Healthy waterways and catchments

Progress snapshot





Our record investment in waterways and catchments

We have invested \$222 million over four years to improve the health of our waterways and catchments – Victoria's largest ever investment. With this funding, we are working to protect the rivers and landscapes that people love and use.

The wellbeing and prosperity of Victorian communities depend on healthy waterways and catchments, yet so many of our most loved rivers, estuaries and wetlands have been degraded over time. Increasing urban development, climate change and a lack of awareness about the activities that affect waterway health are putting our waterways and catchments at risk.

This investment is helping to deliver *Water for Victoria*, our plan to manage water to create more liveable and thriving communities for all Victorians, now and into the future.

Our approach focuses on:

- ► strengthening local relationships
- ▶ putting community at the centre of decision-making
- ▶ delivering a wide range of waterway and catchment projects for Victoria's cities, towns and regions.

Our successes come from working in partnership with Victoria's catchment management authorities, water corporations, the Victorian Environmental Water Holder, Traditional Owners, local government and community partners.

Three years into delivering our \$222 million investment, it's time to take stock and look at how we are tracking.

"In coming decades, our waterways will be under pressure from increased population and a changing climate. We have made a longterm commitment to restore and improve waterway and catchment health, so we can meet these challenges now and for future generations."

Minister for Water Lisa Neville

COVER: Aerial Davis Creek, Arthur Rylah Institute (ARI) RIGHT: Merbein Common, North Central Catchment Management Authority (CMA)



will see the full benefits of our

investment in decades to come.

Department of Environment, Land, Water and Planning How are we improving the health of our waterways and catchments? We are working with our partners and communities across the state on projects to restore waterway and catchment health, while also planning ahead for the future. 2,280 kilometres of land alongside our waterways improved. 43,500 hectares of

Partnerships

We are partnering with Traditional Owners, community groups and individuals to achieve better, more lasting change.

We are:

- strengthening partnerships with Traditional Owner groups and Aboriginal Victorians
- partnering with recreational groups such as anglers
- collecting data with thousands of citizen scientists
- working with community groups on projects to restore waterway and catchment health.

Target priority areas

Healthy waterways and their catchments support a diverse range of native plants and animals, and underpin a healthy ecosystem. They also give us recreational opportunities and support economic development through important industries such as tourism.

With community support, we have identified priority areas and we are:

- ▶ managing vegetation
- creating or improving in-stream habitats
- releasing water for the environment.

environmental works in catchments completed.

Bring it all together

Integrated catchment management is about bringing the right people together to share knowledge and effort. It's about managing land, water and biodiversity resources together and being able to respond and adapt to local needs.

We are delivering Our Catchments, Our Communities, Victoria's first statewide strategy for integrated catchment management, in partnership with catchment management authorities. Under this strategy, we are delivering new projects and building new partnerships and leadership skills.

Monitor our progress

We monitor, evaluate and report on our actions at hundreds of sites across the state, so we can identify what works, adjust our approach and report back to the community. Citizen science data also helps fill knowledge gaps.

We look at how our ecosystems are changing – whether the trees are healthy, how many different types of plants there are, and the numbers, distribution and breeding activity of waterbirds, fish and frogs. This means we can identify issues earlier and act to prevent any decline or threat to our waterway ecosystems.



15,000 Victorians are helping us restore our waterways and catchments – enough to fill Rod Layer Arena.



2,172 gigalitres of water for the environment delivered at more than 80 sites across Victoria. That's equivalent to over 10,000 MCGs.



10 new Catchment Partnership Agreements with 222 partners.



10 large-scale and longterm flagship waterway projects are restoring priority waterways and catchments across Victoria.

Twenty years of regeneration efforts at Critical Bend on the Cann River.





Native fish are reaping the benefits from improvements to habitats and water for the environment. Our work to date is achieving positive results, and pointing us in the right direction for future planning.



Better fish habitat

Over the past 200 years, our waterways and catchments have been highly modified. This has affected our native fish in different ways, and many species are now threatened.

- ► Instream habitat works, including rocks, snags and fish hotels are benefiting fish, insects and other aquatic fauna that live in or near our rivers.
- ➤ Water for the environment allows us to create the right conditions for native fish to breed and migrate over longer distances.
- ▶ Removing barriers to fish migration has noticeably improved the abundance and range of native fish species.
- Newly built low-level bridges and fish passages are helping native fish to breed, feed and succeed.

