

CELEBRATING 20 YEARS

Integrated Catchment Management in Victoria 1997–2017



Acknowledgement of Victoria's Aboriginal communities

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, water and biodiversity 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.



Cover photo: Screw Creek flowing into Anderson Inlet, Gippsland. Photo: WGCMA

Foreword

This year marks a very significant milestone for the Catchment Management Framework in Victoria, the 20th anniversary of its establishment in 1997.

Looking back on our many positive achievements over those 20 years is important and we all must learn from such reflection. This brochure highlights just a sample of activities undertaken by our Catchment Management Authorities in collaboration with their many partners. We can justly be proud of these achievements.

Looking forward is even more important when taking present and emerging trends and pressures into account. These include climate change, population increase and increased demand on the resources provided by healthy catchments and our coastal and marine environments.

So we must be well-informed and reflective of our communities, take advantage of improved technologies and have the support of governments, our partner organisations and our people to continue working together and building on our achievements to date.

I have every confidence that we can and will meet the many challenges and opportunities ahead.



Angus Hume

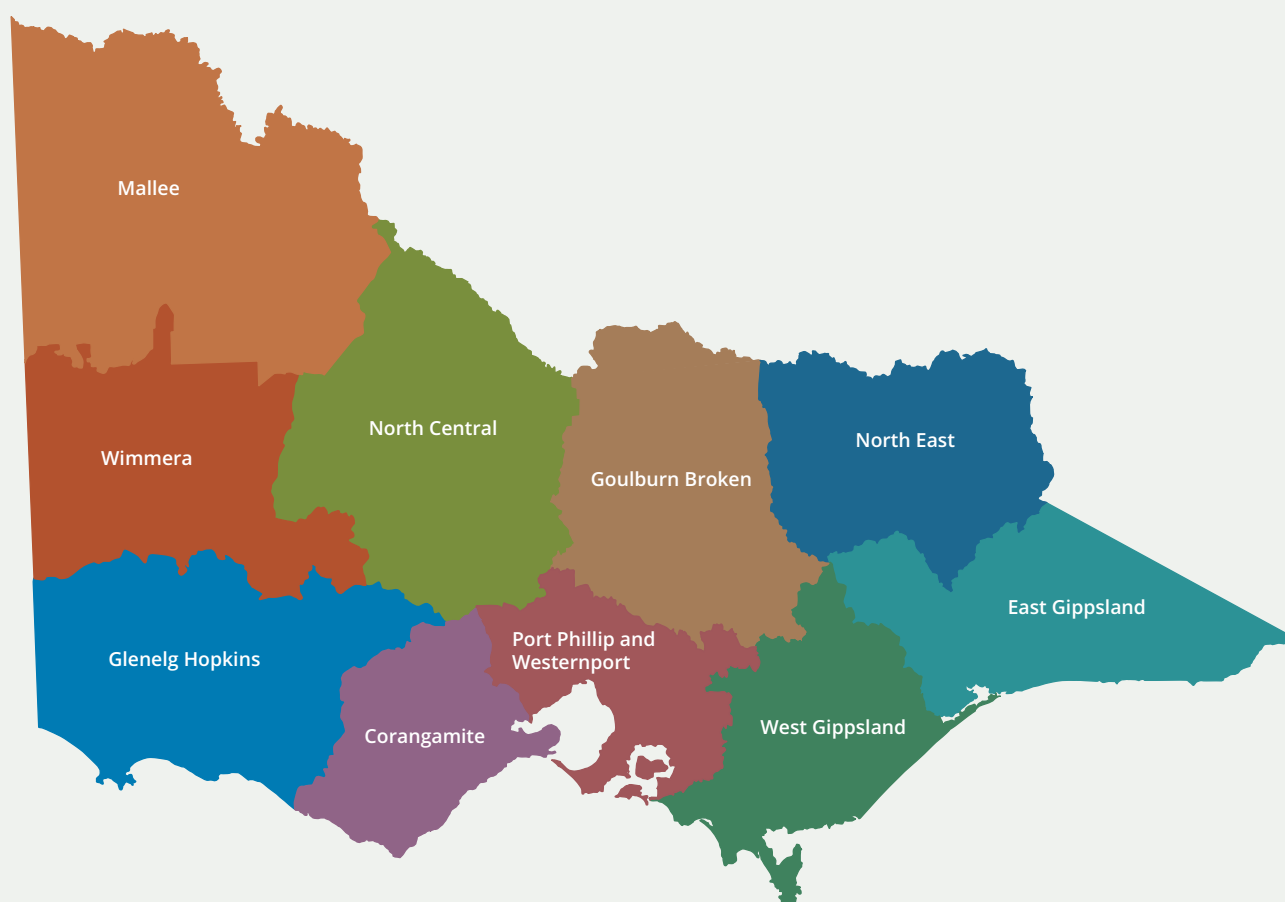
Chair,
Victorian Catchment Management Council



Introduction

The Victorian Catchment Management Framework was established under the *Catchment and Land Protection Act 1994* with the primary institutions being the Victorian Catchment Management Council (VCMC) and the 10 Catchment Management Authorities (CMAs).

Catchment management in Victoria has a long and successful history with ongoing long-term support from the Victorian and Australian Governments.



CELEBRATING

20

YEARS

Integrated
Catchment
Management
in Victoria

Catchment Management Authorities were established in 1997.

This brochure recognises 20 years of integrated catchment management in Victoria. It presents a snapshot of how the Statewide catchment management framework has matured over time; observed changes over the past 20 years; and future challenges and opportunities in each CMA region. A significant project that has been implemented to date has been showcased as a case study for each of the 10 CMA regions.

Overview

Since 1997 the VCMC has been the Victorian Government's key advisory body for catchment management, the condition of land and water resources, and priorities for research and investigation. The Council encourages communities and organisations to cooperate and work together; promotes community awareness and understanding of issues; and reports every five years on catchment condition and management.

