

The image shows two young girls in school uniforms. One girl is sitting and holding a tablet, while the other is leaning over her shoulder, looking at the screen. The tablet displays a dashboard with water and electricity usage statistics and graphs. A large blue diagonal graphic is on the left side of the image, containing the title and subtitle.

Delivering Water for Victoria

PROGRESS REPORT





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Cover photo: Aspendale Gardens Primary School students using the SWEPP app.

MINISTERIAL FOREWORD



Two years ago, the Victorian Government launched *Water for Victoria*, our strategic plan for managing water to support a healthy environment, prosperous economy and thriving communities now and for the future. Victoria

has a solid history of effectively managing our water resources, and the devastating Millennium Drought tested the state's water security and validated many reforms made over a long period.

Water for Victoria recognised that with accelerating changes in climate, population growth and water demands we must continue to plan and act for a future with less water.

This Progress Report shows the many advances with actions in all aspects of the strategy since 2016. It lists the achievements and foundations for further work and offers a snapshot of actions across Victoria's regions.

The Government has been working in partnership with water and land managers, the water sector, key stakeholders and communities to identify local challenges and put important projects into action.

Our communities have higher expectations for how water will be managed to meet their diverse needs and values. Victoria's water sector is changing to reflect community diversity, and a more collaborative approach is bringing community voices and ideas into our planning to build resilience in the face of a drier future. For example, we have achieved 50 per cent gender diversity on water corporation and Catchment Management Authority boards, and over 50 per cent of chairs are now female.

Our water sector is adapting its operations to deal with climate extremes, including responding to drought and flood in the last three years.

Land and water managers, communities and Traditional Owners are bringing their knowledge and experience to improve care for waterways and Country.

We are supporting farming communities to make informed changes, identify actions and agree on priorities as they shift to a future with less inflows and available water.

We have continued to deliver on our Murray Darling Basin Plan commitments while ensuring balanced water recovery. This includes standing up for Victoria's northern food bowl to ensure that any further water recovered does not come at the expense of Victorian communities.

The main themes emerging in our progress report that will continue to guide future actions include:

- Success in keeping water affordable for Victorians while water corporations deliver high-quality services.
- Integrated management actions, such as stormwater and recycling, to protect the environment in our cities and towns and rural Victoria.
- On-ground actions to connect communities and improve water security, by expanding and modernising the water grid and creating access to water trading and the market the benefits accruing through transforming the water sector to better reflect our diverse Victorian communities.
- Progress in building knowledge, understanding and planning to effectively share the benefits of our water between different users, including recreational, environmental, and agricultural users.

This report shows that we are making real progress with actions to benefit each community, our industries and economy, quality of life and our natural environment.

We look forward to continuing our work together to sustain reliable water supplies as we adjust to a future with less water.

A blue ink signature of The Hon. Lisa Neville MP, written in a cursive style.

The Hon. Lisa Neville MP
Minister for Water



ABORIGINAL ACKNOWLEDGEMENT

The Victorian Government proudly acknowledges Victoria's Aboriginal community and their rich culture and pays respect to their Elders past and present. We acknowledge Aboriginal people as Australia's first people and as the Traditional Owners and custodians of the land and water on which we rely. We recognise and value the ongoing contribution of Aboriginal people and communities to Victorian life and how this enriches us. We embrace the spirit of reconciliation, working towards the equality of outcomes and ensuring an equal voice.



Photo: Aunty Esther Kirby. Courtesy Victorian Environmental Water Holder.

Photo above: Powlett River
estuary wetlands. DELWP.



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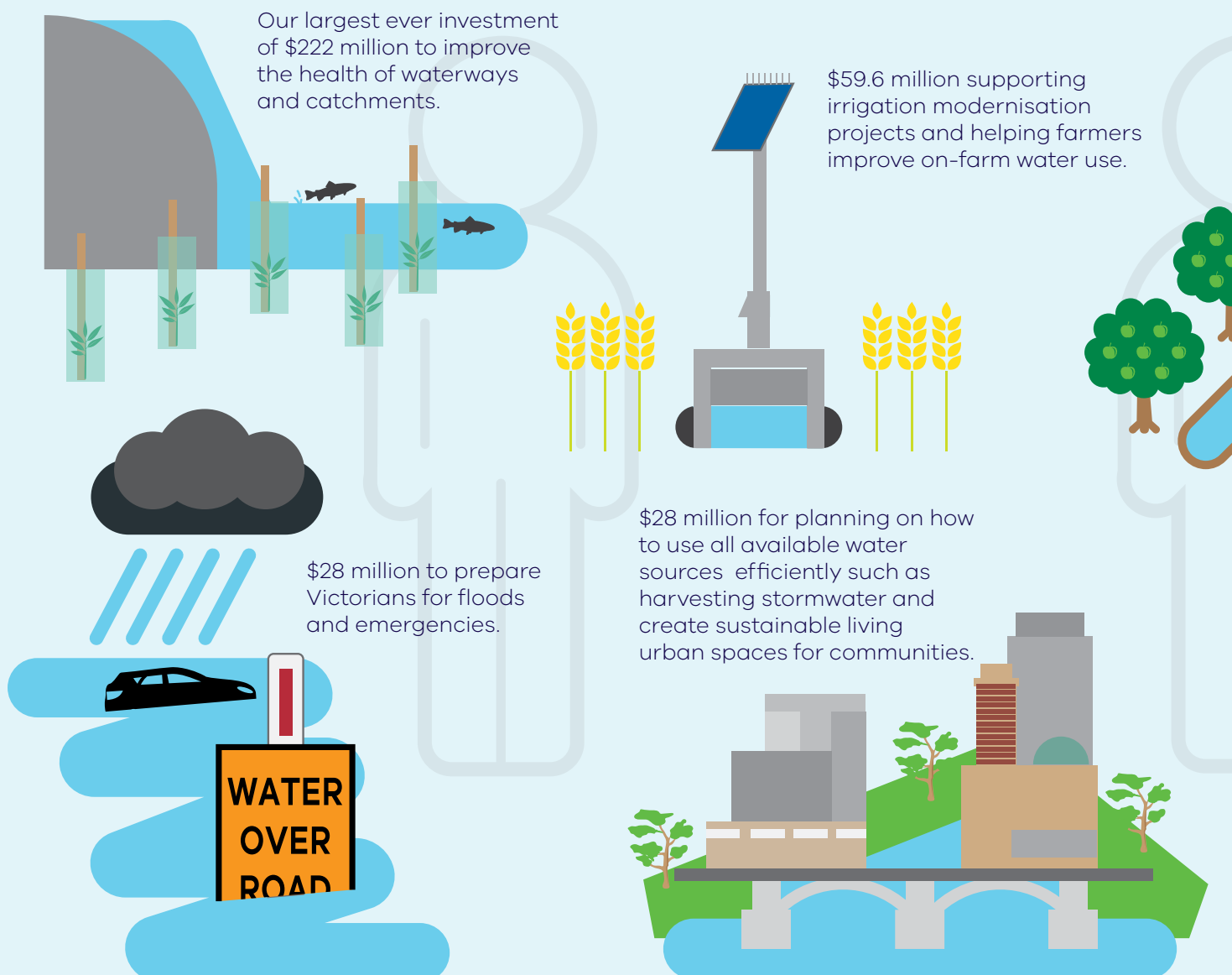
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At a glance

The Victorian Government is investing more than \$537 million in delivering *Water for Victoria*.

Many new works and projects have been advanced in the two years since the plan was launched. These range from flagship waterway projects that are protecting and restoring waterway health, to supporting farmers' resilience with new infrastructure and skills, and building understanding of Aboriginal ecological knowledge in water management.

We are working in partnership with water corporations, catchment management authorities, the Victorian Environmental Water Holder, Traditional Owner groups, local government and community partners.



Our approach focuses on strengthening local relationships and putting community at the centre of decision making and the delivery of priority water projects for Victoria's cities, towns and regions.

A strong system of planning, governance and reporting is in place to make sure that the actions under *Water for Victoria* sustain and secure our water supply for the future.

This report details many of the significant achievements made since 2016.

Overall Action Status

Work is underway on all 69 actions.



10 x complete and now business as usual



4 x complete



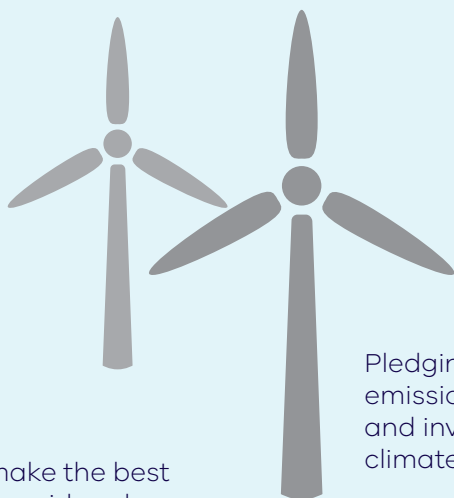
48 x in progress



7 x in progress with revised timeframe



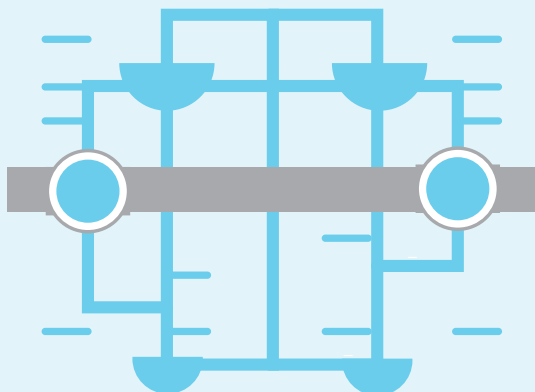
Over \$146 million toward upgrades to rural water systems in places like Wedderburn, Werribee, Bacchus Marsh, Lance Creek, MacAlister, Mitiamo and East Grampians.



Building knowledge about the values, uses and economic potential of water for Traditional Owners and Aboriginal Victorians with \$9.7 million being invested.



\$93 million to make the best use of the water grid and markets and strengthen entitlements and planning.



Pledging to achieve net zero emissions in the water sector and investing \$5.7 million in climate science research.

Delivering projects to better manage our waterways and surrounds so that our communities can enjoy them more, supported by \$7.9 million investment.



1





Find out what's
been happening
in **your region**

VICTORIA'S REGIONS

This chapter presents snapshots of some of the many projects and actions that have been happening across Victoria's regions since *Water for Victoria* was launched in 2016. These include works to restore the health of our natural environment, to rejuvenate recreation sites and to improve water security. There have also been exciting initiatives by water corporations and catchment management authorities to reduce greenhouse gas emissions and programs that deliver shared community benefits such as improved amenity.

Public forums across the state are giving local communities a role in helping to identify challenges and to plan water projects, while work by Traditional Owners and Aboriginal Victorians is building our knowledge to assist recognition of Aboriginal values of water.

You can find out more about projects in your region by contacting your local water corporation or catchment management authority.

Figure 1.1

Urban water corporations

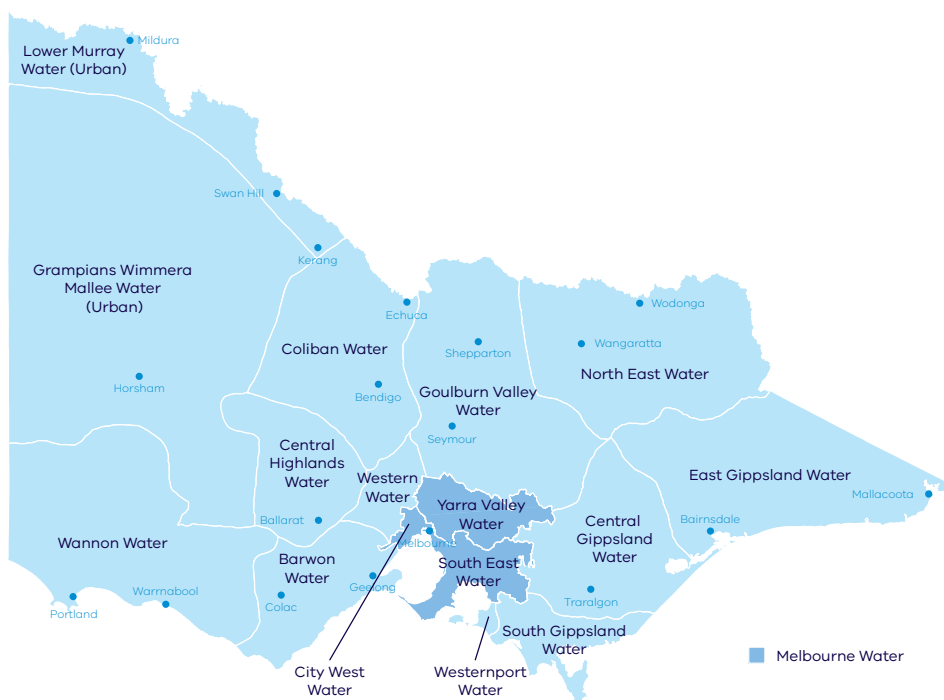


Figure 1.2
Rural water corporations



Figure 1.3
Catchment management authorities



GREATER MELBOURNE



Case study 1

A plan for the iconic Yarra River for future generations



The Yarra River Action Plan, released in February 2017, comprises 30 actions designed to protect the river and its parklands over the long term. When fully implemented, the plan will coordinate and integrate the Yarra River's existing plans, regulations and investment programs and support the community vision for the river and its landscape.

