value). Where an asset is acquired for no or nominal cost, the cost is its fair value at the date of acquisition. The cost of constructed non-financial physical assets includes the cost of all materials used in construction and direct labour on the project. The cost of leasehold improvements is capitalised when incurred.

Items with a cost or value in excess of $500 (2020-21: $500) and a useful life of more than 1 year are recognised as assets, with the exception of lifecycle costs (total of all recurring and one-time costs over the full life span of a good, service, structure or system) for the VDP which are expensed. All items with a cost or value less than $500 (2020-21: $500) are expensed.

Subsequent measurement

All non-financial physical assets, with the exception of capital works in progress, are subsequently measured at fair value less accumulated depreciation and impairment. Non-financial physical assets are measured at fair value with regard to the asset's highest and best use after due consideration is made for any legal or physical restrictions imposed on the asset, public announcements or commitments made in relation to the intended use of the asset. Theoretical opportunities that may be available in relation to the asset are not taken into account until it is virtually certain that the restrictions will no longer apply. Therefore, unless otherwise disclosed, the current use of these non-financial physical assets will be their highest and best use.

Revaluation of infrastructure, property, plant and equipment, and VDP service concession asset

Revaluations are conducted either independently every 5 years (as required under FRD 103 Non-Financial Physical Assets) or in the intervening years using management expertise and classified as a managerial revaluation. The Corporation uses land indices (provided by the Valuer-General Victoria (VGV)) to perform managerial valuations on land and buildings. Fair value assessment is performed annually for all other property plant and equipment as a managerial valuation, utilising external experts to conduct the infrastructure and service concession asset valuation annually. Managerial valuation movements are booked if material in accordance with FRD 103. Any accumulated depreciation at the date of revaluation is eliminated against the gross carrying amount of the asset and the net amount is restated to the revalued amount of the asset.

Any revaluation increase is recognised in other comprehensive income, except to the extent that it reverses a revaluation decrease for the same asset (or asset class when specifically related to infrastructure and service concession arrangements) previously recognised in net profit in the Statement of Profit or Loss and Other Comprehensive Income, in which case the increase is credited to profit to the extent of the decrease previously expensed. A decrease in the carrying amount arising on the revaluation is recognised in net profit in the Statement of Profit or Loss and Other Comprehensive Income to the extent that it exceeds the balance, if any, held in the asset revaluation reserve relating to a previous revaluation of that asset, otherwise decreases are recognised in other comprehensive income. The net effect of any revaluation adjustments to Profit and Loss is classified as a net gain or loss on revaluation of non-financial assets.

Refer to Note 4.1.2 Fair value determination for further information on the revaluation methods used for the asset classes and the valuation outcomes for 30 June 2022.

4.1.2 Fair value determination of non-financial physical assets

The fair values of non-financial physical assets are determined (in accordance with the fair value hierarchy) as follows:

- Level 1 – quoted (unadjusted) market prices in active markets for identical assets or liabilities
- Level 2 – valuation techniques for which the lowest level input that is significant to the fair value measurement is directly or indirectly observable
- Level 3 – valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable.

4.1.2.1 Non-financial physical assets

($ thousands)

		Fair value measurements		
	2022	**Level 1[(a)]**	**Level 2[(a)]**	**Level 3[(a)]**
Non-current assets held for sale	21,139	-	21,139	-
Non-specialised land	38,867	-	38,867	-
Specialised land	2,418,481	-	-	2,418,481
Total land	**2,478,487**	**-**	**60,006**	**2,418,481**
Non-current assets held for sale	-	-	-	-
Non-specialised buildings	1,858	-	1,858	-
Specialised buildings	33,491	-	-	33,491
Total buildings	**35,349**	**-**	**1,858**	**33,491**
Leasehold improvements	818	-	-	818
Plant and equipment	14,895	-	-	14,895
Fleet vehicles	12,765	-	-	12,765
Infrastructure assets	9,013,651	-	-	9,013,651
VDP service concession asset	3,962,058	-	-	3,962,058
Total other	**13,004,187**	**-**	**-**	**13,004,187**
Total land, buildings, infrastructure, plant and equipment	**15,518,023**	**-**	**61,864**	**15,456,159**

($ thousands)

		Fair value measurements		
	2021	**Level 1[(a)]**	**Level 2[(a)]**	**Level 3[(a)]**
Non-current assets held for sale	19,555	-	19,555	-
Non-specialised land	52,408	-	52,408	-
Specialised land	2,060,348	-	-	2,060,348
Total land	**2,132,311**	**-**	**71,963**	**2,060,348**
Non-current assets held for sale	-	-	-	-
Non-specialised buildings	2,157	-	2,157	-
Specialised buildings	34,585	-	-	34,585
Total buildings	**36,742**	**-**	**2,157**	**34,585**
Leasehold improvements	981	-	-	981
Plant and equipment	15,668	-	-	15,668
Fleet vehicles	14,510	-	-	14,510
Infrastructure assets	8,942,489	-	-	8,942,489
VDP service concession asset	4,040,370	-	-	4,040,370
Total other	**13,014,018**	**-**	**-**	**13,014,018**
Total land, buildings, infrastructure, plant and equipment	**15,183,071**	**-**	**74,120**	**15,108,951**

Note:
(a) Classified in accordance with the fair value determination of non-financial physical assets.

Assets Available to Support Output Delivery (continued)

Non-current assets held for sale

Non-current assets held for sale are treated as current and classified as held for sale if their carrying amount will be recovered through a sale transaction rather than through continuing use.

This condition is regarded as met only when:

- the asset is available for immediate use in the current condition; and
- the sale is highly probable and the asset's sale is expected to be completed within 12 months from the date of classification.

These non-current assets are measured at the lower of carrying amount and fair value less costs to sell, and are not subject to depreciation or amortisation.

Non-specialised land (other than held for sale) and buildings

Non-specialised land (other than held for sale) and buildings are valued using the market/direct comparison approach with key inputs used being sales evidence and unit of value by comparative basis. To the extent that non-specialised land and buildings do not contain significant unobservable adjustments, the assets are classified as Level 2 under the market approach. Refer to disclosures below under specialised land and buildings for current year valuation results for total land and buildings.

Specialised land

The market approach is used for specialised land adjusted for the Community Service Obligation (CSO) to reflect the specialised nature of the land being valued. A CSO adjustment is a reflection of the valuer's assessment of the impact of restrictions associated with an asset to the extent that it is also equally applicable to market participants. This approach is in light of the highest and best use consideration required for fair value measurement, and takes into account the use of the asset that is physically possible, legally permissible and financially feasible. As adjustments of CSO are considered as significant unobservable inputs, specialised land is classified as Level 3 assets.

2020-21 was the last formal valuation year under FRD 103. The valuation methodology to assess each property's land fair value in 2020-21 involved an assessment of the unrestricted land value based on the existing or assumed underlying zoning, taking account of the individual property attributes. Then an assessment of the restrictions on the land due to being held by the public sector was made to consider if a CSO was warranted. The level of the CSO will depend on the perceived level of restriction and the risk associated with the removal of the restrictions, if at all possible. The property attributes considered in assessing the unrestricted value include, but are not limited to, zoning and overlay(s), underlying zoning, location, land area, access, shape of the site, services available or connected, and the highest and best use of the land.

2021-22 was not a formal valuation year under FRD 103 as such an interim managerial valuation was conducted using Valuer-General Victoria (VGV) postcode indices. The valuation resulted in a net pre-tax increase in value of $347.9 million for specialised and non-specialised land (2020-21: $626.9 million). This pre-tax increase in value was accounted for in revenue via net gain on revaluation of non-financial assets $33.7 million (2020-21: $39.2 million) and increase in post-tax other comprehensive income of $291.8 million (2020-21: $530.8 million). The revaluation also resulted in an increase of $26.9 millon (2020-21: $62.8 million) in associated deferred tax liability.

Note: Total net land valuation increments and decrements of $352.4 million (2020-21: $626.9 million) at Note 4.1.1 also include $4.5 million reduction for CSO discounts applied to land purchased during the year based on VGV valuation (2020-21: $5.9 million), which is recorded in other expenses in the Income Statement.

The market that the assets (land and buildings) are valued in is being impacted by the uncertainty that the coronavirus (COVID-19) outbreak has caused. The current market environment, impacted by COVID-19, creates significant valuation uncertainty. The value assessed at the valuation date may therefore change over a relatively short time period.

Specialised buildings

For the majority of the Corporation's specialised buildings, the depreciated replacement cost method is used adjusting for the associated depreciation. As depreciation adjustments are considered as significant unobservable inputs in nature, specialised buildings are classified as Level 3 fair value measurements.

2020-21 was the last formal valuation year under FRD 103. The valuation methodology in 2020-21 to assess the fair value of buildings was depreciated replacement cost (DRC) for specialised buildings and a market approach for non-specialised buildings. The DRC approach for specialised buildings involved assessing the cost of replacement of the assets to a 'modern equivalent' standard then adjusting for an appropriate depreciation rate on a useful life basis after making adjustments for condition and general maintenance. The market approach for non-specialised buildings (i.e. some of the residential buildings) was a Market Based Direct Comparison method whereby the subject properties are compared to recent comparable improved sales making adjustment for points of difference to establish the Fair Value.

2021-22 was not a formal valuation year under FRD103 and as such an interim managerial valuation was conducted using Valuer-General Victoria (VGV) indices. For 2021-22 the managerial valuation resulted in no material change in asset values for specialised and non-specialised buildings (2020-21: $4.6 million net pre-tax increase).

Leasehold improvements

For leasehold improvements, fair value is determined using the depreciated replacement cost method. As depreciation adjustments are considered as significant unobservable inputs in nature, leasehold improvements are classified as Level 3 fair value measurements.

2020-21 was the last formal valuation year under FRD 103. For leasehold improvements fair value is assessed through a managerial valuation. For 2021-22 the managerial valuation resulted in no material change in asset values for leasehold improvements (2020-21: zero).

Plant and equipment

Plant and equipment is specialised in use, such that it is rarely sold; fair value is determined using the depreciated replacement cost method. As depreciation adjustments are considered as significant unobservable inputs in nature, plant and equipment are classified as Level 3 fair value measurements.

2020-21 was the last formal valuation year under FRD 103. For plant and equipment fair value is assessed through a managerial valuation. For 2021-22 the managerial valuation resulted in no material change in asset values for plant and equipment (2020-21: zero).

Fleet vehicles

Fleet vehicles are valued using appropriate market or other fair value indicators as determined by management. The Corporation acquires new vehicles and at times disposes of them before the end of their economic life. The process of acquisition, use and disposal in the market is managed by experienced fleet managers who set relevant depreciation rates during use to reflect the utilisation of the vehicles. As depreciation adjustments are considered as significant unobservable inputs in nature, fleet vehicles are classified as Level 3 fair value measurements.

2020-21 was the last formal valuation year under FRD 103. For fleet vehicles fair value is assessed through a managerial valuation. For 2021-22 the managerial valuation resulted in no material change in asset values for fleet vehicles (2020-21: zero).

Infrastructure

The fair value of Infrastructure was assessed by an independent valuer in 2021-22 (2020-21: formal valuation assessment under FRD 103). The income approach was used for the fair value assessment by discounting reliable estimates of the Corporation's future cash flows (projected forecast and terminal value (a)) to their present value and arriving at an enterprise value range. Non-infrastructure assets and liabilities (including Service Concession Asset and Liability) are deducted from the enterprise value range to obtain the residual infrastructure value.

Note (a): In 2020-21 and prior years the terminal value and taxation amortisation benefit (TAB) were derived using forecast cash flows and the Gordon growth perpetuity formula as the primary method and crosschecked against exit Regulated Asset Base (RAB) multiples. The TAB was added to the enterprise value to represent the tax benefits available to a hypothetical purchaser in resetting the tax cost base. For 2021-22 the independant valuer has adopted the exit RAB multiple as the primary methodology for calculating terminal value due to this being more aligned with current observed market participant practice. The exit RAB multiple approach calculates terminal value based on forecast RAB in the terminal year and an exit RAB multiple. Any TAB available to subsequent market participants has been implicitly included through the selection of the terminal value exit multiple. A valuation crosscheck was performed to calculate the terminal value using the previous Gordon growth methodology, which confirmed that the terminal value is consistent with that calculated under the new primary exit RAB multiple approach (sits within the range of selected terminal enterprise value).

In order to assess reasonableness of the enterprise valuation, crosschecks are performed by comparing the earnings before interest, tax and depreciation/amortisation (EBITDA) and regulated asset value multiples implied by the value determined under the income approach against multiples implied by share prices at which comparable organisations are trading and recent transactions in comparable assets which have occurred. Such approaches are often referred to as market approaches or relative value approaches.

Melbourne Water's policy is to use a midpoint valuation in assessing the fair value.

For 2021-22 the valuation resulted in no material change in value (2020-21: $90.6 million increase).

The significant assumptions used in determining fair value under the income approach at 30 June 2022 are summarised below:

- Nominal after tax discount rate in the range of 5.0% to 5.4% (2020-21: 4.2% to 4.7%). The valuation was based on a midpoint of 5.2% (2020-21: 4.5%). This represents the rate that market participants would expect to use in determining the fair market value of the Corporation after taking into account the market cost of debt and equity.
- Operating expenditure and revenue growth (excluding developer contributions) applied post initial five-year pricing period 3.0% (2020-21: 3.0%).
- Developer contributions growth at 3.0% (2020-21: 2.5%) applied post initial five-year pricing.
- Forecast RAB in terminal value year $20,593.0 million (2020-21: $17,402.0 million).
- Terminal value exit RAB multiple range of 1.05x to 1.15x. The valuation was based on a midpoint of 1.10x (2020-21: 1.10x to 1.10x and midpoint of 1.10x).
- A 10-year explicit cash flow projection period, with cash flows beyond the projection period reflected in the terminal value (2020-21: 10 years).

Assets Available to Support Output Delivery (continued)

Assumptions used for crosschecks:

- Long-term growth rate of 3.25% (in 2020-21 was used as a primary method: 3.25%) – representing inflation and volume growth.
- A normalised terminal capex used for steady state $575.0 million (in 2020-21 was used as a primary method: $520.0 million).
- The valuation considers climate change through forecast cash flows, growth and capital expenditure assumptions. While scenario planning is used to explore and help prepare for a wide range of potential future conditions, there is a risk that the assumptions made may not reflect the actual impact of climate-related emerging risks in the future.
- Impacts from COVID-19 have been incorporated into the cashflow forecasts. The direct impacts are expected to be relatively minor. The extent and duration of future macroeconomic measures (such as GDP, inflation and interest rates) remain uncertain and are reflected in the discount rate.

Table 4.1.2.3 highlights sensitivity of fair value measurement to changes in these significant unobservable inputs/assumptions.

VDP service concession asset

The VDP service concession asset is valued using the current replacement cost method under AASB 13 (Fair Value), as required by AASB1059 and adjusted for the associated depreciation.

2020-21 was the last formal revaluation year under FRD 103. The approach used by the independant valuer in 2020-21 to derive fair value was the cost approach under AASB 1059. This involved estimating the current cost to purchase or replace the assets (replacement cost or RCN) using a combination of direct and indirect methods with comparison to benchmarking analysis across different Australian desalination plants.
The direct method (used for 45% of the assets being the pipeline, building and civil infrastructure, and pumps) involved researching the current cost to replace an asset with a new one of equivalent functionality. The indirect method (used for the remaining 55% of the assets) involved applying Australian Bureau of Statistics (ABS) equipment-specific inflation factors to historical costs. RCN was then depreciated using engineering lives to account for physical use and deterioration to arrive at a DRC.

For 2021-22 the fair value of the VDP service concession asset was assessed by an independent valuer using the indirect DRC approach as a desktop valuation. This involved using the 2020-21 formal valuation as the base then applying ABS industry-specific inflation factors to derive RCN. RCN was then depreciated using engineering lives to derive DRC. The valuation resulted in no material change to asset values (2020-21: $46.0 million increase).

The VDP service concession asset is classified as Level 3 fair value measurement as it contains significant unobservable inputs and adjustments. Significant assumptions used in determining fair value include: costs per unit; engineering useful lives; and industry-specific inflation indices. Table 4.1.2.3 highlights sensitivity of fair value measurement to changes in these significant unobservable inputs/assumptions.

Additional crosscheck scenario analysis has also been undertaken by the independent valuer to assess the impact to fair value if the accounting useful lives and future lifecycle costs (as per the Project Deed arrangements) were incorporated. The analysis supported that they were not materially different.

The valuation is based on prevailing market, economic and other conditions as at the date of this report. Significant uncertainty continues to exist. To the extent possible these conditions have been reflected in the valuation. However, any subsequent changes in these conditions on the global economy and financial markets generally, and the Corporation, could impact upon value in the future, either positively or negatively.

4.1.2.2 Net gain on revaluation of non-financial assets

($ thousands)

	2022	2021
Net gain on revaluation of non-financial assets (land)	33,743	39,219

Net gain on revaluation of non-financial assets relates to revaluation increments/decrements recognised through profit and loss for land and buildings. Revaluation decrements are initially recognised through profit and loss as expenses to the extent that they exceed the balance, if any, held in the asset revaluation reserve relating to a previous revaluation of that asset. Valuation increments that result in reversals of previous profit and loss decreases are credited to the profit and loss.

4.1.2.3 Description of significant unobservable inputs to Level 3 valuations

Asset category	Valuation technique	Significant unobservable inputs	Range/weighted average		Sensitivity of fair value measurement to changes in significant unobservable inputs
2022 and 2021	2021 and 2022	2021 and 2022	2022	2021	2021 and 2022
Specialised land	Market approach	Community Service Obligation (CSO) adjustment	20-70% (45% weighted average)	20-70% (45% weighted average)	A significant increase or decrease in the CSO adjustment would result in a significantly lower or higher fair value
Specialised buildings	Depreciated replacement cost	Direct cost per square metre	$14-$9,000	$27-$10,000	A significant increase or decrease in direct cost per square metre would result in a significantly higher or lower fair value
		Useful life of specialised buildings	5-150 years (65 years weighted average)	5-150 years (67 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a significantly higher or lower fair value
Leasehold improvements	Depreciated replacement cost	Cost per unit	$500-$0.35M per unit	$500-$0.5M per unit	A significant increase or decrease in cost per unit would result in a significantly higher or lower fair value
		Useful life of plant and equipment	3-15 years (15 years weighted average)	3-15 years (15 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a significantly higher or lower fair value
Plant and equipment	Depreciated replacement cost	Cost per unit	$500-$2.5M per unit	$500-$3.0M per unit	A significant increase or decrease in cost per unit would result in a significantly higher or lower fair value
		Useful life of plant and equipment	3-50 years (12 years weighted average)	3-50 years (12 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a significantly higher or lower fair value
Fleet vehicles	Depreciated replacement cost	Cost per unit	$5,200-$45,200 per unit	$5,200-$204,000 per unit	A significant increase or decrease in cost per unit would result in a significantly higher or lower fair value
		Useful life of vehicles	1-15 years (6 years weighted average)	1-15 years (6 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a significantly higher or lower fair value
Infrastructure assets	Income approach	Exit RAB multiple	1.05x to 1.15x (1.10x midpoint)	N/A	If the exit RAB multiple had changed by +/-0.050x from the year end valuation, the impact to the valuation would have been a decrease of $636.0 million and increase by $636.0 million. No comparatives available due to change in apporach.
		Terminal value growth rate	3.25% [a]	3.25%	If the terminal growth rate had changed by +/-.25% from the year end valuation in 2020-21, the impact to the valuation would have been a increase of $3,724.7 million and decrease by $2,440.3 million. This sensitivity is not available for the current year as this parameter is only used as a crosscheck and not for the primary valuation calculation.
		Terminal value capital expenditure (excluding growth)	$575 million [a]	$540 million	If the quantum of the terminal value capital expenditure had changed by +/- $50 million for the 2020-21 valuation it would result in a $2,424.4 million decrease in fair value or $2,424.4 million increase in fair value. This sensitivity is not available for the current year as this parameter is only used as a crosscheck and not for the primary valuation calculation.
		Weighted average cost of capital (WACC)	5.0%-5.4%	4.2%-4.7%	If the WACC had changed by +/-.25% from the year end valuation, the impact to the valuation would have been a decrease of $245.0 million in 2020-21 (2019-20: $1,966.9 million) and increase by $376.0 million in 2020-21 (2019-20: $2,667.6 million)
		Useful life	2-245 years (83 years weighted average)	2-245 years (83 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a higher or lower fair value

Note:
(a) In the current year this input was only used as a crosscheck and not for the primary valuation calculation.

Assets Available to Support Output Delivery (continued)

4.1.2.3 Description of significant unobservable inputs to Level 3 valuations (continued)

Asset category	Valuation technique	Significant unobservable inputs	Range/weighted average		Sensitivity of fair value measurement to changes in significant unobservable inputs
2022 and 2021	2021 and 2022	2021 and 2022	2022	2021	2021 and 2022
		Physical risk of unrecoverable financial loss due to one-off climate change events (i.e. bushfire, flood, drought, etc.)	Costs associated with physical climate risks are uncertain and could vary from estimates included in current financial forecasts included in the valuation. For high level indicative scenario modelling we have considered the example of a pre-tax unrecoverable financial loss (after insurance recovery) of $12.5 million-$25.0 million ($18.8 million midpoint) per one-off climate change event (based on actual costs of one historical event). We have assumed a possible frequency of one-off climate change events between every 3-7 years (5 years midpoint) beyond the terminal year.	N/A	Occurrence of unrecoverable financial loss due to one-off climate change events every 5 years (beyond the terminal year) at a cost of $18.8 million per event could reduce the valuation by $74.0 million or 0.6% (2020-21: not quantified). Note: this is indicative only and limited due to uncertainty with estimation of the financial impact of physical climate risks.
		Transition risks arising from transition to low-carbon economy (i.e. policy changes, carbon tax, legal and reputational risks and shifts in market and technology)	Costs associated with climate change transition risks are uncertain and could vary from estimates included in current financial forecasts included in the valuation	N/A	An increase in unrecoverable costs associated with transition risks (above any known costs included in financial forecasts) could result in a reduction to the valuation.
VDP service concession asset	Current replacement cost	Cost per unit	Buildings $ per sqm: 10,291-16,053 (15,127 weighted average) Pipeline $ per million: 11,672-16,340 (13,794 weighted average) Pumps $ per kW: 364-1,039 (727 weighted average) Transformers $ per MVA: 54,770-116,842 (91,283 weighted average) Pipeline $ per KL: 527-1,226 (828 weighted average)	Buildings $ per sqm: 10,000-15,600 (14,700 weighted average) Pipeline $ per million: 11,000-15,400 (13,000 weighted average) Pumps $ per kW: 350-1,000 (700 weighted average) Transformers $ per MVA: 45,000-96,000 (75,000 weighted average) Pipeline $ per KL: 430-1,000 (675 weighted average)	A significant increase or decrease in unit costs would result in a significantly higher or lower fair value
		Engineering useful life for valuation	10-100 years (62 years weighted average)	10-100 years (62 years weighted average)	A significant increase or decrease in estimated useful life of the asset would result in a significantly higher or lower fair value
		Industry-specific ABS inflation indices	0%-71% (8.9% weighted average)	8%-19% (12% weighted average)	A significant increase or decrease in estimated inflation factors would result in a higher or lower fair value

4.1.2.4 Reconciliation of Level 3 fair value

($ thousands)

	Specialised land	Specialised buildings	Leasehold improvements	Plant and equipment	Fleet vehicles	Infrastructure	VDP service concession asset
Opening balance 1 July 2020	1,420,777	27,164	1,145	17,788	13,665	8,873,139	4,071,895
Purchased additions	-	-	-	-	3,952	-	-
Developer contributed assets	-	-	-	-	-	38,484	-
Disposals and write-offs	(208)	-	-	(13)	(723)	(40,951)	-
Depreciation and amortisation	-	(1,029)	(164)	(5,035)	(2,346)	(331,359)	(77,554)
Transfers between classes	0	3,598	-	50	(38)	(3,602)	-
Transfers in/(out) of Level 3	(8,335)	-	-	-	-	-	-
Revaluation increments	683,580	4,107	-	-	-	90,577	46,029
Revaluation decrements	(57,052)	(1,170)	-	-	-	-	-
Capital contributions	-	-	-	-	-	-	-
Capitalisation of works in progress	21,585	1,915	-	2,878	-	316,201	-
At 30 June 2021	**2,060,347**	**34,585**	**981**	**15,668**	**14,510**	**8,942,489**	**4,040,370**
Opening balance 1 July 2021	2,060,347	34,585	981	15,668	14,510	8,942,489	4,040,370
Purchased additions	-	-	-	-	1,172	-	-
Developer contributed assets	-	-	-	-	-	27,879	-
Disposals and write-offs	(4,755)	-	-	(17)	(583)	(29,441)	-
Depreciation and amortisation	-	(1,120)	(163)	(4,885)	(2,334)	(337,302)	(78,312)
Transfers between classes	-	-	-	-	-	-	-
Transfers in/(out) of Level 3	11,194	-	-	-	-	-	-
Revaluation increments	344,713	-	-	-	-	-	-
Revaluation decrements	(4,536)	-	-	-	-	-	-
Capital contributions	-	-	-	-	-	-	-
Capitalisation of works in progress	11,517	26	-	4,129	-	410,026	-
At 30 June 2022	**2,418,480**	**33,491**	**818**	**14,895**	**12,765**	**9,013,651**	**3,962,058**

Assets Available to Support Output Delivery (continued)

4.1.3 Depreciation, amortisation and impairment

($ thousands)

	Notes	2022	2021
Depreciation			
Buildings	**4.1.1**	1,419	1,086
Leasehold improvements	**4.1.1**	163	164
Plant and equipment	**4.1.1**	4,885	5,035
Fleet vehicles	**4.1.1**	2,334	2,346
Infrastructure assets	**4.1.1**	337,302	331,359
VDP service concession asset	**4.1.1**	78,312	77,554
Right-of-use assets	**4.4**	8,130	8,272
Total depreciation		**432,545**	**425,816**
Amortisation			
Intangible assets	**4.2**	23,797	24,330
Total amortisation		**23,797**	**24,330**
Total depreciation and amortisation		**456,342**	**450,146**

Depreciation and amortisation

Where assets have separate identifiable components that have distinct useful lives and/or residual values, a separate depreciation rate is determined for each component.