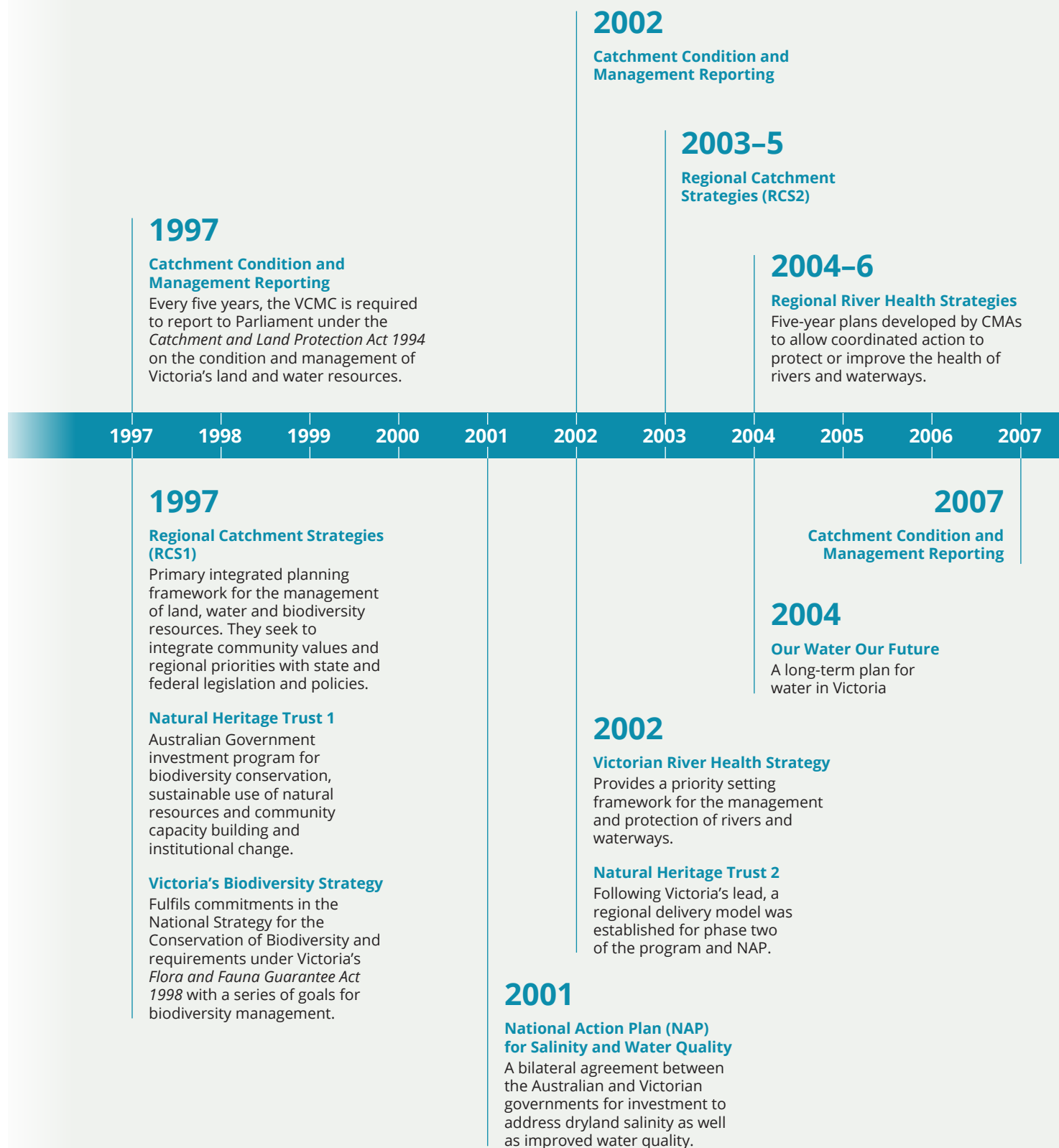
Over 20 years the Corangamite, East Gippsland, Glenelg Hopkins, Goulburn Broken, Mallee, North Central, North East, Port Phillip and Westernport, West Gippsland and Wimmera CMAs have delivered community-based integrated catchment management (ICM) in partnership with their regional communities and partners. Their primary role is to provide state government with a strategic view for ICM in each region through the development and coordination of Regional Catchment Strategies. The strategies provide a vision for the future landscape of the region and identify objectives and management measures for land, water and biodiversity resources.

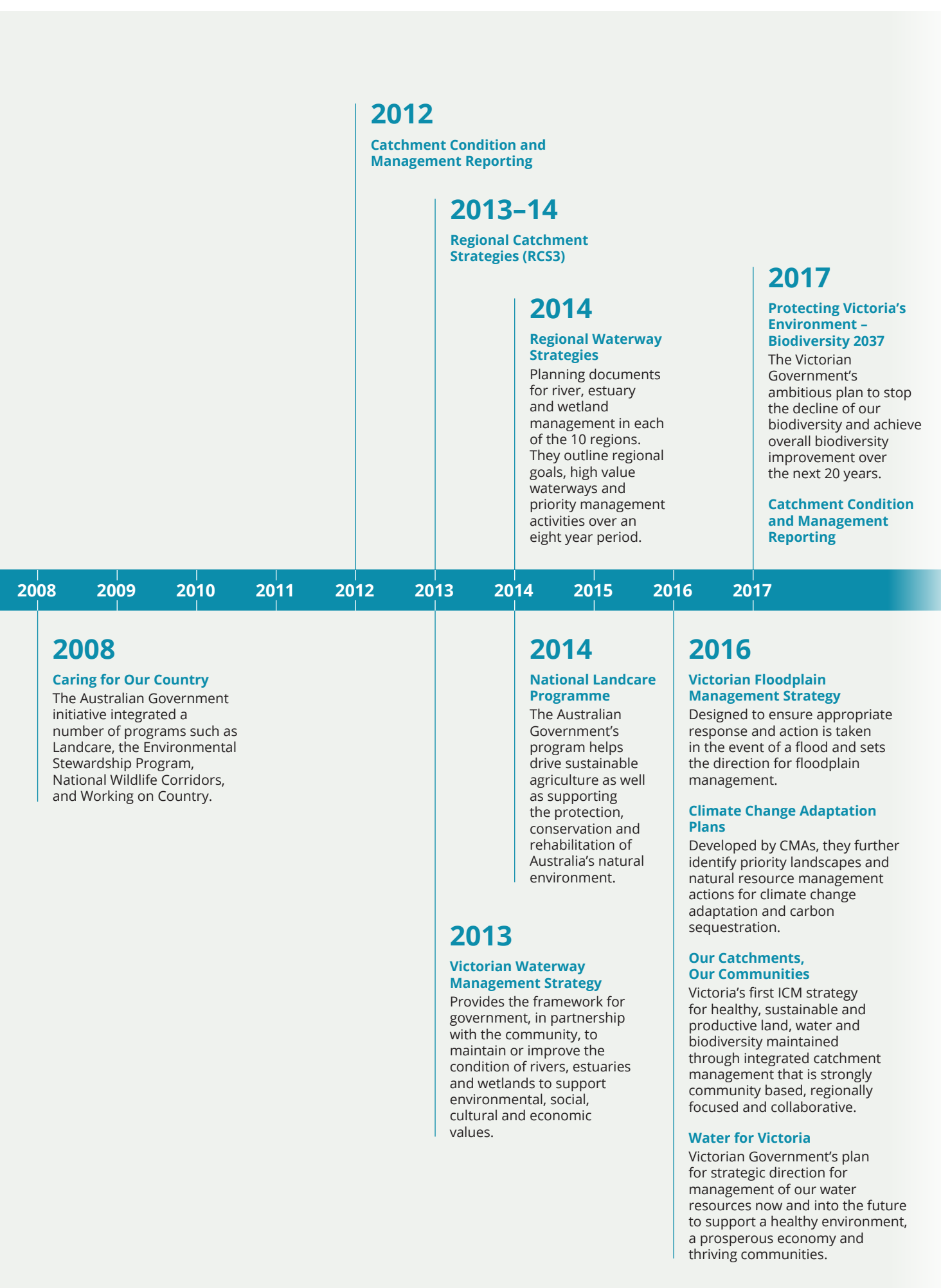
CMAs are also waterway managers with responsibilities under the *Water Act 1989* (except in the Port Phillip and Westernport region where Melbourne Water has responsibility). The waterway managers have a lead role in delivering programs to implement Regional Waterway Strategies and Floodplain Management Plans; have drainage management responsibilities; and respond to natural disasters, incidents and emergencies. They are also referral authorities for land use planning and building approvals, and provide advice in relation to land management, waterways and flooding.