Native fish returning

At-risk native species are now being seen for the first time in decades, and in some cases, more than a century.

- ▶ One of Australia's most endangered native fish, the Murray Hardy-head was found in record numbers in the North Central region in autumn 2019.
- ► Abundances and distributions of juvenile Murray Darling Rainbowfish have increased in the Broken and Campaspe Rivers.
- ► Critically endangered Variegated Pygmy Perch have increased tenfold in the Glenelg River.

Better fishing

Coordinated delivery of water for the environment and extensive revegetation and habitat works have boosted Victoria's native fish populations, with anglers reporting that 2018 was the best year they'd had in a decade.

- ➤ Silver Perch have returned to places like the Campaspe and Goulburn rivers for the first time in 10 years.
- ► Murray Cod have returned to the Campaspe and Goulburn rivers and are at a 10-year high in the Broken River system. We're seeing higher numbers of juveniles at more sites.
- ► Estuary Perch and Tupong have migrated to the upper reaches of the Glenelg River, and Blackfish numbers have more than doubled.

"The Glenelg River is the best I have seen it for 50 years."

Lachie Turner, a keen angler and sheep farmer.

Anglers, citizen scientists and community members alike can access information about recreational and threatened non-recreational fish species through the web portal at: nativefishreportcard.org.au

TOP LEFT: Silver Perch, by Jarod Lyon, ARI TOP CENTRE: Werribee Park fishway, by R.Ayres, ARI

TOP RIGHT: Murray Cod , Gouburn Broken CMA LOWER LEFT: Australian Grayling, ARI

LOWER CENTRE: Murray Hardy-head, ARI

LOWER RIGHT: Fish habitat at Seven Creeks, Goulburn Broken CMA



Australian Grayling back from the brink

The endangered Australian Grayling has been spotted in the Glenelg River for the first time in 122 years.

This means we are creating the right conditions for this flow-dependent species. We have worked hard to restore the Glenelg River, including building fishways and providing water for the environment to mimic ideal breeding conditions for the species. The Grayling is not the only native fish to benefit; Estuary Perch and Tupong have returned to areas more than 330 km upstream of where they were seven years ago in the Glenelg Estuary at Nelson.

Blackfish numbers have more than doubled and the number of critically endangered Variegated Pygmy Perch has increased tenfold.





Murray Hardy-head makes a comeback

This critically endangered fish was found in record numbers at Lake Elizabeth, after being manually re-introduced back in 2015.

The North Central Catchment Management Authority used water for the environment and revegetation to improve water quality and reduce salinity levels, creating better conditions for this little fish.

Only a small number were released, showing how successful relocation can be.

Through the Wetland Monitoring Assessment Program (WetMAP) in autumn 2019, we also found populations of Murray Hardy-head at three other northern Victorian wetlands that receive water for the environment.



Resnagging the Seven Creeks

Trout Cod numbers are increasing at Seven Creeks, thanks to 28 new handmade wooden snags.

Snags are instream woody habitats that provide vital habitat for fish, birds, frogs and bugs, giving food, shelter and spawning sites for breeding. In the past, snags were deliberately removed to help the flow of floodwater. But this led to erosion. We now know that snags actually protect the stream bed and bank from erosion.

While seemingly simple, lots of science and engineering goes into replacing snags. Since building the new structures, young Trout Cod and Macquarie Perch have been spotted below Gooram Falls, indicating successful breeding.





Healthy waterways and catchments



We are protecting and restoring vegetation in and around our waterways and catchments to reduce erosion, improve water quality and improve habitat for native birds, fish and other waterway creatures.



We are removing weeds, replanting native vegetation and releasing water for the environment to create the right conditions for threatened plant species to thrive:

- ► Watering the Wimmera-Mallee pipeline wetlands is improving life for threatened species, Tall Sneezeweed and Chariot Wheels, as well as Hard-head Saltbush.
- ► Work along the Jacksons Creek corridor is protecting the quality and extent of native vegetation and maximising the distance between the waterway and areas under urban development to improve water quality.
- ▶ New trees planted along the banks of Skull Creek with the Gunaikurnai Traditional Owners are protecting and improving the Red Gum Plains and its wetlands in East Gippsland, which is home to the nationally endangered Plains Grassy Woodland.