Depreciation on other assets is calculated using the straight line method to allocate their cost or revalued amounts, net of their residual values, over their estimated useful lives, commencing from the time the asset is held ready for use. The assets residual values and useful lives are reviewed annually and adjusted, if appropriate, at the end of each reporting period.

Depreciation does not cease when an asset becomes idle or is retired from active use, unless the asset is fully depreciated. However, when an asset is retired permanently, depreciation ceases and the asset is derecognised

The depreciation charge for each period shall be recognised in profit or loss unless it is included in the carrying amount of another asset.

Physical, economic and environmental factors are taken into consideration in assessing the useful lives of the assets, including but not limited to asset condition and obsolescence, technology changes, capital planning and renewals, and climate-related risks.

VDP service concession assets are depreciated based on guaranteed lives per the Project Deed arrangements, which incorporate the impact of the ongoing Project Deed lifecycle cost payments accounted for as expenditure. Guaranteed lives are used because lifecycle costs cover repairs and maintenance and also asset replacements with shorter lives than the Project Deed. Parts of VDP that do not have a cost that is significant in relation to the total cost of VDP are depreciated separately.

Land is not depreciated. Impacts resulting from changes in depreciation rates have been incorporated in the current year's results and have not been separately disclosed as the overall amount was not material.

Major depreciation and amortisation periods used are listed below:

Buildings	5 to 150 years (2020-21: 5 to 150 years)
Leasehold improvements	3 to 15 years (2020-21: 3 to 15 years)
Plant and equipment	3 to 50 years (2020-21: 3 to 50 years)
Infrastructure assets	2 to 245 years (2020-21: 2 to 245 years)
Fleet vehicles	1 to 15 years (2020-21: 1 to 15 years)
Intangible assets	2 to 25 years (2020-21: 2 to 25 years)
VDP service concession asset	9 to 100 years (2020-21: 9 to 100 years)
Right-of-use assets	3 to 8 years (2020-21: 3 to 8 years)

Indefinite life assets

Land, which is considered to have an indefinite life, is not depreciated. Depreciation is not recognised in respect of these assets because their service potential has not, in any material sense, been consumed during the reporting period.

Impairment

Intangible assets with indefinite useful lives (and intangible assets not yet available for use) are tested annually for impairment and whenever there is an indication that the asset may be impaired.

All other assets are assessed annually for indications of impairment, except for:

- Inventories (refer to 3.11)
- Non-current assets held for sale (refer to 4.1.2.1 and 4.3)

If there is an indication of impairment, the assets concerned are tested as to whether their carrying value exceeds their recoverable amount. Where an asset's carrying value exceeds its recoverable amount, the difference is written off to the Statement of Profit or Loss and Other Comprehensive Income, except to the extent that the write down can be debited to an asset revaluation reserve amount applicable to that asset.

The recoverable value estimates used in the impairment of assets analysis consider forecast cash flows, growth and terminal capital expenditure assumptions. The recoverable value estimates demonstrate that assets are not impaired. While scenario planning is used to explore and help prepare for a wide range of potential future conditions (including the impacts of climate change and COVID-19), there is a risk that the assumptions made based on what is currently known may not reflect the actual impact of emerging risks in the future.

It is deemed that, in the event of the loss or destruction of an asset, the future economic benefits arising from the use of the asset will be replaced unless a specific decision to the contrary has been made. The recoverable amounts for most assets are measured at the higher of the present value of future cash flows expected to be obtained from the asset or fair value less costs to sell.

4.2 Intangible assets

($ thousands)

	2022	2021
Intangible assets	178,691	171,473
Less: accumulated amortisation and impairment	(131,484)	(122,404)
Total intangible assets	**47,207**	**49,069**

Reconciliation of movements in intangible assets

($ thousands)

	Total	RECs[b]	IT[c]
Carrying amount at 1 July 2021	49,069	3,604	45,465
Additions	9,593	9,593	-
Disposals	(10,270)	(10,265)	(5)
Amortisation	(23,797)	-	(23,797)
Transfers between classes [a]	-	-	-
Impairment [d]	-	-	-
Capital expenditure	22,612	-	22,612
Carrying amount at 30 June 2022	**47,207**	**2,932**	**44,275**
Carrying amount at 1 July 2020	51,406	1,758	49,648
Additions	7,043	7,043	-
Disposals	(5,176)	(5,176)	-
Amortisation	(24,330)	-	(24,330)
Transfers between classes [a]	(8)	-	(8)
Impairment [d]	(21)	(21)	-
Capital expenditure	20,155	-	20,155
Carrying amount at 30 June 2021	**49,069**	**3,604**	**45,465**

Note:
(a) Includes transfers to physical assets, refer to 4.1.1.
(b) Renewable Energy Certificates (RECs).
(c) Information Technology.
(d) There was no impairment recognised this year in the income statement (2020-21 :$0.02 million).

Assets Available to Support Output Delivery (continued)

Intangible assets consist primarily of information technology software and RECs. They represent identifiable non-monetary assets without physical substance. Intangible assets are measured at cost less accumulated amortisation (RECs are not amortised) and impairment. Costs incurred subsequent to initial acquisition are capitalised when it is expected that additional future economic benefits will flow to the Corporation.

The Corporation amortises intangible assets with a limited useful life using the straight line method over the estimated useful lives (excluding RECs). Amortisation begins when the asset is available for use, that is, when it is in the location and condition necessary for it to be capable of operating in the manner intended by management. The useful life and amortisation method is reviewed at the end of each annual reporting period. RECs have an indefinite life and are not amortised.

An assessment is made at the end of each reporting period to determine whether there are indicators that the intangible asset concerned is impaired. If so, the assets concerned are tested as to whether their carrying value exceeds their recoverable amount.

Software costs

Costs incurred for the development of software code that enhances or modifies, or creates additional capability to, existing on-premise systems and meets the definition of and recognition criteria for an intangible asset are recognised as intangible software assets.

Software-as-a-Service (SaaS) arrangements are service contracts providing the Corporation with the right to access the cloud provider's application software over the contract period. As such, the Corporation does not receive a software intangible asset at the contract commencement date.

Refer to Note 7.9 for the change in accounting policy relating to SaaS arrangements.

The following outlines the accounting treatment of costs incurred in relation to SaaS arrangements:

Recognise as administrative expenses (Note 3.4) over the term of the service contract	• Fee for use of application software • Customisation costs
Recognise as administrative expenses (Note 3.4) as the service is received	• Configuration costs • Data conversion and migration costs • Testing costs • Training costs

The Corporation made the following key judgements that may have the most significant effect on the amounts recognised in the financial statements.

Determination whether configuration and customisation services are distinct from the SaaS access

Implementation costs including costs to configure or customise the cloud provider's application software are recognised as operating expenses when the services are received. Where the SaaS arrangement supplier provides both configuration and customisation services, judgement has been applied to determine whether each of these services are distinct or not from the underlying use of the SaaS application software. Distinct configuration and customisation costs are expensed as incurred as the software is configured or customised (i.e. upfront). Non-distinct configuration and customisation costs are expensed over the SaaS contract term (via prepayments).

Non-distinct customisation activities significantly enhance or modify a SaaS cloud-based application. Judgement has been applied in determining whether the degree of customisation and modification of the SaaS cloud-based application is significant or not. During the financial year, the Corporation did not recognise any prepayments in respect of configuration and customisation activities undertaken in implementing SaaS arrangements which are considered not to be distinct from the access to the SaaS application software over the contract term (2020-21: nil comparatives as application from 1 July 2021).

Capitalisation of configuration and customisation costs in SaaS arrangements

In implementing SaaS arrangements, the Corporation may develop software code that either enhances, modifies or creates additional capability to the existing owned software. This software is used to connect with the SaaS arrangement cloud-based application. Judgement has been applied in determining whether the changes to the owned software meets the definition of and recognition criteria for an intangible asset in accordance with AASB 138 Intangible Assets. During the financial year, the Corporation did not recognise any intangible assets in respect of customisation and configuration costs incurred in implementing SaaS arrangements (2020-21: nil comparatives as application from 1 July 2021).

4.3 Non-current assets held for sale

($ thousands)

	2022	2021
Land	21,139	19,555
Buildings	-	-
Total non-current assets held for sale	**21,139**	**19,555**

The Corporation currently holds land for sale mainly as part of the Riverwalk Estate (Werribee) development. As at 30 June 2022, the Corporation has a joint arrangement with Development Victoria to actively market Riverwalk Estate lots for private sale.

Riverwalk, located in Werribee, an outer western suburb of Melbourne, is a 197-hectare site and was previously part of the Western Treatment Plant. The Corporation has entered into a Partnering Deed with Development Victoria to develop the land with an estimated 2,260 homes at the completion of the project.

The Corporation has accounted for all assets, liabilities, revenues and expenses relating to its interest in the joint operation in accordance with the *AASB 11 Joint arrangements*.

Refer to 4.1.2 for further details on fair value measurement of non-current assets held for sale.

4.4 Right-of-use assets and leases

This note provides information for leases where the Corporation is a lessee.

(i) Amounts recognised in the Statement of Financial Position

($ thousands)

The Statement of Financial Position shows the following amounts relating to leases:	2022	2021
Right-of-use assets		
Buildings	38,403	46,634
Equipment	235	356
Other	207	287
Total right-of-use assets	**38,845**	**47,277**
Lease liabilities		
Current	7,624	7,430
Non-current	35,724	43,462
Total lease liabilities (included within interest bearing liabilities refer Note 5.1)	**43,348**	**50,892**

There were no additions to the right-of-use assets during the 2021-22 financial year (2020-21: nil).

(ii) Amounts recognised in the Statement of Profit or Loss

($ thousands)

The Statement of Profit or Loss shows the following amounts relating to leases:	2022	2021
Depreciation charge of right-of-use assets		
Buildings	7,930	8,067
Equipment	120	120
Other	80	85
Total	**8,130**	**8,272**
Administrative expenses		
Expense relating to short-term leases	252	252
Expense relating to leases of low-value assets that are not short-term leases	-	2
Expense relating to variable lease payments not included in lease liabilities	2,770	2,311
Total	**3,022**	**2,565**
Finance expenses		
Buildings	848	1,238
Equipment	7	11
Other	5	9
Total	**860**	**1,258**

The total cash outflow for leases in 2021-22 was $8.1 million (2020-21: $7.8 million).

Assets Available to Support Output Delivery (continued)

(iii) The Corporation's leasing activities and how these are accounted for:

The Corporation leases buildings, a rooftop space for a telecommunication tower, minor equipment and various network connection assets.

Rental contracts are typically made for fixed periods of 3 to 15 years, but may have extension options as described below.

Contracts may contain both lease and non-lease components. The Corporation allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants.

Leases are recognised as a right-of-use asset and a corresponding liability at the date at which the leased asset is available for use by the Corporation.

Initial recognition

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- fixed payments (including in-substance fixed payments), less any lease incentives receivable
- variable lease payments that are based on an index or a rate
- amounts expected to be payable by the lessee under residual value guarantees
- the exercise price of a purchase option if the lessee is reasonably certain to exercise that option
- payments of penalties for terminating the lease, if the lease term reflects the lessee exercising that option.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to the profit and loss over the lease period to produce a constant periodic rate of interest on the remaining balance of the liability for each period. Lease payments to be made under reasonably certain extension options are also included in the measurement of the liability.

The lease payments are discounted using the Corporation's incremental borrowing rate. Treasury Corporation of Victoria (TCV)/ Department of Treasury's (DTF) calculator is used to determine the incremental borrowing rate.

Right-of-use assets include the following components:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date, less any lease incentives received
- any initial direct costs
- restoration costs.

The Corporation is exposed to future cash outflows that are not reflected in the measurement of lease liabilities. This includes:

- variable lease payments
- extension options and termination options
- leases not yet commenced to which the lessee is committed.

4.4 Right-of-use assets and leases (continued)

(iii) The Corporation's leasing activities and how these are accounted for (continued):

Subsequent re-measurements

Right-of-use assets are subsequently measured at fair value less accumulated depreciation and impairment. Fair value is determined with reference to market rental yields, impairment losses and any re-measurements of the lease liability. A managerial fair value assessment was performed with reference to market rental yields and concluded that no revaluation adjustments were required for 30 June 2022 (2020-21: no revaluation adjustments).

Depreciation

The Corporation depreciates the right-of-use assets on a straight-line basis from the lease commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term.

Variable lease payments

Variable lease payments are recognised as administrative expenses in the profit and loss. Variable lease payments include overhead charges and congestion levies associated with the building and parking leases.

Extension and termination options

Extension and termination options may be included in the leases. These terms are used to maximise operational flexibility in terms of managing contracts. The majority of extension and termination options held are exercisable only by the Corporation and not by the respective lessor.

Residual value guarantees

The Corporation is not exposed to any lease residual value guarantees.

Critical judgements in determining the lease term

In determining the lease term, the Corporation considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. The assessment is reviewed if a significant event or a significant change in circumstances occurs which affects this assessment. During the current financial year and prior year, there were no changes in circumstances to impact the assessment of exercising extension and termination options.

Operating lease receivable

Operating leases receivable primarily relate to land owned by the Corporation. All operating lease contracts contain market review clauses. The lessee does not have an option to purchase the land at the expiry of the lease period.

Commitments for minimum lease receipts in relation to non-cancellable operating leases are as follows:

	($ thousands)	
	2022	**2021**
Within 1 year	2,588	1,997
Later than 1 year but not later than 5 years	5,197	5,557
Later than 5 years	1,370	1,431
Total operating lease receivable	**9,155**	**8,985**

During 2021-22 the Corporation provided rental waivers of $0.1 million to approved applicants (2020-21: $0.2 million) as part of the COVID-19 hardship program as directed by the Victorian Government. This has been reflected in the commitments receivable numbers and also in ex-gratia disclosures at Note 7.6.

Assets Available to Support Output Delivery (continued)

4.5 Integration of PPWCMA

On 8 February 2021, the Victorian Government announced the decision to integrate the Port Phillip and Westernport Catchment Management Authority (PPWCMA) into the Corporation, commencing from 1 January 2022. This means that, for the Port Phillip and Westernport (PPW) region, catchment management and waterway management functions have been brought together under one entity, the Corporation.

The PPWCMA was officially wound up on 31 December 2021 and all PPWCMA functions, powers, duties, assets, liabilities and existing employees have transferred to the Corporation from 1 January 2022 for nil consideration. The integration has been accounted for as a transfer of contributed equity as per FRD 119. The financial impacts of the integration have been disclosed below and are not material.

Details of the integration are as follows:

Fair value of net assets integrated	($ thousands)
	As at 1 January 2022
Assets	
Cash and cash equivalents	3,676
Receivables	37
Liabilities	
Payables	58
Employee related provisions	567
Net assets integrated	**3,088**

PPWCMA grant revenue and grant expenses included in the Statement of Profit or Loss and Other Comprehensive Income	($ thousands)
	2022
Grant revenue	
Note 2.2 Other income - Government grants	2,115
Total PPWCMA grant revenue	**2,115**
Grant expenses	
Note 3.2 Employee benefits expenses and employee benefits provision – Other employee expenses	811
Note 3.1 Operational expenses – Grants and contributions expenses	252
Note 3.1 Operational expenses – External professional services	1,052
Total PPWCMA grant expenses	**2,115**

Financing Our Operations

Introduction

The Corporation's operations are financed through a variety of means. Recurrent operations are generally financed from cash flows from operating activities (see Statement of Cash Flows). Asset investment operations are generally financed from a combination of surplus cash flows from operating activities, asset sales and borrowings.

This section provides information on the balances related to the financing of the Corporation's operations, including financial commitments (inclusive of lessor receivables) at year-end.

Structure

5.1 Interest bearing liabilities

($ thousands)

	2022	2021
Current interest bearing liabilities		
VDP service concession liability	31,205	20,693
Lease liabilities	7,624	7,430
Borrowings	641,331	346,445
Total current interest bearing liabilities	**680,160**	**374,568**
Non-current interest bearing liabilities		
VDP service concession liability	3,513,023	3,544,228
Lease liabilities	35,724	43,462
Borrowings	3,680,000	3,900,000
Total non-current interest bearing liabilities	**7,228,747**	**7,487,690**
Total interest bearing liabilities	**7,908,907**	**7,862,258**

Interest bearing liabilities come from borrowings raised through the Treasury Corporation of Victoria (TCV), along with VDP service concession liability and leases. They are classified as financial instruments. All interest bearing liabilities are initially recognised at the fair value of the consideration received less directly attributable transaction costs. Interest bearing liabilities are subsequently measured at amortised cost using the constant interest rate method, with interest expense recognised on an effective yield basis.

Financial liabilities for the VDP service concession liability were initially measured at the fair value of the service concession asset. Any modifications to the debt repayments are considered with reference to the guidance within AASB 9. Refer to Note 5.1.2.

Where the Corporation has an unconditional right to defer settlement of the liability for at least 12 months after the balance date, interest bearing liabilities are classified as non-current liabilities. Otherwise interest bearing liabilities are classified as current liabilities.

5.1.1 Breakdown of finance costs

($ thousands)

	2022	2021
Interest expense	111,677	132,730
VDP service concession liability	401,333	403,675
Lease liabilities	860	1,258
Financial Accommodation Levy	33,308	36,251
Total	**547,178**	**573,914**

Financing Our Operations (continued)

5.1 Interest bearing liabilities (continued)

Finance costs include interest on short-term and long-term borrowings, finance charges associated with the VDP service concession liability, interest on leases and the Victorian Government's Financial Accommodation Levy. An assessment has been performed and significant financing component on contracts with customers has been determined to be immaterial to recognise (2020-21: nil).

Finance costs are recognised as expenses in the period in which they are incurred. Finance costs directly attributable to the acquisition, construction or production of these qualifying assets are not required to be capitalised and will continue to be expensed in the period in which they are incurred. All qualifying assets (being assets that necessarily take a substantial period of time to get ready for their intended use or sale) are measured at fair value.

5.2 Cash flow information and balances

Cash and cash equivalents include cash on hand, deposits held at call with financial institutions, other short-term and highly liquid investments with original maturities of 3 months or less, that are readily convertible to known amounts of cash and which are subject to an insignificant risk of change in value.

Deposits held and advances received are categorised as financial liabilities at amortised cost.

Reconciliation of net profit to net cash flows from operating activities

($ thousands)

	2021	2020
Profit for the period after tax	130,128	192,006
Plus/(less) non cash items:		
Depreciation and amortisation	456,342	450,146
Net gain on revaluation of non-financial assets	(33,743)	(39,219)
Net gain on sale of non-current assets (including RECs)	(10,386)	(16,554)
Assets written off/written down and asset transfers to Council	44,848	44,725
Developer contributed assets received	(27,879)	(38,484)
Defined benefit superannuation plan expense	1,210	1,687
RECs received	(9,593)	(7,043)
Changes in operating assets and liabilities (net of investing items):		
(Increase)/Decrease in trade and other receivables and contract assets	(3,837)	(2,909)
(Increase)/Decrease in other assets	(9,618)	(9,091)
Increase/(Decrease) in trade and other payables and contract liablities	34,745	45,803
Increase/(Decrease) in other provisions and employee benefits provisions	3,562	3,074
Increase/(Decrease) in other liabilities	-	666
Increase/(Decrease) in current tax liability	909	6,645
(Decrease)/Increase in deferred tax liabilities	(31,352)	(36,588)
Net cash provided by operating activities	**545,336**	**594,864**

5.3 Commitments

Commitments for future expenditure include capital, operating and financing commitments arising from contracts.

These commitments are not recognised in the financial statements, but are disclosed at their nominal value and inclusive of the GST payable, except for finance lease liabilities which are disclosed at present value.

($ thousands)

	2022	2021
Capital expenditure commitments		
Total capital expenditure contracted for the construction of water, sewerage and waterways and drainage infrastructure:		
Less than 1 year	443,247	338,841
1 year but less than 5 years	297,083	210,793
5 years or more	20	94
Total capital expenditure commitments	**740,350**	**549,728**

Other operating commitments		
Other operating commitments relate to operating contracts including energy, IT, research and development (excluding leases). Refer to Note 5.4 for other operating commitments relating to the VDP service concession arrangement. Total other operating expenditure contracted for at balance date are as follows:		
Less than 1 year	37,829	34,923
1 year but less than 5 years	55,422	65,734
Later than 5 years	44,107	43,987
Total other operating commitments	**137,358**	**144,644**

Financing Our Operations (continued)

5.4 VDP service concession arrangement

Victorian Desalination Plant Arrangement

The State of Victoria entered into a 30-year Public Private Partnership (PPP) arrangement with the AquaSure consortium (AquaSure) on 30 July 2009. The Victorian Desalination Plant (VDP) was initiated to design, build, finance and operate a desalination plant, transfer pipeline and 220 kV underground power cable capable of supplying 150 GL of water per annum into the Melbourne network. Construction of the VDP began in 2009 and the lease term commenced in 2012 upon successful commissioning. AquaSure is required to transfer the project assets to the State at the end of the project term for no additional payment by the State. The desalination plant assets will transfer from the State to the Corporation at the end of the project contract term (presently planned for 2039).

Under the arrangement, the State has an obligation to make Water Security Payments (WSPs) to the consortium provided the plant is maintained to the appropriate standard. The WSPs have two components: capital payments for the project assets and other expenses for operating, maintenance and lifecycle costs. The State will also make Water Usage Payments (WUPs) for any water that is ordered and delivered to the required standard. Water can be ordered annually for flexible amounts from 0 GL to 150 GL (in set increments). The arrangement also requires a minimum number of Renewable Energy Certificates (RECs) to be purchased to offset the electricity used by the plant. The number of RECs that are consumed will vary based on the volume of water produced by the plant. The number of banked RECs that remain at the end of the supply period are controlled by the State and not recognised by the Corporation.

An arrangement was entered into by the State and the Corporation, where a Statement of Obligations (SoO) was issued to the Corporation under section 4I of the *Water Industry Act 1994* that required the Corporation to pay all monies as required by the State under the project deed with AquaSure. This includes payment of the WSPs and WUPs in accordance with the Project Deed. The Corporation makes these payments to DELWP which is managing the contract with AquaSure on behalf of the State.

The Corporation also entered into a Victorian Desalination Plant 'Water Interface Agreement' (WIA) and a Supplementary WIA with the State to record the terms of the interface and financial arrangements between the VDP and the Corporation.

Service Concession Assessment and Policy

The State (in conjunction with the Corporation) has assessed the agreements between AquaSure, DELWP (on behalf of the State) and the Corporation, and concluded that the agreements are connected and should form one single commercial arrangement. Under the combined arrangement, the Corporation is considered the ultimate grantor under AASB 1059 (Service Concession Arrangements), and AquaSure the private sector operator that provides public services on behalf of the Corporation. Accordingly the Corporation applies AASB 1059 to the VDP arrangement. Service concession assets are recognised under Property plant and equipment in section 4.1 and related liabilities are disclosed under Interest bearing liabilities under section 5.1 respectively.