Clockwise from top left: Port Albert, Nooramunga (Photo: WGCMA); Auntie Esther, Barapa Barapa Elder (Photo: Adrian Martins, NCCMA), Helmeted Honeyeater, Victoria's bird emblem; Glenelg River estuary (Photo: GHCA).

Victorian Catchment Management Framework Highlights 1997–2017





CORANGAMITE



The Corangamite region extends across 1.3 million hectares of land, with 78 per cent in private ownership. The region has rich and diverse landscapes, ranging from expansive volcanic plains, to coastal environments, and the Otway Ranges.

The diverse and productive landscapes support production forests, cropping, grazing, horticulture, viticulture and dairy enterprise.

REGIONAL OVERVIEW

Observed changes over 20 years

► Changing population, demographics and land use trends – with an **increasing population**, particularly around major urban areas.

► Introduction of innovations in spatial data capture and knowledge exchange, through **online planning tools** focused on identifying integrated catchment management priorities.

► A range of activities undertaken at key sites to **protect and enhance** significant areas of the catchment.

Future challenges

► Legacy issues associated with a long history of landscape impacts in the catchment.



Lake Cundare. Photo: Alison Pouliot

► **Climate change** and land use change impacts on the region's natural values.

Future opportunities

► New approaches to increasing participation, through new engagement and **knowledge exchange** tools, with a focus on Indigenous groups, private landholders and new communities as the population and demographics change.

► Building on the range of mature regional natural resource management programs, and **finding new ways** to increase investment and long term landscape scale outcomes.



Brolga.
Photo: CCMA



Yarrowee–Leigh River.
Photo: Alison Pouliot



Lake Elizabeth.
Photo: Alison Pouliot



Erskine River. Photo: Alison Pouliot



Victorian Volcanic Plains Stewardship Project

Over the past 13 years, this partnership project funded through Australian and Victorian government programs, including the National Landcare Program, has made a real difference in the management of nationally threatened species and ecological communities across the Victorian Volcanic Plains (VVP). The project has supported the community to deliver on-ground management of the bioregion's natural environment and has increased community awareness and capacity.

Corangamite CMA Chair, Alice Knight, said the project has made a positive impact on the ground by building the capacity of landholders to manage the protection of native vegetation on their properties.

"The community is integral to achieving positive outcomes, and their participation in delivery of



Fairies Aprons. Photo: CCMA

on-ground activities, volunteering opportunities, and training has been invaluable," said Ms Knight.

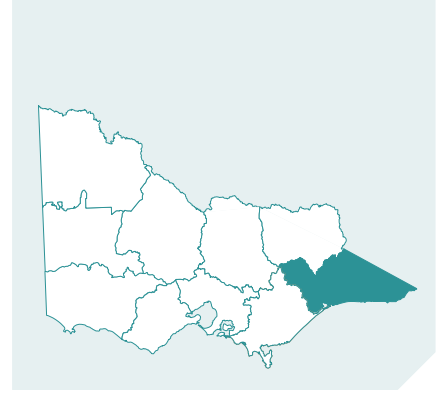
This major multi-regional *PlainsTender* approach delivered across the VVP in four CMA regions has supported 128 landholders at 230 sites to protect and enhance over 10,000 hectares of remnant vegetation for biodiversity outcomes.



Grassland. Photo: CCMA

"Sixty-three per cent of the remaining 5,240 ha of endangered Plains Grasslands on the VVP have been actively managed through this program over the past decade," said Ms Knight. "Also, through strong, collaborative partnerships the current project has assisted in the protection of nationally threatened species, such as the Eastern-barred Bandicoot, Corangamite Water Skink and Dwarf Spider Orchid."

EAST GIPPSLAND



East Gippsland is predominantly publicly owned land comprising State forests, and national and coastal parks.

About 41,000 people live along the coastal plains or the strips of farming land up the river valleys and on the mountain plateaux. The productive use of the region's assets is highly valued and includes farming, tourism, manufacturing, lifestyle and conservation.

REGIONAL OVERVIEW

Observed changes over 20 years

- **Increased** strategic delivery of environmental actions through strong and effective agency and community partnerships across the region.
- Visible signs of **improved** river and waterway environments such as within the Snowy, Cann, Bemm, Gippsland Lakes and Genoa catchments.
- **Populations in major centres are growing**, together with visitor numbers to East Gippsland that are attracted to our natural environment.