The release of the plan was followed by landmark legislation to protect the Yarra River for future generations. Under the *Yarra River Protection (Willip-gin Birrarung Murrn) Act 2017*, a holistic Yarra Strategic Plan, which will coordinate Melbourne Water and local government authorities, along with other public entities along the river corridor, is being prepared with community input. Melbourne Water has asked the public to share their values, anecdotes and future vision for the river and surrounding land. A two-day community assembly in May 2018 helped develop four visions and a 50-year community vision for the river. We are also working with Wurundjeri Elders to find the best model for including their input on the plan's implementation. The river is of great spiritual and cultural significance for Aboriginal communities.

This community-led approach is being extended to Western Melbourne. A new Ministerial Advisory Committee has been established with communities and Traditional Owners to develop a Waterways of the West Action Plan.

Photo: Yarra River Community Assembly.
Courtesy Melbourne Water.



Photo: OCOC Mornington Greens Bush and Arthurs Seat Biolink. Courtesy Port Phillip and Westernport CMA.

Case study 2

Greens Bush to Arthurs Seat Biolink

This project is one of 19 integrated catchment management projects being delivered under the Victorian Government's *Our Catchments Our Communities* strategy. The project is restoring indigenous vegetation to strengthen the nature link between Greens Bush and Arthurs Seat, two of the Mornington Peninsula's largest parks. It is being delivered by the Port Phillip and Westernport Catchment Management Authority (CMA) and the Mornington Peninsula Landcare Network.

Port Phillip and Westernport CMA brought , local landholders and community members came together in April 2018 to develop the project's vision, and revegetation works are now being undertaken on remnant bushland on 20 private properties. The work will help local threatened animals including the Powerful Owl, White-footed Dunnart, Lewin's Rail and the Swamp Skink. It will also contribute to healthier waterways in the Drum Drum Alloc Creek and Splitters Creek catchments.

Case study 3

Turning waste into energy



In a first for the water industry in Australia, Yarra Valley Water's ReWaste facility is diverting 33,000 tonnes of organic waste from landfill every year and converting it into renewable energy using an anaerobic digestion process. The facility powers a

neighbouring sewage treatment plant and, at full capacity, covers 25 per cent of Yarra Valley Water's annual electricity demand. Current and planned ReWaste facilities will make a large contribution to Yarra Valley Water's ability to generate all its own energy by 2025. The facility is located on the northern outskirts of Melbourne and became fully operational in 2017.

Victoria produces more than two million tonnes of organic waste annually. Organic waste in landfill leads to vermin, odour and broader pollution. Taking organic waste from landfill extends the lifetime of landfill sites and gives waste a useful purpose.

Photo: ReWaste facility in Wollert, to the north of Melbourne. Courtesy Yarra Valley Water.



NORTH WEST VICTORIA

Case study 1

Levy removed as irrigation practices improve in the Mallee



Photo: Doerings Basin. Courtesy Mallee CMA.

An incentive scheme aimed at improving irrigation practices in the Mallee region has been discontinued after 25 years – not due to its failure, but to its success. The 50 cents-per-megalitre salinity levy was removed on 1 July 2018, and will save Mallee irrigators an average of \$200 per year each.

Since the fee was introduced in 1993, it has been used to improve irrigation management and reduce the impact of salinity on the environment through education, training and irrigation incentives. Irrigators in the Mallee region have invested significantly to improve and adopt best

irrigation practice. Removing the fee recognises the efforts irrigators have made and the success of investments by the Victorian Government in on-farm improvements in the region. Over 95 per cent of farmers are now using efficient, pressurised irrigation systems and understand how to effectively meet the water needs of their crops.

The current salinity impact zoning framework and associated charges will continue to support salinity management in the Mallee and offset salinity impacts on the Murray River from new irrigation developments.

Case study 2

Restoring the Merbein Common



Merbein Common is a floodplain reserve nestled in a bend of the Murray River just north-west of Mildura, and is one of 36 large-scale waterway restoration projects to be established through *Water for Victoria*.

A bold community-endorsed vision for long-term restoration across the site is now being realised, with works to improve the environmental and recreational benefits well underway.

The project is increasing the extent of native vegetation across the reserve and improving the connectivity and water quality of the wetlands. This will support the site's many waterbirds and other wildlife, such as the nationally threatened Murray Hardy Head and Growling Grass Frog.

Other works include the construction of new visitor facilities, the planting of over 5000 trees and the installation of new infrastructure to enable more successful delivery of water for the environment. These early achievements have been widely welcomed with highly positive results from a recent community satisfaction survey. A video of the new canoe ramp received 23,000 views on social media.

Photo: Merbein Common Cowanna Bushwalk.
Courtesy Mallee CMA.

Case study 3

Mallee Floodplain Management Strategy



The Mallee Floodplain Management Strategy 2018-28 provides the Mallee region with a single regional planning document and a rolling three-year works program to guide future investment priorities.

Development of the now-finalised strategy was led by a steering committee that included representatives from local government, VicSES, water corporations and the Mallee CMA. Other partner agencies, Traditional Owners and community members also provided input.

Regional floodplain management strategies have been developed for each of the Victorian catchment regions. The strategies apply the policies, actions and

accountabilities for the Victorian Floodplain Management Strategy at a regional and local level. This allows local communities to better understand and plan the level of flood risk they are prepared to live with, and to work out how much they are willing to invest to mitigate flood risks in their areas.

Photo: Cardross Flood 2011.
Courtesy Mallee CMA.

NORTHERN VICTORIA



Case study 1

Goulburn Valley Water recognising Aboriginal values



As part of its commitment to recognising Aboriginal values and engaging with Indigenous communities, Goulburn Valley Water (GVW) is promoting greater involvement of Aboriginal people in water management and providing education and training opportunities for staff.

In 2016 GVW joined the Algabonyah Employment Partnership Program. This involved a commitment to increase Aboriginal representation in the GVW workforce to two per cent. GVW is also working closely with the Kaiela Institute in Shepparton to create inclusive opportunities for Aboriginal employees.

Four portraits of outstanding Yorta Yorta people — created as part of the Aboriginal Street Art project — are now displayed and celebrated on the walls of GVW's Shepparton office. Collaborators on this project included Yorta Yorta Nations, Rumbalara Co-op and the City of Greater Shepparton.

In 2017 an Emerging Leaders Program between GVW and a local Indigenous group gave seven emerging leaders the opportunity to exchange knowledge of the water sector and Yorta Yorta history and culture. A range of projects will evolve from this program, including cultural awareness initiatives and mapping GVW towns and assets in Yorta Yorta language.

Photo: Aunty Margaret Tucker (MBE) and Nanny Nora Charles mural at GVW's Shepparton office.

Case study 2

\$320 million to be invested in new environmental projects



Nine new environmental works projects worth an estimated total of \$320 million have been agreed to by ministers from the Murray Darling Basin Plan states in June 2017, as part of the Sustainable Diversion Limit adjustment package.

Together, these projects will water 14,000 hectares of high-value Murray floodplain.

The projects will use infrastructure such as pipes, pumps and flow regulators to divert relatively small volumes of water for the environment from the river to water wetlands, red gum and black box communities. This will create better breeding conditions for waterbirds and improve habitat for fish, turtles and other aquatic species. This approach also delivers positive environmental outcomes

without creating large floods that can damage rural property.

These projects are specifically designed to maintain the health and resilience of the sites through drought and climate change. Work is currently underway to finalise funding arrangements with the Commonwealth Government for pre-construction activities, including detailed design and regulatory approvals.



Photo: Dartmouth Pondage fish restocking.
Courtesy VRFish.

Photo (top): Environmental water being pumped into Nyah Forest to save stressed and dying red gums during the Millennium Drought. Environmental works are planned for this site to support future environmental watering, ensuring this site can be protected in the future. Courtesy Mallee CMA.

Case study 3

Fishing returns to Dartmouth Pondage

A section of the Dartmouth Pondage in north-east Victoria has been re-opened for fishing for the first time since 2013. And in a boon for local and visiting anglers, the pondage has been stocked with 20,000 trout to accelerate the fishery's development. In years past the pondage was known to grow trophy trout to three kilograms, and often boasted the winning fish in local angling competitions.

Water-based recreation, including fishing, makes an important contribution to regional economics as people who visit often stay overnight and buy fuel, fishing tackle and food locally. The re-opening of Dartmouth Pondage in May 2018 is a great example of government agencies collaborating with the community to achieve great recreation outcomes with flow-on benefits to the local community.

WESTERN VICTORIA



Case study 1

Bringing water back to Green Lake



Photo: Green Lake works. Courtesy Coburns Earthmoving.

Rejuvenation works at Green Lake, near Ouyen, mean Western Victorians can once again enjoy one of the region's favourite recreation sites for years to come. The project will see topsoil removed from the lake bed, and sub-surface soils compacted to form a solid, impervious clay layer at the base of Green Lake. The newly compacted lake bed will help reduce seepage and water loss.

Although Green Lake has been connected to the Wimmera Mallee Pipeline system since 2008, almost all the water delivered to the lake was

being lost through seepage. By compacting the lake bed, Green Lake will once again be a valued community retreat and important visitor destination.

Led by the community, this \$2 million project is being delivered by the regional water agency, GWM Water, with support from the Department of Environment, Land, Water and Planning and Buloke Shire on behalf of the Green Lake Committee of Management.

Case study 2

Water security a step closer for the East Grampians West Wimmera community



As part of its 2018-19 Budget, the Victorian Government committed \$32 million towards the \$85.2 million East Grampians Water Supply Project. When fully funded, approximately 1600 kilometres of stock and domestic pipeline

will be constructed, covering up to 530,000 hectares of land in the Grampians region. The pipeline will supply water to agricultural areas surrounding Ararat and some sections of the Pyrenees and Northern Grampians shires.

Farms and businesses that have traditionally relied on their own dams and carting water will benefit from a more secure supply. The project will create greater certainty and the ability to make long-term decisions about planting more crops, buying more stock and

investing in equipment. A more secure supply will improve agricultural production and diversity, increase economic prosperity and support local jobs.

Until the remaining \$32 million is secured, GWM Water will construct the pipeline across a smaller area to maximise project benefits with the funding available.

Photo: Mount Langi Ghiran Winery, Grampians. Courtesy Visit Victoria.

Case study 3

Wimmera platypus found surviving and thriving



After disappearing during the Millennium Drought, a small and fragile platypus population in Western Victoria is re-establishing itself in the Wimmera River system. Recent monitoring has

found new juvenile platypus (1-2 years old) in the MacKenzie River, and platypus DNA has been detected in areas of the river where it was previously unrecorded. The new DNA tests are highly sensitive and more efficient at discovering platypus.

Releasing water for the environment in the lower section of the MacKenzie River has helped maintain platypus habitat, particularly in dry times. The discovery of the DNA shows the river system is providing sufficiently good quality habitat to not only sustain the platypus population, but allow it to grow and even move downstream into new areas.

Anyone can report sightings of platypus via www.playtpusspot.org or the platypusSPOT app.

Photo: Wimmera Catchment Management Authority surveys in the MacKenzie River 2017, with wildlife ecologist Josh Griffiths. Courtesy Paul Carracher, The Weekly Advertiser.

SOUTH WEST VICTORIA

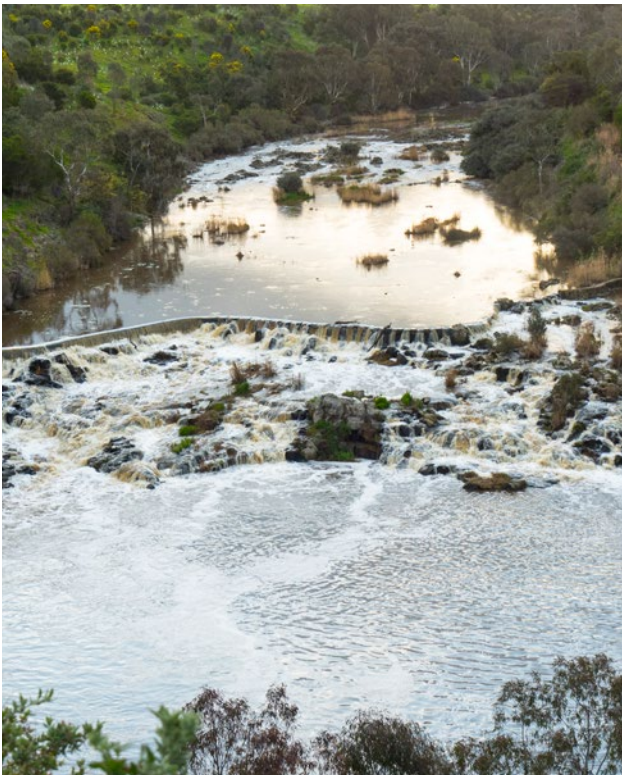


Photo: Barwon River at Buckley Falls, Highton.