Changes in arrangement occurring in the current year

As at 30 June 2022 AquaSure had produced the 125 GL for the 2021-22 water order (125 GL for the 2020-21 water order).

On 1 April 2022 the Minister for Water announced the 2022-23 Supply Notice (order) with a required annual water volume of 15 GL in 2022-23. The order will commence on 1 July 2022 (2021-22 Supply Notice: 125 GL). The order also included a provisional non-binding forecast for 2023-24 and 2024-25 of 75 GL (2021-22 non-binding forecast:125 GL for 2022-23 and 2023-24).

VDP service concession arrangement liability

As per information provided by DELWP (in accordance with the WIA), the Corporation has recognised the following service concession liability:

($ thousands)

	Minimum future payments (exc GST)		Present value of minimum future payments (exc GST)	
	2022	2021	2022	2021
VDP service concession arrangement liability				
Less than 1 year	430,141	422,025	31,205	20,693
1 year but less than 5 years	1,800,692	1,774,367	261,839	210,069
Later than 5 years	6,022,786	6,479,252	3,251,184	3,334,159
Minimum future liability payments	**8,253,619**	**8,675,644**	**3,544,228**	**3,564,921**
Less: Future finance charges	(4,709,391)	(5,110,723)	-	-
Total liability	**3,544,228**	**3,564,921**	**3,544,228**	**3,564,921**
Representing liability:				
Current (refer to 5.1) [a]			31,205	20,693
Non-current (refer to 5.1) [a]			3,513,023	3,544,228
Total liability			**3,544,228**	**3,564,921**

Note:
(a) The present value of the minimum future payments have been discounted to 30 June of the respective financial years using the weighted average interest rate of 11.28% (2020-21: 11.28%). These payments exclude finance charges.

VDP service concession arrangement – other commitments payable

Under the PPP arrangement that the State entered into with AquaSure, the State is required to make base water security payments, provided the plant is maintained to the appropriate standard. These payments are for costs related to the VDP's operation, maintenance and life cycle costs. The nominal amounts for the other commitments below represent the charges payable under the agreement at the end of the reporting period for these costs.

The other commitments payable are disclosed based on information provided by DELWP (in accordance with the WIA):

($ thousands)

	2022	2021
Less than 1 year	173,911	240,661
1 year but less than 5 years	676,234	658,061
Later than 5 years	2,898,538	3,064,038
Total other commitments (inclusive of GST) [a]	**3,748,683**	**3,962,760**
Less GST recoverable from the Australian Taxation Office	(340,789)	(360,251)
Total other commitments (exclusive of GST)	**3,407,894**	**3,602,509**
Present value of other commitments [b]	**1,482,982**	**1,532,975**

Note:
(a) The 'Other commitments' are updated to reflect indexation factors, such as Consumer Price Index, Producer Price Index, Chemical Index and Average Weekly Earnings Index. Commitments are updated for the change in actual amounts paid, and forecast percentage increases are based on the original forecasted indices and applied to the adjusted actual payments. This methodology has been applied to reduce volatility in the forecast 'Other commitments'.

(b) The present value of the 'Other commitments' has been discounted to 30 June of the respective financial years. The basis for discounting has been to take each 12 month period of cash flows and discount these cash flows at the end of the period using the annual discount rate. The discount rate used to calculate the present value of the commitment is 9.99% (2020-21: 9.99%) which is the nominal pre-tax discount rate representative of the overall risk of the project at inception.

(c) Net costs associated with the 125 billion litres of water for 2021-22 financial year have been reflected in commitments for 2020-21 (2020-21: 125 billion litres of water). The announcement of the 15 GL water order for 2022-23 is a binding commitment and has been included in 2021-22. The announcement of the 75 GL water order for 2023-24 and 2024-25 are non-binding commitments and have not been included.

Risk management

Introduction

The Corporation is exposed to financial risks from both its activities and outside factors. In addition, it is often necessary to make judgements and estimates associated with recognition and measurement of items in the financial statements.

This section presents information on financial instruments, contingent assets and liabilities, and fair value determinations regarding the Corporation's financial assets and liabilities.

Structure

6.1 Financial instruments

Financial instruments arise out of contractual agreements that give rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Due to the nature of the Corporation's activities, certain financial assets and financial liabilities arise under statute rather than a contract (for example, taxes). Such assets and liabilities do not meet the definition of financial instruments.

The Corporation's principal financial instruments are contractual in nature and comprise:

- cash and cash equivalents
- trade debtors and other receivables
- payables (including trade creditors, interest payable, accruals and other payables)
- VDP service concession liability
- lease liabilities
- borrowings (including short term, floating rate notes and fixed interest).

The Corporation's policy on financial instruments is noted below.

Classification and measurement of financial instruments

Receivables and cash are financial instruments with fixed and determinable payments that are not quoted on an active market. Financial assets are initially measured at fair value minus any direct transaction costs. Subsequent to initial measurement, receivables are measured at amortised cost as the objective is to collect the contractual cash flows.

The following assets are held with the objective to collect the contractual cash flows:

- cash and cash equivalents
- trade debtors and other receivables.

Financial liabilities are initially recognised at fair value. These financial instruments are measured at amortised cost with any difference between the initial recognised amount and the redemption value being recognised in the profit and loss, over the period of the interest bearing liability using the effective interest rate method. The Corporation recognises the following liabilities:

- trade creditors, accruals and interest payable
- VDP service concession liability
- lease liabilities
- other payables
- borrowings (including short term, floating rate notes and fixed interest).

Derecognition of financial assets and liabilities

Financial assets are derecognised when the rights to receive cash flows from the financial assets have expired or have been transferred, and the Corporation has transferred substantially all the risks and rewards of ownership.

A financial liability is derecognised when the obligation under the liability is discharged, cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and the recognition of a new liability. The difference in the respective carrying amounts is recognised in the comprehensive operating statement.

Impairment of financial assets

The Corporation applies the AASB 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for contractual receivables. On this basis, an assessment undertaken by management has identified that historical debt write-offs and future expected losses are immaterial. As such, there is no allowance for expected credit losses as at 30 June 2022 (2020-21: nil).

Categories of financial instruments

($ thousands)

	2022	2021
Financial assets at amortised cost		
Cash and cash equivalents	6,347	3,703
Trade debtors	46,217	43,707
Other receivables	38,267	42,673
Total financial assets at amortised cost	**90,831**	**90,083**
Financial liabilities at amortised cost		
Payables	404,069	361,350
VDP service concession liability	3,544,228	3,564,921
Lease liabilities	43,348	50,892
Short-term borrowings	221,331	66,445
Floating rate notes	135,000	135,000
Fixed interest	3,965,000	4,045,000
Total financial liabilities at amortised cost	**8,312,976**	**8,223,608**

Financial risk management

The objectives of the Corporation's Treasury Management Policy are to:

- manage the Corporation's cost of borrowings through effective control and management of interest rate risk
- manage the Corporation's cost of borrowings in line with the revenue provided in the applicable Pricing Determination to cover the cost of debt
- manage working capital requirements by ensuring sufficient cash resources and funds are available to meet daily and long-term liquidity needs within approved parameters, while utilising excess cash to reduce debt balances
- ensure that adequate financial accommodation facilities are in place to meet the short and long-term liquidity needs
- ensure that all financial and operational risk exposures are identified and managed
- ensure adequate internal controls and staffing
- maintain an indicative investment grade corporate credit rating and credit metrics.

These objectives are consistent with the Corporate Risk Management Policy and Framework of the Corporation, the Corporation's *Financial Sustainability Strategy*, Standing Directions issued by the Assistant Treasurer and the Victorian Public Sector Debt Management Objectives.

Risk management (continued)

The Corporation's Treasury Management Policy manages financial risk by:

- managing the financial risks arising from the regulatory price determination process, specifically the mismatch between the regulator's revenue allowance for debt costs and actual debt costs throughout the regulatory period
- actively managing liquidity and funding risk.

The following are the key measures used to manage financial risk:

Portfolio composition (i.e. fixed and floating) – During the 2021-22 financial year, the Corporation reviewed its Treasury Management Policy and has made no changes from the prior year bands by which it manages its debt portfolio:

Floating interest rate borrowings	0-30%
Fixed interest rate borrowings	70-100%

Physical maturity profile – Debt maturity of fixed and floating rate notes is not to exceed 15% of the total debt portfolio in any financial year.

Interest rate risk profile – Interest Rate Swaps and Forward Rate Agreements are used to mitigate the risk from adverse interest rate increases where the actual interest rates paid to finance debt are at risk of being higher than the debt allowance received in revenue to finance debt. The Corporation's goal is to align the actual interest rate risk profile to the profile used by the Essential Services Commission (ESC) in setting our revenue.

Aligning the interest rate re-pricing profile of the debt portfolio with the annual regulatory weighted average cost of capital (WACC) re-set based on the 10-year trailing average approach used by the ESC to determine revenue aims to reduce the regulatory interest rate mismatch risk. The Corporation also aims to align the modified duration of its debt portfolio in line with the regulatory benchmark portfolio.

Financing arrangements – The capacity to borrow funds and manage the associated risks is subject to the provisions of the *Borrowing and Investment Powers Act 1987*. In accordance with this Act, the Treasurer of Victoria issues an annual approval, permitting new borrowings and the refinancing of all loan maturities for that year and non-maturing loans upon request. All funding is sourced from the Treasury Corporation of Victoria (TCV).

The Corporation's total approved maximum borrowing limit for 2021-22 of $4,683.3 million (2020-21: $4,468.8 million) was not exceeded at any stage throughout the financial year.

Capital management – The Corporation manages its finances in order to maintain a stable and appropriate capital structure given the financial risk profile and the regulated nature of its business. The Corporation's aim is to maintain credit metrics consistent with an investment grade long-term corporate credit rating.

The Corporation has the following externally imposed limits in relation to capital management:

- Financial Accommodation cannot exceed the approval limits set by the Treasurer of Victoria pursuant to the *Borrowing and Investment Powers Act 1987*
- the Corporation, with the exception of working capital accounts with overdraft facilities, is required to borrow and invest exclusively with TCV.

The Corporation's gearing ratio (Total Debt/Total Assets) at 30 June 2022 was 47.0% (2020-21: 50.1%) and interest cover cash ratio was 2.1 times (2020-21: 2.2 times).

Gearing and Interest Cover ratios are some of a number of benchmarks that are considered by the Board when considering an appropriate capital structure. These ratios are approved via the *Corporate Plan*.

6.1.1 Interest rate risk

Interest rate exposure as at 30 June 2022 ($ thousands)

	Weighted average	Floating interest	Fixed interest	Non-interest bearing	Total carrying amount
Financial assets					
Cash and cash equivalents	1.00%	6,347	-	-	6,347
Trade debtors	-	-	-	46,217	46,217
Other receivables	-	-	-	38,267	38,267
Total financial assets		**6,347**	**-**	**84,484**	**90,831**
Financial liabilities					
Payables	-	-	-	404,069	404,069
VDP service concession liability [(a)]	11.28%	-	3,544,228	-	3,544,228
Lease liabilities	2.29%		43,348		43,348
Short-term borrowings	1.02%	221,331	-	-	221,331
Floating rate notes	1.14%	135,000	-	-	135,000
Fixed interest	2.69%	-	3,965,000	-	3,965,000
Total financial liabilities		**356,331**	**7,552,576**	**404,069**	**8,312,976**

Interest rate exposure as at 30 June 2021 ($ thousands)

	Weighted average	Floating interest	Fixed interest	Non-interest bearing	Total carrying amount
Financial assets					
Cash and cash equivalents	0.29%	3,703	-	-	3,703
Trade debtors	-	-	-	43,707	43,707
Other receivables	-	-	-	42,673	42,673
Total financial assets		**3,703**	**-**	**86,380**	**90,083**
Financial liabilities					
Payables	-	-	-	361,350	361,350
VDP service concession liability [(a)]	11.28%	-	3,564,921	-	3,564,921
Lease liabilities	2.29%		50,892		50,892
Short-term borrowings	0.27%	66,445	-	-	66,445
Floating rate notes	0.24%	135,000	-	-	135,000
Fixed interest	2.94%	-	4,045,000	-	4,045,000
Total financial liabilities		**201,445**	**7,660,813**	**361,350**	**8,223,608**

Note:
(a) The weighted average interest rate for the VDP service concession arrangement is the interest rate implicit in the arrangement. AASB 9 requires gains or losses from VDP refinancing activities to be recognised immediately through profit and loss. The gains or losses reflect the difference between the original contractual cash flows and the modified cash flows discounted at the original 'effective interest rate'.

Risk management (continued)

Interest rate risk sensitivity analysis

($ thousands)

2022	Profit or Loss		Equity	
	-50 basis points	+50 basis points	-50 basis points	+50 basis points
Cash and cash equivalents	(18)	18	(18)	18
Interest bearing liabilities	1,782	(1,782)	1,782	(1,782)
Total	**1,764**	**(1,764)**	**1,764**	**(1,764)**

($ thousands)

2021	Profit or Loss		Equity	
	-50 basis points	+50 basis points	-50 basis points	+50 basis points
Cash and cash equivalents	(11)	11	(11)	11
Interest bearing liabilities	1,007	(1,007)	1,007	(1,007)
Total	**996**	**(996)**	**996**	**(996)**

Exposures arise predominately from liabilities bearing variable interest rates as the Corporation intends to hold fixed rate liabilities to maturity. At 30 June 2021 and 30 June 2022, if interest rates had changed by +/- 50 basis points from the year end rates with all other variables held constant, the net profit before tax and the impact on equity would have changed by the amounts shown above.

6.1.2 Foreign exchange risk

Foreign exchange risk arises when future commercial transactions and recognised assets and liabilities are denominated in a currency that is not the entity's functional currency.

It is the Corporation's policy to hedge the effect of foreign currency exchange rate movements on the fair values of any transactions in excess of AUD $1.0 million. The Corporation's policy requires all hedging to be undertaken through TCV in the form of Forward Foreign Exchange Contracts.

At 30 June 2022, the Corporation did not have any Forward Foreign Exchange Contracts (30 June 2021: Nil).

6.1.3 Price risk

Price risk is the risk that the Corporation will suffer financial loss due to adverse movements in the price of commodity inputs and/or outputs related to its business operations.

The Corporation’s exposure to commodity price risk is minimal. If at any time the Corporation is exposed to a commodity price risk from business operations this is immediately identified, quantified and hedged appropriately to minimise risk. Hedging of the risk is mostly performed through supply and service contracts to provide certainty over timing and quantity (i.e. contracts for electricity, chemicals and procurement process to deliver capital works).

There is also low level price risk associated with Renewable Energy Certificates (RECs) for the potential decline in market value. This risk is managed through sale of RECs to minimise balance held.

6.1.4 Credit risk

Credit risk is the risk of financial loss to the Corporation as a result of a customer or counterparty to a financial instrument failing to meet its contractual obligations in full and on the due date. The Corporation's exposure to credit risk is influenced by the individual characteristics of each customer or counterparty.

All receivables are recognised at the amounts receivable less any expected credit loss. Receivables are reviewed on an ongoing basis to identify amounts which cannot be collected. Debts which cannot be collected are written off. The Corporation applies the AASB 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all receivables. Refer to Note 2.3 (Receivables).

The major exposure to credit risk arises from Trade Debtors and Other Receivables.

Trade Debtors are comprised of:

- Metropolitan retail water businesses with minimal credit risk exposure to the Corporation. These debtors are invoiced in two parts. The first part is a usage charge that is invoiced weekly and paid within 7 days. The second part is an availability charge that is invoiced monthly and paid within 14 days.
- Waterways and Drainage customers. The collection of payments and overdue receivables is managed by the metropolitan retail water businesses as part of billings and collection agreements with the Corporation. In addition any unpaid debt is allocated against the property title and will be extinguished if there is a change in property ownership.

Other receivables primarily consist of accrued revenue in relation to our services.

The Corporation applies the AASB 9 simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for contractual receivables. On this basis, an assessment undertaken by management has identified that historical debt write-offs and future expected losses are immaterial. This assessment took into consideration COVID-19 with no expected material impact on the future recoverability of debtors. As such, there is no allowance for expected credit losses as at 30 June 2022 (2020-21: nil).

All financial risk management instruments are transacted with TCV, whose liabilities are guaranteed by the Victorian Government. The Corporation potentially has a concentration of credit risk with TCV as the central borrowing authority of Victoria. This risk is considered minimal.

6.1.5 Climate-related risk

Climate change is a risk for the Corporation. Climate change risk includes the physical risk which can cause direct impact to natural resources including water supply, or damage to assets or property as a result of rising global temperatures as well as transition risks which arise from the transition to a low-carbon economy. The impacts of climate change create resilience challenges for our services. The Corporation is primarily exposed to climate change risk (extreme weather events, rising sea levels, reduced rainfall and increasing temperatures) to our water supplies infrastructure and natural environment. We expect these changes to continue and therefore we are taking action now to ensure we are prepared for the future. Actions include modelling the potential impacts of climate change on water resources and critical infrastructure capability such as transfer networks, including climate considerations in near and long-term planning such as 20-year capital plans and business cases for new flood mitigation infrastructure. Climate risks are included in our formal risk register and reviewed periodically by the Audit, Risk and Finance Committee and the Customer and Service Delivery Committee.

The Corporation will further enhance the understanding of exposure to climate change risk in the process of delivering on new business Strategic Goals and a continuous process of climate resilience planning. We are also working to understand the possible impact of future emissions targets, regulations and carbon prices on the cost of providing our services.

As at 30 June 2022, the Corporation considered climate-related risk in the preparation of the financial statements, in particular in regard to uncertainty to significant future forecasting assumptions and significant unobservable inputs determining infrastructure asset fair value (Note 4.1.2) and asset impairment (Note 4.1.3), asset useful life assumptions (Note 4.1.3), provisions (Note 3.12) and contingent liabilities (Note 6.3).

Risk management (continued)

6.1.6 Liquidity risk

Liquidity risk is the risk that the Corporation will not be able to meet its short-term financial obligations. The Corporation manages liquidity risk by maintaining and conducting efficient banking practices and account structures, sound cash management practices and regular monitoring of the maturity profile of assets and liabilities, together with anticipated cash flows.

The objective of the Corporation's financial risk management policies is the optimal utilisation of cash with all surplus funds used to repay borrowings.

Undiscounted maturity analysis of financial liabilities ($ thousands)

2022

	Total carrying amount	Total contractual cash flows	1 year or less	1 to 5 years	Over 5 years
Non-interest bearing	404,069	404,069	395,035	9,034	-
Variable rate	356,331	370,203	226,543	106,984	36,676
Fixed rate	7,552,576	13,496,284	997,316	3,958,604	8,540,364
Total	**8,312,976**	**14,270,557**	**1,618,894**	**4,074,622**	**8,577,040**

2021

	Total carrying amount	Total contractual cash flows	1 year or less	1 to 5 years	Over 5 years
Non-interest bearing	361,350	361,350	358,336	3,014	-
Variable rate	201,445	203,537	66,977	101,132	35,428
Fixed rate	7,660,813	14,113,901	861,325	3,933,266	9,319,310
Total	**8,223,608**	**14,678,788**	**1,286,638**	**4,037,412**	**9,354,738**

6.1.7 Other matters

Net holding gain/(loss) on financial instruments by category ($ thousands)

2022

	Net holding gain	Interest revenue/ (expense)	Total
Financial assets	-	14	14
Financial liabilities at amortised cost	-	(547,178)	(547,178)
Total	**-**	**(547,164)**	**(547,164)**

2021

	Net holding gain	Interest revenue/ (expense)	Total
Financial assets	-	110	110
Financial liabilities at amortised cost	-	(573,914)	(573,914)
Total	**-**	**(573,804)**	**(573,804)**

6.2 Fair value determination of financial assets and liabilities

The fair values and net fair values of financial instrument assets and liabilities are determined as follows:

- Level 1: the fair value of financial instruments with standard terms and conditions and traded in active liquid markets is determined with reference to quoted market prices.
- Level 2: the fair value is determined using inputs other than quoted prices that are observable for the financial asset or liability, either directly or indirectly.
- Level 3: the fair value is determined in accordance with generally accepted pricing models based on discounted cash flow analysis using unobservable market inputs.

The following table shows the carrying amounts and fair values of financial assets and financial liabilities. The fair values are classified as Level 2 within the fair value hierarchy with the exception of cash and cash equivalents (classified as Level 1).

Carrying amounts, fair values and fair value hierarchy ($ thousands)

	2022		2021	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	6,347	6,347	3,703	3,703
Trade debtors	46,217	46,217	43,707	43,707
Other receivables	38,267	38,267	42,673	42,673
Total financial assets	**90,831**	**90,831**	**90,083**	**90,083**
Financial liabilities				
Payables	404,069	404,069	361,350	361,350
VDP service concession liability	3,544,228	4,509,462	3,564,921	4,921,831
Lease liabilities	43,348	43,348	50,892	50,892
Short-term borrowings	221,331	221,331	66,445	66,445
Floating rate notes	135,000	136,679	135,000	135,445
Fixed interest	3,965,000	3,688,974	4,045,000	4,246,769
Total financial liabilities	**8,312,976**	**9,003,863**	**8,223,608**	**9,782,732**

6.3 Contingent assets and liabilities

Contingent assets are possible assets that arise from past events, whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity.

Contingent liabilities are:

- possible obligations that arise from past events, whose existence will be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the entity (for example, potential litigation or climate-related risks).
- present obligations that arise from past events but are not recognised because:
  - it is not probable that an outflow of resources embodying economic benefits will be required to settle the obligations
  - the amount of the obligations cannot be measured with sufficient reliability.

Contingent assets and liabilities are not recognised in the Statement of Financial Position, but if quantifiable are disclosed below.

($ thousands)

	2022	2021
Contingent assets	12,211	12,971
Contingent liabilities [(a)]	46,280	45,254

Note:
(a) Contingent liabilities primarily relate to compulsory land acquisitions where the Corporation will receive an equivalent land asset. Compulsory land acquisitions have not been included as contingent assets. Given the significant estimation uncertainty, compulsory land acquisitions are not treated as provisions. The Corporation only recognises assets and liabilities once the Notice of Acquisition has been issued to the landowner. Total compulsory land acquisitions for 2021-22 is $38.0 million (2020-21: $40.9 million).

Other Disclosures

Introduction

This section includes those additional disclosures required by Australian Accounting Standards or otherwise, that are material for the understanding of this financial report.

Structure

7.1 Superannuation – defined benefit plan

The defined benefit plan within Equipsuper (the Plan) provides lump sum benefits based on length of service and final superannuable salary for employees engaged prior to 31 December 1993. Employees contribute at rates between 0% to 7.5% of their superannuable salary. The Corporation contributes to the Plan based on the Corporation's commitments under the Employee Participation Agreement and Contribution Policy with the Trustee of the Plan.

Defined benefit members receive lump sum benefits on retirement, death, disablement and withdrawal. Some defined benefit members are also eligible for pension benefits in some cases. The defined benefit section of the Plan is closed to new members. At each reporting date, a liability or asset in respect of defined benefit superannuation obligations is recognised. This is measured as the difference between the present value of the defined benefit obligations at the reporting date and the net market value of the Plan's assets.

The present value of defined benefit obligations is based upon future payments, which are expected to arise due to membership of the Plan to date, taking into account the taxes payable by the Plan.

Consideration is given to expected future salary levels and employee departures. Expected future payments are discounted to present values using yields from high quality corporate bond rates with 8 years duration (2020-21: Commonwealth Government Bonds with 8 years duration) reflecting future service. The Corporation now considers that the corporate bond market has become deep enough to support the change in rate in the current year as required by *AASB119 Employee benefits*. The corporate bond rate is higher and had the effect of decreasing the liability.

Furthermore, the inflation assumption is based upon the relationship between nominal and index linked bond yields of similar duration. This approach ensures that the inflation assumption reflects market expectations and is compatible with the market-based discount rate that is used to value the outstanding liability.

Re measurements of the net defined liability or asset, which comprise actuarial gains and losses, return on the Plan assets (excluding interest) and effect of the asset ceiling (if any, excluding interest), are recognised immediately in Other Comprehensive Income. The Corporation determines the net interest expense on the net defined benefit liability for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the net defined benefit liability or asset taking into account contributions and benefit payments during the period. Net interest expense and other expenses related to defined benefit plans are recognised in the Statement of Profit or Loss and Other Comprehensive Income.

