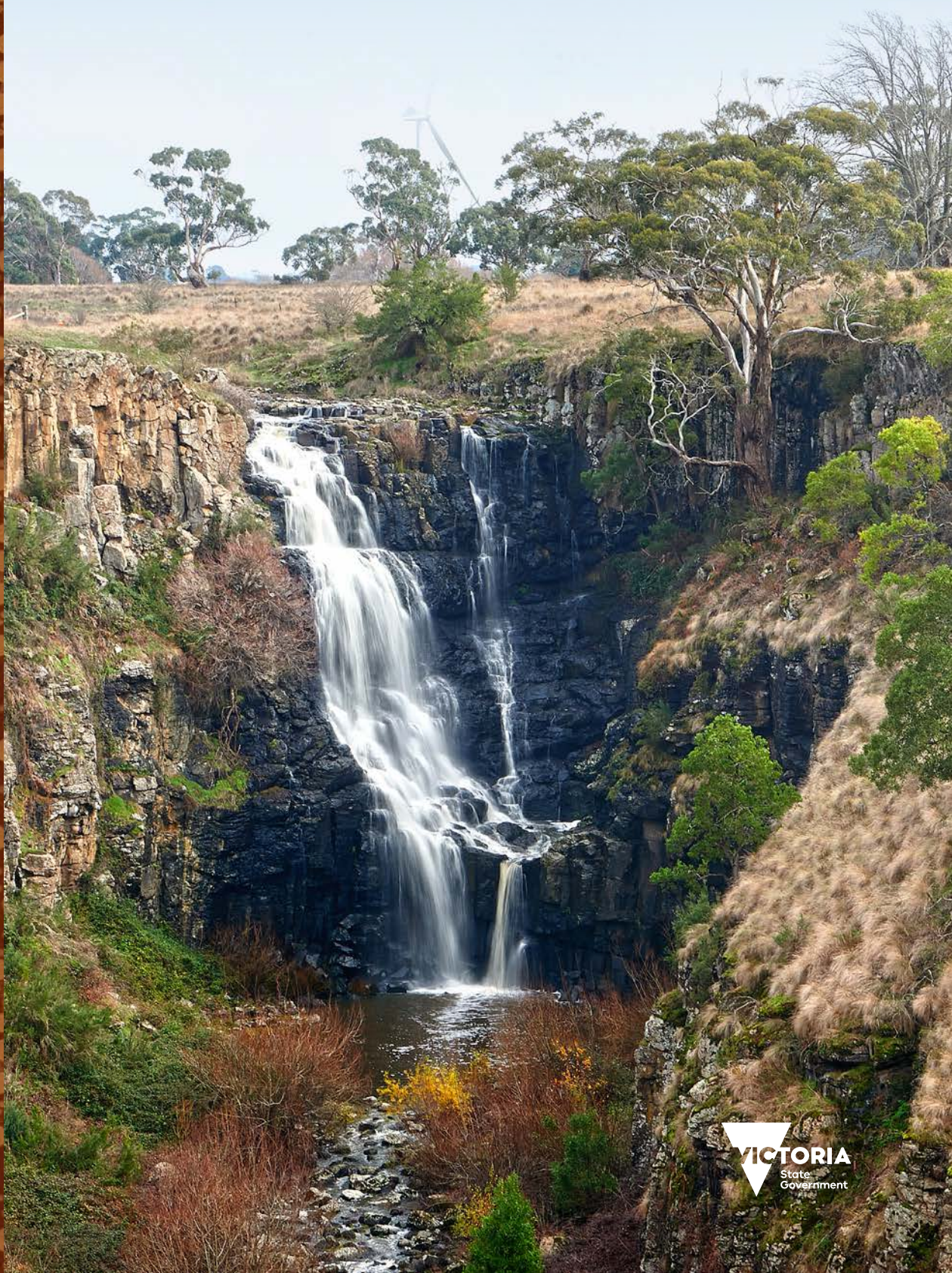


Our living rivers of the Barwon [*Barre Warre Yulluk*]

Barwon River Ministerial Advisory Committee

Final Recommendations Report

February 2020



Barre Warre Yulluk



Cover artwork – Billy-Jay O'Toole

My Country

My Country tells a story of our waterways and our rivers; the rivers that have many resources for Aboriginal people. The blue section represents the waterways, the middle brown colour section represents the land and Country. The top section represents the dreamtime and the elders who have passed, but have given us what we have today. The bottom section represents all the evidence our old people have left behind on Country and the handprints represent coming together.