Case study 1

New Barwon River environmental entitlement

The Upper Barwon River Environmental Entitlement, established in April 2018, is being used to improve flows in the Barwon River. The entitlement provides a long-term average of 1000 megalitres of water per year for the Barwon River and will be stored in the West Barwon Reservoir, near the top of the Barwon River catchment.

The Corangamite Catchment Management Authority (CMA) will be managing the new environmental entitlement on behalf of the Victorian Environmental Water Holder. The community can get involved in planning for and managing environmental water through the Upper Barwon Surface Water Advisory Group, established by the Corangamite CMA.

Case study 2

Hamilton Treatment Plant's solar upgrade benefits community and environment



Photo: Hamilton Treatment Plant solar panels.
Courtesy Wannon Water.

A new solar power system has been installed at Hamilton's Water Treatment Plant as part of Wannon Water's commitment to help tackle climate change. It is believed to be the first large-scale solar system installed on the roof of an Australian water utility tank, showing the future potential for this type of installation in the water sector.

A total of 344 high-efficiency solar panels placed on the roof of the clear water storage tank will reduce the plant's demand on the electricity grid by 25 per cent and reduce greenhouse gas emissions by about 150,000 kilograms each year.

Wannon Water has pledged to achieve net-zero emissions by 2050, with an interim target of a 40 per cent reduction by 2025.

Case study 3

Budj Bim Connections: ancient heritage secured for future generations



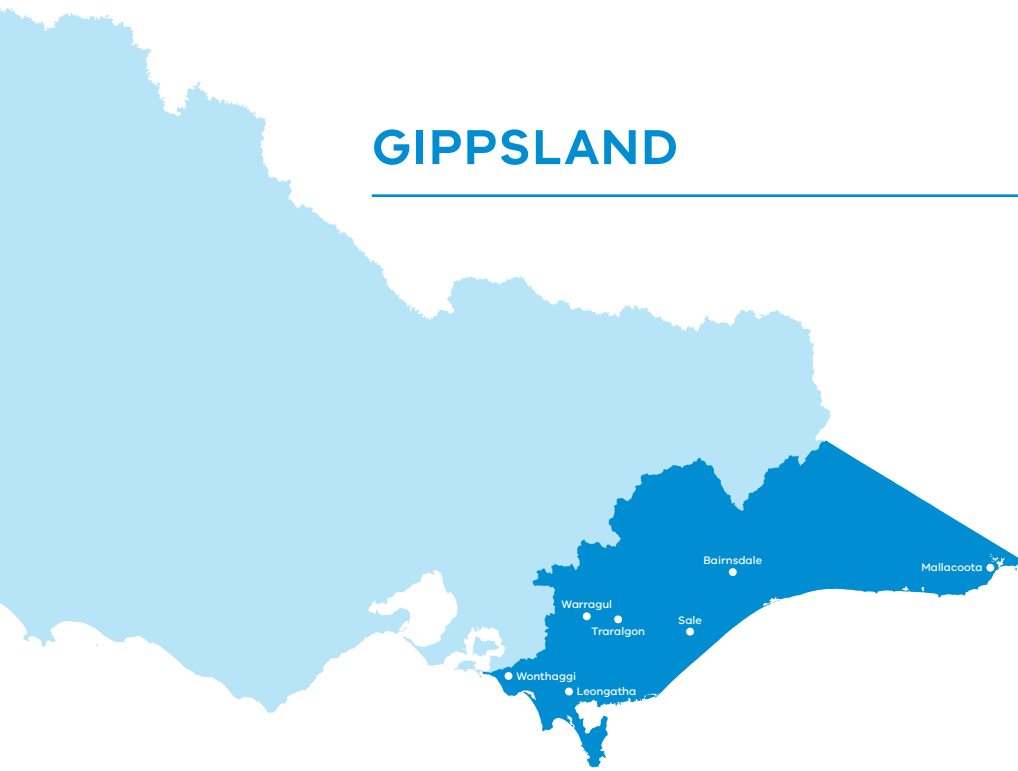
Extending from Budj Bim (formerly Mt Eccles) to the sea, and encompassing a series of waterways including Lake Condah, Darlot Creek and the Fitzroy River and estuary, is the Budj Bim Connections Project, one of 36 large-scale waterway restoration projects established through *Water for Victoria*.

The Budj Bim project has developed a long-term vision for the restoration of Budj Bim's waterways, in partnership with the Gunditj Mirring Traditional Owners, local landholders and the broader community. More than 137 participants have been involved in the project over the past year. The project will improve the connectivity and condition of Budj Bim's waterways and reinstate flows to the wetlands. This will enable the Traditional Owners to reinstate cultural practices such as eel harvesting.

The on-ground action program (fencing and weed management) is already underway to reduce threats to Budj Bim waterways. These works will enhance recreational opportunities and benefit rare and threatened species such as the Australasian Bittern, Growling Grass Frog, Yarra Pygmy Perch and Glenelg Spiny Crayfish.

Photo: Gunditjmara Traditional Owners, local landholders and staff from Glenelg Hopkins CMA at launch of Budj Bim Connections Project.
Courtesy Glenelg Hopkins CMA.

GIPPSLAND



Case study 1

Supporting the health of the iconic Gippsland Lakes



Photo: Gippsland Lakes. Courtesy Visit Victoria.

The Ramsar-listed Gippsland Lakes are an important environmental, social, cultural and economic asset of Victoria. A total of \$10 million is being invested through the Gippsland Lakes Coordinating Committee to improve the health of the Gippsland Lakes. This will fund the delivery of on-ground works and community engagement. The investment is being guided by the Gippsland Lakes Priorities Plan, and focuses on maintaining and restoring habitat, protecting fauna, managing nutrients and sediments, and managing water regimes.

Twenty projects and integrated programs worth \$7.78 million are already underway. The projects involve more than 20 regional delivery partners including the Traditional Owners of the Gippsland Lakes — the Gunaikurnai people — and all key land and waterway managers. A further \$1 million has been allocated for 26 community projects to deliver fencing between farmland and waterways, revegetation, erosion control and research to improve the health and management of the Lakes.

Case study 2

Landmark Gunaikurnai agreement



Photo: Signing of the Gunaikurnai Agreement.
Courtesy Southern Rural Water.

A ground-breaking partnership agreement with the Gunaikurnai Land and Waters Aboriginal Corporation (GLaWAC) has been signed by 13 natural resource agencies and organisations across Gippsland.

The agreement was proposed through the Gippsland Environmental Agencies Alliance, and includes Victorian Government departments, water corporations, catchment management authorities and other non-profit organisations. The agreement recognises the vital importance of healthy land

and waterways in the traditional culture of the Gunaikurnai, and will form the framework for land and water initiatives in the region.

The multi-agency approach recognised that Traditional Owner groups often don't have the resources or time to negotiate separate agreements with individual agencies. The GLaWAC management team worked together with Gippsland Environmental Agencies to create a common set of objectives. A working party is now implementing action plans to meet those objectives.

Case study 3

Endangered frog found at restored wetland



Photo: Growling Grass Frog discovered at Clyde Bank. Courtesy West Gippsland CMA.

West Gippsland Catchment Management Authority has made a rare discovery of two new sites with resident Growling Grass Frogs in the Gippsland Lakes. Only 40-60 of the threatened frogs are estimated to exist in the whole Gippsland Lakes area, making the discovery of at least 10 more frogs in recently restored wetland areas very significant. It shows how conservation efforts can lead to amazing results. Works are creating new habitat and these threatened frog species are using it. To have a species respond like this is just outstanding.

Tadpoles of the Golden-Bell Frog — another nationally endangered amphibian with an estimated 400-600 individuals in the Gippsland Lakes — were spotted during surveys in another newly enhanced wetland site. Knowing the frogs are using the newly restored springs and were breeding in them during a dry summer (which makes conditions highly unfavourable) is extraordinary. There is no better way to measure the success of on-ground work.

2

Climate change

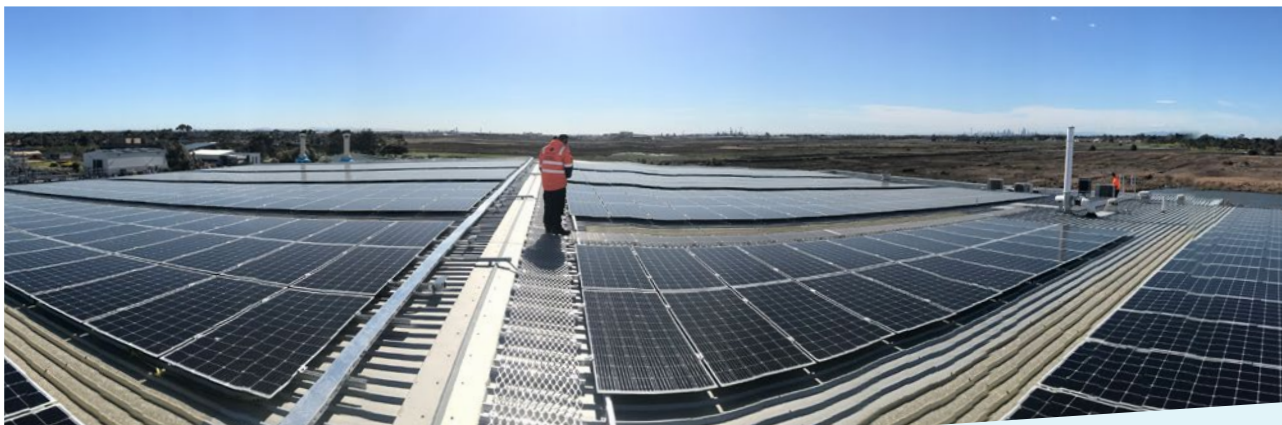
The latest scientific insights and guidance on how to assess climate change impacts are helping Victoria's water sector plan and adapt to a future with less water, more intense rainfall and storms, and sea level rise. The new Victorian Water and Climate Initiative research program, conducted by experts on climate and hydrology, will produce more advanced information for water managers and for sewerage, drainage and floodplain services.

The water sector is dealing with changes in climate, population and water demands by adapting its operations, reducing greenhouse gas emissions, investing in energy efficiencies and planning for reliable and affordable water, sewerage, drainage and floodplain services for the future.

Photo: Wonthaggi Wind Farm with the Wonthaggi Desalination Plant in the foreground.

Project 2.1

Emissions reductions projects underway



Victoria's 19 water corporations have collectively pledged to reduce their carbon emissions by approximately 350,000 tonnes — or 42 per cent — by 2025. These pledges have been ratified in each water corporation's Statement of Obligations, demonstrating how the sector is taking genuine action to mitigate climate change and move towards net zero emissions.

Victoria's water corporations will continue to develop and implement projects that reduce their emissions, along with investigating how they can

buy renewable energy. Four of the water corporations are already on track to fulfil commitments to reduce their emissions by 100 per cent through investing in solar infrastructure and other initiatives. The new Victorian Water and Climate Initiative will improve our understanding of past and future changes in climate and the impacts on water resources, which will ensure that Victorians can make informed decisions about managing our water resources.

Photo: Altona Treatment Plant. This system generates 206 MWh of sustainable electricity each year – enough to power 17 homes for one year and reduce CO2 emissions by 227 tonnes each year, and the equivalent of taking almost 50 passenger cars off the road, each year. Courtesy City West Water.