When the benefits of the Plan are changed or when a Plan is curtailed, the resulting change in benefit that relates to past service or the gain or loss on curtailment is recognised immediately in the Statement of Profit or Loss and Other Comprehensive Income. The Corporation recognises gains and losses on settlement when it occurs.

The Superannuation Industry Supervision (SIS) legislation governs the superannuation industry and provides the framework within which superannuation plans operate. The SIS regulations require an actuarial valuation to be performed for each Plan every 3 years, or every year if the Plan pays defined benefit pensions.

The Plan's Trustee is responsible for the governance of the Plan. The Trustee has a legal obligation to act solely in the best interests of Plan beneficiaries. The Trustee has the following roles:

- administration of the Plan and payment to the beneficiaries from Plan assets when required in accordance with the Plan rules
- management and investment of the Plan assets
- compliance with superannuation law and other applicable regulations.

The prudential regulator, the Australian Prudential Regulation Authority (APRA), licenses and supervises regulated superannuation plans.

There are a number of risks to which the Plan exposes the Corporation. The more significant risks relating to the defined benefits are:

Investment risk – The risk that investment returns will be lower than assumed and the Corporation will need to increase contributions to offset this shortfall.

Salary growth risk – The risk that wages/salaries (on which future benefit amounts will be based) will rise more rapidly than assumed, increasing defined benefit amounts and thereby requiring additional employer contributions.

Legislative risk – The risk that legislative changes could be made which could increase the cost of providing the defined benefits.

Pension risk – The risk is firstly that pensioner mortality will be lower than expected, resulting in pensions being paid for a longer period. Secondly, the risk that a greater proportion of eligible members will elect to take a pension benefit, which is generally more valuable than the corresponding lump sum benefit.

The Plan assets are invested by the Trustee in a pool of assets with plans providing defined benefits for other employers. The allocation both globally and across sectors is diversified.

Other Disclosures (continued)

7.1 Superannuation – defined benefit plan (continued)

Reconciliation of the present value of the defined benefit superannuation obligation

($ thousands)

	2022	2021
Present value of defined benefit obligation at beginning of the year	55,660	62,250
Current service cost	1,456	1,769
Interest cost	751	469
Contributions by Plan participants	463	544
Benefits paid	(4,415)	(5,621)
Taxes and premiums paid	(361)	(176)
Actuarial losses/(gains) arising from changes in demographic assumptions	-	-
Actuarial (gains)/losses arising from changes in financial assumptions	(10,819)	(3,351)
Actuarial (gains)/losses arising from liability experience	157	(224)
Contributions to accumulation section [a]	-	-
Contributions to accumulation section in relation to prior year [a]	-	-
Present value of the defined benefit obligation at year end	**42,892**	**55,660**

Reconciliation of the fair value of Plan assets

($ thousands)

	2022	2021
Fair value of Plan assets at beginning of the year	76,159	74,157
Contributions by Plan participants	463	544
Benefits paid	(4,415)	(5,621)
Taxes and premiums paid	(361)	(176)
Interest income	997	551
Actual return on Plan assets less interest income	(2,659)	6,704
Contributions to accumulation section [a]	-	-
Fair value of Plan assets at year end [b]	**70,184**	**76,159**

Reconciliation of the assets and liabilities recognised in the Statement of Financial Position

($ thousands)

	2022	2021
Net defined benefit asset/(liability) at start of year	20,499	11,907
Current service cost	(1,456)	(1,769)
Net interest	246	82
Actual return on Plan assets less interest income [c]	(2,659)	6,704
Actuarial (losses)/gains arising from changes in demographic assumptions [c]	-	-
Actuarial gains/(losses) arising from changes in financial assumptions [c]	10,819	3,351
Actuarial gains/(losses) arising from liability experience [c]	(157)	224
Net defined benefit asset at year end	**27,292**	**20,499**

(a) Includes no contributions (2020-21: zero) to accumulation section of the Plan financed from defined benefit assets.
(b) Fair value based on Level 2 inputs using observable market data (either directly using prices or indirectly derived from prices).
(c) Net actuarial gain before tax was $8.0 million (2020-21: gain of $10.3 million) and after tax gain of $5.6 million (2020-21: gain of $7.2 million).

The Corporation has recognised an asset in the Statement of Financial Position in respect of its defined benefit superannuation Plan arrangements at 30 June 2022 (2020-21: asset). If the Plan is in surplus, the Corporation may reduce the required contribution rate, depending on the advice of the Plan's actuary.

If a deficit exists in the Plan, the Corporation may be required to increase the contribution rate, depending on the advice of the Plan's actuary consistent with the Plan's deed.

During 2021-22, the contributions rate continued to be zero due to sufficient surplus in the Plan (2020-21: zero).

Significant actuarial assumptions at the balance sheet date

	2022	2021
Assumptions to determine defined benefit cost		
Discount rate	1.40%	0.80%
Expected salary increase rate	2.00%	2.00%
Expected pension increase rate	2.00%	2.00%
Assumptions to determine defined benefit obligation		
Discount rate [(a)]	4.40%	1.40%
Expected salary increase rate [(b)]	2.00%	2.00%
Expected pension increase rate	2.50%	2.00%
Pension take-up rate	25.0%	25.0%

(a) In the current year the Corporation used high quality corporate bond rates with 8 years duration to discount the defined benefit liability (2020-21: Commonwealth Government Bonds with 8 years duration).
(b) 2% per annum for the next five years and 2.5% per annum thereafter.

Other Disclosures (continued)

7.2 Responsible persons

The relevant Portfolio Minister and directors of the Corporation are deemed to be the responsible persons by Ministerial Direction pursuant to the provisions of the *Financial Management Act 1994*. In accordance with those Directions, the following disclosures are made regarding responsible persons for the reporting period.

The names of persons who were responsible persons at any time during the financial year were:

Minister for Water	Hon Lisa Neville, MP	1 July 2021 to 27 June 2022
Acting Minister for Water	Hon Richard Wynne, MP	1 July 2021 to 22 August 2021
Minister for Water	Hon Harriet Shing MP	27 June 2022 to 30 June 2022
Chair	John Thwaites	1 July 2021 to 30 June 2022
Deputy Chair	Merran Kelsall	1 July 2021 to 30 September 2021
Deputy Chair [a]	Kathleen Bailey-Lord	1 July 2021 to 30 June 2022
Director	Robyn McLeod	1 July 2021 to 30 June 2022
Director	Russell Anderson	1 July 2021 to 30 June 2022
Director	Fiona Rowland	1 July 2021 to 30 June 2022
Director	Hugh Gleeson	1 July 2021 to 30 September 2021
Director	Garry Smith	1 July 2021 to 30 September 2021
Director	James Atkins	1 October 2021 to 30 June 2022
Director	Andrew Cairns	1 October 2021 to 30 June 2022
Director	Anita Roper	1 October 2021 to 30 June 2022
Managing Director	Michael Wandmaker	1 July 2021 to 31 December 2021
Managing Director	Dr Nerina Di Lorenzo	1 December 2021 to 30 June 2022

Note:
(a) Kathleen Bailey-Lord became Deputy Chair after Merran Kelsall ceased being a Director.

Remuneration

Remuneration received or receivable by the responsible persons (excluding Ministers) in connection with the management of the Corporation during the reporting period is as follows:

	Total Remuneration	
	2022	2021
Income Band ($)	Number	Number
10,000 - 19,999	3	-
30,000 - 39,999	3	-
40,000 - 49,999	-	2
50,000 - 59,999	4	5
90,000 - 99,999	1	1
300,000 - 309,999	1	-
530,000 - 539,999	-	1
660,000 - 669,999	1	-
Total numbers [a]	**13**	**9**
Total remuneration ($000) [b]	**1,425**	**996**

Note:
(a) Transition of 4 responsible persons roles to 4 new incumbents is reflected in the temporary increase in total numbers.
(b) Total remuneration for responsible persons increased as a result of termination benefits and other statutory entitlements for the early completion of an executive contract as per the terms of the Public Entity Executive Remuneration Policy for executive contracts.

7.3 Remuneration of executives

The number of executives, other than responsible persons, and their total remuneration during the reporting period are shown in the table below. Total annualised employee equivalents provides a measure of full-time equivalent executive officers over the reporting period. Remuneration comprises employee benefits in all forms of consideration paid, payable or provided by the entity, or on behalf of the entity, in exchange for services rendered, and is disclosed in the following categories.

Short-term employee benefits include amounts such as wages, salaries, annual leave or sick leave that are usually paid or payable on a regular basis, as well as non-monetary benefits such as allowances and free or subsidised goods or services and previously accrued long service leave taken during the period.

Post-employment benefits include pensions and other retirement benefits paid or payable when employment has ceased.

Other long-term benefits include long service leave, other long service benefit or deferred compensation.

Termination benefits include termination of employment payments, such as severance packages.

Remuneration of executive officers (including executives defined as Key Management Personnel in Note 7.4)	($ thousands) 2022	2021
Short-term employment benefits [a]	3,697	3,833
Post-employment benefits [b]	277	272
Other long-term benefits	95	96
Termination benefits [a]	109	98
Total remuneration	**4,178**	**4,299**
Total number of executives [c]	**13**	**13**
Total annualised employee equivalent [d]	**11**	**12**

Note:
(a) Short-term benefits of Executive Officers decreased marginally as a result of roles that were carried as vacancies for short periods within 2021-22 (FTE 11.31) in comparison to 2020-21 (FTE 12.08), offset by termination benefits as a result of the early completion of an executive contract as per the terms of the Public Entity Executive Remuneration Policy for executive contracts. Remuneration increases of 1.5% were provided to executive officers in 2021-22 in line with the Premier's Direction.
(b) Post-employment benefits increased marginally as a result of an increase to the Superannuation Contributions Cap (SGC) for 2021-22 and SGC applicable to termination benefits.
(c)The total number of executive officers includes people who meet the definition of Key Management Personnel (KMP) of the entity under *AASB 124 Related Party Disclosures* and are also reported within the related parties note disclosure.
(d) Annualised employee equivalent is based on the time fraction worked over the reporting period.

7.4 Related parties

The Corporation is a wholly owned and controlled entity of the State of Victoria. Related parties of the Corporation include:

- all Key Management Personnel (KMP) and their close family members and personal business interests (i.e. controlled entities, joint ventures and entities they have significant influence over)
- all Cabinet Ministers and their close family members and all departments and public sector entities that are controlled and consolidated into the whole of State consolidated financial statements.

All related party transactions have been entered into on an arm's length basis.

KMP of the Corporation include the Portfolio Minister and all Directors or executives who have the authority and responsibility for planning, directing and controlling the activities of the Corporation, directly or indirectly, during the financial year.

The compensation detailed below excludes the salaries and benefits the Portfolio Minister receives. The Minister's remuneration and allowances is set by the *Parliamentary Salaries and Superannuation Act 1968* and is reported within the Department of Parliamentary Services' Financial Report.

Other Disclosures (continued)

7.4 Related parties (continued)

	($ thousands)	
Compensation of KMP	**2022**	**2021**
Short-term employment benefits	1,396	1,334
Post-employment benefits	91	83
Other long-term benefits	44	23
Termination benefits	368	-
Total [a]	**1,899**	**1,440**

Note:
(a) Note that executives that meet the definition of KMPs are also reported in the disclosure of remuneration of executives.

Transactions with KMPs and other related parties

During the year, related parties of KMPs were awarded contracts on terms and conditions equivalent to those that prevail in arm's length transactions under the Corporation's procurement process. The Corporation has prepared the related party disclosures for the year based on reasonable enquiries made by management in relation to the Portfolio Minister and their close family members and the information available to the organisation.

Significant related party transactions include transactions between the Corporation, a KMP or a KMP-related party and a department or a public body. Transactions have been assessed on an arm's length basis with a materiality threshold set at $0.1 million.

	($ thousands)	
Lisa Neville (Minister for Water), Richard Wynne (Acting Minister for Water) and Harriet Shing (Minister for Water)	**2022**	**2021**
The Honourable Lisa Neville, Honourable Richard Wynne and Honourable Harriet Shing were reponsible for the Department of Environment, Land, Water and Planning (DELWP). All dealings with this entity were on normal terms and conditions during the reporting period.		
Total payments made to DELWP were (including VDP payments):	696,523	711,630
Robyn McLeod – Director		
Robyn McLeod was a Director of the Victorian Water Industry Association. All dealings with this agency were on normal terms and conditions during the reporting period.		
Russell Anderson – Director		
Russell Anderson is a Director of the Victorian Water Industry Association. All dealings with this agency were on normal terms and conditions during the reporting period.		
Total payments made to the Victorian Water Industry Association were:	198	193
Total payments received from the Victorian Water Industry Association were:	100	-
Kathleen Bailey-Lord – Director		
Kathleen Bailey-Lord is a Director of the Alinta Energy Group. All dealings with this agency were on normal terms and conditions during the reporting period.		
Total payments received from Alinta Energy Group were:	2,139	-
Hugh Gleeson – Director		
Hugh Gleeson is a Director of Energy Queensland Limited. Ergon Energy Queensland is a subsidiary of Energy Queensland Limited. All dealings with this agency were on normal terms and conditions during the reporting period.		
Total payments received from Ergon Energy Queensland were:	-	429

All other transactions that have occurred with KMPs and their related parties have been trivial or civil in nature. In this context, transactions are only disclosed when they are considered of interest to users of the financial report in making and evaluating decisions about the allocation of scarce resources and to better understand the effects of related party transactions on the financial statements.

Significant transactions with related parties

Entities that have significant influence, the same controlling entity as the Corporation or where a KMP, or their close family member, has significant influence or control over those entities, are considered to be related parties of the Corporation. The following entities are considered to be related parties of the Corporation:

Department of Environment, Land, Water and Planning (DELWP)

DELWP leads and directs the Corporation in the implementation of the framework for achieving the Victorian Government's responsibilities for sustainability of the natural and built environment. DELWP monitors the Corporation's compliance with the *Water Act 1989,* Water Interface Agreement and the Supplementary Agreement to the Water Interface Agreement for the Victorian Desalination Plant. The Corporation makes Victorian Desalination Plant payments directly to DELWP, which is managing the contract with AquaSure on behalf of the State.

Department of Treasury and Finance (DTF)

DTF monitors the Corporation's compliance with the *Financial Management Act 1994*. DTF is responsible for protecting the shareholder's interest in respect of corporate business plans and capital project approvals above $100 million (2020-21: $100 million). DTF also collects income taxes, the Financial Accommodation Levy, Local Government Rates Equivalent and dividend payments from the Corporation.

Greater Western Water, South East Water, Yarra Valley Water and Barwon Water

Greater Western Water, South East Water, Yarra Valley Water and Barwon Water are Government-owned water corporations with agreements with the Corporation that include bulk water and sewerage, bulk recycled water supply, billings collections and biosolids storage arrangements. These agreements operated on normal terms and conditions during the reporting period.

Treasury Corporation of Victoria (TCV)

TCV provides financial accommodation (loans to the Corporation), executes financial arrangements (derivatives) and provides/arranges financial services to the Corporation. Any investments above $2 million are also required to be invested with TCV.

Development Victoria

Development Victoria creates and delivers economic and social value to Victoria. Development Victoria will deliver property and precinct development projects to meet Government's policy objectives and application of its experience and expertise to the delivery of civic projects.

Other related parties

- Environment Protection Agency Victoria
- Level Crossing Removal Authority
- Goulburn Murray Water
- Westernport Region Water Corporation
- South Gippsland Region Water Corporation
- Department of Health and Human Services
- Parks Victoria
- Department of Transport
- State Revenue Office
- Victorian Fishieries Authority
- Southern Rural Water Corporation
- Victoria State Emergency Service
- Victorian Water Industry Association
- Victorian Workcover Authority
- Department of Economic Development, Jobs, Transport and Resources
- Monash University
- Holmesglen Institute
- Department of Education and Training
- Victoria Auditor General's Office
- Vicforests

Other related parties with arm's-length transactions greater than $0.1 million have been disclosed above. In the summaries below, all other related parties transactions and payable balances below $0.1 million have also been included.

Other Disclosures (continued)

7.4 Related parties (continued)

Material transactions with related parties

($ thousands)

	2022	2021
Receipts from related parties (inclusive of GST)		
DELWP	15,816	9,011
Greater Western Water	410,325	-
City West Water	-	416,064
South East Water	605,395	616,741
Yarra Valley Water	601,943	620,705
Western Water	-	10,454
Barwon Water	5,464	8,167
Development Victoria	2,699	10,685
Other related parties	6,924	8,303
Receipt of contributed assets		
DELWP	-	-
Receipt of contributed equity		
DELWP	3,088	-

($ thousands)

	2022	2021
Payments to related parties (inclusive of GST)		
DELWP	696,523	711,630
DTF	151,769	172,639
Greater Western Water	5,637	-
City West Water	-	5,536
South East Water	7,008	5,941
Yarra Valley Water	6,660	7,189
Western Water	-	254
Barwon Water	-	114
TCV	114,209	137,616
Development Victoria	-	-
Other related parties	39,709	34,072
Dividend paid		
DTF	7,300	62,800
Repayment of equity contributions		
DTF	40,410	-
Transfer of contributed assets		
DELWP	-	-

Outstanding balances arising from sales/purchases of goods and services

($ thousands)

	2022	2021
Receivables		
DELWP	196	253
Greater Western Water	17,872	-
City West Water	-	16,075
South East Water	11,613	9,191
Yarra Valley Water	13,387	13,814
Development Victoria	-	141
Other related parties	286	1,123
Payables		
DELWP	3,544,616	3,564,921
DTF	29,624	27,998
Greater Western Water	4	337
South East Water	28	440
Yarra Valley Water	22	559
Western Water	-	67
TCV	4,351,592	4,279,177
Other related parties	1,373	676

Transactions relating to dividends are subject to final determination by the Treasurer after consultation with the Corporation's Board of Directors and the Minister for Water. Transactions relating to equity contributions are determined by the Minister for Water in consultation with the Corporation. Transactions relating to trading activities of the Corporation including sale of bulk water, sale of sewerage services and collection of drainage rates are based on normal commercial terms and conditions.

Outstanding balances are unsecured and are receivable/payable in cash under normal trading terms. There are no guarantees given or received for the current and non-current payables, current receivables and borrowings.

Other Disclosures (continued)

7.5 Remuneration of auditors

($ thousands)

	2022	2021
Audit of financial report by the Victorian Auditor-General's Office	242	196
Total amount paid/payable	**242**	**196**

7.6 Ex-gratia expenses

In accordance with *FRD 11 Disclosure* of Ex-Gratia Expenses the Corporation must disclose in aggregate the total amount of material (greater than $5,000) expenses.

For 2021-22, the Corporation incurred $68,167 ex-gratia expenses (2020-21:$237,081) due to rental waivers provided to approved applicants as part of the Victorian Government's COVID-19 hardship program.

7.7 Subsequent events

No matter or circumstance has arisen since 30 June 2022 which has significantly affected, or may significantly affect:

- the Corporation's operations;
- the results of those operations; and/or
- the Corporation's state of affairs in the financial year subsequent to 30 June 2022.

7.8 Australian Accounting Standards issued that are not yet effective

Certain amendments to accounting standards that are deemed relevant to the Corporation have been published, but are not mandatory for the 30 June 2022 reporting period. The Corporation has not adopted these amendments early in accordance with DTF guidance.

The Corporation's assessment of the impact of these amendments is set out below:

AASB 2020-1 Amendments to Australian Accounting Standards – Classification of Liabilities as Current or Non-Current. (effective date: 01 January 2023)

Amends AASB 101 to require a liability to be classified as current when companies do not have a substantive right to defer settlement at the end of the reporting period.

AASB 2020-3 Amendments to Australian Accounting Standards – Annual Improvements 2018-2020 and Other Amendments (effective date: 01 January 2022)

Amendments to existing accounting standards. particularly in relation to:

AASB 1 – simplifies the application of AASB 1 by a subsidiary that becomes a first-time adopter after its parent in relation to the measurement of cumulative translation differences

AASB 3 – to update a reference to the Conceptual Framework for Financial Reporting without changing the accounting requirements for business combinations

AASB 9 – to clarify the fees an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability

AASB 116 – to require an entity to recognise the sales proceeds from selling items produced while preparing infrastructure, property, plant and equipment for its intended use and the related cost in profit or loss, instead of deducting the amounts received from the cost of the asset

AASB 137 Provisions, Contingent Liabilities and Contingent Assets – to specify the costs that an entity includes when assessing whether a contract will be loss-making

AASB 141 Investment Property – to remove the requirement to exclude cash flows from taxation when measuring fair value, thereby aligning the fair value measurement requirements in AASB 141 with those in other Australian Accounting Standards

Management has concluded that these are not likely to have a material impact on its financial statements in future reporting periods.

7.9 Changes in accounting policy

Initial application of the International Financial Reporting Standards Interpretations Committee (IFRIC) Agenda decisions

Software-as-a-Service (SaaS) arrangements

The International Financial Reporting Standards Interpretations Committee (IFRIC) has issued two final agenda decisions which impact SaaS arrangements:

- Customer's right to receive access to the supplier's software hosted on the cloud (March 2019) – this decision considers whether a customer receives a software asset at the contract commencement date or a service over the contract term.
- Configuration or customisation costs in a cloud computing arrangement (April 2021) – this decision discusses whether configuration or customisation expenditure relating to SaaS arrangements can be recognised as an intangible asset and, if not, over what time period the expenditure is expensed.

The Corporation's accounting policy has historically been to capitalise customisation costs related to SaaS arrangements as intangible assets in the Statement of Financial Position and all other costs as operating expenses in the Comprehensive Operating Statement.

The adoption of the above agenda decisions has resulted in a reclassification of intangible assets to an expense in the Statement of Comprehensive Income, impacting the current period presented.

Impact of change in accounting policy

For the current year, $5.2 million (pre-tax) of costs that would previously have been capitalised (under AASB 138 Intangible assets) were expensed. Refer to notes 3.2 to 3.4 for further details. Cash outflows of $4.9 million were included in payments to suppliers and employees in the Statement of Cash Flows that previously would have been included as payments to acquire intangible assets. The change in policy has been applied in the current period and comparative financial information has not been restated as deemed immaterial.

Independent Auditor's Report

Victorian Auditor-General's Office

To the Board of the Melbourne Water Corporation

Opinion

I have audited the financial report of the Melbourne Water Corporation (the corporation) which comprises the:

- statement of financial position as at 30 June 2022
- statement of profit or loss and other comprehensive income for the year then ended
- statement of changes in equity for the year then ended
- statement of cash flows for the year then ended
- notes to the financial statements, including significant accounting policies
- statement by Directors and Chief Financial Officer.

In my opinion, the financial report presents fairly, in all material respects, the financial position of the corporation as at 30 June 2022 and its financial performance and cash flows for the year then ended in accordance with the financial reporting requirements of Part 7 of the *Financial Management Act 1994* and applicable Australian Accounting Standards.

Basis for Opinion

I have conducted my audit in accordance with the *Audit Act 1994* which incorporates the Australian Auditing Standards. I further describe my responsibilities under that Act and those standards in the Auditor's Responsibilities for the Audit of the Financial Report section of my report.

My independence is established by the *Constitution Act 1975*. My staff and I are independent of the corporation in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 Code of Ethics for Professional Accountants (the Code) that are relevant to my audit of the financial report in Victoria. My staff and I have also fulfilled our other ethical responsibilities in accordance with the Code.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Other Information

The Board is responsible for the "other information" included in the corporation's Annual Report for the year ended 30 June 2022. The other information in the Annual Report does not include the financial report, the performance report and my auditor's reports thereon. My opinion on the financial report does not cover the other information included in the Annual Report. Accordingly, I do not express any form of assurance conclusion thereon.

In connection with my audit of the financial report, my responsibility is to read the other information when it becomes available and, in doing so, consider whether the other information is materially inconsistent with the financial report, or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work I have performed, I conclude that there is a materially misstatement of this other information, I am required to report that fact. I have nothing to report in this regard.

Key audit matters

Key audit matters are those matters that, in my professional judgement, were of most significance in my audit of the financial report of the current period. These matters were addressed in the context of my audit of the financial report as a whole, and in forming my opinion thereon, and I do not provide a separate opinion on these matters.