The sun in the middle is always shining bright when Country is healthy. In this painting Country is healthy, which is why I have incorporated the sun into this piece.

Billy-Jay O'Toole is a proud Wadawurrung boy, residing on Country in Torquay. Billy-Jay works for the Wathaurung Aboriginal Corporation, in the field of cultural heritage. He has a passion for art and says his biggest achievement was designing Geelong's AFL Indigenous jumper in 2014–2015.

Illustrations – Stephanie Skinner

Stephanie Skinner is a Wadawurrung digital artist and illustrator. For the Wadawurrung people, the rivers of the Barwon and their tributaries are places of special cultural and spiritual significance. Stephanie's illustrations throughout the report represent this connection – the animals, birds and scar trees are found throughout these waterways.



Our living rivers of the Barwon [*Barre Warre Yulluk*]

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Acknowledgement

The Barwon River Ministerial Advisory Committee proudly acknowledges Victoria's Traditional Owners and Aboriginal communities and their rich culture, and pays respect to their Elders past, present and emerging.

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 the intrinsic and strong connection of the Traditional Owners, the Wadawurrung people to Barre Warre Yulluk and value their contribution to managing the land, water and natural landscape. We acknowledge the ongoing contribution this makes to the Barwon River catchment. We also recognise that the rivers of the Barwon are valued by other Aboriginal people.

We support the need for genuine and lasting partnerships with Aboriginal people and communities to understand their cultural connections to Country in the way we plan for and manage the Barwon River catchment as a connected system.

We embrace the spirit of reconciliation, working towards equality of outcomes and ensuring an equal voice for Australia's first people.



Foreword

The Barwon River Ministerial Advisory Committee is pleased to report on our recommendations in accordance with our Terms of Reference. As requested, we have proposed additional arrangements needed to ensure that Traditional Owners and the community are able to better participate in management decisions. We have also identified some key issues and opportunities that should be addressed in the development of the Rivers of the Barwon Action Plan.



Our recommendations have been informed by a comprehensive community consultation process, resulting in the development of a 50-year community vision for the rivers of the Barwon. The Discussion Paper that was released in October 2019 was widely circulated and was discussed at community consultation meetings. Feedback, survey responses and submissions were received through the Engage Victoria website. We have also had in-depth discussions and cooperation with the key agencies involved in managing the Barwon catchment.

We have framed our recommendations in the knowledge that the region, which includes the growing cities of Geelong and Ballarat, faces a future of declining rainfall and runoff, and an increasing population and demand for water resources. In order to maintain liveability in a warmer climate, the community of the future will need access to riverine recreation and amenity.

Our unique biodiversity will only survive and thrive in healthy waterway corridors. These corridors, in turn, require secure environmental water entitlements.

The rivers of the Barwon must be considered and valued as a strategic asset of the region.

Christine Forster AM

Chair of the Barwon River Ministerial Advisory Committee



An aerial photograph of a coastal town and beach. The town is built on a hillside overlooking a bay. The water is a vibrant blue-green, and the beach is a mix of sand and rocks. The sky is clear and blue.

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- Town
- Road
- River
- Lake / Wetland

Elevation Range

- 0m
-
-
- 1,440m

Introduction

The Victorian Government established the Barwon River Ministerial Advisory Committee (Barwon MAC) in early 2019 to facilitate a community-led approach to the future management and protection of the Barwon River and its tributaries.¹ This report summarises the consultation and findings of the Barwon MAC over the past 12 months. In October 2019, *Our Living Rivers of the Barwon: A Discussion Paper for the Future* (and a summary document of the Discussion Paper) were released.²

In devising its recommendations, the Barwon MAC has looked at improvements to institutional, legislative and regulatory arrangements, land use planning controls, land and water management and better ways to involve Traditional Owners and the community in decision-making.

The Barwon catchment, which stretches from its headwaters in the Otway Ranges and Central Highlands to the estuary at Barwon Heads, is a significant source of water for the second and third largest cities of Victoria, Geelong and Ballarat. In recent years the natural flows of the Barwon, Moorabool, Yarrowee and Leigh rivers have declined significantly. The Barwon MAC has worked in partnership with the catchment's Traditional Owners and local communities to understand the threats to the river, how to better manage these threats and how to enhance and protect the river system.

The riverine corridors of the Barwon catchment provide important areas of public open space and increasingly support recreational activities such as enjoyment of nature, walking, cycling, swimming, fishing, game hunting, rowing, waterskiing and paddle sports. While significant progress has been achieved over recent decades in protecting the health of the catchment, the region faces increasing pressure from significant population growth and a changing climate.