Climate change

Project 2.2

Using the latest climate science to inform water security planning

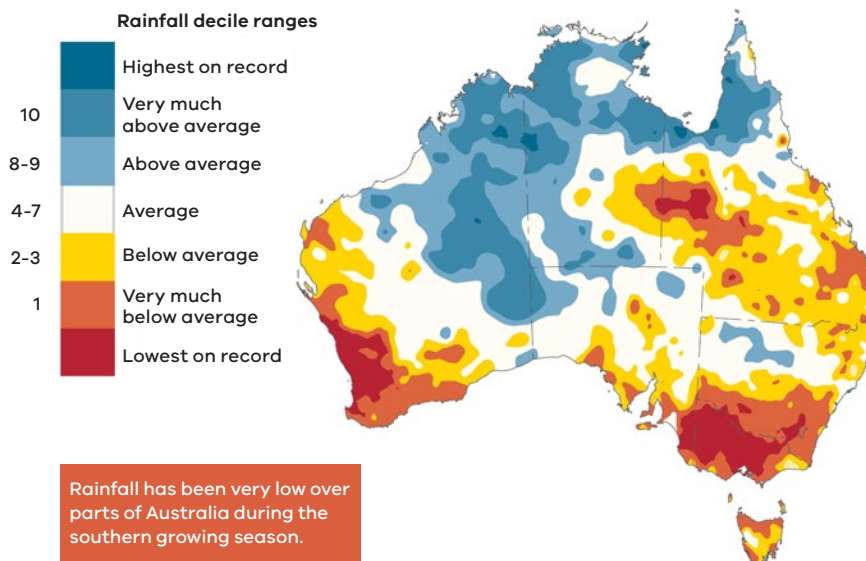


Image: Southern growing season (April–October) rainfall deciles from 1996 to 2015. A decile map shows where rainfall is above average, average or below average for the recent period, in comparison with the entire rainfall record from 1900. Source: Bureau of Meteorology.

The State Government has developed *Guidelines for Assessing the Impact of Climate Change on Water Supplies in Victoria* using the latest findings from the Victorian Climate Initiative, including modelling from the CSIRO and Bureau of Meteorology. The guidelines project long-term changes in temperature, potential evaporation, rainfall, runoff and recharge, and will be used by water corporations across Victoria to model the impact of climate change on water supplies.

The guidelines will help to secure Victoria's water supply by guiding preparations for hotter and drier conditions. Victorian water corporations will use the guidelines when planning for supply

systems that are vulnerable to climate change, and have already used them to develop Urban Water Strategies.

The government has also developed a new Victorian Water and Climate Initiative program of research based on feedback from the water sector, and has entered into research agreements with the University of Melbourne, the Bureau of Meteorology and CSIRO. The initiative will provide the water sector with a new and more refined understanding of changes in rainfall, runoff and streamflow and how this may affect water availability.



Photo: Friends of Darebin Creek revegetation works.
Courtesy Melbourne Water.

Project 2.3

Reducing emissions through revegetation

The Catchment Carbon Offsets Trial, completed in May 2018, shows how revegetation projects can reduce emissions, deliver climate resilience and improve catchment management outcomes.

Under the statewide initiative, opportunities were sought for catchment management authorities (CMAs) to revegetate catchment areas to deliver carbon sequestration and environmental, social and water quality benefits, with water corporations funding the works.

To test the concept, Wannon Water, Corangamite CMA and Glenelg Hopkins CMA collaborated on a case study. The study showed that as well as offsetting carbon emissions, such projects can deliver additional benefits to local communities, the environment and water quality.

Chapter Action Status



1 x complete
and now BAU



2 x in progress



Next

\$5.7M
invested

On track
to zero emissions

350,000 tonnes of CO₂
emissions reductions pledges

- Release new research findings on catchment runoff across Victoria
- Apply research findings and improve projections of future water availability
- Water corporations continue to deliver projects that reduce greenhouse gas emissions
- Develop new tools, guidance and capability building to enhance the resilience of the water sector.

3

Waterway and catchment health

The Victorian Government is protecting the rivers and landscapes that people love and use by involving groups across the state in flagship projects to restore waterway health, improve the environment and support agriculture and recreation. Land and water managers, local communities and Traditional Owners are bringing their knowledge and experience to improve care for waterways and Country.

Strengthened partnerships are supporting collaboration across our catchments. We are investing in activities to restore and enhance our waterways and to water our environment, so that Victorians can enjoy and share the benefits of their local waterways and catchments now and into the future.

The government has supported community involvement in citizen science through the WaterWatch and EstuaryWatch programs, and has continued to ramp up the River Detectives program in schools across the state.



Photo: Steavenson River Tree Planting Day - Angler Riparian Partnerships program. Courtesy: John Douglas VFA.

Highlights

Completed 10 new Catchment Partnerships Agreements that outline how regional partners will work better together for regional communities with a total of 135 signatory partners and an additional 87 non-signatory partners.

Glenelg Estuary and Discovery Bay is named as Australia's newest Ramsar site in 2018.

This year's annual catchments summit focused on strengthening partnerships and provided over 200 delegates from across the catchment and water sector the opportunity to showcase projects, discuss new ideas and share knowledge.

Project 3.1

Accelerating on-ground riparian management works



Photo: Angler Riparian Partnerships program habitat mapping. Courtesy Mallee CMA/Sunraysia OzFish

Healthy riparian land – the land beside rivers and wetlands — is critical for healthy waterways.

The Regional Riparian Action Plan is a five-year plan (2015–2020) to accelerate works to improve the health of riparian land along Victoria's regional rivers, estuaries and wetlands. Works include fencing to manage stock, revegetation programs, weed management and construction of off-stream watering systems.

In its third year of implementation, the plan is accelerating and producing great on-ground benefits. Catchment management authorities have been working with over 760 landholders, Landcare groups and other partners. Over 1500 kilometres of waterways and over 26000 hectares of riparian land (61% and 92% respectively of the 5-year action plan targets) have been protected or improved since the plan began in 2015.

Waterway and catchment health

Project 3.2

Water for the environment producing results



Photo: Gunbower Forest before and after environmental watering. Courtesy NCCMA.

Victorians are passionate about their rivers and wetlands — 95 per cent of us use them for activities like camping, birdwatching, swimming, boating and fishing.

Studies show that environmental watering is producing outstanding results in places like the Goulburn and Campaspe Rivers, where for the first time in 10 years Silver Perch has returned. The fish were found to undertake long-distance migration in response to increased environmental flows, with a total of 9800 of the species recorded moving through the Torrumbarry fishway over the last two years.

At Hattah Lakes, increased flows have resulted in a tremendous increase in small-bodied native fish. In 2012-13, monitoring recorded a total of 381 fish across five species. By 2016-17 the number had increased to 41,550 fish across six species. These included the threatened Murray Rainbowfish and Unspecked Hardyhead.

In 2017-18, the Victorian Environmental Water Holder watered all of the state's nineteen systems that are able to receive environmental water, benefitting ecosystems in 43 rivers and creeks and 85 wetlands.

"We are in an ongoing relationship to work towards getting our river frontage fully fenced... There are many benefits to be enjoyed, from both a productive and environmental perspective. We are pleased with the work we have done on our property. It will benefit generations to come."

Les Pearce - recipient of riparian incentive grant from North East CMA.



Photo: Living Links community event at Dandenong Creek.
Courtesy Port Phillip and Westernport CMA.

Project 3.3

Transforming the Dandenong Creek corridor

The Dandenong Creek corridor runs through a dense urban landscape and provides a vital haven and biolink for native flora and fauna, as well as for the region's human inhabitants. Work is needed to strengthen some environmentally significant sections of natural bushland.

The \$1 million, Transforming the Dandenong Creek corridor into a world-class urban Living Link project will transform 22 kilometres of the creek between Bayswater North and Dandenong. The Port Phillip and Westernport Catchment Management Authority, Melbourne Water, Parks Victoria and five local councils are working together on the project.

Environmental works are being carried out across 38 priority sites, and working bees, citizen science monitoring activities and educational events are increasing public use and appreciation of the corridor.

The project is being delivered through the Living Links program. In 2017-18 it completed 18 hectares of revegetation, 23.7 hectares of weed control and engaged and educated close to 600 local residents.

Chapter Action Status



6 x in progress



3 x in progress with revised timeframe



Delivered **1600 GL** of water for the environment over two years

Over **9000** people engaged to increase understanding of waterway management

Works at **288** sites to improve stream health

Next

- Deliver more integrated catchment management through 19 key projects that focus on on-ground works with the community and other partner agencies
- Ramp up large-scale waterway restoration projects across the state.
- Strengthen the environmental water framework and continue to demonstrate the benefits of water for the environment

4

Water for agriculture

The Victorian Government is supporting farming communities to make informed changes, stay resilient and thrive as they shift to a future with less water. We are investing in infrastructure projects across Victoria — in areas such as Gippsland, Werribee and South West Loddon — to secure a sustainable and productive water future for our farmers. The successful reset of the \$2 billion Connections Project has ensured that the future prosperity of Victoria's northern food bowl is supported by a modern delivery system, providing economic stimulus for irrigated farming and industries in the Goulburn-Murray Irrigation District.

We are working to achieve balanced outcomes from implementing the Murray-Darling Basin Plan. As farmers across Victoria deal with the effects of climate change, reduced inflows and less available water, our approach has been to put communities at the centre of issues to discuss and identify actions and agree on priorities. For example, we have developed the popular Plan2Farm — a tool to work with farmers for long-term business decisions to support their decision making.

Photo: Gunbower connections work.
Courtesy GMWCP.

Highlights

Contemporary Rural Drainage Strategy to be finalised in late 2018.

Victoria continues to achieve 100 per cent compliance for salinity under various Murray-Darling Basin agreements.

Project 4.1

Unlocking the future of agriculture and horticulture



Construction is underway on projects that will ensure the Macalister, Werribee and Bacchus Marsh irrigation districts operate more efficiently and are resilient in a drier climate. These projects are securing the future for Victoria's high-value agriculture and horticulture, while also protecting the environment. Water savings generated from these projects will support agricultural productivity in the region and enhance environmental outcomes in the Werribee River.

Feasibility investigations undertaken by water corporations since 2016 have played an important role in identifying infrastructure needs for our future water security. The 2018-19 Victorian Budget committed \$42.2 million towards the construction of the East Grampians Water Supply Project and Mitiamo and District Reticulated Water Supply Project. These projects, alongside the \$80 million South West Loddon Rural Water Supply Project already underway, will continue the extension of the water grid and improve water security to rural communities.

The government continues to look for opportunities to bridge funding gaps for the Werribee and Bacchus Marsh modernisation projects, as well as the East Grampians and Mitiamo pipeline projects. This will enable the full suite of project benefits to be realised.

Photo: Balancing storage (dam) created during the \$32M Phase 1A in 2016/17 modernisation works. Named "Willang Yarn" meaning "rain water" by the Gunaikurnai Traditional Owners. Courtesy SRW.

Water for agriculture

Project 4.2

Helping farmers make more informed decisions



Photo: Kevin and Jeanette Burge, Tyntynder. Courtesy NCCMA.

Plan2Farm provides personalised and specialised support to farmers in the Goulburn-Murray Irrigation District (GMID) to help them understand their business needs and make decisions that align with their vision for the future.

Whole-of-enterprise planning means farmers make better decisions around farm water use, long-term water requirements, business planning, modernisation agreements with the Connections Project, and land use practices.

This approach provides environmental, social and economic benefits within GMID irrigation communities, helping irrigators to adapt to rapid change and reduced water availability.

The program is coordinated by North Central Catchment Management Authority and delivered in alliance with Goulburn Broken Catchment Management Authority, North East Catchment Management Authority, Agriculture Victoria, GMW Connections, Rural Development Victoria and Murray Dairy.

“Through Plan2Farm we set goals and then ticked them off. Even if we had a bad day we knew that tomorrow would be a new day and we could start again on our list. When we progressed through all of our goals we made more!” Kevin and Jeanette Burge, Tyntynder

Murray Darling Basin Plan

Victoria is on track with its Basin Plan water recovery target, with over 800 gigalitres (GL) of Victoria’s 1,075 GL target recovered or contracted to be recovered. We know that water recovered is already delivering for the environment, with improved vegetation, fish populations, and waterbird breeding (see www.water.vic.gov.au/reportcard for more information).

Work to ensure that the Basin Plan delivers balanced outcomes has continued including:

- Undertaking socioeconomic analysis to better understand the impacts of water recovery on farming communities.
- Progressing projects under the Basin Plan’s 605 GL SDL adjustment mechanism worth an estimated \$320 million - without these projects, the future of important environmental sites like Gunbower Forest is uncertain.

- Developing infrastructure projects to meet Victoria’s contribution to recover 62 GL by June 2019 to bring the full 605 GL supply adjustment into effect.
- Progressing our water resource plans and improving basin wide compliance through a compliance compact.

Victoria will continue to focus on achieving environmental outcomes and ensuring any further water recovery does not come at the expense of our communities.

Project 4.3

The Connections Project — securing the future of the Goulburn-Murray Irrigation District



Photo: New channel lining. Courtesy GMWCP.

The Connections Project — the largest irrigation modernisation project in Australia — is ensuring the future prosperity of Victoria's northern food bowl, centred on the Goulburn-Murray Irrigation District (GMID). The \$2 billion federal and state-funded project will create a sustainable future for productive agriculture in northern Victoria, and the prosperity of the GMID for future generations. The modernisation of the irrigation infrastructure is benefiting irrigators, local jobs, community and the environment, and will result in long-term water security for the GMID agriculture sector.

The project will recover 429 gigalitres of water savings and is a key part of Victoria's contribution to the Murray Darling Basin Plan.