TOP LEFT: Beaded Glasswort, Port Phillip

TOP CENTRE: Drumsticks in Doctors Swamp by Jo Wood, Goulburn Broken CMA

TOP RIGHT: Barmah Forest, Goulburn Broken CMA

LOWER RIGHT: Biolink project, Port Phillip

LOWER LEFT: River Red Gums, by D.Kleinert LOWER CENTRE: Snowy River, East Gippsland CMA

Better habitat for plants

Plants are responding well to habitat improvements across the state:

- ► Populations of significant plant species such as Ridged Watermilfoil, Spoon-leaf Mudmat and Spurred Arrowgrass are growing well after water for the environment was delivered to Carapugna Swamp.
- ► Native species, including wetland plants, responded well after water for the environment was delivered to Gaynor Swamp, Black Swamp, Reedy Swamp and Kinnairds Wetland in spring 2018.

Better habitat for fish, birds and wetland animals

The right vegetation is an important part of the ecosystem when it comes to improving habitat:

- ▶ In July 2018, we provided water for the environment to Barmah Forest along the Murray River, inundating low-lying wetland habitats and resulting in good growth of aquatic plants, frog breeding and waterbird nesting.
- ► In spring 2018, we filled Little Lake Meran near Kerang to maximum capacity – the first time the lake received water since the 2010–11 floods. This was good for the iconic River Red Gums and boosted aquatic plants that are food for vulnerable and endangered waterbirds.



Meeting our vegetation targets

The land along our waterways is called riparian land. The Regional Riparian Action Plan has accelerated the rate of on-ground works across Victoria and we have already met our five-year targets ahead of schedule. We have:

- protected and improved 2,294 kilometres of land along rivers, creeks and wetlands
- ▶ carried out more than 33,000 hectares of waterway vegetation
- ► eradicated woody weeds such as willows and blackberries at nearly all project sites
- ▶ worked with over 1,000 landholders to carry out on-ground works along waterways
- ▶ partnered with more than 330 volunteers and 50 analing clubs, and school and community groups in on-ground works along our waterways.



River Red Gums rebound at Gunbower

At Gunbower Forest, water for the environment is improving the health of River Red Gums.

We recorded all life stages of River Red Gums including seedlings, saplings, poles and trees when releasing water for the environment the Snowy and Buchan Rivers and at Gunbower. The data shows a higher proportion of River Red Gum work has given the river a muchsaplings, richer native understory vegetation and more cover, which is all good news for this internationally significant wetland.





Snowy River transformed

Recovery is well underway at the Snowy River and its catchment, where we've been working since 2002.

The catchment is 99 per cent free of willows, has a continuous corridor of native vegetation along is rated as excellent condition. This needed boost in productivity, benefiting fish and other animals, and providing recreational water for canoeists and kayakers.





Bringing a community vision to life

A significant wildlife corridor now extends across 20 private properties on the Mornington Peninsula.

The local community wanted to reconnect fragmented remnants of high-value vegetation to create wildlife corridors (called biolinks), while also improving water quality at several local waterways. The resulting Greens Bush to Arthurs Seat Biolink is one of 19 integrated catchment management projects, which includes extensive revegetation, weed control and pest animal control work.





Waterbirds love the release of water for the environment at our wetlands and lakes. We're seeing threatened species of birds and other waterway creatures in places they haven't been seen for years.

As we protect and restore waterways across Victoria, we are recreating the right conditions for our native waterbirds. Our monitoring programs show us that wetlands across Victoria are being used for feeding, breeding and roosting habitat. This is very important for migratory species, which in some cases fly from as far as Russia and China to our wetlands.

Planting vegetation and releasing water for the environment are bringing birds back to our waterways, with some great results:

Better breeding

The central Murray wetlands became a haven for waterbirds in 2016–17, with a return of rare Australasian Bitterns as well as Magpie Geese, previously thought to be extinct in this region since 1913.

Threatened species are breeding in systems where they haven't been seen for many years.







international importance listed under the Ramsar Convention. A primary purpose of the Convention is to protect wetlands that are important refuges and breeding sites for migratory birds. Many of Victoria's by migratory birds from as

Our newest Ramsar site at Glenela Estuary and Discovery Bay provides of which 24 migrate from Russia and China.



Little Lake Meran's spring fill event in 2018 benefited waterbirds, especially ducks such as the Grey Teal, Eurasian Coot, Pink-eared Duck, the vulnerable Musk Duck and the endangered Blue-billed Duck.