The Barwon catchment already has some of the state's most stressed waterways, and climate change predications for the region anticipate a warmer climate with less rainfall, which will further reduce water availability. These pressures are expected to increase stress on the health of the waterways and natural landscapes, requiring a long-term strategic response to meet these challenges and others that emerge.

Figure 1 Map of the Barwon catchment, which stretches from its headwaters in the Otway Ranges, near Forrest, and the Central Highlands, near Ballarat, to the estuary that feeds into the Bass Strait at Barwon Heads.

1 In this report, the Barwon river and its tributaries are referred to in several ways. The Barwon catchment is a connected system that includes the land and the water that flows over that land, including rivers, streams, creeks, lakes and other wetlands. The rivers of the Barwon refers to the major rivers in the Barwon catchment (the Barwon, Moorabool, Yarrowee and Leigh rivers) and their associated river corridors and tributaries.

2 Engage Victoria (<https://engage.vic.gov.au/protecting-rivers-barwon-barre-warre-yulluk>).

The Barwon River Ministerial Advisory Committee

The Barwon MAC was established under section 151 of the *Planning and Environment Act 1987* and is made up of five committee members who were appointed by the Minister for Planning and the Minister for Water.



Figure 2 The Barwon River Ministerial Advisory Committee. From left: Kirsten Kilpatrick, Chris Harty, Melinda Kennedy, Christine Forster AM (Chair) and Peter Greig.





Christine Forster AM has been appointed Chair, bringing her extensive experience in water management and planning to the Barwon MAC. Ms Forster is highly regarded in the field of water reform and this role will build on her experience and decades of work in the water sector. This includes leading water reform as a member of the reference group for the development of the Victorian Government's water plan, Water for Victoria, that also supports the protection of the Barwon River.



Melinda Kennedy is a Wadawurrung woman with extensive knowledge and experience in the field of traditional and contemporary land and water management. Melinda is a member of the Aboriginal Water Unit within the Department of Environment, Land, Water and Planning (DELWP). She is currently studying a Higher Degree by Research and practising in Architecture and Built Environment with Deakin University. Melinda is also on the Waterways of the West Ministerial Advisory Committee and the Barwon Water Environmental Advisory Committee.



Chris Harty is a specialist in town planning, environmental science and mangrove/coastal saltmarsh ecology. He has run a consultancy business for 18 years, specialising in strategic and statutory land use planning, and rural and environmental planning. He is a sessional member of Planning Panels Victoria and of the Victorian Civil and Administrative Tribunal, a member of the Planning Institute of Australia, the Victorian Planning and Environmental Law Association and the Royal Society of Victoria and is passionate about river, estuary and wetland ecology.



Kirsten Kilpatrick is an experienced town planner and is passionate about the Geelong region. She has played an influential role in the direction of planning and efforts to advance prosperity and community wellbeing in Geelong, and the wider Barwon region.



Peter Greig has vast experience in natural resource management and integrated catchment management. Peter is currently the Secretary of the Friends of the Barwon Incorporated, previous chair of the Corangamite Catchment Management Authority board and current president of the Upper Barwon Landcare Network.



Community vision

The Barwon MAC has developed a 50-year community vision. This vision is a direct reflection of feedback from communities across the catchment and was strongly supported by a comprehensive public engagement process and additional input following the release of the Discussion Paper. The Barwon MAC then considered and consolidated the issues and distilled the key messages to develop the vision. A summary of feedback from the community will also be released, detailing how this feedback was considered.

The Wadawurrung 'people of the water' are Traditional Owners of the Barwon catchment. Barre Warre Yulluk means 'the great river' (Yulluk) that runs from the 'mountains' (Barre) to the 'ocean' (Warre).

Traditional Owners retain a strong connection to the Barwon/Moorabool system³

- The Wadawurrung Traditional Owners see *Barre Warre* as a connected system, water is a living entity in our stories, our creations are held by the life of these rivers, our intangible connections received from our past live and protect our culture for our present and future
- The connection between rivers and sea is our lore
- Protecting Lal Lal to Connewarre is a part of Wadawurrung culture
- The Wadawurrung work to ensure a balanced ecological water system, this includes all living things. It is our duty to care for, nurture and replace *Barre Warre* with all it needs for a healthy life
- Wadawurrung will continue to share our culture through the blood of our mother earth. May we educate others to see *Barre Warre* through our cultural lens.