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Key audit matter	How I addressed the matter
Recognition and Measurement of Service Concession Arrangement asset and liability - the Victorian Desalination Plant (the VDP) *Note 5.4 – VDP Service Concession Arrangement*	

VDP Service Concession Asset: **$3.962 billion**
VDP Service Concession liability: **$3.544 billion**
VDP commitment disclosures:
• Minimum future payments: $8.254 billion (nominal)
• Other expense commitment: $3.749 billion (nominal)
I considered the service concession arrangement (SCA) for the VDP's asset, liability and commitment to be a key audit matter because:
• they are financially significant
• the contractual rights and obligations are complex and small changes, including refinancing adjustments, can significantly affect the SCA liability and commitment
• the SCA liability and commitment model is complex
• a significant degree of management judgement and assumptions are required to measure the liability, commitment and the fair value of the VDP asset
• the requirements of AASB 1059 *Service Concession Arrangements: Grantors* (AASB 1059) are complex, and involve significant management judgement
• the corporation places significant reliance on the Department of Environment, Land, Water and Planning (DELWP) for information to account for and disclose the arrangement
• the required disclosures for service concession arrangements are extensive.
	My key procedures included:
	• gaining an understanding of the key contractual changes from the prior year
	• engaging a subject matter expert to assist in obtaining sufficient appropriate audit evidence for the SCA liability and commitment disclosures, including the:
	  • identification of any model and/or assumption changes
	  • reasonableness and consistency of the liability model assumptions
	  • reasonableness of model inputs, with specific reference to underlying data and supporting documentation
	  • model's computational accuracy
	  • appropriateness of any re-financing adjustments
	• evaluating our subject matter expert's workings and concluding the work was adequate for the purposes of our audit
	• evaluating management's assessment of the fair value of the VDP asset
	• obtaining representations provided by DELWP relating to the underlying audited data used in the DCF model and for disclosures
	• assessing the adequacy of financial report disclosures against the requirements of applicable Australian Accounting Standards.

Key audit matter	How I addressed the matter
Fair Value of Infrastructure Assets *Note 4.1.3 – Fair value determination of non-financial physical assets*	

Fair value of Infrastructure assets: **$9.014 billion**
 	
I considered this to be a key audit matter because:
• infrastructure assets are financially significant
• the fair value estimate is derived from an income-based valuation approach that uses a discounted cashflow (DCF) model
• management engage an external valuation expert to prepare the fair value estimate
• the DCF model is highly complex and involves significant judgements and assumptions
• small changes in key assumptions used in the DCF model can materially affect the fair value
• the DCF model's forecast period is long, and includes a terminal value, which increases the difficulty in accurately estimating the fair value
• the method for calculating the terminal value changed in the current year
• accounting standard AASB 13 *Fair Value Measurement* (AASB 13) requires extensive financial report disclosures.
	My key procedures included:
	• obtaining an understanding of the approach to estimating the fair value of infrastructure
	• assessing the competence, objectivity and capability of management's expert engaged to assist with the valuation process
	• engaging a subject matter expert to assist us in obtaining sufficient appropriate audit evidence, including:
	  • the appropriateness of using an income-based valuation approach
	  • identification and assessment of the reasonableness of any changes to the DCF model and/or assumptions, including the new method of calculating the terminal value
	  • the reasonableness and consistency of all the assumptions used in the DCF model
	  • the reasonableness of all inputs used in the DCF model, with specific reference to underlying data and supporting documentation
	  • the DCF model's computational accuracy
	• evaluating our subject matter expert's work and concluding the work was adequate for the purposes of our audit
	• assessing the completeness and adequacy of the financial report disclosures against the requirements of AASB 13, including the significant observable and unobservable inputs utilised in the model and the sensitivity analysis.

Board's responsibilities for the financial report	The Board of the corporation is responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards and the *Financial Management Act 1994*, and for such internal control as the Board determines is necessary to enable the preparation and fair presentation of a financial report that is free from material misstatement, whether due to fraud or error. In preparing the financial report, the Board is responsible for assessing the corporation's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is inappropriate to do so.

Auditor's responsibilities for the audit of the financial report

As required by the *Audit Act 1994*, my responsibility is to express an opinion on the financial report based on the audit. My objectives for the audit are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the corporation's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board
- conclude on the appropriateness of the Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the corporation's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the corporation to cease to continue as a going concern.
- evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

From the matters communicated with the Board, I determine those matters that were of most significance in the audit of the financial report of the current period and are therefore key audit matters. I describe these matters in the auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, I determine that a matter should not be communicated in the auditor's report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

MELBOURNE
6 September 2022

Paul Martin
as delegate for the Auditor-General of Victoria

Sugarloaf Reservoir

Performance Reporting

Contents

Performance Report

Financial Performance Indicators

KPI Number [1]	Key Performance Indicator	2020-21 Result	2021-22 Result	2021-22 Target	Variance to prior year	Notes	Variance to target	Notes
F1	**Cash Interest Cover** Net operating cash flows before net interest and tax/net interest payments	2.2	2.2	1.9	0.0%		15.8%	[2]
F2	**Gearing Ratio** Total debt (including service concession liabilities and leases)/total assets * 100	48.1%	47.0%	52.6%	2.3%		10.6%	[3]
F3	**Internal Financing Ratio** Net operating cash flow less dividends/ net capital expenditure * 100	87.2%	92.8%	55.7%	6.4%		66.6%	[4]
F4	**Current Ratio** Current assets/current liabilities (excluding long-term employee provisions and revenue in advance)	0.19 times	0.14 times	0.12 times	-26.3%	[5]	16.7%	[5]
F5	**Return on Assets** Earnings before net interest and tax/ average assets * 100	5.5%	4.6%	4.3%	-16.4%	[6]	7.0%	
F6	**Return on Equity** Net profit after tax/average total equity * 100	3.1%	1.9%	0.9%	-38.7%	[7]	111.1%	[7]
F7	**EBITDA Margin** Earnings before interest, Tax, Depreciation and Amortisation/total revenue * 100	66.2%	62.9%	64.0%	-5.0%		-1.7%	

Notes – to Performance Report:

[1] Performance indicators as mandated in Ministerial Reporting Direction 01 – Performance Reporting (MRD 01) have been marked with their MRD 01 reference numbers. As required by MRD 01 any variances to target or last year of more than 10% for financial performance indicators and 5% for non-financial performance indicators have been further explained within these notes.

[2] The 2021-22 result for Cash Interest Cover is favourable to target due to higher than target receipts from customers ($92.7 million) and higher other receipts ($23.8 million).

[3] The 2021-22 result for Gearing Ratio is favourable to target due to lower than target debt balance ($418.6 million) and an increase in total assets ($1,003.0 million).

[4] The 2021-22 result for Internal Financing Ratio is above target due to higher than target operating cashflows ($102.2 million) and lower than target capital expenditure ($153.4 million).

[5] The 2021-22 result for the Current Ratio is unfavourable to last year due to higher current interest bearing liabilities ($305.6 million) and higher payables ($36.7 million).

The 2021-22 result for the Current Ratio is favourable to target due to higher than target trade and other receivables and non-current assets held for sale (combined increase $47.9 million), interest bearing liabilities ($106.4 million) and trade and other payables ($118.5 million).

[6] The 2021-22 result for Return on Assets is unfavourable to last year due to lower net profit before net interest and tax during the year ($105.5 million). Lower net profit is mainly due to lower revenue from bulk water services ($11.3 million), bulk sewerage services ($40.7 million), net loss on revaluation of non-financial assets ($5.5 million) and higher expenses ($52.3 million). Average assets have also increased by ($719.6 million).

[7] The 2021-22 result for Return on Equity is unfavourable to last year due to current year increase in the asset revaluation reserve ($280.0 milion) and a lower net profit after tax ($61.0 million).

The 2021-22 result for Return on Equity is favourable to target mainly due to higher than target equity balance (increase of $1,109.0 million) mainly due to 2020-21 and 2021-22 asset revaluations increasing reserves ($862.0 million) and higher retained profits ($243.0 million).

Performance Report (continued)

Water, sewerage and other service performance indicators

KPI Number [1]	Key Performance Indicator	2020-21 Result	2021-22 Result	2021-22 Target	Variance to prior year	Notes	Variance to target	Notes
WQ1	**Water Quality** Compliance with Bulk Water Service Agreement (BWSA): Microbiological Standards — *E. coli*	100.0%	100.0%	100.0%	0.0%		0.0%	
WQ2	**Water Quality** Compliance with BWSA: Aesthetics — Turbidity	94.7%	100.0%	91.5%	5.6%	[8]	9.3%	[8]
CRM1	**Customer Responsiveness** Complaints referred to Energy and Water Ombudsman Victoria (EWOV) responded to within EWOV established time	100.0%	100.0%	100.0%	0.0%		0.0%	
EM1	**Non-compliance with other Environment Protection Authority Victoria (EPA Victoria) Licence and SEPP parameters – Sewerage system failure** Zero spills due to sewerage system failure	0.0	0.0	0.0	0.0%		0.0%	
EM2	**Compliance with EPA Victoria discharge licence requirements**							
EM2.1	Western Treatment Plant (WTP)	100.0%	100.0%	100.0%	0.0%		0.0%	
EM2.2	Eastern Treatment Plant (ETP)	100.0%	100.0%	100.0%	0.0%		0.0%	
E2	**Total net CO2 emissions** Net tonnes CO2 equivalent	468,666	475,034	480,000	-1.4%		1.0%	
WW1	**Waterways — Drainage and Flood Protection** Reduction in flood damages over the lifetime of works	N/A	$23.0M	$21.0M	N/A		9.5%	[9]
WW2	**Waterways Condition** Maintain river health (% of 10 target sites at high-value rating)	N/A	100.0%	100.0%	N/A		0.0%	

Notes – to Performance Report:

[1] Performance indicators as mandated in Ministerial Reporting Direction 01 – Performance Reporting (MRD 01) have been marked with their MRD 01 reference numbers. As required by MRD 01 any variances to target or last year of more than 10% for financial performance indicators and 5% for non-financial performance indicators have been further explained within these notes.

[8] The favourable variance compared to target and prior year for water quality (turbidity) was due to optimised harvest from the catchment to ensure good water quality is selected and supplied to the Silvan system resulting in no exceedances.

[9] The favourable result to target for waterways and drainage flood protection has been focused on the implementation of eligible land use planning programs, which reduces the baseline flood damages that our community experiences.

The flood effects reduction target considers contribution from:
- land use planning (flood overlays in local planning schemes trigger development referrals to be sent to Melbourne Water, and subsequently we provide conditions around minimum floor levels to reduce the risk of future flood damage to properties)
- flood mitigation works (to prevent, or reduce the frequency of, flooding for the flood impacted properties)
- flood warning and education (to enable targeted areas of the community to prepare and reduce the level of damage or risk experienced during major flood events).

The recently refreshed Flood Strategy institutes a revised approach to the use of Average Annual Damages (AAD) and sets a new target outcome based on economic impact reduction, which is not comparable to previous years. Melbourne Water's flood risk reduction program has matured significantly over the last five years, and there is now a balanced suite of flood risk reduction interventions in place (including a more robust pipeline of mitigation projects) which will align to the achievement of Flood Strategy objectives.

Water, sewerage and other service performance indicators (continued)

KPI Number [1]	Key Performance Indicator	2020-21 Result	2021-22 Result	2021-22 Target	Variance to prior year	Notes	Variance to target	Notes
RW1	**Recycled Water** WTP recycled water schemes fully compliant with regulatory obligations and their contractual requirements, as outlined in the relevant Bulk Recycled Water Supply Agreement							
RW1.1	Volume demands	100.0%	100.0%	100.0%	0.0%		0.0%	
RW1.2	Reliability	91.3%	83.4%	100.0%	-8.7%	[10]	-16.6%	[10]
RW1.3	Quality	90.3%	100.0%	100.0%	10.7%	[11]	0.0%	
RW2	**Recycled Water** ETP recycled water schemes fully compliant with regulatory obligations and their contractual requirements, as outlined in the relevant Bulk Recycled Water Supply Agreement							
RW2.1	Volume demands	100.0%	100.0%	100.0%	0.0%		0.0%	
RW2.3	Quality	100.0%	100.0%	100.0%	0.0%		0.0%	

Notes – to Performance Report:

[1] Performance indicators as mandated in Ministerial Reporting Direction 01 – Performance Reporting (MRD 01) have been marked with their MRD 01 reference numbers. As required by MRD 01 any variances to target or last year of more than 10% for financial performance indicators and 5% for non-financial performance indicators have been further explained within these notes.

[10] The unfavourable variance for WTP recycled water 'Reliability' is due to a significant algae bloom (Blue Green Algae) in the pond system (L55E) which impacted feedwater into Class A plant. This resulted in an interruption to Class A recycled water supply for most of February and all of March and April, which is the peak irrigation season.

An enhanced monitoring program has been established to support further research and investigation on seasonal algae blooms. Further trials are being tested and a report is being compiled by UNSW into methods for controlling Blue Green Algae blooms in the future. The investigations and trials will support a WTP Algae Management Plan.

A separate event was due to high turbidity caused by windy conditions which impacted supply.

All events were managed in consultation with customers regarding impact to Class A recycled water.

[11] Class A recycled water quality was compliant at all times when supplied to customers. The calculation methodolgy is based on recycled water supplied to customers. Previously the calculation methodology included feed water quality (untreateated water) which does not represent treated recycled water quality provided to customers. This is the reason for the favourable result to prior year.

Certification of Performance Report for 2021-22

We certify that the accompanying Performance Report of Melbourne Water Corporation in respect of the 2021-22 financial year is presented fairly in accordance with the *Financial Management Act 1994*.

The Performance Report outlines the relevant performance indicators for the financial year as determined by the Minister for Water and as set out in the *2021-22 Corporate Plan*, the actual and comparative results achieved for the financial year against predetermined performance targets and these indicators, and an explanation of any significant variance between the actual results and performance targets and/or between the actual results in the current year and the previous year.

As at the date of signing, we are not aware of any circumstances which would render any particulars in the Performance Report to be misleading or inaccurate.

John Thwaites
Chair

26 August 2022

Dr Nerina Di Lorenzo
Managing Director

26 August 2022

Anthony O'Shannessy
Chief Financial Officer

26 August 2022

Dated this 26th day of August 2022

Independent Auditor's Report

Victorian Auditor-General's Office

To the Board of the Melbourne Water Corporation

Opinion	I have audited the accompanying performance report of the Melbourne Water Corporation (the corporation) for the year ended 30 June 2022, which comprises the: • financial performance indicators • water and sewerage service performance indicators • other service performance indicators • certification of performance report. In my opinion, the performance report of the Melbourne Water Corporation for the year ended 30 June 2022 presents fairly, in all material respects, in accordance with the performance reporting requirements of Part 7 of the *Financial Management Act 1994*.
Basis for Opinion	I have conducted my audit in accordance with the *Audit Act 1994* which incorporates the Australian Standards on Assurance Engagements. I further describe my responsibilities under that Act and those standards in the *Auditor's Responsibilities for the Audit of the performance report* section of my report. My independence is established by the *Constitution Act 1975*. My staff and I are independent of the corporation in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the performance report in Victoria and have also fulfilled our other ethical responsibilities in accordance with the Code. I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.
Board's responsibilities for the performance report	The Board is responsible for the preparation and fair presentation of the performance report in accordance with the performance reporting requirements of the *Financial Management Act 1994*, and for such internal control as the Board determines is necessary to enable the preparation and fair presentation of the performance report that is free from material misstatement, whether due to fraud or error.

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Auditor's responsibilities for the audit of the performance report

As required by the *Audit Act 1994*, my responsibility is to express an opinion on the performance report based on the audit. My objectives for the audit are to obtain reasonable assurance about whether the performance report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the Australian Standards on Assurance Engagements will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of this performance report.

As part of an audit in accordance with the Australian Standards on Assurance Engagements, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the performance report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the corporation's internal control
- evaluate the overall presentation, structure and content of the performance report, including the disclosures, and whether the performance report represents the underlying events and results in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

MELBOURNE
6 September 2022

Paul Martin
as delegate for the Auditor-General of Victoria

Albert Park

Appendices

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The *Melbourne Water Annual Report 2021-22* is prepared in accordance with all relevant Victorian legislation and pronouncements. This index has been prepared to facilitate identification of Melbourne Water's compliance with statutory disclosure requirements.

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Appendix B – Corporate Information

Consultancy Expenditure

The following is a summary of consultancy expenditure by Melbourne Water over the 2021-22 financial year. Details of individual consultancies are outlined on Melbourne Water's website[3].

Consultancies valued at $10,000 or greater

In 2021-22, there were 18 consultancies engaged during the year where the total fees payable to the consultants were $10,000 or greater. The total expenditure incurred during 2021-22 in relation to these consultancies was $764,920 (2020-21: $840,261) (excl. GST).

Consultancies valued at less than $10,000

In 2021-22, there were six consultancies engaged during the year where the total fees payable to the consultants were less than $10,000. The total expenditure incurred during 2021-22 in relation to these consultancies was $24,350 (2020-21: $17,036) (excl. GST).

Advertising campaigns

There was one (1) advertising campaign with a value greater than $100,000.

The 'Make Every Drop Count' was a collaborative campaign with Greater Western Water, Melbourne Water, and Yarra Valley Water communicating how householders can save water. There was also a focus on industry and how water efficiency programs for schools, utilising recycled water for parks, gardens and community housing, is making a difference to water saving efforts too.

Melbourne Water's contribution to this campaign is as noted below.

	($ 000)					
Start/end date	Advertising (media) expenditure excl GST	Creative and campaign development expenditure (excl. GST)	Research and evaluation expenditure (excl. GST)	Print and collateral expenditure (excl. GST)	Other campaign expenditure (excl. GST)	Total
January – April 2022	136,750	91,750	12,400	0	0	240,900

ICT Expenditure

For the 2021-22 reporting period, Melbourne Water had a total ICT expenditure of $64,918,403 (2020-21 $56,690,277) with the details shown below.

($ 000)			
Business as usual (BAU) ICT expenditure (Total)	Non-business as usual (non-BAU) ICT expenditure (Total = Operational and Capital expenditure)	Non-BAU ICT expenditure Operational expenditure (OPEX)	Non-BAU ICT expenditure Capital expenditure (CAPEX)
54,335	**10,583**	**-**	**10,583**

Definitions
Non Business As Usual (Non BAU): non BAU ICT expenditure is a subset of ICT expenditure that relates to extending or enhancing current ICT capabilities and are usually run as projects.
Business As Usual (BAU): all remaining ICT expenditure is considered BAU ICT expenditure and typically relates to ongoing activities to operate and maintain the current ICT capability.

[3] http://www.melbournewater.com.au

Disclosure of Major Contracts

Melbourne Water has disclosed, in accordance with Ministerial Directions and Instructions for Public Construction Procurement and the Victorian Government Purchasing Board (VGPB) policies, all contracts greater than $10 million in value entered into during the year ended 30 June 2022. Details of contracts can be viewed on Buying for Victoria[4] website.

Competitive Neutrality Policy

Melbourne Water is corporatised and therefore has an independent Board, with independent and objective performance monitoring. The Corporation faces equivalent tax treatment, borrowing requirements and regulations as a private business. As outlined above, we also operate in an environment where the Essential Services Commission (ESC) determines cost-based pricing. In this regard our processes are consistent with the requirements of the Victorian Competitive Neutrality Policy.

Melbourne Water has had no legal actions pending or completed during the reporting period for anti-competitive behaviour.

Pricing

Melbourne Water's wholesale water and sewerage prices decreased by approximately 5.2 per cent plus inflation in 2021-22, reflecting the ESC's 2021 Price Determination with updates to cost of debt and desalination plant costs. The annual residential waterways and drainage charge increased only by inflation in 2021-22 to $105.56.

Freedom of Information

Melbourne Water is subject to the *Freedom of Information Act 1982* (FOI Act) and is committed to releasing documents in our possession unless exempt. We also welcome enquiries about the broad range of documents we provide outside the FOI Act.

The designated persons for the purpose of the FOI Act are:

Principal Officer	Authorised Officer
Mr J Thwaites	Ms K Croker
Chair, Melbourne Water Board	Corporate Paralegal, Freedom of Information Officer and Privacy Officer

Requests

We received 25 freedom of information requests including one transferred from another agency. We finalised 14 requests including three from the previous year. Of the remaining requests made this year, eight did not proceed, three were withdrawn and three were still in progress.

Twelve requests were from members of the public, eight from law firms and one from an underwriting agency, one from an interest group and one from an Member of Parliament. Four requests were for personal information.

We released 148 documents, 136 of them in full. Exemptions applied where disclosure of information obtained in confidence.

Finalised requests 14	Other requests 14
Access outcomes: • Access in full: 10 • Access in part: 2 • No documents: 2 • Access denied: 0	**Outcomes:** • Withdrawn: 3 • Did not proceed: 8 • Not yet finalised: 3
Related to: • Environment and planning: 6 • Leases and licences: 1 • Personal: 3 • Policies and procedures: 1 • Works: 3	**Related to:** • Asset management: 5 • Environment and planning: 6 • Leases and licences: 1 • Personal: 1 • Works: 1

Reviews and complaints

No reviews or complaints were received from the Information Commissioner. No Victorian Civil and Administrative Tribunal applications in relation to reviews of decisions or complaints were received.

[4] https://www.tenders.vic.gov.au/

Appendix B – Corporate Information (continued)

Access to documents

People wanting access to Melbourne Water documents under the FOI Act may use the online Freedom of Information application on our website.

We also accept applications made in writing to:

Freedom of Information Officer
Melbourne Water
PO Box 4342
Melbourne VIC 3001

Each application must clearly identify the documents sought and be accompanied by the required application fee of $30.10 (as of 1 July 2021).

General enquiries about Freedom of Information may be made by contacting the Freedom of Information Officer on (03) 9679 7050 between 9am and 5pm Monday to Friday or via email to foi@melbournewater.com.au

Information required under Part 2 of the FOI Act is available on our website.

The statement includes information about Melbourne Water functions, decision making, consultation arrangements and publications. It also outlines how to make a Freedom of Information request and how to request information outside the scope of the FOI Act.

Categories of documents

Melbourne Water uses a computerised records management system to manage our correspondence and documents. We use online computer systems to manage our financial, human resource and other operational activities and plans relating to water supply, waterways, drainage and sewerage responsibilities. Historical archives of our activities are available through the Public Records Office Victoria. More information is in the Part 2 Information Statement on our website.

Building Compliance

Melbourne Water continues to work towards compliance with the *Building Act 1993* across our substantial property and building portfolio. We require that appropriately qualified consultants and contractors are engaged for all proposed works on land controlled by Melbourne Water and that their work and services comply with current building standards. All such consultants and contractors are expected to have appropriate mechanisms in place to ensure compliance with the building and maintenance provisions of the *Building Act 1993*, Building Regulations 2018 and the National Construction Code.

As part of our ongoing compliance program we continue to obtain relevant statutory building documentation and update our Asset Management System to ensure mandatory testing and inspection is conducted to the relevant standards. These inspections inform the works program which is delivered annually through existing contracts.

In 2021-22:

The number of major works projects undertaken (greater than $50,000):	7
The number of building permits, occupancy permits or certificate of final inspection issued in relation to buildings owned by the entity:	7 building permits 1 occupancy permit 4 certificates of final inspection
The number of emergency orders and building orders issued in relation to buildings:	0 emergency orders 0 building orders
The number of buildings that have been brought into conformity with building standards during the reporting period:	0 buildings brought into conformity

Privacy Legislation

Melbourne Water is subject to the *Privacy and Data Protection Act 2014* (Vic), the *Health Records Act 2001* (Vic) and, in relation to Tax File Numbers, the *Privacy Act 1988* (Cth). Melbourne Water is committed to protecting the privacy of personal and health information it collects and handles. Melbourne Water collects and handles personal and health information only to carry out its functions and activities.

Melbourne Water received no privacy complaints or notifications of complaints received by the Victorian Information Commissioner, the Health Complaints Commissioner, or the Australian Information Commissioner.

Melbourne Water is committed to openness and transparency and welcomes queries and suggestions about its approach to privacy. We endeavour to resolve any privacy complaints quickly and effectively.

People may access their personal and health information at Melbourne Water. People wanting to access their information, seek a copy of our Privacy Policy or make a privacy complaint should call 131 722 (within Victoria) or 9679 7100 (within the rest of Australia) or write to:

Privacy Officer
Melbourne Water
PO Box 4342
Melbourne VIC 3001

Or

Attention Privacy Officer at enquiry@melbournewater.com.au

Financial Management

Other information as required under the *Financial Management Act 1994*, but not specifically referred to, has been retained by the Accountable Officer and is available to the Minister, Members of Parliament and the public on request.

Other Information Available on Request

In compliance with the requirements of the Standing Directions of the Assistant Treasurer, details in respect of the items listed below have been retained by Melbourne Water and are available on request, subject to the provisions of the *Freedom of Information Act 1982*.