The project's Reset Delivery Plan is ensuring its success with each consecutive milestone target achieved or exceeded since it was established. As at 30 June 2018, the project had installed almost 7300 outlets, decommissioned more than 1130 kilometres of channels and fully treated assets servicing almost 5800 customers.

Chapter Action Status



3 x complete
and now BAU



1 x complete



6 x in progress



1 x in progress with
revised timeframe



Next

241 grants for whole
farm plans covering over
17,844 hectares

141 on-ground farm
irrigation upgrades funded
over 13,800 hectares

Over **1340** farm
engagement events with
landholders and industry

- Continue to deliver rural infrastructure projects on time and budget
- Continue to seek opportunities to complete partially funded water infrastructure projects

- Finalise the Delivery Share Review
- Continue to work with communities to achieve balanced outcomes from implementation of the Murray Darling Basin Plan.

5

Resilient and liveable cities and towns

Community voices and ideas are coming to the table to help conceive and plan inventive water projects to help Victoria's cities, towns and regions adjust to population growth and a future with less water. The process includes planning for how to use all available water sources efficiently and manage sewerage and stormwater to create more sustainable living urban spaces for communities.

People from local government, land and water management agencies and Traditional Owner groups have been meeting in forums to identify local challenges, and to plan, package and put into action important projects for their environment and communities.



Photo: Be Smart Choose Tap — City West Water water bubbler at A Walk in the Park 2018, Fed Square.



Photo: IWM Practitioners meeting in Wonthaggi. DELWP.

"Having been connected to School Water Efficiency Program for less than a month, it's reasonable to say that we've saved the cost of the program already. It's highlighted to us the importance of properly inspecting our facilities regularly"

John, Wodonga Senior Secondary School

Project 5.1

Local voices central to Integrated Water Management

The Integrated Water Management Framework has been developed to help government, the community and the water sector work together to plan, manage and deliver water in Victoria's towns and cities. The goal is to deliver greater community value and look at innovative solutions such as stormwater harvesting and recycled water.

We have created Integrated Water Management Forums across metropolitan and regional Victoria, placing local voices at the centre of decision making.

The forums bring water corporations, catchment management authorities, local government and Traditional Owner groups together to identify barriers, tackle problems, share ideas and develop a shared vision and priorities for their region to become more water resilient. Fourteen forums are now established and coming up with local projects, acknowledging regional differences and engaging with local stakeholders.

Project 5.2

Innovative water saving features in new developments



Photo: Aquarevo project. Courtesy South East Water.

Victoria's water corporations are working with developers to demonstrate the benefits of water-saving technologies. A stand-out example is Aquarevo, a unique collaboration between South East Water and Villawood Properties on a residential development in Lyndhurst, south-east of Melbourne, where homes will feature a range of unprecedented water savings features.

New homes at the site will be plumbed with three types of water — drinking, recycled, and rainwater — to show the possibilities for harnessing all available sources of water. Earthworks have started at the development and almost half the number of planned lots have been sold, with all released stages selling out almost immediately.

Project 5.3

Investing in community assets



Photo: Eastbank Lake project artists impression. Courtesy Spiire.

Projects underway across Victoria are demonstrating the benefits of Integrated Water Cycle Design, incorporating elements such as recycling water and stormwater harvesting into the design of parks and community spaces to achieve community and environmental benefits.

The Upper Stony Creek transformation project at Brimbank, in Melbourne's west, is transforming a

concrete drain into a more natural state and a community space, with walking paths, wetlands and a revegetated creek bed. Similarly, at the Eastbank Lake project in Shepparton, a stormwater harvesting and re-use system will provide a new and attractive community-focused area on a section of the Goulburn River, and use treated stormwater to irrigate local parks and gardens.

Chapter Action Status



1 x complete
and now BAU



6 x in progress



1 x in progress with
revised timeframe



Next

1100 schools now registered for the Schools Water Efficiency Program. They saved **5.2 gigalitres** of water which equals **savings of \$15.5 million**

Pilot Community Housing Retrofit Program has helped over 260 community housing organisations to save around **22 million litres**

- Continue to help the community to use water more wisely through the Schools Water Efficiency Program, Target 155 and Target Your Water Use campaigns
- Examine recommendations from the Improving Stormwater Management Advisory Committee

- Deliver Strategic Directions Statements from each of the Integrated Water Management Forums, which will identify place-based projects for co-investment.

6

Recognising and managing for Aboriginal values

The Victorian Government is supporting Traditional Owners and Aboriginal Victorians to take an active role in the management of the state's water resources. By building knowledge and understanding about the values, uses and economic potential of water for Traditional Owners and Aboriginal Victorians, we can recognise and support these values in how we plan, manage and deliver water.

The Water for Country Project Control Group is guiding investment in projects that use Aboriginal traditional ecological knowledge and Aboriginal assessments of waterways, and that employ Aboriginal Water Officers to work with water managers in Victoria's catchments.

Improving access for Aboriginal people to water for economic development is another new and emerging area being explored and developed.

Photo: Wadawurrung Traditional Owner Tammy Gilson conducting site assessments for the Upper Barwon and Yarrowee-Leigh FLOWS study. Courtesy: Corangamite CMA.

Project 6.1

Co-designing the approach to recognising Traditional Owner and Aboriginal Values of water



For the first time in almost 200 years, Traditional Owners and Aboriginal Victorians are being given an active and meaningful role in planning and management of the state's water. The Aboriginal Water Program is being rolled out across Victoria from the grass roots. Together we've made significant steps forward, but we know we still have a long way to go.

The program emphasises enabling Traditional Owners and Aboriginal Victorians to play an active and influential part in decisions that affect their lives. This means people are not just listened to, but also heard – and involved in shaping outcomes. Because respect for local knowledge and experience is paramount, the result is interventions that reflect local realities, often leading to better supported and longer lasting social change.

The program recognises that Traditional Owners and Aboriginal Victorians need support and resources to partner with the water sector. Capacity is being built through funding of Aboriginal Water Officers and undertaking Aboriginal Waterway Assessments.

Access to water has the potential to generate new economic opportunities for Traditional Owners and Aboriginal Victorians. To support this aspiration, we are co-designing a roadmap to support access to water for economic development with the Federation of Victorian Traditional Owners Corporation and Murray and Lower Darling Rivers Indigenous Nation confederation.

"Today (the first meeting of the Water for Country Project Control Group) represents the start of true engagement of Traditional Owners to effectively embed Aboriginal values and uses of water into Victoria's waterways management framework."

Brendan Kennedy, Co-chair Water for Country Project Control Group

Photo: Aboriginal water totems of the Murray Cod, Long Neck Turtle, Short Finned Eel and Platypus that represent the four corners of Victoria. Courtesy Mick Harding.

Recognising and managing for Aboriginal values

Project 6.2

Investing in water for Country



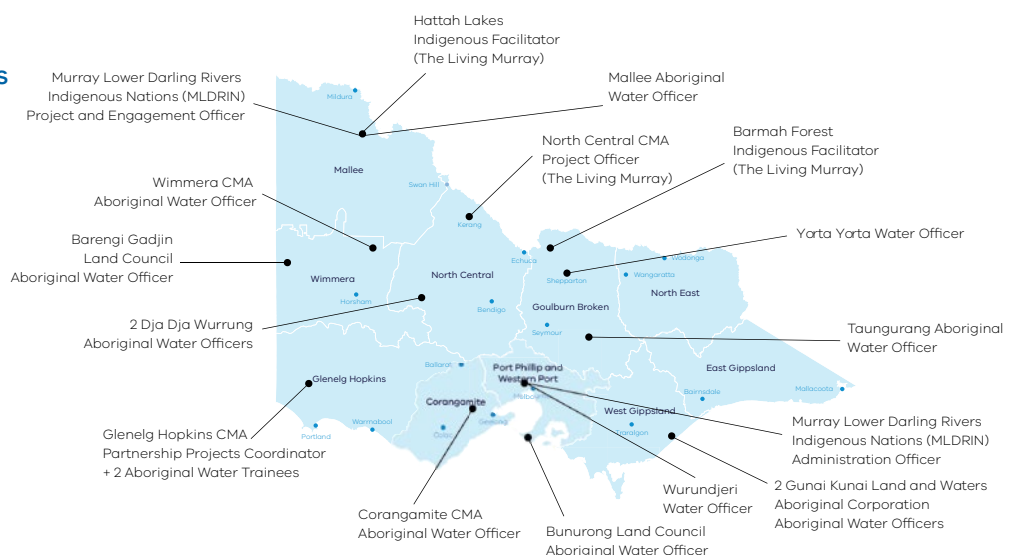
The Aboriginal Water Program aims to better include Traditional Owners and Aboriginal Victorians in the way water is managed and to reconnect communities to water for cultural, economic, customary and spiritual purposes. As part of this commitment, the government is rolling out a range of locally-focused projects and recruiting Aboriginal Water Officers to support communities to increase understanding and appreciation of water values, uses and aims.

To support this important initiative, the Water for Country Project Control Group — comprising 12 Victorian Aboriginal people — has been established to provide specialist advice, strategic direction and guidance on investment in projects.

The first round of Aboriginal Water Grants was announced in June 2018, with eight successful Traditional Owner Groups and catchment management authorities receiving funding, and three additional Aboriginal Water Officers being appointed. The grants enable Traditional Owners and Aboriginal Victorians to conduct research on Country and local projects to enable proper understanding of Aboriginal water values, uses, aims and requirements, including cultural heritage. Further rounds of grants are scheduled for late 2018.

Photo: Bendigo Creek restoration works. Courtesy: North Central CMA.

Aboriginal Water Officers



Project 6.3

Achieving shared benefits



Aboriginal values of water are being recognised in Victoria's water planning and management frameworks. Initial steps have been taken to recognise Aboriginal values and ecological knowledge in waterway management strategies, sustainable water strategies and state environmental protection policies.

Significant benefits can be achieved for Aboriginal people through environmental watering — whether by directly sustaining healthy Country and totem species for communities, or by enabling cultural activities to take place.

In 2017 the Victorian Environmental Water Holder, in partnership with Melbourne Water, delivered environmental water to Bolin Bolin Billabong, next to the Yarra River at Bulleen. The watering was endorsed by the Wurundjeri Traditional Owners, who have strong cultural connections to the billabong. Data collected during the watering, along with the existing knowledge of the Wurundjeri and the experiences of being on Country as part of the monitoring for Bolin Bolin, will inform future management objectives and practices.

Photo: Smoking ceremony at Bolin Bolin Billabong at re-watering event in 2017. Courtesy: Melbourne Water.

Chapter Action Status

 4 x in progress



\$4.7 M for locally focused projects and Aboriginal Water Officers

\$5 M to support Aboriginal access to water for economic development

Next

- Build lessons from the first round of grants into future investments
- Continue to build the waterways knowledge of Traditional Owners and Aboriginal Victorians into water planning and management
- Continue to work on access to water for economic development.

7

Recognising recreational values

We are working with rural and regional communities to understand and document the health, social and economic values and benefits of water-based recreation. The Victorian Government is giving priority to works and projects that maximise opportunities for recreational activities on and around our waterways.

To this end, waterway managers are being asked to consider recreational values in planning and decision making, and to provide better information to help people plan their recreational activities in the natural environment.



Photo: Inflatable Regatta 2017.
Courtesy: Melbourne Water.

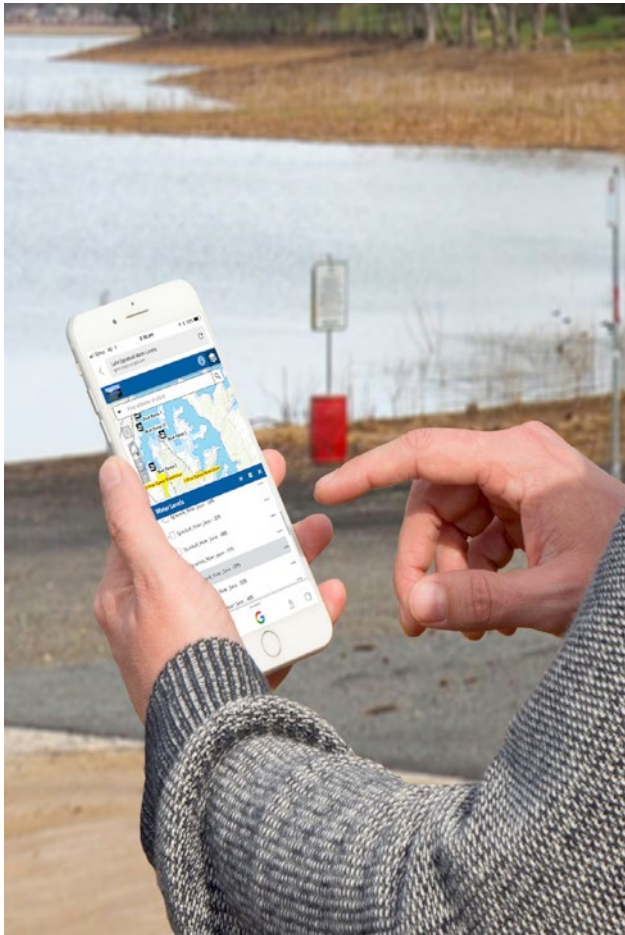


Photo: Vessel operator at Lake Eppalock using the GMW interactive map.