Provided by Melinda Kennedy,
Wadawurrung Traditional Owner



Figure 3 Welcome to Country smoking ceremony on the Moorabool River.

Source: Corangamite CMA

³ This statement is for the use of the *Barwon River Ministerial Advisory Committee Final Recommendations Report*, the author is to be notified for copies or prints.

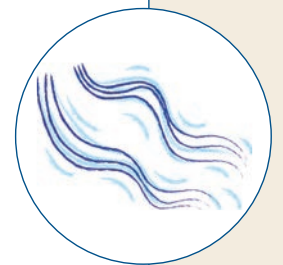
Our catchment's waterways are healthy

- The condition of our catchment's creeks and rivers (and their floodplains and wetlands) are improving
- The flow in our rivers supports their health and function, and wide areas of land adjoining riverbanks are fenced, have native vegetation and are free of weeds
- The rivers of the Barwon are alive with fish, birds, platypus and insects, and migratory birds that return each year to the internationally important Port Phillip and Bellarine Peninsula Ramsar site
- From Ballarat to Geelong and from the Otways to the estuary at Barwon Heads, our waterways are connected, and in our cities and towns are providing healthy green corridors for habitat, recreational use and transport
- Rural land and its natural resources and environment are protected, enhanced and regenerated by sustainable farming and land management practices.⁴



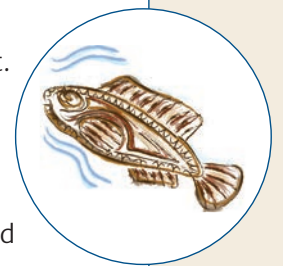
Our precious water resources are used wisely

- Our water resources are sustainably managed to fit changing climatic conditions
- The community values water as a precious resource and understand its availability, use and management
- The community uses water efficiently in our cities and for agriculture, and makes better use of new technologies
- Use of alternative water sources (such as recycled water and stormwater) is maximised, and we take advantage of our links to the Victorian water grid
- The government and community learn rapidly from innovations in other catchments and integrated water management is central to planning for new development.



Our community understands, enjoys and cares for waterways

- Stewardship of our waterways draws on Traditional Owners' understanding of rivers as living entities for which the whole community has responsibility
- As a community we understand water and where it comes from, we appreciate our rivers, their condition, and what is being done to keep them healthy
- The community enjoys our rivers and catchment while limiting our footprint. In rural areas our landholders control weeds and limit stock access, while in our cities and towns streams are open, visible, valued and actively used
- The rivers of the Barwon are valued and our advocacy for a healthy catchment remains strong.



Our management is integrated and focused on the future

- Agencies and community are aligned around the long-term goals for the health of the catchment
- Planning for water and river management is integrated and considers both whole-of-catchment and local place-based needs
- Planning for the growth of our cities and towns considers the long-term health of our waterways and the liveability of our growing community
- Adaptation to a changing climate is central to our future planning for the catchment, its rivers and communities.



⁴ This recommendation was added as a result of community feedback after the publication of the Discussion Paper in October 2019.



Recommendations

After careful consideration of the key issues and opportunities identified, the Barwon MAC has developed the following recommendations to ensure effective management and protection of the Barwon catchment for generations to come.

The recommendations fall under the following themes:



Embedding Traditional Owner values



Strengthening governance arrangements



Planning for sustainable growth and liveability



Supporting healthy waterways and secure water supplies

Although the recommendations are separated into four independent themes, these themes overlap and share common actions. For example, ensuring participation of Traditional Owners and increasing community participation in waterway management crosses all four of the themes. Both of these changes indicate a significant shift in understanding the importance of Traditional Owner and community participation in natural resource management.

Embedding Traditional Owner values

Key issues and opportunities

The Wadawurrung are Traditional Owners of *Barre Warre Yulluk* and have a strong and intrinsic connection to the Barwon catchment. The Wadawurrung people place high cultural value on the Barwon catchment as a connected and living system. This contrasts with the current recognition of the Barwon catchment as two separate river systems in government decision-making frameworks (the Barwon and Moorabool).

Aboriginal relationships with water are holistic, combining land, water, culture, society and economy. An historical barrier to understanding and recognising Traditional Owner rights in management of water and catchments is that Aboriginal and non-Aboriginal perspectives of water and its management differ. Contemporary river system management needs to protect Aboriginal cultural and spiritual values and involve Traditional Owners in the management of the Barwon catchment.