Further information is available on request about:

- pecuniary interests of relevant officers
- details of shares held by a senior officer as nominee or held beneficially in a statutory authority or subsidiary
- details of changes in prices, fees, charges, rates and levies charged if relevant
- details of Melbourne Water publications
- committees chaired by Melbourne Water
- major external reviews carried out on Melbourne Water
- research and development activities
- overseas visits
- major promotional, public relationship and marketing activities
- Melbourne Water's Code of Conduct
- assessments and measures to improve the occupational health and safety of employees
- statement of industrial relations
- details of time lost through industrial accidents and disputes
- major sponsorships.

Phone 131 7822 or (03) 9679 7100 (within the rest of Australia) or visit the website[5].

[5] http://www.melbournewater.com.au

Appendix B – Corporate Information (continued)

Public Interest Disclosure

The *Public Interest Disclosures Act 2012* (Vic) (PID Act) assists people to expose wrongdoing in public life and protects them from any reprisals. The PID Act applies to Melbourne Water and members of our community must have confidence that Melbourne Water and its people are conducting themselves properly.

Melbourne Water does not tolerate improper conduct by employees nor reprisals against those who come forward to disclose such conduct. Melbourne Water is committed to ensuring transparency and accountability in its administrative and management practices and supports the making of disclosures that reveal corrupt conduct, conduct involving a substantial mismanagement of public resources, conduct involving a substantial risk to public health and safety or the environment, or other improper conduct. Our commitment is reflected in our Code of Conduct and our Public Interest Disclosure Procedures.

Where a disclosure is brought to Melbourne Water's attention by an investigative body, we will take all reasonable steps to protect people who make such disclosures from any detrimental action in reprisal for making the disclosure. We will also afford natural justice to the person who is the subject of the disclosure to the extent it is legally possible.

How do I make a 'public interest disclosure'?

You can make a public interest disclosure about Melbourne Water or its Board members, officers or employees by contacting the Independent Broad-based Anti-corruption Commission (IBAC) Victoria, using the contact details provided below. Please note that Melbourne Water is not able to receive public interest disclosures. Melbourne Water has had no incidents of corruption in 2021-2022.

How can I access Melbourne Water's procedures for the protection of persons from detrimental action?

Melbourne Water has procedures in place for the protection of persons from detrimental action for making a public interest disclosure about Melbourne Water or its employees. You can access our procedures at the Melbourne Water website[6].

Contacts

Emma Braun
General Counsel and Company Secretary
Melbourne Water
PO Box 4342
Melbourne VIC 3001
Phone (03) 9679 7111

Independent Broad-based Anti-corruption Commission Victoria

Level 1, North Tower, 459 Collins Street
Melbourne VIC 3000

GPO Box 24234
Melbourne VIC 3000
Phone: 1300 735 135

See the IBAC website[7] for the secure email disclosure process which also provides for anonymous disclosures.

[6] http://www.melbournewater.com.au
[7] https://www.ibac.vic.gov.au

Appendix C – Bulk Entitlements

The Victorian Government introduced bulk water reforms on 1 July 2014. These reforms introduced a 'source' and 'delivery' bulk entitlements model for Melbourne with a seasonal determination process and rights to carry over unused water allocations from year to year. The four systems currently supplying Melbourne (Thomson River, Yarra River, Silver and Wallaby creeks, and Tarago and Bunyip rivers) are collectively known as the Greater Yarra System – Thomson River Pool.

Melbourne Water is assigned the source bulk entitlements to the Greater Yarra System – Thomson River Pool. The delivery bulk entitlements to the Greater Yarra System – Thomson River Pool are assigned to Barwon Water, Greater Western Water (formerly City West Water and Western Water), South East Water, South Gippsland Water, Westernport Water and Yarra Valley Water (the 'primary entitlement holders' – PEHs).

As the Resource Manager for the Melbourne headworks system, Melbourne Water allocates water to the PEHs by making seasonal determinations to them. Melbourne Water is also the Storage Manager (under section 171B of the *Water Act 1989*) for water sources in the Melbourne headworks system. The following table fulfils the reporting requirements in Melbourne Water's bulk entitlements.

Melbourne Water reporting obligation	Combined Yarra River, Silver and Wallaby creeks, Thomson River	Yarra River[2] (WSE000185)	Silver and Wallaby creeks[5] (WSE000018)	Thomson River[7] (WSE000168)	Tarago and Bunyip rivers[9] (WSE000041)
The amount of water taken by PEHs in 2021-22 (i). Total inflows[(a)]; (ii). Total storage volumes[(b)]; and (iii). Total outflows[(c)]	N/A	Clause 15.1 (a) (i). 352,141 ML (ii). 548,238 ML (iii). 323,512 ML	Clause 14.1 (a) (i). 3,362 ML (ii). No storage is available in Silver and Wallaby (iii). 3,362 ML	Clause 15.1 (a) (i). 223,899 ML (ii). 894,445 ML (iii). 68,593 ML	Clause 15.1 (a) (i). 28,265 ML (Tarago) 2,190 ML (Bunyip) (ii). 34,580 ML (Tarago) No storage is available in Bunyip (iii). 10,258 ML (Tarago) 2,190 ML (Bunyip)
Compliance with the diversion limit	366,158 ML[1]	Clause 15.1 (b) 294,203 ML[3]	Clause 14.1 (b) 6,774 ML[6]	Clause 15.1 (b) 68,593 ML[8]	Clause 15.1 (b) 13,843 ML (Tarago)[10] 2,191 ML (Bunyip)[11]
Any temporary/permanent transfer of this bulk entitlement	N/A	Clause 15.1 (c) Nil	Clause 14.1 (c) Nil	Clause 15.1 (c) Nil	Clause 15.1 (c) Nil
Any temporary/permanent transfer of a bulk entitlement which may alter the flow in the waterway	N/A	Clause 15.1 (d) Nil	Clause 14.1 (d) Nil	Clause 15.1 (d) Nil	Clause 15.1 (d) Nil
Any amendment to this bulk entitlement	N/A	Clause 15.1 (e) Nil	Clause 14.1 (e) Nil	Clause 15.1 (e) Nil	Clause 15.1 (e) Nil

Appendix C – Bulk Entitlements (continued)

Melbourne Water reporting obligation	Combined Yarra River, Silver and Wallaby creeks, Thomson River	Yarra River[2] (WSE000185)	Silver and Wallaby creeks[5] (WSE000018)	Thomson River[7] (WSE000168)	Tarago and Bunyip rivers[9] (WSE000041)
Volume of water made available to PEHs from seasonal determinations (on 1 June 2022)	N/A	Clause 15.1 (f)	Clause 14.1 (f)	Clause 15.1 (f)	Clause 15.1 (f)
		Greater Yarra System – Thomson River Pool[4] 158,841 ML (Greater Western Water, former City West Water BE) 214,441 ML (South East Water) 228,470 ML (Yarra Valley Water) 16,633 ML (Barwon Water) 1,040 ML (South Gippsland Water) 1,040 ML (Westernport Water) 18,972 ML (Greater Western Water, former Western Water BE)	N/A	N/A	N/A
Any new bulk entitlement of water granted	N/A	Clause 15.1 (g) Nil	Clause 14.1 (g) Nil	Clause 15.1 (g) Nil	Clause 15.1 (g) Nil
Any failures to comply with this bulk entitlement and any remedial action	N/A	Clause 15.1 (h) Nil	Clause 14.1 (h) Nil	Clause 15.1 (h) Nil	Clause 15.1 (h) Nil
Any difficulties experienced in complying with this bulk entitlement and any remedial action	N/A	Clause 15.1 (i) Nil	Clause 14.1 (i) Nil	Clause 15.1 (i) Nil	Clause 15.1 (i) Nil
Any other matters as required by the Minister	N/A	Clause 15.1 (j) Nil	Clause 13.1 (j) Nil	Clause 15.1 (j) Nil	Clause 15.1 (j) Nil

(a) Total inflows for each of Melbourne Water's bulk entitlements include inflows to reservoir(s) and diversions from weirs available to Melbourne Water under its bulk entitlements.

(b) Total storage volumes are as at 30 June 2022 for all reservoirs defined in each of Melbourne Water's bulk entitlements.

(c) Total outflows are the volume of water diverted or released under each of Melbourne Water's bulk entitlements for consumptive and operational purposes. It excludes spills from reservoirs.

Notes for compliance with Bulk Entitlements

Combined Yarra River, Silver and Wallaby creeks, Thomson River

1. This is the volume diverted in 2021-22.

Yarra River

2. Melbourne Water holds the Bulk Entitlement (Yarra River – Melbourne Water) Order 2014 – WSE000185.
3. This is the volume diverted in 2021-22.

Notes for compliance with Bulk Entitlements (continued)

Greater Yarra System – Thomson River Pool

4. The Greater Yarra System – Thomson River Pool includes the following Bulk Entitlements held by Melbourne Water:
   a. Bulk Entitlement (Yarra River – Melbourne Water) Order 2014 – WSE000185
   b. Bulk Entitlement (Silver and Wallaby creeks – Melbourne Water) Order 2014 – WSE000018
   c. Bulk Entitlement (Tarago and Bunyip rivers – Melbourne Water) Order 2014 – WSE000041
   d. Bulk Entitlement (Thomson River – Melbourne Water) Order 2014 – WSE000168

Silver and Wallaby creeks (Goulburn Basin)

5. Melbourne Water holds the Bulk Entitlement (Silver and Wallaby creeks – Melbourne Water) Order 2014 – WSE000018.
6. Compliance with the three-year total diversion limit of 66,000 ML was assessed and confirmed using a three-year rolling total diversion.

Thomson River

7. Melbourne Water holds the Bulk Entitlement (Thomson River – Melbourne Water) Order 2014 – WSE000168.
8. This is the volume diverted in 2021-22.

Tarago and Bunyip rivers

9. Melbourne Water holds the Bulk Entitlement (Tarago and Bunyip rivers – Melbourne Water) Order 2014 – WSE000041.
10. Compliance with the Tarago River long-term average diversion limit of 24,950 ML was assessed and confirmed using a five-year rolling average annual diversion.
11. Compliance with the Bunyip River long-term average diversion limit of 5,560 ML was assessed and confirmed using a five-year rolling average annual diversion.

Melbourne Water's Maribyrnong Bulk Entitlement

Melbourne Water holds a Bulk Entitlement (WSE000117) to the water resources of the Maribyrnong Basin to supply irrigators diverting water from Jacksons Creek, downstream of Rosslynne Reservoir, and the Maribyrnong River between its confluence with Jacksons Creek and Shepherd Bridge.

Compliance with the Maribyrnong River Bulk Entitlement held by Melbourne Water	
The volume of water taken by Melbourne Water to supply licence holders in 2021-22	Clause 19.1 (b), 117 ML
Compliance with the five-year rolling average annual bulk entitlement diversion limit of 1,096 ML	258 ML
Melbourne Water's share of flow into Rosslynne Reservoir in 2021-22	Clause 19.1 (a.iii), 794 ML
Melbourne Water's share of storage volume in Rosslynne Reservoir at 30 June 2022	Clause 19.1 (a,ii), 1,536 ML
Transfer and operating losses within the system	Clause 19.1 (a,iv), 0 ML
Releases made from Rosslynne Reservoir to supply licence holders in 2021-22	Clause 19.1 (a,i), 0 ML
Releases from Melbourne Water's share of flow to meet minimum flows	Clause 19.1 (a,v), 156 ML
Any temporary or permanent transfers of the bulk entitlement	Clause 19.1 (c), nil
Any temporary or permanent transfer of the bulk entitlement which may alter the flow in the waterway	Clause 19.1 (d), nil
Alteration to volume of water under licences issued by Melbourne Water	Clause 19.1 (e), nil
Alteration to security of supply of entitlements under licences	Clause 19.1 (e), nil
Transfer of licences (number, amount and places)	Clause 19.1 (f), Yes (In total 19 licences were transferred to VEWH)
Any amendment to the bulk entitlement	Clause 19.1 (g), nil
Any new bulk entitlement granted to Melbourne Water	Clause 19.1 (h), nil
Implementation of metering program	Clause 19.1 (i), Yes
Any failures to comply with any provision of the bulk entitlement	Clause 19.1 (j), nil
Any difficulty experienced in complying with the bulk entitlement and if so, any remedial action taken or proposed	Clause 19.1 (k), nil

Appendix D – Private Diversion Licences

Melbourne Water manages 1,807 licences to use water from farm dams and waterways in the Yarra River, Maribyrnong River, Stony Creek, Kororoit Creek, Laverton Creek, Mordialloc Creek and Skeleton Creek catchments. Water is mainly used for agricultural, industrial, commercial, domestic and stock purposes. The total number of 'take and use' licences (that is, licences for uses such as irrigation) is 1,187 with a combined volume of 34,945 ML.

Melbourne Water applies permanent management trigger and restriction conditions enacted under the Diversions Drought Response Plan (A Water Sharing Plan for all Licenced Water Users) and licence conditions. Melbourne Water has not invoked any additional drought response measures outside of the plan during 2021-22.

Licence Totals	No. Licences	Volume (ML)	Metered Usage (ML)
Farm Dam Registrations	523	6,775	0
Farm Dam Licences	43	989	165
Take and Use Licences Yarra	1140	34,151	8550
Take and Use Licences Maribyrnong	47	794	172
Stormwater Licences	54	3,624	1032
Environmental Water Licence	8	1,980	0

Compliance Management

Melbourne Water has delegated power and functions to undertake compliance and enforcement activities under the *Water Act 1989*. Following an independent compliance and enforcement review undertaken in 2020, Melbourne Water has been working with the Department of Land, Water, Environment and Planning to review and update compliance and enforcement strategies to ensure a coordinated, risk-based and consistent State-wide approach to compliance and enforcement activities.

Our *Healthy Waterways Strategy* and Stream Flow Management plans provide guidance on our compliance and enforcement priorities which is further supported by our Compliance and Enforcement Statement. The Statement is available on our website and outlines our approach to compliance and enforcement and was developed in line with Department of Environment, Land, Water and Planning's *Non-Urban Compliance and Enforcement Guidelines for Water Corporations 2019*. This document can be assessed on the website.[8]

Melbourne Water is committed to continuous improvement following the completion of recommendations arising from the 2020 Independent Review into Compliance and Enforcement. During 2021/22 period Melbourne Water continued to operationalise our Compliance and Enforcement Statement by undertaking the following priorities:

- implementing system improvements to assist with our compliance and enforcement reporting capability and increasing automation of reporting
- upgrading meters to AS4747 meters as per our Meter Action Plan
- continuing the rollout of automated meter reading technology to provide near-time access to water extraction data
- continuing our communications campaign to build customer understanding of the zero-tolerance approach to improving compliance
- building the capability of our staff to deliver a zero tolerance approach through additional training to relevant staff including completing CERTIV Government Investigations and Penalty Infringement Notice Training
- continuing steps towards implementing the Water (Infringements) Regulations 2020 (PINs)
- actively participating in the DELWP-led Compliance Community of Practice, Water Compliance Communications Working Group, Authorised Officer Network, and Non-urban Metering Working Group.

[8] https://www.melbournewater.com.au/water-data-and-education/waterway-diversions/water-use-compliance

Compliance and Enforcement Actions

A summary of the investigations into non-compliances and their resolutions over the past three years is provided in Table 11.

Table 11: Compliance actions undertaken in the past three years

Item	2019-20	2020-21	2021-22
Potential breaches detected	51	53	49
Under investigation at the time of reporting	18	9	13
Dismissed (insufficient evidence)	1	5	0
No further action required	21	27	22
Verbal warning	N/A	7	2
Advisory letter	3	0	3
Formal warning or interview	8	5	9
Penalty Infringement Notice	N/A	0	0
s.151 Notice of Contravention	N/A	0	0
s.133 Notice of Entry	N/A	0	0
s.141 Lockdown	N/A	0	0
Prosecutions commenced	N/A	0	0
Prosecutions finalised	N/A	0	0

Note: 'Referred to another agency' is no longer reported separately in this table. These actions are now captured under 'No further action required'.

Metering Activities

Melbourne Water has a zero-tolerance approach to unauthorised water take and a risk-based approach to licence management. To support this we have developed and are delivering our Metering Action Plan, focused on continuing to improve the meter fleet with highly reliable Australian Standard AS4747 compliant meters and telemetry to provide real-time water usage data to Melbourne Water and our customers. This real-time data helps Melbourne Water with enforcement actions and strengthens our zero-tolerance approach. Rollout of our Metering Action Plan is progressing ahead of schedule, and we anticipate we will be fully compliant to the implementation program of the Victorian Metering Policy with the upgrade of the remaining 106 contemporary meters and the installation of 195 data loggers by 2025. Our Non-Urban Metering Action Plan plus summary can be found on the website[9].

Table 12: Summary of licensed metered sites as of July 2021.

Category	2021-22
1. AS4747 Compliant Meters	378
2. Existing Contemporary Meters[10]	106
3. Exempt Meters	315
Total	**799**

The 799 Melbourne Water meters range in diameters from 25 to 450 mm in size with the vast majority of the meters being in the 50 to 150 mm range. As of June 2022, we have 78 per cent of total required meter fleet compliant with AS4747 meters with the remaining 106 meters scheduled to be upgraded to AS4747 by 2025.

Melbourne Water also undertakes meter validations as per AS4747. This is done on each waterway every three years by a Certified Meter Validator. During 2020-21, there were approximately 212 meters validated onsite. In addition Melbourne Water undertakes a program of regular maintenance of meters including regular inspections.

[9] https://www.melbournewater.com.au/water-data-and-education/waterway-diversions/metering-pump-and-offtake-guidelines
[10] To be upgraded to AS4747 compliant meters as per our capital program by 2025

Appendix D – Private Diversion Licences (continued)

Public Information and Education Campaigns

To inform customers and promote our approach to zero tolerance on water theft, Melbourne Water has undertaken a number of initiatives including developing a compliance and enforcement web page, adding Zero Tolerance to water theft banners on invoices, having a compliance focus for the annual StreamNews newsletter, conversations with customers by our officers in the field and creating four Fact Sheets. These documents can be assessed on the website[11].

Melbourne Water's Compliance and Enforcement is a risk-based strategy to ensure that resources are used efficiently, focusing more on areas where there are the greatest compliance risks. Our approach to compliance and enforcement is risk-based and responsive, so our actions reflect the seriousness of the offence. We are committed to:

- an emphasis on education, community engagement, technology and monitoring programs, to encourage and assist with compliance
- a clear and logical escalation pathway in response to detected breaches
- working in good faith with all parties and using our enforcement powers only when needed

Melbourne Water has undertaken several activities in support of its *Compliance Communications Strategy* including the following:

- participated in the statewide Water Compliance Communications Working Group supporting implementation of the statewide water compliance communications plan and collaboration with other rural water corporations
- updated our communications plan regarding compliance and enforcement key messaging
- continued to update compliance information on our website
- continued our interaction with licence holders in relation to their obligations and importance of maintaining a high level of compliance
- collaborated with DELWP to refine and expand Zero Tolerance key messging and taglines for Zero Tolerance for Water Theft banner, which have been used on water bills, factsheets and newsletters.

Bans and Restrictions

Melbourne Water will be transparent about our water use compliance strategies, protocols, and compliance and enforcement activities.

Also, during drought or low flow conditions, licenced diverters' access to water may be restricted or banned to protect the environment. Our Drought Response Plan is active at all times, and specifies how water is shared when there is not enough to meet all users' needs. It states river flow levels which trigger restrictions or bans, and how these are applied to different licence types. These trigger points have been developed together with stream flow management plans or local management rules/plans.

The status of restrictions and bans for individual catchments is posted daily on Melbourne Water's website[12] and is available by calling Melbourne Water on 131 722 at any time or via an automated SMS services to subscribed customers.

During 2021-22, we sent over 3150 text messages to over 142 subscribed customers advising them on waterway pumping restrictions and/or bans.

[11] https://www.melbournewater.com.au/water-data-and-education/waterway-diversions/water-use-compliance
[12] https://www.melbournewater.com.au/water-data-and-education/waterway-diversions/restriction-and-ban-status

Table 13: Summary of bans and restrictions in 2021-22

Catchment	Restriction Days	Ban Days	Licence Ban Days	Days Available
Arundel Creek	0	17	0	348
Cockatoo Shepherds Creek (SFMP)	44	0	0	321
Darebin Creek	0	91	0	274
Diamond Creek	0	141	0	224
Dixons Creek (SFMP)	0	28	212	125
Don River (SFMP)	0	0	0	365
Gardiners Creek	0	0	0	365
Hoddles Creek (SFMP)	0	47	0	318
Kororoit Creek	0	0	0	365
Little Yarra River (SFMP)	0	0	0	365
Maribyrnong River (All Year)	0	0	0	365
Maribyrnong River (Winterfill)	0	0	242	123
McCrae Creek (SFMP)	37	0	0	328
Merri Creek	0	0	0	365
Moonee Ponds Creek	0	17	0	348
Mullum Mullum Creek	0	83	0	282
Olinda Creek (Lower) – SFMP	17	0	0	348
Olinda Creek (Upper) – SFMP	10	195	0	160
Pauls Creek (SFMP)	0	51	212	102
Plenty River	0	80	0	285
Steels Creek (SFMP)	0	78	212	75
Stringybark Creek (Lower) – SFMP	0	0	0	365
Stringybark Creek (Upper) – SFMP	0	49	0	316
Wandin Yallock Creek (SFMP)	0	11	0	354
Watsons Creek	0	0	0	365
Watts River	0	0	0	365
Woori Yallock Creek (SFMP)	0	0	0	365
Yarra River (Lower)	76	4	0	285
Yarra River (Upper)	68	0	0	297

Statewide Key Performance Indicators

Unauthorised take performance is reported against statewide key performance indicators (KPIs) being:

- no more than 1 per cent of volume of total water take is taken without authorisation at any time
- no more than 3 per cent of accounts are to be in negative at any time.

Table 14 summarises performance against the Minister for Water's state-wide performance targets. These KPIs show that we have met both of them in 2021-22.

Table 14: Unauthorised take Key Performance Indicators

	ABAs [or licences]			Volume			
Year	Number of Negative ABAs	ABAs%	ABAs % (Excluding <1ML)	Volume (ML) of water taken under corporation issued licences[13]	Volume (ML) of Unauthorised Take	Volume %	Volume % (Excluding previous FY)
2019-20	17	0.9%	NA	6507.7	-110.3	1.7%	1.7%
2020-21	6	0.3%	NA	9939.1	-140.2	1.4%	1.4%
2021-22	17	0.9%	0.6%	9920.9	-55.1	0.5%	0.5%
30 Sep (Q1)	1	0.05%	0.0%	NA	-0.6	NA	NA
31 Dec (Q2)	1	0.05%	0.0%	NA	-3.5	NA	NA
31 Mar (Q3)	5	0.2%	0.2%	NA	-22.6	NA	NA
30 Jun (Q4)	11	0.6%	0.3%	NA	-28.4	NA	NA

Appendix E – Flooding and Drainage

Item	2021-22	
	km	%
Underground Drains		
Total length of Melbourne Water assets	1,758	
Total length of Melbourne Water assets excluding drainage scheme areas	1,095	
Mapped 100yr ARI	601	55%
Mapped 20yr ARI	453	41%
Mapped 10yr ARI	314	29%
Mapped 5yr ARI	311	28%
Natural Waterways		
Total length of Melbourne Water assets	8,696	
Total length of Melbourne Water assets excluding drainage scheme areas, forested areas and French Islands	6,545	
Mapped 100yr ARI	4,678	71%
Mapped 20yr ARI	842	13%
Mapped 10yr ARI	654	10%
Mapped 5yr ARI	561	9%
Channels		
Total length of Melbourne Water channels	1,979	
Mapped 100yr ARI (underground drains)	114	
Mapped 100yr ARI (waterways)	1,561	
Mapped 100yr ARI (total)	1,675	85%
Total		
Total length of Melbourne Water assets	12,433	
Total length of Melbourne Water assets excluding drainage scheme areas, forested areas and French Island	9,619	
Mapped 100yr ARI	6,954	72%
Method: Select the assets while excluding (DSCM or DSCM/French Island/forestered areas) using an erase tool. Select the waterways that intersect with 100yr ARI flood map. Calculate the percentage of flood polygons from the 20yr ARI, 10yr ARI and 5yr ARI, using an intersect query with the 100yr ARI selected for interesction with assets. Derive the length of assets that have been flood mapped for each ARI interval using the percentage and the length calculated from the 100yr ARI query (see example below)		
Intersect of 20yr ARI polygons with 100yr ARI polygons = 0.76 (76%)		
Mulitply 100yr ARI with percentage intersect | 605 * 0.76 = 460		

Appendix F – Catchment Condition Report

Water

The Port Phillip & Western Port region holds more than 25,000 kilometres of rivers and creeks. Collectively they gather water from the landscape which flows into Port Phillip Bay and Western Port. There are also over 14,000 natural wetlands and 370 constructed stormwater treatment wetlands. The condition of the region's waterways and wetlands is outlined in detail in the *Healthy Waterways Strategy* and a brief summary is provided below.