Project 7.1

New online maps for Lake Eildon and Lake Eppalock

Water corporations recognise the importance of access to water storages for local communities and other stakeholders. Providing information to the public on recreational access and services, along with safety messaging, helps promote recreational use of our major water storages.

Goulburn Murray Water, which manages public access at many water storages across northern Victoria, has developed a range of recreation guides providing information about water levels, boating, fishing and related activities and facilities. Interactive online maps are being progressively introduced, and are currently available for Lake Eppalock and Lake Eildon. The maps show where and how to access recreational opportunities, and the likely location of shorelines at a range of water levels. The maps also provide information about facilities such as picnic tables, toilets blocks, barbecue areas and boat ramps. They are proving hugely popular with recreational users.

Recognising recreational values

Project 7.2

Sharing the benefits of water at Toolondo



Photo: Toolondo Reservoir Recreational Fishing Advisory Group. Courtesy DEDJTR/VFA.

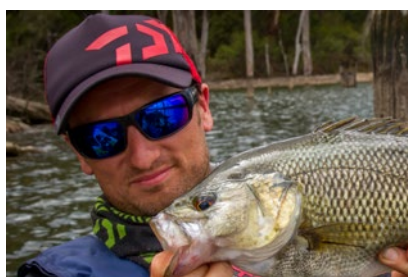
Through *Water for Victoria*, we are expanding the ways in which we can identify, tap into and share the benefits of water. The water sector is seeking to engage in conversations with communities to better understand how people value water, and to find additional uses for water through more creative management of water assets.

An example of this in action is at Toolondo Reservoir, south of Horsham, where increased inflows have been boosting one of Victoria's premier trout fishing spots.

A review of management rules at the Rocklands Reservoir has enabled the transfer of water to Toolondo when storage levels are sufficiently high. More than 10,000 megalitres of water has been transferred since the rule changes, resulting in reduced water temperatures at Toolondo in which trout are more likely to thrive. The new arrangements are drawing more recreational fishers to the lake, resulting in a boost to the local tourism industry and jobs in the region.

Project 7.3

Better access to our community assets



Providing easier and safer access to water storages can lead to significant growth in community use and enjoyment of these important assets. An example of this has occurred at Blue Rock Lake in Gippsland, where recreational use has increased significantly since the introduction of new rules for boating, making it both more accessible and safer for the public. This has helped consolidate the lake's status as a premier Australian Bass fishing destination.

Under the 'Target One Million' Plan, Southern Rural Water worked with the local community, anglers, Gippsland Water and Transport Safety Victoria to remove limits on boat size and power, while restricting speed to 15 knots, and 5 knots in designated swimming and kayak zones.

Since 2015, Blue Rock Angling Club has expanded its membership to more than 1000 people, and recreational users have continued to enjoy the lake's quiet amenity. Local Landcare and community groups have also been involved in developing recreation walks along the foreshore.

Another example of the benefits of improved access and investment in recreational facilities can be found near

Aireys Inlet, on Victoria's west coast. After connecting Aireys Inlet to the Geelong water supply system, Barwon Water worked with the community to transform the town's former storage — Painkalac Reservoir — into a public asset. It now boasts a walking, horse riding and bicycle riding track, picnic facilities and educational signs, and has been stocked with 7000 native Estuary Perch for recreational fishing. After adopting community recommendations, Barwon Water is also regularly releasing environmental flows to boost the health of the Painkalac Creek downstream, which is being monitored through a Deakin University PhD project, focusing on the role citizen science plays in assessing the ecological response to environmental flows.

Photo: Blue Rock bass. Courtesy DEDJTR/VFA.

Chapter Action Status

 3 x in progress



Next

\$4.7 M program to support the wellbeing of rural and regional communities who enjoy the recreational benefits our regional waterways provide

\$3.2 M for projects to improve recreational experiences at priority waterways

- Deliver new projects to improve recreational experiences at priority waterways such as improving visitor facilities and recreational access along Maribyrnong River, Moonee Ponds Creek and Werribee River
- Continue discussions between the water sector and communities to build understanding on how to achieve recreational goals relating to waterways.

8

Water entitlements and planning

We are using improved and up-to-date knowledge to understand the how and why of climate change, and its effects on the security and condition of our water. Our long-term assessment of water resources employs a world-first approach, using the latest data and modelling to predict the availability of water for consumers and the environment, and effects on waterway health.

We are gathering and spreading information to enable water to be shared, used and traded sustainably. The vital network of groundwater bores across Victoria is being renewed to secure the part of the water cycle that we can't see, and we are strengthening compliance for fair sharing of rights to water.

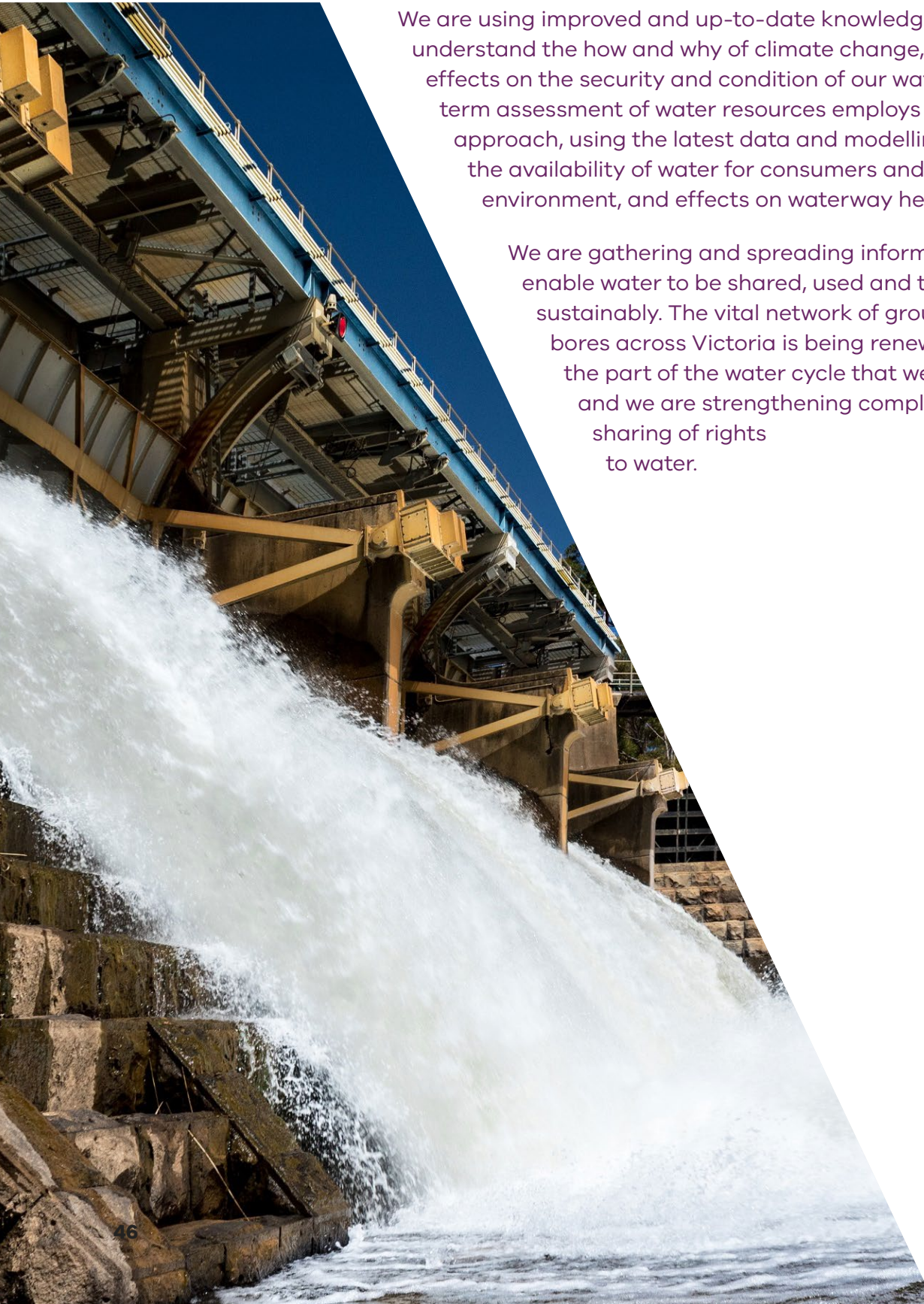


Photo: Goulburn Weir in full release. Courtesy GMW.



Photo: Refurbishment works on a bore in Barwon region.
Courtesy Michael Hoban.

Project 8.1

Upgrading the monitoring of our groundwater

The State Observation Bore Network collects vital information on groundwater levels across Victoria to show how groundwater is responding to changes in climate and pumping activity. This information is used to assess the quantity and potential risks and impacts of using the resource.

Bore refurbishment works are upgrading the ageing groundwater monitoring infrastructure to improve the quality and accuracy of data, and to protect the groundwater from any risks of contamination caused by old bores in poor condition. In 2017-18, 5000 metres of downhole bore refurbishment works were done at 15 sites across south-west Victoria.

The corroded steel-cased bores are re-lined with new fibreglass casing and new cement is injected to re-seal the bore. Refurbishment can be completed at less than 10 per cent of the cost of drilling a new bore.

"The Regional Water Monitoring Partnerships (RWMP) provide a great opportunity for collaboration between all organisations with a common interest in gathering and using information about water resources across Victoria. This unique approach to water monitoring has reduced duplication of effort and is driving the uptake of new monitoring technologies that improve data collection efficiency while reducing monitoring costs in the longer term."

Greg McKenzie, Chair of the Northern RWMP

Water entitlements and planning

Project 8.2

Long-term water resource assessment

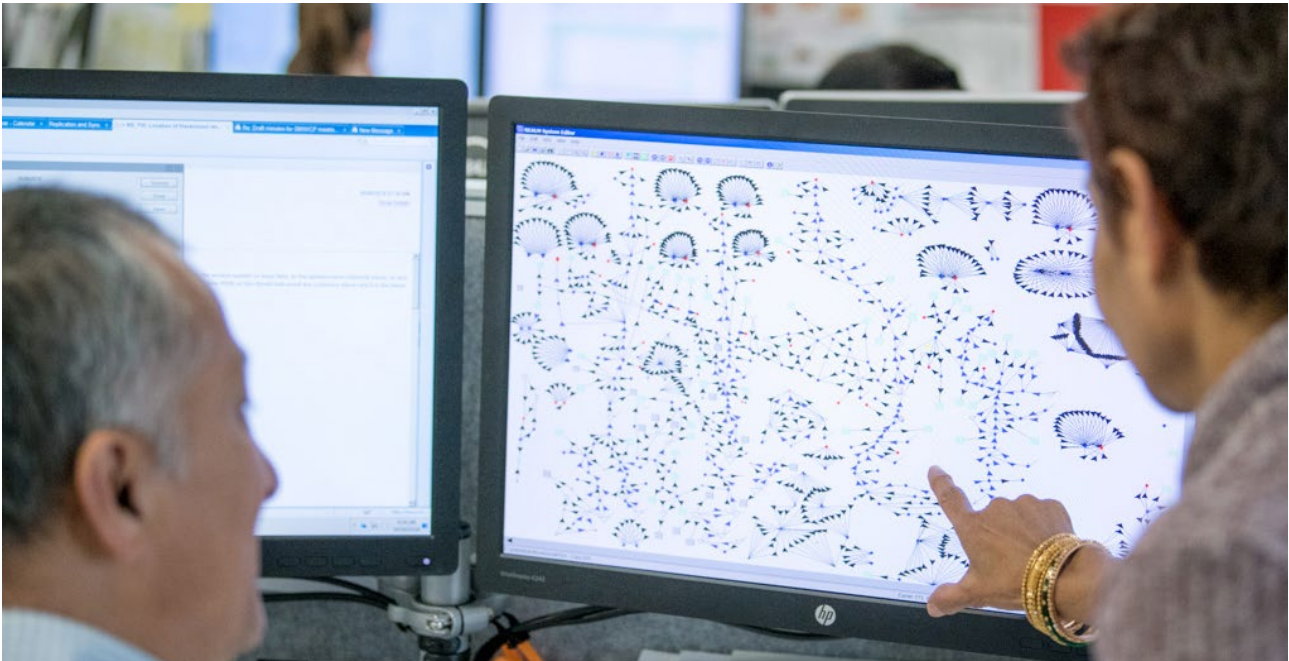


Photo: DELWP data modellers at work.