The Wadawurrung people have a long history of managing and protecting cultural heritage in the rivers of the Barwon. They hold significant rights to the land and have cultural obligations to manage traditional lands and waters and are equal partners in ensuring catchment health. Notwithstanding this acknowledgement of equal partnership in decision-making, overall there remains a lack of a defined role for Traditional Owners within the governance arrangements for the rivers of the Barwon.

The Water and Catchment Legislation Amendment Act 2019 requires greater recognition and involvement of Traditional Owners and Aboriginal Victorians in the management of waterways and catchments in Victoria. To continue with the progression towards integrated land and water management, a similar approach is necessary to better embed Aboriginal values in Victoria's planning system and to give Traditional Owners a defined role in strategic and land use planning. Whilst this issue was



identified in the Barwon catchment, it is a statewide opportunity that should be addressed to ensure participation of Traditional Owners in preserving cultural connection to land and water.

Resourcing and capacity-building initiatives are critical in enabling Traditional Owners to contribute effectively to the management of the Barwon catchment. In strengthening the role of Traditional Owners in decision-making, it will be vital that adequate resourcing is provided.

Wathaurung Aboriginal Corporation (the representative body for Wadawurrung Traditional Owners) is currently developing a Healthy Country Plan, which will ensure that cultural values within the Barwon catchment for both land and water are acknowledged. There is an opportunity to incorporate this document into governance and decision-making frameworks to guide future planning for the catchment. This will provide government entities with information on cultural features and values, the use of appropriate Wadawurrung language for places of cultural importance that are not formally recognised in existing planning mechanisms (such as areas of cultural heritage sensitivity) and the cultural and spiritual significance of sites throughout the landscape.

An historical barrier to understanding and recognising Traditional Owner rights in management of water and catchments is that Aboriginal and non-Aboriginal perspectives of water and its management differ. Contemporary river system management needs to protect Aboriginal cultural and spiritual values and involve Traditional Owners in the management of the Barwon catchment.

Wadawurrung Traditional Owners celebrate the release of water for the environment

In May 2019 Wadawurrung Traditional Owners welcomed the release of 500 megalitres of water for the environment. The additional water allocation was as a result of the *Moorabool River FLOWS Study Update*,⁵ where Indigenous knowledge systems were used to inform the methodology of the study. Community members and water agencies gathered together at Dog

Rocks on the *Moorabull Yulluk*. A special Welcome and Water Ceremony – ‘*Yaluk Wiyn Burt*’ – was held. Attendees all brought small samples of water from where they had come from and these small collections of water were ceremoniously mixed with water flowing through the *Moorabull Yulluk*.



Figure 4 Wadawurrung people have a strong connection to the *Moorabull Yulluk* and traditionally caught eels as a food source using eel traps (*Buniya Binak*). Wadawurrung Traditional Owner Tammy Gilson demonstrates placing a full-sized *Buniya Binak*, which she constructed, in the *Moorabull Yulluk*.

Source: Corangamite CMA

⁵ *Moorabool River FLOWS Study Update*, Jacobs 2015.

Recommendation 1

Recommendation One is overarching, and it is also inherently linked with the other three recommendations. As such, there are other references to embedding Traditional Owner values in multiple locations throughout this report.

Key points in Recommendation One are as follows:

- 1 Embed Traditional Owners as a voice for the river within legislation and institutional arrangements, recognising the rivers as a living, connected entity in need of protection (refer Recommendation Two).

- 2 Implement mechanisms that strengthen the role of Traditional Owners in strategic and statutory land use planning in the relevant planning schemes. Traditional Owners must also be adequately resourced to fulfil these increased planning roles (refer Recommendations Two and Three).

- 3 Improve consideration of Aboriginal values and relevant Country Plans in decision-making frameworks within the Barwon catchment including:
 - a. Sites of cultural and spiritual significance
 - b. Culturally significant flora and fauna species
 - c. Appropriate language for places of cultural importance
 - d. Cultural indicators for future monitoring of waterway health
 - e. Cultural practices reliant on the presence of water.



Strengthening governance arrangements

Key issues and opportunities

Given the future challenges facing the Barwon catchment, there will be a greater need for more integrated planning and management approaches across different agencies that play a role in managing the catchment.

The broader community seeks a unified vision for the rivers of the Barwon. While each agency has its overarching vision, there is no defined, shared and integrated vision for the Barwon catchment. The community vision developed during the Barwon MAC process (refer Community vision section) needs to be comprehensively incorporated into governance arrangements to facilitate greater coordination and alignment of localised efforts in working towards longer-term goals for the catchment.