Westernport Catchment – Conditions

The Westernport catchment occupies about 3,755 square kilometres and includes all the waterways within Western Port together with those on Phillip and French islands on the Mornington Peninsula (including some that drain to Port Phillip Bay and Bass Strait).

Waterway conditions are highly variable, with much of the higher value areas being in the forested upper catchments, along the coast of Western Port and in the large regional parks. Wetland conditions are low to moderate with a current trajectory of low. Implementing programs to improve wetland buffers, vegetation condition and water regime is predicted to improve scores.

Table 1.1

Waterway conditions	2018 baseline	Business as usual	2068 Target
Access	Very Low	Very Low	Low
Instream connectivity	Moderate	Moderate	High
Litter absence	High	Moderate	Very high
Participation	Moderate	Low	Very high
Physical form	Moderate	Low	Moderate
Stormwater condition	High	Moderate	High
Vegetation extent	Low	Low	High
Vegetation quality	Low	Very Low	Moderate
Water for the environment	High	Moderate	High
Water quality – Environmental	Low	Very Low	Low
Water quality – Recreational	High	Moderate	High

Table 1.2

Wetland conditions	2018 baseline	Business as usual	2068 Target
Water regime	Low	Low	Moderate
Water quality	Low	Very Low	Moderate
Buffer condition	Low	Low	High
Vegetation condition	Low	Low	High
Habitat form	Moderate	Low	Moderate

Legend: Very high · High · Moderate · Low · Very Low

Healthy Waterways Strategy website, 2022

Appendix F – Catchment Condition Report (continued)

Westernport Catchment – Progress of on ground actions on water quality

Reduce agriculture runoff

10 year catchment target

Achieved to date

2028 Target: 16,000 ha

2021 Progress: 1578.56 ha

Under review

Reduce nutrient and sediment runoff from rural land through improved management of 16,000 ha of land including works to protect and increase vegetation along headwater streams.

Healthy Waterways Strategy website, 2022

In 2020-21, 47 projects were undertaken to reduce agricultural runoff on 498 hectares of land in the Westernport catchment. These projects were delivered in six of the eight priority sub-catchments for reducing agricultural runoff to protect waterway values and Western Port; Bass River, Bunyip River Middle and Upper, Bunyip River Lower, Cardinia, Toomuc, Deep and Ararat Creeks, Lang Lang River and Tarago River. Projects were delivered by private landholders with funding from Melbourne Water's rural land grants program. The 10-year catchment target for Westernport is under review and will be updated by 2023.

Dandenong Catchment – Conditions

The Dandenong catchment, which covers an area of about 870 square kilometres, consists of forested areas, farmland, reclaimed swampland and urban areas. Urban areas cover about 60 per cent of the catchment, 30 per cent is used for agriculture and about 10 per cent retains its natural vegetation.

Waterway condition varies from very low to moderate, with much of the higher valued areas located in the forested upper catchment and in the large regional parks and wetlands along the Dandenong Creek. Wetland condition is currently considered low. However, there is potential to increase the condition to moderate in the long term through improvements to wetland water regimes and wetland habitat form, along with actions to reduce the threat of invasive plant and animal species.

Table 1.3

Waterway conditions	2018 baseline	Business as usual	2068 Target
Access	●	●	●
Instream connectivity	●	●	●
Litter absence	●	●	●
Participation	●	●	●
Physical form	●	●	●
Stormwater condition	●	●	●
Vegetation extent	●	●	●
Vegetation quality	●	●	●
Water for the environment	●	●	●
Water quality – Environmental	●	●	●
Water quality – Recreational	●	●	●

Table 1.4

Wetland conditions	2018 baseline	Business as usual	2068 Target
Water regime	●	●	●
Water quality	●	●	●
Buffer condition	●	●	●
Vegetation condition	●	●	●
Habitat form	●	●	●

Legend: ● Very high ● High ● Moderate ● Low ● Very Low

Healthy Waterways Strategy website, 2022

Dandenong Catchment – Progress of on ground actions on water quality

Reduce agriculture runoff

10 year catchment target

Reduce nutrient and sediment runoff from rural land through improved management of 10 ha of land.

On track

Healthy Waterways Strategy website, 2022

Delivery of the rural land program has not yet begun in the Dandenong catchment. This was expected and the catchment is still considered to be ontrack. Future planning will focus on this catchment, inline with available resources.

Maintain for recreation use

10 year catchment target

Maintain recreational water quality in key recreation areas.

On track

Healthy Waterways Strategy website, 2022

The two key recreation sites in the catchment meet their expected water quality (microbial water quality) objectives. The Patterson River at the National Water Sports Centre and Kananook Creek are suitable for boating (secondary contact) during periods of dry weather. In wet weather (where rain occurred in the 24 hours prior to testing), the standards are not met due to elevated E. coli levels. This is possibly due to stormwater pollution after rainfall.

Yarra Catchment – Conditions

The Yarra catchment covers an area of 4,046 square kilometres. Around 55 per cent of the area retains its natural vegetation, 30 per cent is used for agriculture and 15 per cent is urban.

The condition of waterways is highly variable – the upper headwaters contain areas of very high value intact native vegetation protected within the Yarra Ranges National Park, but is degraded further from the headwaters as a result of agricultural activities and increasing urbanisation. Wetland conditions are generally low, but planned actions to reduce threats predict a potential trajectory of moderate.

Table 1.5

Waterway conditions	2018 baseline	Business as usual	2068 Target
Access	●	●	●
Instream connectivity	●	●	●
Litter absence	●	●	●
Participation	●	●	●
Physical form	●	●	●
Stormwater condition	●	●	●
Vegetation extent	●	●	●
Vegetation quality	●	●	●
Water for the environment	●	●	●
Water quality – Environmental	●	●	●
Water quality – Recreational	●	●	●

Legend: ● Very high ● High ● Moderate ● Low ● Very Low

Healthy Waterways Strategy website, 2022

Appendix F – Catchment Condition Report (continued)

Table 1.6

Wetland conditions	2018 baseline	Business as usual	2068 Target
Water regime	●	●	●
Water quality	●	●	●
Buffer condition	●	●	●
Vegetation condition	●	●	●
Habitat form	●	●	●

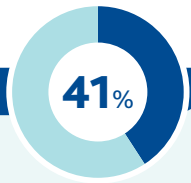
Legend: ● Very high ● High ● Moderate ● Low ● Very Low

Healthy Waterways Strategy website, 2022

Yarra Catchment – Progress of on ground actions on water quality

Reduce agriculture runoff

10 year catchment target



Achieved to date

2028 Target: 1,800 ha

2021 Progress: 732.94 ha

On track

Reduce nutrient and sediment runoff from rural land through improved management of 1,800 ha of land including works to protect and increase vegetation along headwater streams.

Healthy Waterways Strategy website, 2022

In 2020-21, 24 projects were undertaken to reduce agricultural runoff on 245 hectares of land in the Yarra catchment. These projects were delivered in five of the 10 priority sub-catchments for reducing agricultural runoff to protect waterway values and Port Phillip Bay: Little Yarra River and Hoddles Creek, Steels and Pauls Creeks (Source), Plenty River Upper, Woori Yallock Creek and Yarra River Upper (Rural).

Projects were delivered by private landholders with funding from Melbourne Water's rural land grants program. This keeps the Yarra catchment on track to meet the 10-year target of 1,800 hectares.

Maintain for recreation use

10 year catchment target

Maintain recreational water quality in key recreation areas.

Slightly off track

Healthy Waterways Strategy website, 2022

This catchment is slightly off track. Water quality in the Yarra River continues to meet statewide microbial benchmarks to support boating (but not swimming). This has been maintained over the period 2010 to 2021. However, there is an investigation in in place to better understand and manage microbial risks to recreators in the Yarra (Quantitative Microbial Risk Assessment, QMRA). The QMRA Report will be used to determine improvements in mitigation of pollution.

Maintain sewage treatment plant loads

10 year catchment target

Maintain current quality discharge from sewage treatment plants.

On track

Healthy Waterways Strategy website, 2022

The annual load of nutrients discharged from sewage treatment plants to waterways in the Yarra catchment was on track for 2020-21.

Maribyrnong Catchment – Conditions

The Maribyrnong catchment covers an area of around 1,408 square kilometres, comprising approximately 10 per cent natural vegetation, 80 per cent agriculture and 10 per cent urban.

Waterway condition is generally moderate. Areas of higher vegetation and macroinvertebrate value can be found in the forested upper catchment, with degradation increasing towards the lower reaches. Wetland condition is currently very low overall. However, improvements to wetland water regime, habitat form and vegetation condition will somewhat mitigate the predicted impacts of climate change and urban growth and enable the vegetation score to increase from very low to low.

Table 1.7

Waterway conditions	2018 baseline	Business as usual	2068 Target
Access	Low	Low	Moderate
Instream connectivity	Low	Low	Moderate
Litter absence	High	Moderate	High
Participation	Moderate	Low	Very high
Physical form	Moderate	Low	Moderate
Stormwater condition	Moderate	Moderate	High
Vegetation extent	Low	Low	High
Vegetation quality	Moderate	Low	Moderate
Water for the environment	Moderate	Low	High
Water quality – Environmental	Moderate	Low	Moderate
Water quality – Recreational	High	Moderate	High

Table 1.8

Wetland conditions	2018 baseline	Business as usual	2068 Target
Water regime	Very Low	Very Low	Low
Water quality	Very Low	Very Low	Low
Buffer condition	Very Low	Very Low	N/A
Vegetation condition	Very Low	Very Low	Moderate
Habitat form	Low	Low	Low

Legend: Very high High Moderate Low Very Low N/A

Healthy Waterways Strategy website, 2022

Appendix F – Catchment Condition Report (continued)

Maribyrnong Catchment – Progress of on ground actions on water quality

Reduce agriculture runoff

10 year catchment target

Achieved to date

2028 Target: 530 ha

2021 Progress: 208.16 ha

On track

Reduce nutrient and sediment run-off from rural land through improved management of 530 ha of land including works to protect and increase vegetation along headwater streams.

Healthy Waterways Strategy website, 2022

In 2020-21, five projects were undertaken to reduce agricultural runoff on 57 hectares of land in the Boyd Creek and Emu Creek sub-catchments. These projects were delivered in two of the four priority sub-catchments where agricultural runoff should be reduced to protect waterway values and Port Phillip Bay. Projects were delivered by private landholders with funding from Melbourne Water's rural land grants program. This keeps the Maribyrnong catchment on track to meet the 10-year target of 530 hectares.

Maintain for recreation use

10 year catchment target

Maintain recreational water quality in key recreation areas.

Slightly off track

Healthy Waterways Strategy website, 2022

This catchment is slightly off track. Water quality in the Maribyrnong River continues to meet statewide microbial benchmarks to support boating (but not swimming). This has been steady or improving for the period 2010-2021.

Maintain sewage treatment plant loads

10 year catchment target

Maintain current quality discharge from sewage treatment plants.

On track

Healthy Waterways Strategy website, 2022

Overall, this catchment is on track for maintaining current quality of discharges from sewage treatment plants (STPs). The annual load of nutrients discharged from Sunbury Recycled Water Plant (RWP) in 2020-21 was slightly above the established baseline but it is lower than in 2019/20. Discharges from Riddells Creek and Gisborne RWPs were within acceptable limits.

Werribee Catchment – Conditions

The Werribee catchment incorporates Little River, Werribee River, Lerderderg River, Toolern Creek, Skeleton Creek and Kororoit Creek, which all drain into the northwest area of Port Phillip Bay. The catchment occupies an area of 2,695 square kilometres, comprising around 20 per cent natural vegetation, 65 per cent agriculture and 10 per cent urban.

The health of the catchment's waterways is strongly linked to land use, with the upper reaches in a more natural condition than those in the rural and urban areas. Despite significant impacts from agriculture and urban development across the catchment, waterways continue to support multiple and varied uses and values including water supply, flood mitigation and significant plant and animal species. Waterway condition ranges from very low to moderate. Implementing programs to improve wetland buffers, vegetation condition and habitat form is predicted to improve this score.

Table 1.9

Waterway conditions	2018 baseline	Business as usual	2068 Target
Access	●	●	●
Instream connectivity	●	●	●
Litter absence	●	●	●
Participation	●	●	●
Physical form	●	●	●
Stormwater condition	●	●	●
Vegetation extent	●	●	●
Vegetation quality	●	●	●
Water for the environment	●	●	●
Water quality – Environmental	●	●	●
Water quality – Recreational	●	●	●

Table 1.10

Wetland conditions	2018 baseline	Business as usual	2068 Target
Water regime	●	●	●
Water quality	●	●	●
Buffer condition	●	●	●
Vegetation condition	●	●	●
Habitat form	●	●	●

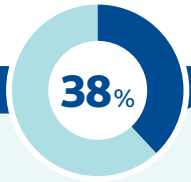
Legend: ● Very high ● High ● Moderate ● Low ● Very Low

Healthy Waterways Strategy website, 2022

Werribee Catchment – Progress of on ground actions on water quality

Reduce agriculture runoff

10 year catchment target



Achieved to date

2028 Target: 320 ha

2021 Progress: 122.51 ha

On track

Reduce nutrient and sediment runoff from rural land through improved management of 320 ha of land including works to protect and increase vegetation along headwater streams.

Healthy Waterways Strategy website, 2022

In 2020-21, one project was undertaken to reduce agricultural runoff on 89 hectares of land in the Little River Upper sub-catchment. This project was delivered in one of four priority sub-catchments where agricultural runoff should be reduced to protect waterway values and Port Phillip Bay. Projects were delivered by private landholders with funding from Melbourne Water's rural land grants program.

Maintain for recreation use

10 year catchment target

Maintain recreational water quality in key recreation areas.

On track

Healthy Waterways Strategy website, 2022

The two key recreation sites in the catchment meet their expected water quality (microbial water quality) objectives. At the catchment scale, these are assessed under dry weather conditions only (i.e. not wet weather). Cherry Lake is suitable for boating (secondary contact) in dry and wet weather. The Werribee River at the irrigation weir in Riverbend Park is suitable for swimming (primary contact) during dry weather only.

Appendix F – Catchment Condition Report (continued)

Biodiversity

An estimated 541,812 hectares (42 per cent) of native vegetation exists in the region today. A number of the ecological vegetation classes have been severely depleted including Plains Grassland, Plains Grassy Woodland and Box Ironbark Forest.

Over the past 30 years, the extent of native vegetation has reduced by an estimated 23,933 hectares (an average of 800 hectares per year). The amount of loss has varied depending on vegetation types and the suitability of land for agriculture and urban development. The reduction has been particularly felt by native grasslands (west of the region), scattered trees and waterways/wetlands.

Table 2.1 Change in extent of native vegetation from 1985-90 to 2015-19 (Victorian Land Cover Time Series)

Vegetation Class	Estimated extend at 1985-90 (Hectares)	Estimated extend at 2015-19 (Hectares)	Change (Hectares)	Change %
Treed native vegetation	405,448	404,322	- 1,126	**0%**
Scattered native trees	13,805	8,372	- 5,433	**-39%**
Native scrubland	7,321	7,458	138	**2%**
Native pasture/grassland	99,827	91,780	- 8,047	**-8%**
Natural low cover	3,207	4,095	889	**28%**
Saltmarsh and mangrove	2,098	2,190	92	**4%**
Water and wetlands	34,040	23,595	- 10,445	**-31%**
Total	565,745	541,812	- 23,933	**-4%**

Challenges and drivers of change around native vegetation include:

Incremental loss: as Melbourne's population continues to grow, clearing at the edges of remnant patches in peri-urban areas continues for rural subdivisions and landholder amenity. These activities are regulated by the Victorian Government, but the losses may not be completely offset by new vegetation. If this trend continues, a further 24,000 hectare reduction is predicted by 2050.

Invasive weeds and disease: although some successful programs to control introduced species have been implemented, there remains a need for sustained on-ground action and biosecurity responses to new and emerging threats. Weed invasion is the most persistent pressure on the region's national parks.

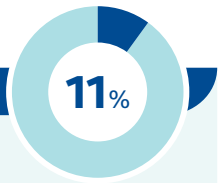
Pest animals: populations of various pest animals are a serious issue across the region, including deer, rabbits, pigs, and goats. Populations of deer have increased and spread rapidly in the past decade.

Changed fire regimes and frequency: negative impacts on biodiversity can occur when fires are too frequent, intensive or extensive for recovery to occur. Victoria's risk-based and community-focused approach to fire planning aims to find an appropriate balance between the risk to humans and infrastructure, and to environmental values.

Incremental damage: widespread damage such as illegal clearing, recreation, vandalism, informal vehicle tracks, and firewood collection.

Westernport Catchment – Progress of on ground actions on vegetation

Establishing riparian vegetation



10 year catchment target

2028 Target: 2,849 ha

2021 Progress: 318.58 ha

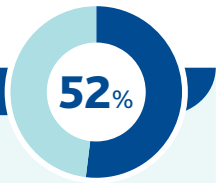
Achieved to date

On track

Establish 2,849 ha of riparian vegetation.

Healthy Waterways Strategy website, 2022

Maintaining vegetation annually



10 year catchment target

2028 Target: 3,108 ha per year

2021 Progress: 1,625.8 ha per year

Achieved to date

On track

Establish 3,108 ha of vegetation annually.

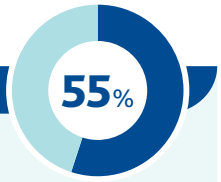
Healthy Waterways Strategy website, 2022

In 2020-21 around 151 hectares of riparian vegetation was established along priority areas, bringing the total to date (2018-19 to 2020-21) to 319 hectares. Around 97 per cent was delivered by landholders, community groups and agencies through Melbourne Water's Incentives (grants) Program with the remaining through Melbourne Water's Capital and Maintenance works programs. A large proportion of the work occurred in the Mornington Peninsula South-Eastern Creeks, the Mornington Peninsula Western Creeks, the Bass River and the Bunyip River Middle and Upper sub-catchments.

In 2020-21, the target for protecting and maintaining vegetation was met by landholders, community groups and agencies, through Melbourne Water's Incentives Program (18 per cent) or Capital and Maintenance works programs (82 per cent). A large proportion of the work was undertaken in the Bunyip River Middle and Upper, Cardinia, Toomuc, Deep and Ararat Creeks and Mornington Peninsula South-Eastern Creeks sub-catchments. Of the vegetation protected and maintained, around 662 hectares was of high or very high quality.

Dandenong Catchment – Progress of on ground actions on vegetation

Establishing riparian vegetation



10 year catchment target

2028 Target: 157 ha

2021 Progress: 85.86 ha

Achieved to date

On track

Establish 157 ha of riparian vegetation.

Healthy Waterways Strategy website, 2022

Maintaining vegetation annually

10 year catchment target

2028 Target: 330 ha per year

2021 Progress: 586.8 ha per year

Achieved to date

On track

Establish 330 ha of vegetation annually.

Healthy Waterways Strategy website, 2022

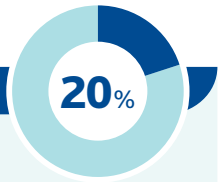
In 2020-21 around 31 hectares of riparian vegetation was established along priority areas, bringing the total to date (2018-19 to 2020-21) to 86 hectares. Around 58 per cent was delivered by landholders, community groups and agencies through Melbourne Water's Incentives (grants) Program with the remaining through Melbourne Water's Capital and Maintenance works programs. A large proportion of the work occurred in the Corhanwarrabul, Monbulk and Ferny Creeks sub-catchment and the Dandenong Creek Middle sub-catchment.

In 2020-21, the target for protecting and maintaining vegetation was met by landholders, community groups and agencies, through Melbourne Water's Incentives Program (6 per cent) or Capital and Maintenance works programs (94 per cent). A large proportion of the work was undertaken in the Corhanwarrabul, Monbulk and Ferny Creeks, and Dandenong Creek Middle sub-catchments. Of the vegetation protected and maintained, around 51 hectares was of high or very high quality.

Appendix F – Catchment Condition Report (continued)

Yarra Catchment – Progress of on ground actions on vegetation

Establishing riparian vegetation



10 year catchment target

2028 Target: 1,500 ha

2021 Progress: 307.06 ha

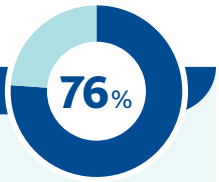
On track

Establish 1,500 ha of riparian vegetation.

Healthy Waterways Strategy website, 2022

In 2020-21 around 138 hectares of riparian vegetation was established along priority areas, bringing the total to date (2018-19 to 2020-21) to 307 hectares. Around 52 per cent was delivered by landholders, community groups and agencies through Melbourne Water's Incentives (grants) Program with the remaining through Melbourne Water's Capital and Maintenance works programs. A large proportion of the work occurred in the Little Yarra River and Hoddles Creek, Woori Yallock Creek, Yarra River Upper (Rural), Yarra River Lower and the Merri Creek Upper sub-catchments.

Maintaining vegetation annually



10 year catchment target

2028 Target: 7,171 ha per year

2021 Progress: 5,424.1 ha per year

On track

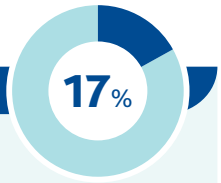
Establish 7,171 ha of vegetation annually.

Healthy Waterways Strategy website, 2022

In 2020-21, the target for protecting and maintaining vegetation was met by landholders, community groups and agencies, through Melbourne Water's Incentives Program (4 per cent) or Capital and Maintenance works programs (96 per cent). A large proportion of the work was undertaken in the Woori Yallock Creek, Yarra River Upper (Rural) and Watts River (Source) sub-catchments. Of the vegetation protected and maintained, around 2,672 hectares was of high or very high quality.

Yarra Catchment – Progress of on ground actions on vegetation

Establishing riparian vegetation



10 year catchment target

2028 Target: 1,622 ha

2021 Progress: 278.78 ha

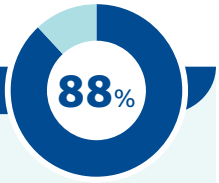
On track

Establish 1,622 ha of riparian vegetation.

Healthy Waterways Strategy website, 2022

In 2020-21 around 88 hectares of riparian vegetation was established along priority areas, bringing the total to date (2018-19 to 2020-21) to 279 hectares. Around 8 per cent was delivered by landholders, community groups and agencies through Melbourne Water's Incentives (grants) Program with the remaining through Melbourne Water's Capital and Maintenance works programs. A large proportion of the work occurred in the Deep Creek Upper sub-catchment and the Jacksons Creek sub-catchment.

Maintaining vegetation annually



10 year catchment target

2028 Target: 1,185 ha per year

2021 Progress: 1,041.9 ha per year

On track

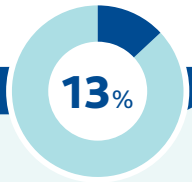
Establish 1,185 ha of vegetation annually.

Healthy Waterways Strategy website, 2022

In 2020-21, the target for protecting and maintaining vegetation was met by landholders, community groups and agencies, through Melbourne Water's Incentives Program (19 per cent) or Capital and Maintenance works programs (81 per cent). A large proportion of the work was undertaken in the Jacksons Creek, Emu Creek, Deep Creek upper and Moonee Ponds Creek sub-catchments. Of the vegetation protected and maintained, around 472 hectares was of high or very high quality.

Yarra Catchment – Progress of on ground actions on vegetation

Establishing riparian vegetation



10 year catchment target

2028 Target: 1,755 ha

2021 Progress: 226.91 ha

Achieved to date

On track

Establish 1,755 ha of riparian vegetation.

Healthy Waterways Strategy website, 2022

Maintaining vegetation annually

10 year catchment target

2028 Target: 2,683 ha per year

2021 Progress: 3,301.7 ha per year

Achieved to date

On track

Establish 2,683 ha of vegetation annually.

Healthy Waterways Strategy website, 2022

In 2020-21 around 92 hectares of riparian vegetation was established along priority areas, bringing the total to date (2018-19 to 2020-21) to 227 hectares. Around 18 per cent was delivered by landholders, community groups and agencies through Melbourne Water's Incentives (grants) Program with the remaining through Melbourne Water's Capital and Maintenance works programs. A large proportion of the work occurred in the Kororoit Creek Lower, the Laverton Creek and the Werribee River Middle sub-catchments.