In a first for Victoria, a long-term water resource assessment is underway to see how long-term water availability has changed for farms, cities, towns and the environment. The assessment will also examine whether waterway health has deteriorated because of changes to water flows.

Because a long-term water assessment has never been done before, there are no existing processes, systems or methods we can use. The Victorian Government has been working with water corporations, catchment management authorities and a technical advisory group of

scientists to make sure we are using the best available data, modelling and information, and that our method suits the purpose of the assessment.

The draft technical assessment will be independently reviewed in early 2019 and the public will be consulted on the findings in the first half of 2019. Depending on the outcomes of the technical assessment, further review may be required to determine how to restore the balance between the environment and the allocation of water to people and industries consuming water.

Project 8.3

Strengthening and improving compliance



Victoria's water entitlement and compliance system is considered one of the strongest in Australia, as confirmed in a review by the Murray-Darling Basin Authority.

In 2018, legislation was introduced into the Victorian Parliament to further strengthen requirements for the legal take and use of water.

The changes are designed to provide additional protection to both entitlement holders and waterways and catchments, and to reflect community expectations of fairness.

The planned changes will boost Victoria's compliance system by introducing tougher penalties for intentional water theft and better enforcement measures. It is proposed that the maximum penalty for intentional water theft be increased to \$950,000 for agricultural companies, and to \$190,000 for individuals. The legislation will also enable water corporations to issue penalty infringement notices for less serious water offences.

The Bill will deliver on *Water for Victoria* pledges to modernise enforcement of the relevant provisions of the *Water Act 1989*, and to further enshrine Aboriginal and recreational water values into water management.

Photo: Modernised irrigation structure that measures and regulates flows in channel system. Courtesy GMW Connections.

Chapter Action Status



3 x complete
and now BAU



2 x complete



5 x in progress



1 x in progress with
revised timeframe



5,876

groundwater bore
level readings per year

8,528

annual
surface water site
visits per year

19,552

lab water
quality tests per year

Next

- Increase the frequency of our monitoring telemetry to inform our assessments and modelling
- Explore opportunities from new data techniques to better predict the future of our water resources
- Complete the long-term water resource assessment and consider how any issues identified may be addressed.

9

Realising the potential of the grid and markets

The network of pipes and systems that forms Victoria's water grid is being used to improve water security for communities across the state. Extra grid connections are sharing the benefits of the desalination plant at Wonthaggi and building resilience for a drier future and unprecedented water demands from our growing population.

Work to augment, manage and share information on the grid is supported by collaboration in integrated water management forums to identify local challenges and plan projects. We are testing and enhancing our water markets to meet the level of demand and sophistication required by contemporary water users.



Photo: Cardinia Reservoir 2018.

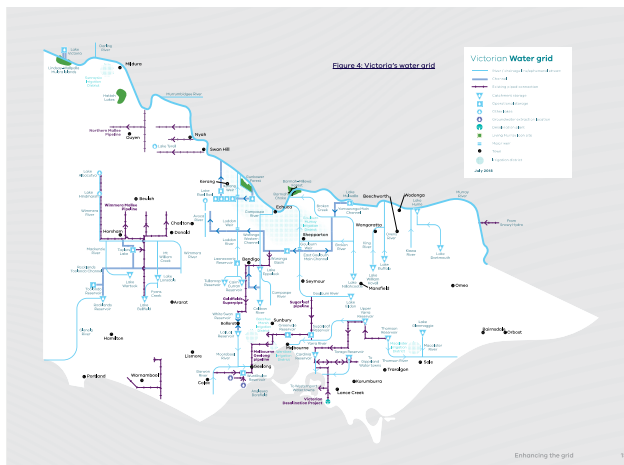


Image: Victoria's water grid and water market allows water users to move water in connected systems to where it is needed most.

Project 9.1 Market effectiveness report

The first statewide review of the effectiveness of Victoria's water markets has been released. The review covered all Victorian water markets, including the northern, southern and western regulated surface water markets, unregulated surface water markets and groundwater markets.

Victoria continues to lead in the active monitoring and development of water markets to make sure that they work efficiently, with effective governance frameworks and trading rules to protect existing entitlement holders and the environment.

While this review found that Victorian water markets are effective overall, we need to make sure water markets continue to develop to match the level of demand and sophistication in the market. Victoria will continue to lead the way in water market development in Australia by acting on the findings from this review.

"Overall, water markets are contributing to the desired outcome in Water for Victoria of markets provid[ing] an equitable and efficient way to allow access and sharing of finite water resources."

**Aither and DG Consulting,
Effectiveness of Victoria's Water
Markets, February 2018**

Realising the potential of the grid and markets

Project 9.2

Using the grid for better water security in South Gippsland



Photo: Burra Foods. Courtesy Burra Foods.

A \$43.3 million investment in the Lance Creek Water Security Project is connecting South Gippsland Water's northern towns of Korumburra, Poowong, Loch and Nyora by pipeline through the Victorian water grid to the Melbourne supply system.

This project is connecting communities to a vital asset and providing a consistent and secure water supply for industrial and domestic customers in South Gippsland. It addresses the challenges of increasing demands from local food processors, ageing assets and the need for improvement in water quality.

The project gives food processing companies like Burra Foods and GBP Exports – which currently employ 165 and 180 staff respectively – confidence to further invest in their businesses and the region. More broadly, the project is developing the grid to improve water security and build drought resilience across South Gippsland.



Photo: Pump used to irrigate canola crop, Nagambie.

Project 9.3

Improvements to the Water Register

A program of continuous improvements to the Water Register — a public register of all water-related entitlements in Victoria — is being implemented to reduce costs and make it easier for users.

As part of this program, we have identified 1502 water shares with a volume of 10 megalitres and less that are held as tenants in common and require complex administrative processes when one of the holders dies. Many of these owners have not been aware of their tenants-in-common status.

We found that the red tape and costs involved in dealing with the death of a holder are significantly greater than the value of the water shares. It also causes extra distress for people at a difficult time. To deal with this issue, we have been making these water share owners aware of their risk, and giving them a one-off opportunity to address their ownership issues at no cost.

Chapter Action Status

 7 x in progress



Next

Over **44,000 water shares** and over **28,000 other entitlements** recorded in the Victorian Water Register

\$6 - \$7 billion of entitlements held in the Victorian Water Register

19,325 trades of water entitlement or allocation in 2017-18, with a total of **3,407,589** megalitres transacted

- Improve public water market information (including for new water market participants such as Traditional Owners)
- Improve water market monitoring to inform policy
- Improve monitoring of anti-competitive behaviour potential and communication of current regulations
- Improve clarity and streamline water resource management and planning functions.

10

Jobs, economy and innovation

Water corporations are working to meet performance expectations in several important areas. They are implementing smart innovations and energy efficiencies to deal with climate change, while also delivering high-quality, affordable services with a focus on communities' wellbeing. Water prices have been set independently for the next five years, with the goal of stability or reduction in bills.

Our water sector is changing to reflect community diversity, with more women and Aboriginal Victorians on the boards of water corporations and catchment management authorities, the first Aboriginal commissioner joining the Victorian Environmental Water Holder, and more Aboriginal Victorians employed in land and water management.



Photo: Eastern Treatment Plant,
Melbourne Open Day event, 2018.

Highlights

Victorian households will continue to have some of the lowest water bills in the country, with flat or falling water prices for the next five years.

Southern Rural Water won a bronze Australian LGBTI Award as part of the 2018 Australian Workplace Equity Index.

Upgrades to Total Flood Warning Systems at seven locations to provide the community with more confidence in preparing for floods.

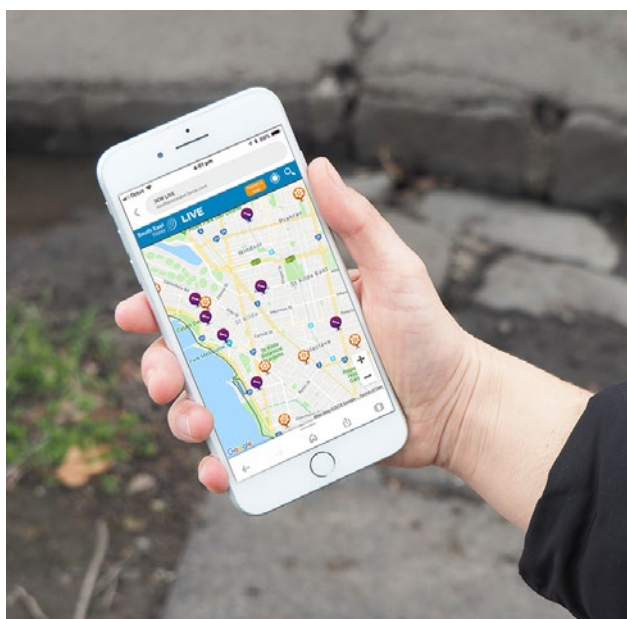


Photo: SEW interactive report a leak app - another example of a new digital channel to engage with customers.

Project 10.1

Using interactive technology to give customers more say and choice

Water customers are diverse, and so are their preferences for engaging with our water corporations. That is why water corporations including South East Water have embraced a range of digital channels to offer customers greater choice and to improve service. South East Water improved its residential online account management hub — mySouthEastWater — to make it easier for customers to personally manage their accounts, and to make the technology mobile-friendly.

The OurSay interactive site allows customers to engage directly with South East Water. Last year more than 5600 South East Water customers had their say through this platform, using bill simulator technology, social media and face-to-face contact. Using information gained from this initiative, South East Water was able to reduce prices, simplify charges and prioritise the services customers told them to focus on.

Jobs, economy and innovation

Project 10.2

Promoting diversity and gender equity



The water sector is working to take part in and meet the aims of programs for more diversity — particularly involving more women and Aboriginal Victorians.

An example of this approach is the Wimmera Catchment Management Authority's work with the Barengi Gadjin Land Council Aboriginal Corporation. Their achievements to date include the provision of Cultural and Natural Resource Management Traineeships for two young

Aboriginal people, and the development of Virtual River Yarns involving films and an interactive online story map to increase understanding of Aboriginal values. The authority also produced a film for Reconciliation Week highlighting Aboriginal engagement and participation in Victorian catchment management authorities.

City West Water has a diversity and inclusion strategy to create a more productive workplace. Twenty-seven per cent of the people in its workforce were born overseas in 15 different countries. The strategy involves cultural and linguistically diverse employment targets and a focus group to help achieve those targets. City West Water has also supported days to celebrate cultural significance and workforce diversity training.

Photo: VEWH Commissioners Chris Chesterfield and Rueben Berg with Uncle David Wandin at the launch of the Yarra River 50 Year Community Vision and Wurundjeri Council's Water Policy, Finns Reserve, Templestowe. Courtesy VEWH.

Water and Catchments Sector Boards

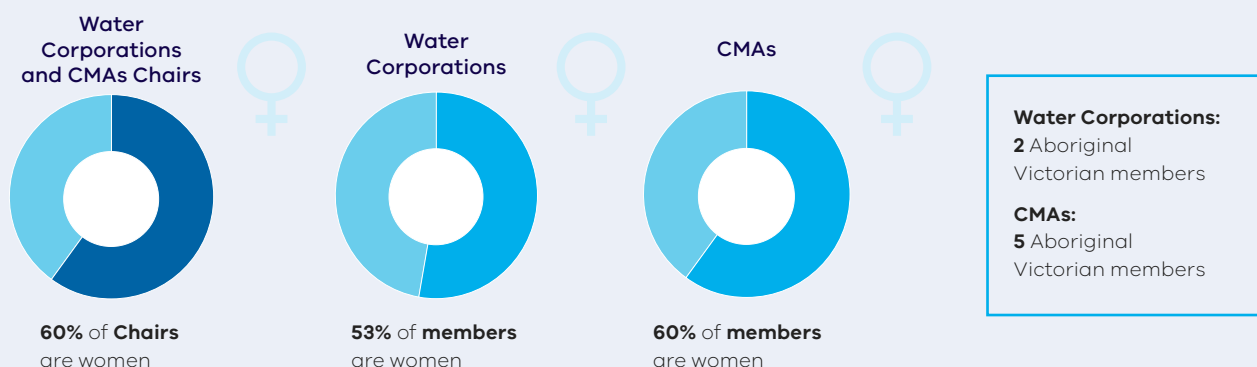




Photo: Ciara Sterling, Head of Community Inclusion, has led Yarra Valley Water's (YVW) response to the Royal Commission and was awarded Australian Water Association Professional of the Year 2018 for her efforts. YVW trains all Customer Contact Centre staff in domestic violence awareness and established a specially trained Customer Support team to manage customers at risk due to family violence. Courtesy YVW.