Future challenges

- **Natural disasters** like fire and floods are commonplace in East Gippsland and our communities are very aware of their impacts. Planning to prevent and also manage impacts of events as they occur is an ongoing challenge.
- **Sustainable growth** that benefits the whole community is a priority in East Gippsland. This includes improvements to regional liveability, economic opportunity and cultural understanding that takes advantage of our natural capital without adverse impact.

Future opportunities

- **Continue to expand partnerships and projects including:**
 - Lower Mitchell River Rehabilitation
 - Protecting Red Gum Plains Grassy Woodlands
 - Shared management of the 10 jointly managed parks and reserves with Gunaikurnai Land and Waters Aboriginal Corporation.



Azure Kingfisher.
Photo: EGCMA



Topsoils project.
Photo: EGCMA



Thurra River.
Photo: EGCMA



Snowy river before restoration 1957.



Snowy river after restoration 2011.
Photos: EGCMA



Benedore River Estuary. Photo: EGCMA



Gippsland Lakes

The Gippsland Lakes are listed as a Wetland of International Importance under the Ramsar Convention, recognised for the abundance and diversity of water birds and their breeding grounds. The Gippsland Lakes catchment comprises around 10 per cent of Victoria.

The Victorian Government has invested funding to support the Gippsland Lakes Coordinating Committee to deliver onground environmental works and community engagement.

The management of the Gippsland Lakes is now coordinated across all state government agencies with a role relevant to the Lakes. All agencies are playing a part with our community partners to maintain the health of the Lakes system.

Gippsland Lakes Coordinating Committee Co chair, Dr Peter Veenker said “Working with many diverse partners including NRM agencies, local government, universities and

community groups allows us to deliver a great outcome for the health of the Gippsland Lakes.”

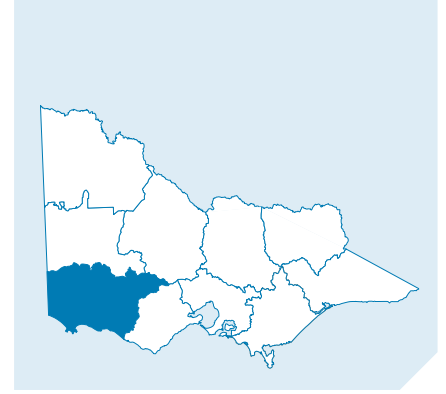
“We have aligned the various plans and strategies to a single Priorities Plan and jointly with West Gippsland CMA, coordinated agencies and organisations with an interest in the health of the Gippsland Lakes to achieve the goals of that Plan.”

“Working with many diverse partners allows us to deliver a great outcome for the health of the Gippsland Lakes.”



Bunga Arm, Gippsland Lakes. Photo: EGCMA

GLENELG HOPKINS



The Glenelg Hopkins region is characterised by flat volcanic plains in the south, with the Grampians, Dundas Tablelands and Central Highlands dominant in the north.

The region contains 44 per cent of Victoria's wetlands and 10 per cent of Victoria's threatened species. It is a highly productive region for agriculture – particularly for dairy, beef, sheep and cropping.

REGIONAL OVERVIEW

Observed changes over 20 years

- ▶ **Increasing native fish** species like estuary perch and tupong where they were missing for over 60 years.
- ▶ Critically endangered variegated pygmy perch **numbers increased ten-fold**.
- ▶ **Stabilisation** of river reaches through fencing and native vegetation restoration.
- ▶ Development of **strong partnerships** with landholders and partners.

Future challenges

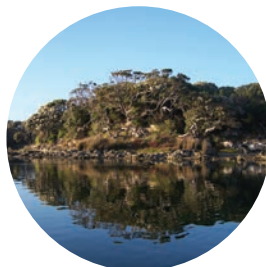
- ▶ Sustaining environmental flow allocations.
- ▶ Continuing the support for a **healthy river** and thriving communities.
- ▶ Meet the challenge of climate change and population growth demands on waterways.

Future opportunities

- ▶ Incorporating the **shared benefits** for environmental and Aboriginal values of water.
- ▶ **Investment** in climate modelling to prepare for extreme weather and increased demands.
- ▶ **Increasing knowledge** through river restoration and partnerships like Landcare for catchment conditions and management.



Upper Glenelg River.
Photo: GHCMA



Glenelg River estuary.
Photo: GHCMA



Arthur Rylah Institute researcher Justin O'Mahony with a tagged estuary perch.
Photo: GHCMA



Sam Roberts and Rob Addinsall, Glenelg River Restoration. Photo: GHCMA



The condition of the Glenelg River is a long way from what it once was before the Glenelg River Restoration Project. Photo: GHCM



How to save a river

More than half a million trees, 700 landholders and 2,000 km of fencing.

That's some of the achievements from the Glenelg River Restoration Project, a multi-award winning project by Glenelg Hopkins CMA that has been undertaken since the early 2000s.

"Parts of the Glenelg River were flat highways of sand," says program manager Adam Bester at the project's inception, "it was in pretty dire shape and at the brink of ecological collapse."

"What we were dealing with was due to more than a century of deforestation, erosion and sedimentation" he said, "Rabbits and large-scale land clearing had caused erosion and the river was full of sand. We were pretty concerned about the sand making its way to the pristine Glenelg River estuary."

"It's got some very high ecological values and these were under threat. If we didn't do something quickly we would have lost some of these important values."

Partnering local landholders, community groups, government agencies and using science available – a multi-pronged approach was developed.

"We've worked closely with sand extraction companies to remove sand and were fortunate to have environmental flows allocated to the river," he said.

"We've replaced habitat removed in earlier decades, and removed 12 fish barriers along the length of the river so fish can freely migrate."



Both small native fish and recreational fish species have benefited since the Glenelg River Restoration Project started. Photo: GHCM

But it's hearing from landholders and anglers that really makes Adam Bester smile.

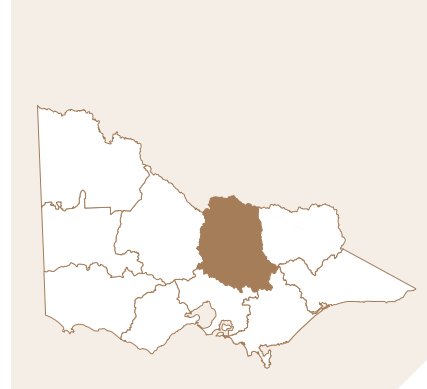
"When you talk to the landholders and keen anglers they tell you how the river has improved. It's quite a buzz hearing those good stories coming from the community."