Gaynor Swamp saw a waterbird boom after its first delivery of water for the environment. Monitoring revealed four Brolga pairs, 1,452 Black-winged Stilt, 785 Whiskered Tern and 107 Glossy Ibis this year.





International importance of our wetlands

Victoria has 12 wetlands of Ramsar wetlands are visited far away as northern Europe.

habitat for 95 bird species,

154 bird species were recorded from WetMAP bird surveys during 2018-19.

TOP LEFT: Turtle on log, ARI TOP CENTRE: Warbler eggs, Goulburn Broken CMA TOP RIGHT: Bittern, by Matthew Herring LOWER LEFT: Bittern, North Central CMA LOWER CENTRE: Brolga, by Chris Tzaros LOWER RIGHT: Platypus, North East CMA



Bringing back the Bunyip Bird

We are seeing more of this iconic bird, as we improve our wetlands and turn small areas of private land into Bittern-friendly habitat.

Affectionately know as the Bunyip Bird, the Australasian Bittern was once believed to be the voice of a much larger mythical creature that lurked around our waterways. The Bunyip darkened the folklore of Australia's Aboriginal people for centuries before crossing over to early Europeans.

The only frightening thing about this bird is its dwindling numbers; about 1,000 are left in the world. However, in an exciting observation for Victoria, we counted at least 16 at one time at Lake Murphy in 2017, and 40 in the Kerang Wetlands in late 2018 - an exceptional number.





Brolgas dancing again in our wetlands

In partnership with community groups, we are restoring Walker Swamp, an important breeding site for Brolgas in northern Victoria, using on-ground works.

We've seen a steep decline in their population over the past two decades from the loss and degradation of habitat and from foxes. Nesting pairs of Brolgas now number around only 200 to 250.

Work is ongoing to restore the swamp including large-scale pest control, habitat improvements and revegetation.



Wimmera platypus found surviving and thriving

After disappearing during the millennium drought, a small and fragile platypus population is re-establishing itself in the Wimmera River system in western Victoria.

Recent monitoring found new young platypus in the Mackenzie River. Releasing water for the environment in the lower section of the river has helped maintain platypus habitat, particularly in dry times. We have found platypus DNA in new areas of the river, which tells us that the river system has sufficiently good quality habitat to sustain the platypus population, but also allows it to grow and move downstream into new areas.





Working with Traditional Owners

Traditional Owners have strong connections to Country, which includes land and water. We are partnering with Traditional Owners and Aboriginal Victorians to care for waterways and catchments.

"The beauty of **Our Catchments, Our Communities** is that it allows our crews to be out working on-Country and to really understand the values and stories connected to those places. It's important – the recognition of our own people being able to partner and work on some of these projects in places that we don't normally get access to."

Grattan Mullett Senior, Gunaikurnai Land and Waters Aboriginal Corporation

Many Traditional Owner groups are involved in local planning and monitoring:

- ▶ Barapa Barapa and Wemba Wemba are working with the Arthur Rylah Institute to learn how to monitor wetland water birds at seven priority sites on their Country.
- ▶ On World Heritage listed Gunditjmara Country, the Budj Bim Connections project is improving native vegetation, reconnecting aquatic habitats and sharing and integrating Traditional Owner knowledge.
- ▶ Dja Dja Wurrung are leading the Wanyarram Dhelk project to improve the health of Bendigo Creek and its tributaries, and improve community connection to the waterway.

This project gives Traditional Owners the opportunity to work back on Country. Project partners are collaborating to implement and promote cultural practices, such as controlled burns at project sites. Partners have also carried out weed control, revegetation along creek banks and set up frog ponds.

Project sites have renewed cultural values by reintroducing culturally significant food and fibre plants.

- ▶ Wadawurrung Traditional
 Owners and Corangamite
 Catchment Management
 Authority have been working
 together to manage the
 waterways on Wadawurrung
 Country. In 2019, a ceremony
 was held to celebrate water
 released to the Moorabool River
 to trigger the migration of the
 Short-finned Eel.
- ➤ Yorta Yorta people and research staff from the Arthur Rylah Institute are sharing modern ecological knowledge and traditional knowledge systems to reduce the high death rate of freshwater turtles in the mid-Murray River region, and assist in the plight of their struggling totem, the Broad-shelled Turtle.