"We dared the water businesses to think big and... challenged the water businesses to work with their customers to find the best ways to deliver real service improvements while also saving customers hundreds of millions of dollars over the next five years."

Dr Ron Ben David, Essential Services Commission

Project 10.3

Water sector's support for family violence reforms

The Essential Services Commission has been working with water corporations to improve support for customers affected by family violence, following a recommendation from the Victorian Royal Commission into Family Violence. Every water corporation must now have a family violence policy that includes:

- training and support for staff
- secure handling of information for the safety of customers
- debt management, payment support and service continuity for affected customers
- a means of referring affected customers to specialist family violence services.

Water corporations and the Commission are now focused on the best ways to meet these requirements and establish them across the sector. The Essential Services Commission will monitor and report on whether the water businesses have carried out their family violence policies.

Chapter Action Status



2 x complete
and now BAU



1 x complete



9 x in progress



1 x in progress with revised timeframe



Next

Over **150,000 customers** were consulted by 17 water corporations on their views on water services, prices and investments

Preparing Victorians for floods and emergencies by investing \$28 M

24 emergency training scenarios conducted, including multi-agency exercises

- Enhancing emergency management capability for water-related incidents and delivering a pilot program with local government to improve the resilience and safety of high risk dams and flood retarding basins
- Further develop a performance reporting framework for the water

sector, including an online information source to improve quality and transparency for customers and the community

- Continue implementation of actions from 10 regional floodplain management strategies.

Appendix Action status and highlights



Complete and
now business
as usual



Complete



In progress



In progress with
revised timeframe

Chapter 2 Climate change

Action	Status	Highlight	Timeframe
Action 2.1 Achieve net-zero emissions in the water sector		Water corporations Statement of Obligation and emissions reductions pledges complete	-
Action 2.2 Understand and apply climate science to water management		Water sector climate guidelines released and investment in research program underway	2016 - 2020
Action 2.3 Lead climate change adaptation across Victoria's water system		The pilot Water Sector Climate Change Adaptation Plan released in September 2018.	End 2020

Chapter 3 Waterway and catchment health

Action	Status	Highlight	Timeframe
Action 3.1 Improving arrangements for urban waterways		Yarra Strategic Plan and Waterways of the West Action Plan under development	2019
Action 3.2 Protect water quality through the State Environment Protection Policy (SEPP)		The draft SEPP was available for public consultation from February to June 2018. Responses to submissions are being drafted	2019
Action 3.3 Invest in integrated catchment management		Projects underway to deliver actions from <i>Our Catchments, Our Communities</i> to implement strengthened integrated catchment management	2016 - 2020
Action 3.4 Provide long-term investment to improve waterway health		10 Flagship waterways projects are being launched across the state	2016 - 2020
Action 3.5 Improve environmental water management in a changing climate		Investment in environmental works and measures and review of VEWH is complete	2016-2020
Action 3.6 Better monitor and report on the benefits of environmental watering		VEWH publishes the <i>Reflections</i> booklet annually	2016-2020
Action 3.7 Ensure clear and transparent charging arrangements		Project has commenced and is aligned with recent Parliamentary Inquiry into Environmental Water	2019
Action 3.8 Support community partnerships and citizen science		Investment in citizen science programs is underway to address local waterway priorities	2016 - 2020
Action 3.9 Improve knowledge and information about waterways and catchments		Improvements to monitoring, evaluation and reporting programs are underway	2016-2020

Chapter 4 Water for agriculture

Action	Status	Highlight	Timeframe
Action 4.1 Supporting regional development and change		Water corporations and CMAs have been working with Regional Partnerships assemblies to inform economic opportunities	-
Action 4.2 Invest in rural water infrastructure		Principles embedded in decision making with six irrigation and domestic and stock pipeline projects funded, partially funded or under constructions. An additional 14 feasibility studies are underway or have been completed	-
Action 4.3 Help irrigation districts adapt		Delivery Share discussion paper released in July 2018 Rural water corporations are engaging with customers via project steering committees, pricing review committees and customer committees	2016-2020
Action 4.4 Reduce barriers to change and support communities in irrigation districts		Victoria's Sustainable Irrigation Program is supporting irrigators to make informed decisions	2016-2020
Action 4.5 Improve water delivery efficiency in irrigation districts		Water savings protocol and independent technical review in place	2016- 2020
Action 4.6 Manage salinity, waterlogging and water quality		Salinity management and monitoring programs underway	2016-2020
Action: 4.7 Manage irrigation developments		Irrigation Development Guidelines are being implemented while CMAs are reviewing Land and Water Management Plans	2016-2020
Action 4.8 Improve salinity management in the Mallee		Nyah to South Australia private diverter 50 cent levy has been reviewed and discontinued from 1 July 2018	2016-2020
Action 4.9 Improve management of emergency water supply		Works on Emergency Water Supply network being completed in June 2018.	2019
Action 4.10 Develop a rural drainage strategy		Final strategy to be released in 2018	2018
Action 4.11 Balance water recovery for the Murray-Darling Basin		Report on Socio Economic Impacts of the Basin Plan on Victoria released Continue to prioritise projects that help meet Victoria's obligation for 1075 gigalitres in water savings and environmental offsets Developing socio-economic criteria to guide water recovery to meet Victoria's obligations	Until completion

Appendix Action status and highlights



Complete and
now business
as usual



Complete











In progress





In progress with
revised timeframe




Chapter 5 Resilient and liveable cities and towns

Action	Status	Highlight	Timeframe
Action 5.1 Use diverse water sources to protect public spaces		Water corporations, urban water strategies focus on meeting future demand through diversification of water supplies	Ongoing
Action 5.2 Better urban water planning to address key challenges		All urban water strategies released, including the Melbourne System Strategy in March 2017	-
Action 5.3 Reinvigorate water efficiency programs for Melbourne and regional Victoria		Water corporations are promoting T155 (metro) and Target Your Water Use (regions) programs	Ongoing
Action 5.4 Make the most of our investment in wastewater		Melbourne Water released its Melbourne Sewerage Strategy in 2018	Ongoing
Action 5.5 Improve stormwater management for greener environments and healthier waterways		Government is considering the recommendations from the Improving Stormwater Management Advisory Committee	2016- 2020
Action 5.6 Work across government for healthy and resilient urban landscapes		Water related benefits are being incorporated into key strategies such as Plan Melbourne, Metropolitan Open Space Strategy, Yarra Strategic Plan as well as into the Metropolitan Partnerships	Ongoing
Action 5.7 Represent community values and local opportunities in planning		14 IWM forums established across Victoria	Ongoing
Action 5.8 Put integrated water management into practice		Strategic Directions Statements developed for many IWM forum areas highlighting the priority projects to progress	Ongoing

Chapter 6 Recognising and managing for Aboriginal values

Action	Status	Highlights	Timeframe
Action 6.1 Recognise Aboriginal values and objectives of water		Water for Country Project Control Group established to guide investments in recognising the values and objectives of water	2016- 2020
Action 6.2 Include Aboriginal values and traditional ecological knowledge in water planning		Announced \$2 million of grants. There are now 14 Aboriginal Water Officers employed across Victoria	2016- 2020
Action 6.3 Support Aboriginal access to water for economic development		Development of the roadmap underway in partnership with Murray Lower Darling River Indigenous Nations and Federation of Victorian Traditional Owners Corporations	2016-2020
Action 6.4 Build capacity to increase Aboriginal participation in water management		Capacity building a key component of grants announced in 2018	2016-2020

Chapter 7 Recognising recreational values

Action	Status	Highlights	Timeframe
Action 7.1 Include recreational values in water and waterway planning		Clarifying the expectations of the water sector to achieve recreational outcomes through various instruments including proposed legislation and Statements of Obligations	2016-2020
Action 7.2 Help communities understand how to achieve their recreational objectives		Improved recreational access and amenity delivered at Lake Eppalock, Dartmouth Pondage, Tolondo Reservoir, Blue Rock Lake and Green Lake	2016-2020
Action 7.3 Support recreation at water storages through infrastructure and better information		Water corporations are progressing land and recreation management plans for all major water storages of recreational value	2016-2020

Appendix Action status and highlights



Complete and
now business
as usual



Complete



In progress



In progress with
revised timeframe








Chapter 8 Water entitlements and planning

Action	Status	Highlights	Timeframe
Action 8.1 Ensure a strong, responsive water entitlement system		Reviews completed, and results incorporated into proposed legislation	2016-2020
Action 8.2 Provide greater flexibility and choice for licence-holders		Commenced a desktop review of the merits of converting licences into water shares and other products. Investigation report due in October 2018	2018
Action 8.3 Investigate increased flexibility for taking water under winter-fill licences		Investigation complete and concluded that it would be a highly unreliable source of water. Guidelines are proposed to permit high flow extraction on a case-by-case basis	2018
Action 8.4 Better record and report on emerging significant uses of water		Annual Water Accounts report on significant uses of water. Long Term Water Resource Assessment (LTWRA) and Sustainable Water Strategies (SWS) will review risks to Victoria's water resources	2018
Action 8.5 Ensure a modern compliance regime that works		Annual compliance reporting published, and legislative changes proposed	Ongoing
Action 8.6 Commence the long-term water resource assessment (LTWRA) process		Commenced with new methodology released in July 2018	2028
Action 8.7 Commence sustainable water strategy (SWS) reviews		Central SWS commenced in 2016 with other SWS five year assessments initiated.	Ongoing
Action 8.8 Align the sustainable water strategy (SWS) and long-term water resource assessment processes		Legislation has been proposed to align SWS and LTWRA processes	2018
Action 8.9 Improve rural water supply planning		Rural water corporations have published water outlooks	Ongoing
Action 8.10 Provide clear information about water resources to the community		Annual water accounts released and daily, weekly, fortnightly reporting has been revised and improved	Ongoing
Action 8.11 Improve water resource information to support planning and decisions		New agreements in place to continue state wide surface water and ground water monitoring networks	Ongoing

Chapter 9 Realising the potential of the grid and markets

Action	Status	Highlights	Timeframe
Action 9.1 Develop a grid oversight function		Biennial statement on function and water status across the state released in October 2018	2017-2021
Action 9.2 Plan for future grid augmentations		Options for augmentations considered as part of biennial statement	2017-2021
Action 9.3 Improve the effectiveness of water markets		Annual Victorian Water Trading report released and completed report on market effectiveness	2017-2021
Action 9.4 Increase water market transparency and information sharing		Enhancements underway to Water Register along with targeted communications	2017-2021
Action 9.5 Develop the water market in south central Victoria		Phase 1 of the trial in south central in 2018 following the completion of the market effectiveness research	2017-2021
Action 9.6 Improve trading rules in northern Victoria		Report on trading rules completed and Victoria continues to look for opportunities to refine and improve trading rules	2017-2021
Action 9.7 Develop trading rules in other water systems		Project commencing following the release of the market effectiveness research	2019-2021

Chapter 10 Jobs, economy and innovation

Action	Status	Highlight	Timeframe
Action 10.1 Improve engagement with customers and the broader community		Water corporations continuously improving interactions with all customer groups	Ongoing
Action 10.2 Consult business on future needs and provide information to support investment		Water corporations in discussions with businesses on future needs	Ongoing
Action 10.3 Promote innovation in the water sector		All urban water corporation are participating in Intelligent Water Networks	Ongoing
Action 10.4 Build capacity and capability in the water sector		Water corporations and CMAs are developing traineeship and employment programs for Traditional Owners and Aboriginal Victorians	Ongoing
Action 10.5 Provide third party access to existing infrastructure		Initial framework for third party access complete. A staged approach is being adopted with the water sector.	2020
Action 10.6 Drive strong governance and performance		Ongoing engagement across the water sector to identify gaps and improve governance and performance	Ongoing
Action 10.7 Promote gender equity in the water sector		The water sector is making positive steps to address gender equity. For example, 53 per cent of Water Corporation board directors are currently women.	Ongoing

Appendix Action status and highlights



Complete and
now business
as usual



Complete



In progress



In progress with
revised timeframe

Action 10.8 Increase Aboriginal inclusion in the water sector		The water sector is making positive steps to increase Aboriginal inclusion including the appointment of an Aboriginal Victorian as a fourth commissioner of the VEWH	Ongoing
Action 10.9 Support economic development through Aboriginal participation		Water sector is working with Traditional Owners and Aboriginal Victorians to provide opportunities for economic development	Ongoing
Action 10.10 Respond to the Royal Commission into Family Violence		The Essential Services Commission has worked with water corporations to amend customer policies to includes training and support, secure handling of information, debt management and referral of affected customers to specialist services	2017
Action 10.11 Find ways to cut red tape		Amendments to legislation have been presented to Parliament for consideration	Ongoing
Action 10.12 Improve emergency management capability		Emergency response plans have been updated and new ones developed where required	Ongoing
Action 10.13 Deliver <i>Water for Victoria</i>		Project Office and Project Control Board established	2016