The Glenelg River Restoration Project was awarded the International River Foundation 'Australian Riverprize' in 2013 and finalist for the International Riverprize Award in 2014.



Australian Riverprize Award. Photo: GHCM

GOULBURN BROKEN



The Goulburn Broken catchment extends north from the outskirts of Melbourne to the River Murray. The catchment yields 11 per cent of the Murray Darling Basin's water despite covering only 2 per cent of its area.

The catchment boasts a diversity of landscapes including seasonally snow covered alps, forests, granitic outcrops, gentle sloping plains, box woodlands and red gum floodplains.

Primary industries include dairy, horticulture, viticulture, livestock production, cropping, and timber production. Agricultural production (irrigated and dryland) in the Goulburn Broken Catchment is worth almost \$2 billion annually, which is more than 15 per cent of Victoria's total agricultural production.

REGIONAL OVERVIEW

Observed changes over 20 years

- Extreme weather events (fire, flood, drought), **climate change** and the Murray Darling Basin Plan have been key drivers of change over the past decades.
- More **'tree changers'** are moving to the catchment, which has helped some rural towns adapt as their reliance on the agriculture industry shifts due to changes in climate, land, and water use.

Future challenges

- **Changes in land use**, particularly around property size (ie. more lifestyle properties).
- Changes to the horticulture and dairy industry as a result of reduced water availability due to climate change and the roll-out of the Murray Darling Basin Plan.
- Working with local government to **identify opportunities** for agriculture through the Climate Smart Project.
- **Sustainable** management of sand and gravel extraction on the Goulburn floodplain.

Future opportunities

- Continue to actively support the 'Tri-State Murray NRM Regional Alliance', a **partnership** between the Goulburn Broken (lead), North Central, Mallee and North East CMAs, Natural Resources South Australia, Murray Darling Basin, Murray and Western Local Land Services (New South Wales).
- Leading (with DELWP) the Catchment Carbon Offsets Trial.
- Continue (with private sector organisation Agersens) to develop **virtual fencing technology** to managing stock access near waterways.
- Continuing to implement the Goulburn Broken Regional Catchment Strategy, **recently released** Goulburn Broken Biodiversity Strategy and the soon-to-be released Goulburn Broken Regional Floodplain Management Strategy that is being developed with local government.



A box full of Sugar Gliders
Photo: GBCMA



Virtual fencing technology.
Photo: GBCMA



Seymour ladies farming group event. Photo: GBCMA



Goulburn River, Acheron Cutting. Photo: Mark Turner



Farm Water Program

The Farm Water Program (FWP), led by the Goulburn Broken CMA, has funded over 600 irrigator projects, worth more than \$160 million, in the past six years.

The FWP helps irrigators achieve water savings by improving on-farm irrigation systems. Irrigators who have completed the program report – on average, per hectare per year – improved productivity of 2.3 tonnes of dry matter that equates to a \$280 gross margin, labour savings of \$140 and 1.8 megalitres of water savings.

At the regional level, the FWP is creating jobs, providing food security

and bolstering confidence in the irrigated agriculture sector. The program also provides significant waterway health outcomes with at least half the (~80GL) water saved through the FWP transferred to the Australian or Victorian governments to use for environmental purposes.

This includes delivering environmental flows to the lower Goulburn and Broken rivers and Ramsar-listed Barmah wetlands to improve and protect habitat that supports native icon fish species such as Murray cod, golden and yellow perch.

The next step in improving waterway health is using environmental flows to water the floodplains either side of the lower Goulburn River.

As part of the Murray Darling Basin Authority's Constraints Management Strategy, the Goulburn Broken CMA, on behalf of the Victorian Government, has carried out initial technical and community engagement activities to assess the potential impacts of more frequent floodplain inundation on private and public land and assets and possible mitigation options and costs, should the project proceed.



Modernised irrigation channel. Photo: GBCMA

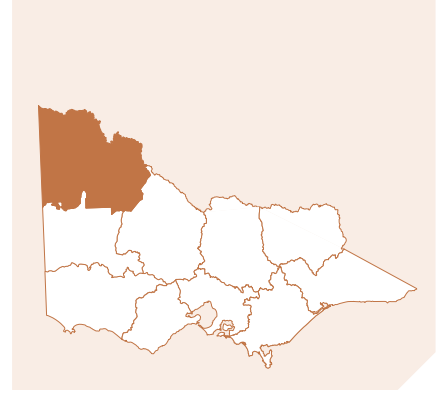


Automated pipe and riser irrigation system. Photo: GBCMA



Local farmer Nick James. Photo: GBCMA

MALLEE



The Mallee region covers almost 40,000 square kilometres, making it the largest catchment area in Victoria. It runs along the Murray River from Nyah to the South Australian border and south through vast dryland cropping areas and public reserves.

Key features of the region include the internationally recognised Hattah Lakes Ramsar site; more than 730 kilometres of high-value Murray River frontage; and vast areas of Aboriginal cultural significance.

The Mallee region is also home to large contiguous blocks of native habitat; agricultural industries which produce almost 50 per cent of Victoria's cereals, and more than 40 per cent of all fruit and nut production.

REGIONAL OVERVIEW

Observed changes over 20 years

- Wider adoption of sustainable farming and irrigation practices.
- Construction of environmental infrastructure on floodplains has **restored** more natural watering regimes to many wetlands.
- Pest plant and animal numbers significantly **reduced**.
- Greatly **increased** Indigenous community involvement in projects.

Future challenges

- **Climate change** presents challenges to both the Mallee's natural and productive landscapes.
- **Increasing demand** for new irrigation development as growers look to take advantage from large scale opportunities with access to the river.

Future opportunities

- **Significant** Sustainable Diversion Limit project proposals.
- **Collaboration** via our Tri-State Alliance, focusing on river reach and environmental programs.
- **Partnerships** with irrigators and water authorities to drive continued growth of irrigated agriculture in the region.



The Mallee's stunning Regent Parrot. Photo: MCMA



Reflections of Hattah. Photo: MCMA



Nyah–Vinifera Riverine Park. Photo: MCMA



Table grape vines in Mildura's late afternoon sun. Photo: MCMA



Paddling in a canoe is the best way to explore Lake Carpul. Photo: MCMA



The Living Murray Hattah Lakes

The Hattah Lakes are among the Mallee's most valued environmental assets, with 12 of its 20 lakes listed as wetlands of international importance under the Ramsar Convention.