Despite every effort, the Barwon catchment is still facing significant challenges due to declining water availability and land use pressures. The Moorabool is identified as one of the most flow-stressed rivers in Victoria⁶ and this year's Long-Term Water Resource Assessment showed that water availability has declined by 20% in the Moorabool catchment and 11% in the Barwon catchment when compared with historical water availability since 1975.⁷

Stronger governance and clearer roles and responsibilities are required to meet future challenges. All statutory bodies have demonstrated a commitment to collaboration through a range of partnerships including Integrated Water Management Forums, the Corangamite Catchment Partnership Agreement and the Geelong Region Alliance (G21). It will be important to support and leverage these partnerships in future governance arrangements.

Existing powers and functions for managing the catchment are complex, with the community often struggling to understand catchment management.



This has eroded confidence in government and its agencies. The roles and responsibilities of the different government agencies must be clear and more transparent to demonstrate operations and collaboration. Despite agencies being committed to collaboration, the day-to-day management of waterways is perceived to be disjointed to the broader population. The community has called for more transparency in decision-making and there is a role for agencies to better communicate how both water management and planning decisions are made.

Roles and responsibilities for consideration of amenity values of the Barwon catchment are often absent or ill-defined. Amenity includes the character of the landscape and the vistas and views from the rivers, as well as the many benefits that parklands and open spaces provide along them. While local governments have played a lead role in the provision of amenity services in their municipalities, they are generally only responsible for the parts of the river corridor that are within their jurisdictions. While there are some good examples of multi-agency initiatives designed to promote the open space corridors and recreational values of the Barwon catchment, there is still no overarching approach that considers the amenity values of the catchment.

⁶ Moorabool River FLOWS Study Update, Jacobs 2015, 22.

⁷ Long-Term Water Resource Assessment for Southern Victoria: Overview Report Draft, State of Victoria Department of Environment, Land, Water and Planning 2019, 49.

Improving institutional arrangements will strengthen governance and protect the Barwon catchment from current and future pressures. Amending relevant legislation including the *Water Act 1989*, the *Planning and Environment Act 1987* and the *Catchment and Land Protection Act 1994* will help to protect the catchment from the challenges identified.

Legislative change must strengthen accountabilities and embed obligations to ensure the long-term ecological integrity of the rivers is effectively managed and resourced. Amendments must better integrate waterway management and land use and development decisions, and be accompanied by changes to legislative instruments such as statements of obligations and ministerial rules under the *Water Act 1989* and changes to the Victoria Planning Provisions (VPP). Non-legislative options should also be explored, such as inclusion of land use planning objectives in the next Corangamite Regional Catchment Strategy and in the next revision of the Victorian Waterway Management Strategy.

The Barwon MAC recommends exploring the declaration of the Rivers of the Barwon as a distinctive area and landscape under Part 3AAB of the *Planning and Environment Act 1987*. This would represent the first time this type of declaration is used primarily for protection of waterways. The Barwon MAC considers that its potential effectiveness warrants detailed exploration.

Declaration of the catchment would require the preparation of a Statement of Planning Policy in partnership with Traditional Owners, government agencies and the community. However, the Barwon MAC is mindful that this tool does not directly address waterway management, rather its focus is on land use and development. As such, this mechanism may require legislative amendments to achieve greater involvement from the water portfolio, including the Minister for Water.

Without adequate funding and resourcing government entities will be limited in their ability to manage the issues facing the Barwon catchment, posing significant and irreversible risks to the waterways and the communities that rely on them. Adequate funding is critical to ensure the managing and planning agencies can implement the activities needed to protect and enhance the long-term health of the Barwon catchment. The government should conduct a review of the effectiveness of existing funding models in respect to legislative functions of public entities. It should also explore any new funding sources such as infrastructure contributions plans and value capture mechanisms to ensure that beneficiaries of healthy waterways and public open space contribute to their protection and enhancement.

Breathing the Life into the Yarrowee

Between 2013 and 2016, the Victorian Government invested \$1 million in a restoration plan for the Yarrowee River. The 'Breathing the Life into the Yarrowee' initiative was delivered as a partnership project between the local government (the City of Ballarat), the catchment management authority (Corangamite CMA) and a local environment group (the Leigh Catchment Group). The initiative provided the first step to returning the health of this important urban waterway. The project ran on goodwill from all involved, and strengthened institutional arrangements will facilitate more partnerships like this.



Figure 5 Interpretive signage along the Yarrowee River at Mount Pleasant.