In 2020-21, the target for protecting and maintaining vegetation was met by landholders, community groups and agencies, through Melbourne Water's Incentives Program (30 per cent) or Capital and Maintenance works programs (70 per cent). A large proportion of the work was undertaken in the Werribee River Middle, Werribee River Upper and Lerderderg River sub-catchments. Of the vegetation protected and maintained, around 2,029 hectares was of high or very high quality.

Native Animals

Over the past 200 years, an estimated 627 species of native fish, amphibians, reptiles, birds and mammals have existed in the region. However, the diversity of native animal species has declined in response to habitat loss, pest predation and other factors. An analysis commissioned by the Port Phillip and Western Port Catchment Management Authority on the likely persistence of native animals in the region (using records from 1839-2016) indicated that there is an overall persistence rate of between 71-78 per cent of species recorded. Birds and amphibians seem to have fared the best in retaining species, whereas fish species generally show the greatest declines.

Challenges and drivers of change around native animals include:

Climate change: many species will not have the ability to adapt to a rapidly changing climate as easily as others. As a result, changes to the distribution of species is expected to occur. More intense rainfall and flash flooding will also have potentially devastating impacts on already small, localised populations.

Fire: Australian plant and animal communities rely on 'regimes' of fire intensity, frequency, season, extent and type to regenerate and maintain health and diversity. A drier future climate will create the risk of more frequent and severe wildfire.

Habitat loss and decline: native animal populations remain in the remnant habitat patches. Native vegetation covers about 39 per cent of the region. About 1,813 kilometres or 23 per cent of the region's 7,704 kilometres of waterways have previously been assessed as in good or excellent condition.

Urbanisation: urbanisation, particularly in new growth corridors, will continue to put pressure on native animal populations. Impacts include altered stream flows and water pollution from increasing urban stormwater, barriers to animal movement created by roads and infrastructure, and incremental native vegetation clearing for buildings, fences, access and views.

Predators and competition: invasive plants and animals are major threats to native animals. Of particular concern is predation and disturbance by domestic animals, competition from native and exotic predators and scavengers that have benefitted from modern landscape changes, and weed invasions that create structural decline in native vegetation.

Appendix F – Catchment Condition Report (continued)

Land Use

Around 44 per cent of the region is currently used for agriculture and green wedges and around 42 per cent is native vegetation, including the large parks and water supply catchments. Much of the region's natural resource production comes from the rural and vegetation areas, and they also provide habitat for native species, recreational sites, protected natural areas and scenic landscapes.

The urban area currently covers 14 per cent of the region and houses the majority of the region's five million residents. By 2051, the population is expected to have grown to eight million, which will see a conversion of some of rural land to urban use in the next 30 years.

Table 3.1 Change in land use in Port Phillip and Westernport Region from 1985-90 to 2015-19 (Victorian Land Cover Time Series)

Land use	1985-1990	2015-2019
Agriculture	~590,677 ha. (46%)	~564,134 ha. (44%)
Native vegetation	~565,745 ha. (44%)	~541,812 ha. (42%)
Urban	~121,923 ha. (10%)	~172,399 ha. (14%)

Challenges and drivers of change around land use include:

Climate change: if rapid urbanisation continues, the effects of urban heat islands, decreased tree canopy cover and reduced water resources will be felt by many. Access to resources will affect how and where businesses and people locate and operate. Protecting Melbourne's biodiversity and natural assets is essential for a productive and healthy city.

Economic growth: to grow jobs and create accessible, affordable and attractive neighbourhoods, Melbourne needs to take advantage of the land it has available for renewal in the city and suburbs. Increasing the number and diversity of jobs closer to where people live will help make Melbourne more productive and competitive.

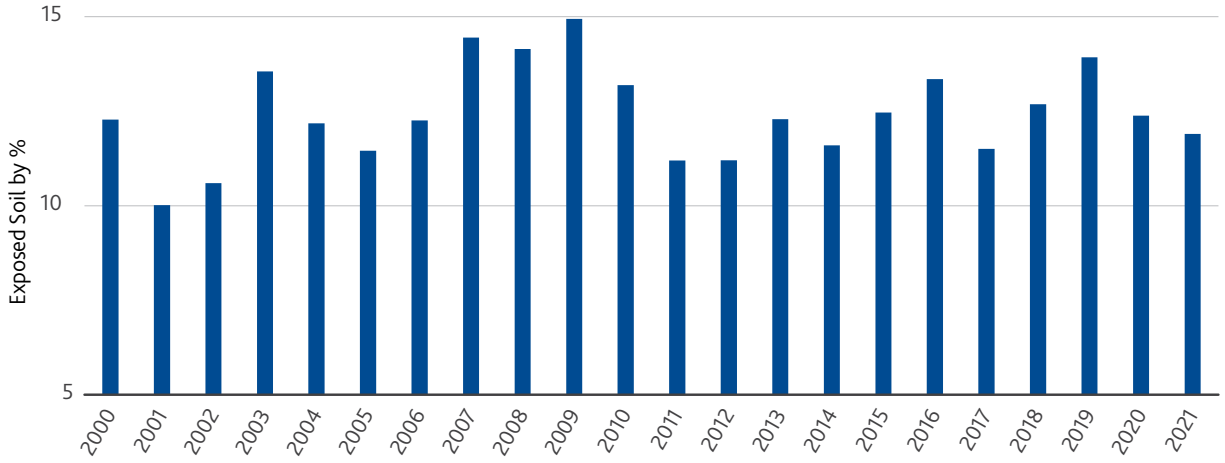
Transport: by 2050, Melbourne's transport network will need to handle up to an extra 10 million trips per day. Ongoing investment in well-designed transport infrastructure will boost rail and road capacity, boost productivity, conserve energy, curb greenhouse gas emissions and protect liveability.

Soil Health

The Port Phillip and Western Port region has a variety of surface-level soil types that reflect differences in parent material, topography, climate, organic activity and age. Healthy soils are central to human health and wellbeing and are also vital to the region's economic prosperity, helping to generate more than $1.66 billion worth of agricultural production each year.

Over the past 20 years, the proportion of exposed soil across the region has been steady at between 10 to 15 per cent. This is a relatively low level and indicates that, in general, little of the soil across the region is at high risk of wind erosion.

Chart 3.1 Proportion of exposed soils in the Port Phillip and Western Port region, Australian National University, 2022



Challenges and drivers of change around soil health include:

Climate change: droughts require agricultural land to be irrigated and fertilised more, while erosion caused through flash flooding can have significant implications for natural assets, agricultural lands and water quality. Sea level rise will increase salinity in coastal areas.

Salinity: soil salinity deteriorates the quality of water supplies, and rivers and streams receive salt laden runoff and sediment as soil structure degrades and erosion occurs. Everyone in a catchment is affected by the agricultural activities of others and effective salinity management requires a total catchment approach.

Compaction: the compaction of soil decreases the habitat available for roots and soil organisms, reducing biological activity in the soil, soil permeability, aeration, water holding capacity, and more. Soil compaction can be avoided by minimising cultivation, avoiding working soils when wet, reducing and controlling traffic, and restricting animal movement on moist soils.

Sustainable Agriculture

Approximately 44 per cent of the region is used for agriculture, with significant industries including horticulture, dairying, poultry farming, beef farming, horse management and viticulture. Significant commodities in the region based on the gross value of agricultural production included nurseries ($286 million), poultry ($168 million) and mushrooms ($102 million). Although the region has a significant urban area, it produces 23 per cent of Victoria's vegetables and 59 per cent of its chicken meat. The University of Melbourne reported that the Yarra Valley produces 78 per cent of Victoria's strawberries and Koo Wee Rup grows over 90 per cent of Australia's asparagus.

Challenges and drivers of change around sustainable agriculture include:

Expanding urbanisation: Melbourne's population is growing significantly and impacting the region's ability to continue to produce fresh food. This is reflected in various stages of change to the Urban Growth Boundary and the area of Green Wedges, and ongoing challenges to the activities that are allowable in Green Wedges.

Biosecurity: biosecurity is the management of the risk of animal and plant pests and diseases entering and spreading in our region and is fundamental for safeguarding our valuable agricultural resources.

Climate change: agriculture systems face increasing risks as a result of frequent, severe and extreme weather events – heat waves, droughts and floods.

Appendix F – Catchment Condition Report (continued)

Coasts and Marine

Coasts

The Port Phillip and Western Port region has more than 600 kilometres of coast fronting Port Phillip Bay, Western Port and Bass Strait. Significant environmental values include the Ramsar-listed wetland sites in Western Port and Port Phillip Bay's western shoreline.

The current environmental condition of the region's coasts is variable. Some areas retain high environmental values while many others have been heavily modified by urban development, coastal settlement and recreational use. In developing the *Port Phillip and Western Port Regional Catchment Strategy*, the region's coast has been divided into zones which are delineated by significant changes in coastal characteristics and/or environmental values and where it is sensible to attach tailored environmental targets. These zones are outline in the below table.

Table 4.1 Coastal zones and estimated amount and proportion of native vegetation from 1985-90 to 2015-19 (Victorian Land Cover Time Series)

Coastal zone	Approx length	Approx average width	Approx area	Area of native vegetation	Proportion of zone with native vegetation
Phillip island ocean	42	260	1,087	1,009	93%
Phillip island bay	37	120	414	367	89%
French island south	24	340	810	788	97%
French island north	40	350	1,354	1,327	98%
Western Port east	55	140	757	622	82%
Western Port north	40	450	1,557	1,427	92%
Hastings	23	460	842	734	87%
Sandy Point to Flinders	33	440	1,310	1,164.5	89%
Flinders to Point Nepean	46	450	2,073	1,901	92%
Port Phillip Bay eastern beaches	116	80	959	770	80%
Port Phillip Bay north western shoreline	60	450	1,707	1,514.5	89%
Total	**516**	**3,540**	**12,871**	**11,624**	**90%**

Key challenges and drivers of change for coasts include:

Population growth: Victoria's coastal areas have experienced record population growth over the past decade as well as increased visitation. This growth puts pressure on the health of the coastal environment, with direct impacts including habitat loss and degradation, increased pollution, erosion of dunes and pressure on recreational infrastructure.

Climate change: climate change increases the pressure on Victoria's marine and coastal environment by exacerbating existing threats and introducing new ones, including rising sea levels, increased frequency and severity of storms, changes in ocean temperatures, currents and acidification, and changes to waterway flows, levels and regimes.

Native vegetation loss: some of the native coastal vegetation is secure on public land but population growth and development continue to create pressure for clearing at some sites. Incremental damage to native vegetation from recreation, illegal clearing, vandalism and rubbish dumping results from the pressures of increased resident and visitor populations.

Marine Environments

Victoria's marine areas have significant environmental values. Over a half a million fishing trips were taken across the region in 2018, the vast majority on Port Phillip Bay, producing an estimated economic value of over $420 million per year.

Water quality in Port Phillip Bay and Western Port was assessed in the EPA Report Card 2018-19 as 'Good'. Over the past 20 years, water quality in Port Phillip Bay has fluctuated between overall ratings of 'Good' to 'Very Good', while in Western Port the water quality has remained relatively steady since 2000 with overall annual water quality assessed as 'Good' for nearly all years.

Port Phillip Bay and Western Port generally have strong capacity to self-maintain good water quality. However, reducing annual nitrogen loads to Port Phillip Bay has been a focus over the past 20 years and remains so. For Western Port, reduction of sediment loads has been a priority.

Key challenges and drivers of change for marine environments include:

Population growth: growth in resident populations and visitor numbers has direct impacts including habitat loss and degradation, increased introduction of invasive and pest species, and increased pollution. Seagrass beds, estuarine mudflats and mangroves are among the most vulnerable habitat types as they require sheltered environments that are at increased risk from nutrients and contaminants transported by stormwater.

Climate change: climate change increases the pressure on the region's marine environment by exacerbating existing threats and introducing new ones including changes in ocean temperatures, currents and acidification, and changes in the range, distribution and abundance of both introduced and native plants and animals.

Marine pests: Agriculture Victoria reports that at least 99 pest species have been introduced to Port Phillip Bay from known origins. A further 61 marine species have also been observed but are of unknown origin.

Community

Traditional Owners and Aboriginal Victorians

The region is the Country of Bunurong, Wurundjeri Woi-wurrung and Wadawurrung people. The Bunurong Land Council Aboriginal Corporation, Wurundjeri Woi-wurrung Cultural Heritage Aboriginal Corporation and Wadawurrung Traditional Owners Aboriginal Corporation are the Registered Aboriginal Parties for land in this region.

There are approximately 9,200 cultural heritage places in the Port Phillip and Western Port region, reflecting the long history of Aboriginal culture here. With some sites owned and/or managed by Traditional Owners today, the number and area is very small in comparison to what was under the care of the Traditional Owners before the European settlement. It is estimated that less than 1,000 hectares of the approximately 1.2 million hectares of land in this region is under Aboriginal community ownership and/or management.

In recent decades, there is a more positive trend with rights, knowledge and aspirations of Traditional Owners recognised, including increasing influence and involvement of Traditional Owners and Aboriginal people in natural resource management (NRM). There is increased Aboriginal representation on the Boards of NRM organisations with numerous partnerships in place. Also growing among many NRM organisations is a focus on providing or supporting training and employment opportunities for Aboriginal people.

Appendix F – Catchment Condition Report (continued)

Table 5.1 Number of Aboriginal cultural heritage sites in the Port Phillip and Western Port region by RCS Local Area as of June 2021 (Victorian Aboriginal Heritage Register)

Local area	Number of registered Aboriginal cultural heritage sites
Bass Coast, South Gippsland & islands	Approx. 500
Casey, Cardinia & Baw Baw	Approx. 1,280
Mornington Peninsula	Approx. 850
Yarra Ranges & Nillumbik	Approx. 860
Urban Melbourne	Approx. 1,490
Macedon Ranges, Hume, Mitchell & Whittlesea	Approx. 1,770
Melton, Moorabool, Wyndham & Greater Geelong	Approx. 2,340
Total	**Approx. 9,200**

Key challenges and drivers of change for Traditional Owners and Aboriginal Victorians includes:

Urban Development: much of the Country in this region has been substantially modified by urban development and as the urban area expands there is a great risk that sites of cultural significance and landscapes will be damaged or lost forever. There are challenges in ensuring urban development meets cultural heritage regulations and requirements and there are sufficient Aboriginal people skilled and available to adequately service the urban development industry.

Lack of recognition: not all land managers understand or recognise Traditional Owners as the custodians of Country and neglect to adequately include Traditional Owners in decision-making processes.

Cultural Water: Traditional Owners have never ceded rights to water across Victoria, yet Aboriginal people hold less than 0.1 per cent of water rights in Victoria. This exclusions denies Traditional Owners the right to care for Country. In this region, the three Registered Aboriginal Parties do not currently hold any water entitlements.

Capacity of Traditional Owners: there are currently relatively few Aboriginal people who have jobs taking care of their Country in this region. There is a challenge in providing useful, timely, appropriate support for organisations so that they can determine their aspirations and build their workforce with the wide range of skills needed.

Volunteering

Communities across the Port Phillip and Western Port region provide an immense pool of knowledge, skills, services and funds that play a vital role in the successful achievement of a better environment for the region. At the end of 2020-21, there were 85 Landcare groups, 13 Landcare networks and one council-hosted natural resource management network in the region. There were also approximately 500 other community environmental groups active in the region, such as Friends of, Coastcare and committees of management, many of whom were part-Landcare networks.

While bringing significant benefits to local areas and communities, collectively these groups also make substantial contributions to improving environmental outcomes. In the 2020-21 Landcare Group Health Survey, 107 groups reported 122,242 volunteer hours, equating to a value of $5.1 million (based on $41.72 an hour). In addition, other community environmental groups contribute approximately $9 million to the health of landscapes and communities (based on 2019 Volunteering Naturally Survey).

Despite the disconnection to environmental volunteering brought about by coronavirus (COVID-19), community environmental groups are by and large reporting a positive outlook. The average score in the 2020-21 Landcare Group Health Survey was 3.7 out of 5 (3 = “moving forward”, 4 = "rolling along”). This is the highest score since the survey was conducted in 2015-16, and reflects the views of 107 community groups (only 49 groups participated in 2015-16).

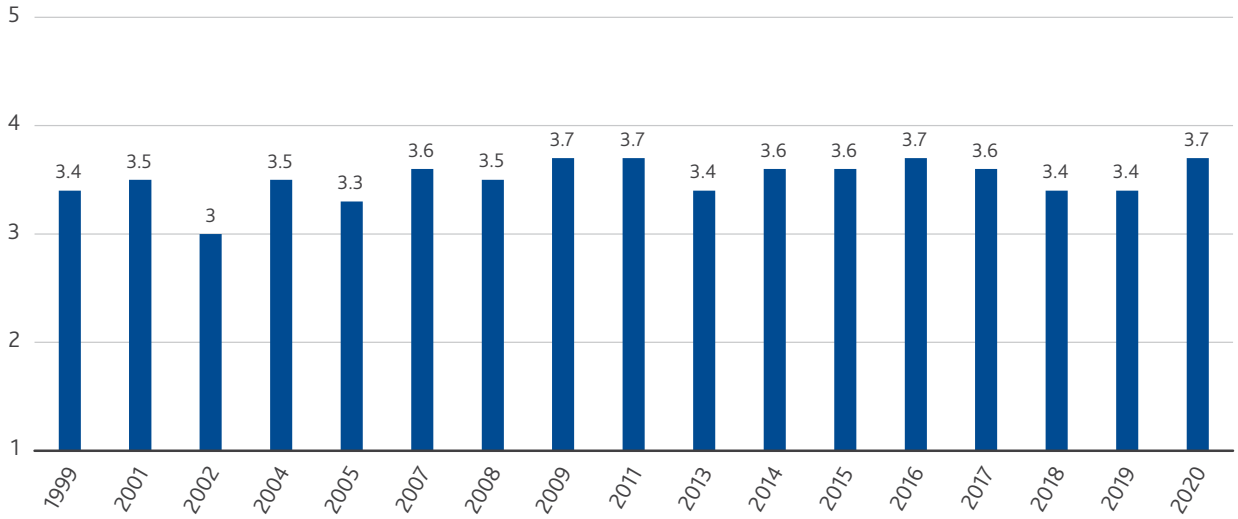
Challenges for community volunteerism include:

Finding and retaining volunteers: recruiting volunteers for not-for-profit organisations is usually a time-consuming and ongoing process. There can be a high turnover of volunteers – some leaving after losing interest in the volunteering work while others resign because of changes in their work or personal circumstances. Attracting younger volunteers to replace retiring members can also be a significant challenge.

Training new volunteers: most not-for-profit organisations operate on tight budgets; however, some need volunteers to undertake specialised tasks that require extensive and costly training.

Red tape, regulations and liability: many volunteer organisations expressed frustration at growing red tape, regulations and liability issues which take up considerable time and effort. Funding applications and associated reporting requirements can sometimes overburden smaller organisations.

Chart 5.1 Landcare Health Scores 1999 to 2021 (Land Group Health Survey)



Victorian landcare grants

In 2021/22 in the Port Phillip and Western Port region, $536,081 was provided for 21 project grants and 88 support grants. Grants were awarded to Landcare and environmental volunteering groups and networks that have a focus on on-ground land and natural environment improvement work. This includes Landcare groups and networks, 'Friends of' groups, Conservation Management Networks, Committees of Management, Coastcare groups, and Aboriginal groups and organisations working on Country. Interim Reports have been received from these recipients with Final Reports submitted in November, 2021. The launch of the 2022/23 Port Phillip and Western Port round of Victorian Landcare Grants commenced in June 2022 which will distribute $485,700 across the region.

Appendix G – Communication on Progress, UN Global Compact

The following index shows where Melbourne Water has reported our policies, programs and actions that align with the 10 principles of the United Nations Global Compact within the *2020-21 Annual Report*.

Global Compact Principles		Description	Page Reference
Human Rights 	1. Businesses should support and respect the protection of internationally proclaimed human rights. 2. Make sure that they are not complicit in human rights abuses.	Melbourne Water's commitment to these principles is demonstrated in our commitment to building a diverse workforce and an inclusive workplace culture, underpinned by the fundamental consideration for the health, safety and wellbeing of our staff, customers and community. This commitment is implemented through the following strategies and programs, detailed within this report: • Diversity Strategy and associated programs • safety performance, measurement and programs • our management of customers' confidential and personal information • our actions toward Reconciliation and Aboriginal Engagement.	57-58 61-62 159 42-43
Labour 	3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining. 4. The elimination of all forms of forced and compulsory labour. 5. The effective abolition of child labour. 6. The elimination of discrimination in respect of employment and occupation.	Melbourne Water's commitment to these principles is demonstrated in our commitment to building a diverse workforce and an inclusive workplace culture. Our commitment to ensuring equality and fair treatment across the business is detailed in this report through: • continued analysis of our workforce statistics to support programs • Diversity Strategy and associated programs, including inclusion, gender equity, parental leave, domestic violence leave and flexible working arrangements • our actions toward increasing cultural awareness • the Melbourne Water Enterprise Agreement 2020 which sets our terms and conditions of employment, and is a collective agreement between Melbourne Water, enterprise agreement employees and their union representatives. This agreement does not cover Senior Managers or the Waterways and Catchment Operations Delivery team. The agreement was approved by the Fair Work Commission • our management of suppliers.	58-62 57-58 42-43 43, 72

Global Compact Principles		Description	Page Reference
Environment	7. Businesses should support a precautionary approach to environmental challenges. 8. Undertake initiatives to promote greater environmental responsibility. 9. Encourage the development and diffusion of environmentally friendly technologies.	Our contribution to supporting a healthy environment is one of Melbourne Water's three strategic pillars and part of our core business. We contribute to this through improving waterway quality, reducing greenhouse gas emissions and being innovative with resource recovery. We also help protect Melbourne's natural assets by improving biodiversity and building strong relationships with the community. This commitment is implemented through the following strategies and programs, detailed within this report:	
		• waterway quality programs and the *Healthy Waterways Strategy*	24-28
		• our flooding and drainage programs and supporting strategies	20-23
		• our biodiversity program and supporting *Environmental Stewardship Strategy*	30-34, 53, 176-179
		• our environmental programs including energy, resource recovery and climate risk management	45-52
		• our catchment management programs supporting the *Regional Catchment Strategy* and environmental improvements in land, water, biodiversity, coasts and marine environments	29-34, 169-185
		• our community engagement and education programs	16, 31, 37, 39-40, 184-185
Anti-corruption	10. Businesses should work against corruption in all its forms, including extortion and bribery.	We are committed to a high standard of governance, with the Melbourne Water Board having overall responsibility for corporate governance. We maintain a fraud and corruption framework, including ongoing education and awareness, and avenues for reporting any allegations. We undertake detailed fraud and corruption risk assessments in line with our Enterprise Risk Management Framework, consistent with the requirements of the Victorian Government Risk Management Framework 2015. We have an extensive compliance management framework ensuring ongoing compliance with relevant laws and regulations including the *Independent Broad-based Anti-corruption Commission 2011* and the *Protected Disclosure Act 2012*. We provide assurance over our control environment through a robust assurance management program. This commitment is implemented through the following strategies and programs, detailed within this report:	
		• our corporate governance programs and policies	65-70
		• our risk management program and frameworks	72
		• our compliance in accordance with Acts of Parliament	65, 156, 160
		• our Code of Conduct	Melbourne Water's website[8]
		• our public interest policy and procedure.	160

[8] https://www.melbournewater.com.au/

Appendix H – Letter of Expectations

Priority Area: Climate change	
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E2 Emissions reduction	49-52
E3 Climate adaptation	44-48

Priority Area: Customer and community outcomes	
Principles and Description	**Page Reference**
C1 Customer satisfaction	41, 148
C2 Customer and community engagement	39-40

Priority Area: Strengthen compliance	
Principles and Description	**Page Reference**
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CE2 Demonstration of reasonable progress toward implementation of Compliance and Enforcement review recommendations	Appendix D

Priority Area: Water for Aboriginal cultural, spiritual and economic values	
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AC2 Engagement of Traditional Owners	42-43
AC3 Reconciliation Action Plan	42-43

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L2 Water efficiency	15

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Principles and Description	**Page Reference**
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Priority Area: Leadership and culture	
Principles and Description	**Page Reference**
G1 Diversity and inclusion	57-58
G3 Health and safety	61-62

Priority Area: Financial sustainability	
Principles and Description	**Page Reference**
F1 interest cover F2 gearing ratio F3 internal financing ratio F4 current ratio F5 return on assets F6 return on equity F7 EBITDA margin	147
F8 credit rating	not required

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