Recognising Hattah's significance and its declining health, from the impact of river regulation and drought, in 2002 the Murray Darling Basin Authority selected the Hattah Lakes as one of six icon sites under its *'The Living Murray'* program.

After much planning, the Mallee CMA designed and constructed a series of regulators and pumps, allowing for water delivery that's tailored to the lakes' seasonal requirements, restoring a more natural water regime and leading to increased diversity of wetlands species.

The Hattah project is a true community initiative, exemplifying a large-scale environmental watering project that unites the community with tangible outcomes. It's brought together Traditional Owners, community and stakeholder groups with government departments to deliver ongoing shared benefits, locally and internationally.

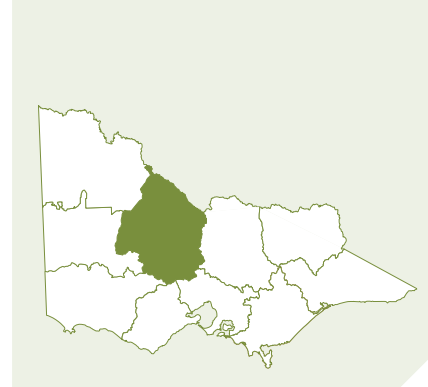
The lakes require continual management and with community support, the challenges of climate change will need to be addressed. Within these challenges however, there are opportunities. Hattah has become popular with school and research groups, outdoor enthusiasts and tourists. This renewed interest opens the doors to future projects which build on what has already been achieved.

“The Hattah project is a true community initiative, exemplifying a large-scale environmental watering project that unites the community with tangible outcomes.”



I spy with my little eye ... An activity day at Hattah Lakes connecting children with nature. Photo: MCMA

NORTH CENTRAL



The North Central CMA region covers 13 per cent of Victoria. It is bordered by the Great Dividing Range in the south, the Murray River in the north, the Mount Camel range in the east and the Avon–Richardson catchment in the west.

The region has four major river catchments – the Campaspe, Loddon, Avoca and Avon–Richardson – and supports productive agriculture, cropping, grazing and mixed farming sectors.

REGIONAL OVERVIEW

Observed changes over 20 years

- Population increases of up to 35 per cent across the catchment to **240,000**.
- Environmental **water regimes established** for key rivers and wetlands.
- Increase in absentee landholders.
- Increased focus on **sustainable agriculture**.
- Consolidation of agriculture.

Future challenges

- **Climate change**.
- International agriculture markets.
- **Balancing water use** across different beneficiaries.
- **Regional growth** changing land tenure and use.

Future opportunities

- Implementing **Water for Victoria** priorities.
- **Technological** and communication advances.
- Supporting **productive and prosperous** communities.



Schools planting day, near Newbridge, Loddon River. Photo: NCCMA



Plains wanderer.
Photo: NCCMA



Loddon River waterfall.
Photo: NCCMA



Gunbower Forest.
Photo: NCCMA



Slender darling-pea (Swainsona murrayana) in one of Victoria's northern plains grassland. Photo: NCCMA



Loddon Stressed River

The Loddon River is Victoria's second longest and meanders some 440 km from Daylesford to the Little Murray. It has significant environmental, economic and social values and is connected to the Boort wetlands and the Ramsar listed Kerang Lakes.

Decades of regulation and poor land management have impacted its health.

To keep such a big river alive, a big project was needed. In 2003 the North Central CMA began a project on a scale never before undertaken in its history. The Loddon Stressed River (LSR) project was innovative, had big dreams and involved working with the community along the lower Loddon River from 2003 to 2013. Today the project is folklore and set the benchmark for delivering lasting environmental outcomes and working with communities and partners.

The project delivered a wide range of environmental works. Most notable is the 390 km of fencing that protects riparian vegetation for 56 per cent of river frontage in the project area.

A community event was held, on average, every 10 weeks, with 1,150 people involved.

Engaging Traditional Owners was central to the success of the project and the Loddon River is recovering, with an environmental watering regime that is reaping the rewards of the 10-year LSR project.

“Engaging Traditional Owners was central to the success of the project and the Loddon River is recovering, with an environmental watering regime that is reaping the rewards.”



Fencing field day, Loddon River. Photo: NCCMA

NORTH EAST



Victoria's North East extends across 1.9 million hectares between the River Murray in the north, Victorian Alps in the south and the Warby Ranges in the west. The region is home to 100,000 people, provides 38 per cent of total water to the Murray Darling Basin, and comprises 55 per cent public land.

Key industries include agriculture (dairy, beef, wool, cropping and horticulture), forest industries, tourism and value added processing industries, particularly in the region's two largest centres of Wangaratta and Wodonga.

REGIONAL OVERVIEW

Observed changes over 20 years

- ▶ Four major flooding events, four significant fire seasons and the end of a decade-long drought have challenged the landscape and the communities that live and rely on it.
- ▶ Population increased 16 per cent in the last 20 years to approximately 100,000. Between 2001 and 2006 **population growth** was among the highest of all Victorian regions.
- ▶ Agricultural land around urban centres has been developed into **lower density housing** and lifestyle blocks.
- ▶ Significant changes to **horticultural crops** since tobacco production was ceased in the 2000s and there was a reduction to hops production.
- ▶ **Increasing pressure** on the dairy and timber industries.

Future challenges

- ▶ Building **community capacity** to respond to future climate events and dynamic river systems.
- ▶ Maintain land productivity whilst protecting our catchments assets.
- ▶ Working with land managers to manage **invasive plant and animal species**.
- ▶ Managing an increasingly diverse urban, rural and lifestyle population.

Future opportunities

- ▶ Expanding *Our Catchments, Our Communities* programs to build **landscape scale partnerships** for integrated catchment management.
- ▶ **Supporting cultural awareness** and continuing our work with Traditional Owners to improve engagement and increased levels of employment and participation.



Landholder Gary Daws releasing Macquarie Perch into the Ovens River.
Photo: Glen Johnson, DELWP



King River fish velocity refuge.
Photo: Andrew Briggs



Regent Honeyeater.
Photo: Neville Bartlett



Mornings at Mt Buffalo. Photo: NECMA



Catchment Conversations

In 2013 North East CMA worked with the community to develop the North East Regional Catchment Strategy (RCS) which signalled a major shift towards supporting landscape resilience. North East CMA facilitates and coordinates a range of partnership forums to ensure the community and stakeholders are involved in positive natural resource management outcomes and community led practice change.