4 Aboriginal Leadership Grants funded through Our Catchments, Our Communities.



23 Aboriginal Water Officers employed across Victoria and the Aboriginal Water Officers Network established.



Appointed our first
Aboriginal commissioner
to the Victorian
Environmental Water
Holder.



20 Aboriginal Victorians appointed to boards, councils and advisory committees, across the water sector.

LEFT: Partners in planning and management, Gunaikurnai Land and Waters Aboriginal Corporation and East Gippsland CMA, by Craig Moodie RIGHT: Corangamite CMA Rural Women's Forum 2019, by Ferne Millen Photography

100%

of catchment management authorities have a partnership with Traditional Owners.







Partnering with local communities

Department of Environment, Land, Water and Planning

Many Victorians are already out there, on the ground, doing important work to protect and enhance Victoria's vital waterways and catchments. We are putting community at the centre of waterway and catchment health and our programs are working to have a significant and lasting impact on our regional communities.

It's vital for this particular program to continue into the future, because the success of investing in natural resource management is a time-based thing. Continued investment will not only ensure ongoing success, but will actually build more capacity in the community, which in turn will lead to better and brighter projects...

Nathan Wong, Program Manager Natural Resource Management at Dja Dja Wurrung Enterprises

Catchment management authorities bring together regional partners and communities, including Traditional Owners, to manage waterways and catchments. The Our Catchments, Our Communities strategy is strengthening community participation and engagement across Victoria to improve land, water and biodiversity management:

- ▶ 10 new Catchment Partnership Agreements with 222 partnerships, setting out how regional groups and organisations will work better together for their communities.
- ▶ 19 integrated catchment management projects working with Traditional Owners, community groups, schools and individuals across the state.
- ► 43,587 hectares of environmental works to improve the health and resilience of catchments.

citizen science – thousands of generous and committed Victorians are helping us with our work and giving us invaluable data: ► Waterwatch and EstuaryWatch

We are strengthening community

catchment management through

participation in waterway and

- are two sister programs that connect local communities with waterway and catchment management. These citizens scientists spent over 10,000 hours caring for 1,481 sites in 2018-19.
- ► EstuaryWatch volunteers are collecting water quality data to create the first ever statewide Index of Estuary Condition Assessment, due for release in 2020. The data will be used to report back to communities and help us manage and protect these valuable coastal waterways.
- Citizen scientists have uploaded more than 1,500 photos at 35 sites using the Fluker Post Research Project app on their phones, since its release in 2018. The photos create a permanent visual record of progress at some of our most iconic waterways and landscapes.



50,000 people connected through our programs.



19 integrated catchment management projects.



12 leadership grants for women, innovators and **Aboriginal Victorians.**



8,600 people engaged in field days, workshops, meetings and training on integrated catchment management.

RIGHT: Night frog monitoring,

science projects, including 2,700







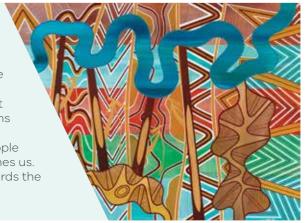
What's next?

These are some of our success stories, but we know there's more to be done. Restoring waterway health is a long-term and large-scale commitment. It can take a generation to realise the outcomes we seek.

In coming decades, we know our waterways will be under pressure from increased population and a changing climate. We plan to keep improving the health of our waterways and catchments.

Acknowledgment

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
peoples 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.



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ABOVE: Birdwatching, Mallee CMA

For further information visit:

water.vic.gov.au

Summary

Three years after launching *Water* for Victoria and our largest ever investment in waterway and catchment health, we are seeing the benefits across Victoria:

- ► large-scale, long-term projects are improving priority waterways
- water for the environment has improved the health of our waterways and catchments
- Aboriginal knowledge and values are being integrated into planning and management
- ► integrated management approach delivered through hundreds of partnerships with Traditional Owners and communities
- extensive regeneration works have been implemented with community partnerships, land stewardship and citizen science programs
- enhanced access to more recreational opportunities for the health and wellbeing of all Victorians
- native fish numbers are on the up, waterbirds are breeding, frogs are returning and the plants are thriving.

This is a long-term commitment, with it sometimes taking decades to restore our waterways and catchments. Building on our work so far, it's only going to get better as we continue to deliver policy and programs for waterway and catchment health, now and for future generations.





