Recommendation 2

Key points in Recommendation Two are as follows:

- 1 Strengthen governance and institutional arrangements as a priority to protect the catchment. Explore both legislative and non-legislative options to achieve the following:
 - a. Embed the 50-year community vision into governance and institutional arrangements through recommended legislative amendments
 - b. Explicitly define and strengthen the role of Traditional Owners as a voice for Country and waters (refer Recommendation One)
 - c. Recognise the catchment as 'a living entity' in need of protection
 - d. Establish a caretaker of waterway amenity function with appropriate resourcing
 - e. Strengthen the existing role of caretaker of waterway health in Corangamite Catchment Management Authority (CCMA) statements of obligations (under the *Water Act 1989*)
 - f. Explore mechanisms to require responsible agencies to integrate land use planning and water and waterway management. This could include changes to statements of obligations and ministerial rules under the *Water Act 1989*, changes to the VPP and development of ministerial directions under the *Planning and Environment Act 1987*.
-
- 2 To ensure participation of Traditional Owners in land use and strategic planning, Aboriginal values must be embedded in the Victorian planning system as a priority (refer Recommendation One). Whilst any available options should be implemented immediately, the scale and complexity of the issue may warrant the appointment of Aboriginal representatives to directly advise both the Minister for Planning and the Minister for Water on the options available. This could be through the establishment of a section 151 Ministerial Advisory Committee under the *Planning and Environment Act 1987* and/or by the appointment of an Aboriginal Heritage Advisor for the Barwon catchment to provide advice to the Minister for Water and the Minister for Planning.

Given the future challenges facing the Barwon catchment, there will be a greater need for more integrated management approaches across different agencies that play a role in managing the catchment.

- 3** Implement the following governance arrangements as a priority while the longer-term amendments to legislation and institutional arrangements are implemented:
 - a. Establish a taskforce to support development of the Rivers of the Barwon Action Plan, to ensure its implementation and to report regularly on progress. The Barwon MAC recommends that this taskforce reports directly to the Minister for Water and the Minister for Planning, and that it be independently chaired with secretariat support from the Department of Environment, Land, Water and Planning (DELWP). It should have senior representation from key planning and water agencies responsible for the management of the Barwon catchment as well as Traditional Owners to ensure that the many existing forums and partnerships in the region can be leveraged to support the delivery of the Rivers of the Barwon Action Plan
 - b. Leverage local community expertise, and establish a community reference group with representation from a diverse range of community interests and geographic locations to advise the taskforce on community priorities.

- 4** Complete a review of funding arrangements to determine the magnitude of resources and funding required to deliver whole-of-catchment strategic priorities, and amend funding mechanisms as required. This review should assess whether government, agencies, authorities and Traditional Owners are able to implement the activities needed to protect and enhance the long-term health of the Barwon catchment.

- 5** Initiate an education campaign to increase transparency and educate the public on how water and waterway decisions are made. This should be a collaborative initiative between water corporations, CCMA and local government authorities within the region.



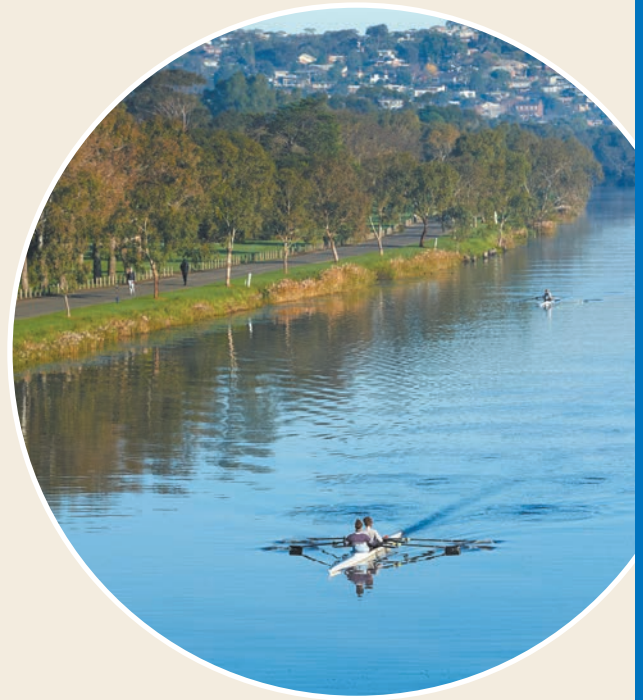
Planning for sustainable growth and liveability

Key issues and opportunities

With increasing urban and non-urban land use and development growth pressures (such as urban growth in greenfield and infill areas and the intensification of agricultural production), there is a need to strengthen the strategic links between land use planning and waterway management, both along the river corridors and across municipal boundaries. This is particularly relevant within the urban settings of Geelong and Ballarat and smaller towns including Winchelsea, Inverleigh, Barwon Heads and Ocean Grove, where riverine corridors provide significant large, continuous areas of green public open space.