We use 'catchment conversations' to understand high priority community issues and challenges. Catchment conversations are held in response to extreme events, to understand investment priorities and consult on the strategic direction.

- Following the 2016 October floods we held catchment conversations in nine regional locations to listen and identify what support was needed.
- Our Springhurst Rabbit Roundtable initiative supports community-led action for more sustainable and effective rabbit management in Victoria.

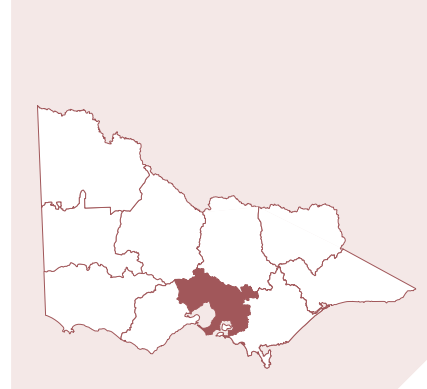
Other achievements linked to RCS implementation include:

- Engaging communities using high quality data to better prepare for flood events (e.g. Wangaratta Roundtable and Flood Study)
- Protecting the iconic Ovens River through major waterway health programs that reduce environmental threats
- Developing solutions to allow fish passage within major waterways
- Collaborating to reintroduce threatened species, including Macquarie Perch and Regent Honeyeater
- Protection of riparian and woodland areas through providing incentives and support to landowners



Catchment conversation in Bright. Photo: NECMA

PORT PHILLIP & WESTERNPORT



Spanning 1.3 million hectares that feed into Port Phillip Bay and Western Port Bay, this region is home to around 4.5 million people and boasts Victoria's capital city plus some of the State's most productive farming lands, spectacular parks, picturesque landscapes, diverse natural ecosystems and is home to all four State emblems.

The activities and lifestyles of the region's residents, and the thriving tourism industry, are underpinned by the diversity and health of its natural resources. Therefore, the challenges associated with a growing population, intense demands on the resources and changing climate mean the region's natural resources need to be carefully managed.

REGIONAL OVERVIEW

Observed changes over 20 years

- ▶ The region is now home to over **4.5 million people**.
- ▶ It retains some of Victoria's most **productive farming lands**, spectacular parks, picturesque landscapes and diverse natural ecosystems.
- ▶ Surrounding the large urban Melbourne area is rural farmland, representing approximately **45 per cent** of the region.

Future challenges

- ▶ **Maintaining** environmental quality whilst dealing with a growing population, expanding urban areas, intensifying land use and a changing climate.
- ▶ **Effective collaboration** is vital with so many people and organisations playing a part in managing the natural resources of this crowded region.



PPWCMA Knowledge Banquet.
Photo: PPWCMA

Future opportunities

- ▶ The region produces the **second highest** agricultural yield, in dollars per year, in Victoria.



Compost Under Vine trial on the Mornington Peninsula. Photo: Alison Hoelzer

- ▶ There are around **8,400 km** of waterways, attracting around **100 million** recreational visits annually.

- ▶ The region's environment, as measured by indicators such as air and water quality, contributes to Melbourne's reputation as one of the world's most liveable cities.



Critically endangered
Helmeted Honeyeater.



Dandenong Ranges National
Park. Photo: PPWCMA



Sunset at Rye Back Beach.
Photo: PPWCMA



Melbourne's natural environment is a drawcard for residents and tourists. Photo: PPWCMA



A coordinated program to enhance the Ramsar-listed wetlands

The Port Phillip and Western Port region is home to over 900 wetlands, three of which are listed as Wetlands of International Importance under the Ramsar Convention on Wetlands.

The Port Phillip and Westerport Catchment Management Authority (PPWCMA) is coordinating a five-year \$2.8 million program, funded through the Australian Government's National Landcare Programme, to protect the ecological values of the Ramsar wetlands across Western Port and the western shoreline of Port Phillip Bay.

The program brings together multiple organisations and land managers including Parks Victoria, Hobsons Bay City Council, Phillip Island Nature Parks, Mornington Peninsula Shire, Bass Coast Landcare Network, Birdlife Australia, City of Casey, French Island Landcare and the Western Port Biosphere Foundation.

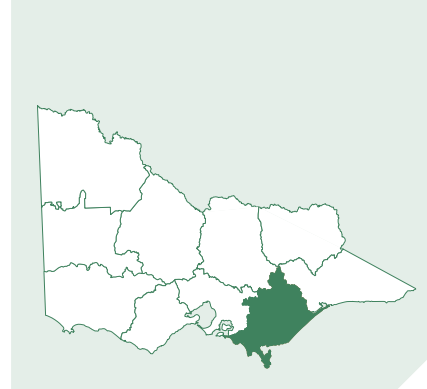
The focus is control and eradication of pest animals including feral cats, foxes, rabbits and goats and invasive weeds such as African boxthorn, blackberry and spartina. The collaborative approach of this program ensures optimum results across these important sites.

Emphasis is also placed on community engagement activities to raise awareness of the environmental values of these wetlands. Activities have included a 'Dog's Breakfast' event that attracted over 400 people and their dogs; nestbox making workshops and shorebird and wetland conservation courses to help Indigenous youth learn about wetland ecology and boost their employment opportunities.



Migratory Red-necked Stints. Photo: Andrew Morrison

WEST GIPPSLAND



The West Gippsland catchment region extends from Warragul to the Gippsland Lakes and from the Great Dividing Range to Wilsons Promontory. The region provides the vast majority of Victoria's electricity, 60 per cent of Melbourne's water storage capacity, and 20 per cent of Australia's milk production.

The region's natural environment is extremely diverse and contains highly valued natural assets such as native forests, rivers, coasts and wetlands including Corner Inlet, the Thomson River and Victorian Alps.

REGIONAL OVERVIEW

Observed changes over 20 years

- Increased **population growth** and **urbanisation** of rural land through sea and tree change has led to changes in how rural land is being used.
- **Industry is shifting** in Gippsland, with the recent closure of Hazelwood Power station and pressures on the dairy sector.
- Positive working relationships with **Traditional Owners**.
- Landscape scale changes in Corner Inlet.
- Spartina invasion in Andersons Inlet and Corner Inlet halted and now **in decline**.
- Shift in irrigation practices in the Macalister Irrigation District.
- **Stabilisation** of river reaches through fencing and revegetation.
- **Better knowledge**, understanding and management of natural estuary openings.

Future challenges

- **Climate change** The latest climate projections from the Bureau of Meteorology and CSIRO indicate that the region will be subject to a warmer, drier and more variable climate in the future. The frequency and magnitude of flood, fire and drought is projected to increase and rising sea levels and storm surge are anticipated.
- **Absentee landholders** and an **ageing population** may result in fewer volunteers available within Landcare, Waterwatch and Estuarywatch. Whether we can meet recruitment and retention challenges will impact on our ability to complete vital on ground works in the region.

Future opportunities

- **Expanding on key projects**
 - Healthy Soils Sustainable Farms
 - Perry Catchment
 - Corner Inlet Connections
 - Heart Morass Restoration



Heart Morass before restoration 2006.



Heart Morass after restoration 2011.



Tarra Valley rainforest, Strzelecki Ranges. Photo: WGCMA



Pelicans and swans, lower Perry wetlands. Photo: WGCMA



Snow Gums, Mt Baw Baw. Photo: WGCMA



Aerial view of Anderson Inlet. Photo: WGCMA



Indigenous and environment partnership

The Gunaikurnai Land and Water Aboriginal Corporation (GLaWAC) and the West Gippsland Catchment Management Authority (WGCMA) signed their first Memorandum of Understanding in 2013, formalising a long partnership between the organisations.

WGCMA CEO, Martin Fuller, said they came together at the Knob Reserve at Stratford to sign the understanding, the culmination of 10 years work between the organisations.

"The MoU is an undertaking to work together on projects in the Gunaikurnai native title area in the areas of Aboriginal Cultural Heritage and natural resource management," said Mr Fuller.

"When the initial MoU was signed we agreed to celebrate the agreement every two years to confirm this understanding and commitment."

Since the initial signing in 2013, the GLaWAC and WGCMA relationship has gone from strength to strength.

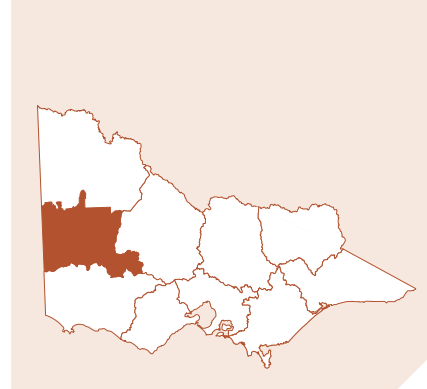


On Country Cultural Heritage Training with GLaWAC. Photo: WGCMA

"We're working together well in NRM but also by getting our staff, Board and volunteer advisory groups to go through cultural heritage training with GLaWAC, giving them a better understanding and appreciation of Gunaikurnai culture and history," continued Mr Fuller.

"When the initial MoU was signed we agreed to celebrate the agreement every two years to confirm this understanding and commitment."

WIMMERA



The Wimmera region covers 30,000 square kilometres and straddles the Wimmera River. Agriculture is the dominant land use, economic driver and employment sector. One quarter of the 50,000 people who live in the region depend directly on agriculture for their income.

Natural Wimmera features include more than 3,000 wetlands, high value recreational fishing destinations, and the Grampians and Little Desert National Parks. The region is home to 1,500 species of native plants, 420 species of native animals and more than 2,000 sites of indigenous archaeological significance.

REGIONAL OVERVIEW

Observed changes over 20 years

- ▶ Extreme climatic events such as long term droughts, record floods and increased wildfire events.
- ▶ Increase in **conservation farming techniques** such as minimal till and no till farming, controlled traffic and perennial pastures.
- ▶ **Population decline** in rural areas.
- ▶ Fluctuating waterway condition but **improved resilience**.

Future challenges

- ▶ **Climate change** – warmer, drier and more variable climate (more extreme weather).
- ▶ Population decline resulting in fewer people to manage land and the environment.
- ▶ Fluctuating **commodity prices** impacting on farm profitability and the regional economy.
- ▶ Management of **paddock trees**.

Future opportunities

- ▶ Increased connection between the **community** and their environment.
- ▶ **Greater link** between Aboriginal knowledge and catchment management.
- ▶ Greater input on catchment management from a more diverse community.
- ▶ **Renewable energy** production and carbon capture.



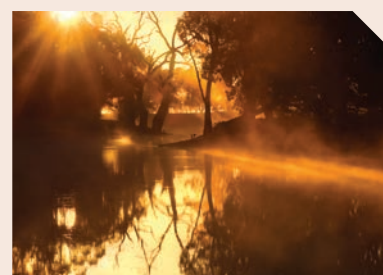
Wimmera River.
Photo: David Fletcher



Project Platypus Upper Wimmera Landcare planting weekend. Photo: David Fletcher



Red Capped Robin.
Photo: WCMA



Wimmera River at Horsham.
Photo: David Fletcher



Wimmera River, Jeparit. Photo: David Fletcher



Returning environmental water to the Wimmera

In 2010 the Wimmera Mallee Pipeline was built providing more reliable water for the region. Since then, careful planning by Wimmera CMA and the Victorian Environmental Water Holder has delivered water to the environment that has increased tourism, rejuvenated local economies and made waterways more resilient and able to bounce back after extended dry periods.

Threatened native catfish are breeding, platypus numbers are stable and less carp are being caught. Monitoring data and community feedback indicates that areas that were an eyesore during dry times have been transformed into valuable community assets.

Events such as the Horsham, Dimboola and Jeparit fishing competitions, Dimboola Rowing Regatta and river-based festivals are thriving.

Boating, fishing and ski clubs are in full swing and facilities are continually being improved by the community.

People are flocking to new fishing pontoons, barbecues, picnic areas, bike tracks and playgrounds with water as a backdrop.

Work will continue to face future challenges and opportunities and improve outcomes by understanding

Aboriginal water objectives and addressing climate change.

The community understands the value of waterways and is motivated to protect them – for people, the environment, and for the future prosperity of our region.



Wildlife ecologist Josh Griffiths with Maddie the platypus. Photo: Paul Carracher – The Weekly Advertiser

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Environment,
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Australian Government



**VICTORIAN
CATCHMENT
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COUNCIL**





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The Azure Kingfisher nests in a burrow dug out of a river bank at the end of a one-metre tunnel excavated into the stream bank. Photo: EGCMA

Back cover: Wimmera River at Horsham. Photo: David Fletcher