A review of planning controls along riverine corridors has revealed that in some locations planning scheme overlays (such as Environmental Significance or Significant Landscape overlays) have been inconsistently applied. An integrated regional approach to applying overlays along riverine corridors is also lacking. There is an opportunity to develop and apply consistent planning provisions along the entire river system to align with a new regional-level planning policy.

Use and development of the land along the corridor must be carefully managed, particularly in urban areas. To assist developers and land owners, development guidelines would provide clarity for future development and subdivision design to ensure that there is consideration of the potential impacts on the condition of the river. Any guidelines should be developed in consultation with the relevant stakeholders and the community.



It is critical that effective long-term strategic planning is undertaken as a priority to protect the values of the rivers of the Barwon. Without a consistent, strategic approach that integrates waterway management and planning, there is risk of degrading the waterway condition, resilience and productivity of the region. Additionally, it is vital that we protect and enhance liveability to attract investment in the region and flow-on economic benefits.

To support community health and wellbeing it is important to improve opportunities for both passive and active recreation and opportunities for physical activities in natural settings. Community feedback revealed that residents and communities of the Barwon catchment love their parklands and open spaces. As Ballarat and Geelong expand, a holistic planning approach is needed to protect, enhance and activate the rivers of the Barwon including urban parklands, open space and trails, development corridors and areas of high ecological, cultural and landscape values.

It is critical that effective long-term strategic planning is undertaken as a priority to protect the values of the rivers of the Barwon. Without a consistent, strategic approach that integrates waterway management and planning, there is risk of degrading the waterway condition, resilience and productivity of the region.

Sparrovale Nature Reserve, Armstrong Creek

Sparrovale is a 500-hectare parcel of land located at Charlemont, which is 8 kilometres from the centre of Geelong. The site adjoins the Barwon River and the Lake Connewarre State Game Reserve, forming the largest area of native vegetation within the City of Greater Geelong.

In June 2019 the city acquired the land to provide treatment and storage of stormwater from the Armstrong Creek Urban Growth Area to help protect internationally important Ramsar wetlands.

The area is proposed to become the Sparrovale Nature Reserve.

The Sparrovale Nature Reserve will contain wetlands as part of a managed approach towards protecting biodiversity and providing open-space amenity. The parkland will be home to a large number of migratory shorebirds and waterbirds, and will provide opportunity for the community to connect with nature.

The \$4.02 million project by Greater Geelong City Council in collaboration with various state agencies includes the creation and landscaping of linear wetlands, earthen channels, access roads and drainage structures.



Figure 6 Aerial view of the site of the proposed Sparrovale Nature Reserve.

Source: City of Greater Geelong

Recommendation 3

Key points in Recommendation Three are as follows:

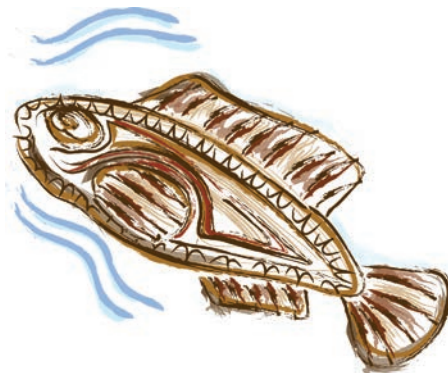
- 1** To plan for and manage the impacts of development on waterways, develop a Rivers of the Barwon Strategic Land Use Plan and implement it into the VPP to achieve the following objectives:
 - a. Identify key issues, address risks, provide direction for strategic planning and promote appropriate land use and development for recreational, cultural, environmental and tourism values
 - b. Provide guidance for agencies and statutory decision-making on land use and development along riverine corridors, including public access and recreational uses and links
 - c. Identify sites that require more detailed place-based planning.

- 2** Amend the VPP and relevant planning schemes with the following additions:
 - a. Identify the rivers of the Barwon as significant rivers in clause 12.03-1S (River corridors, waterways, lakes and wetlands)
 - b. Introduce an interim regional-level planning policy for the rivers of the Barwon that would apply to all municipalities within the catchment and their planning schemes. Following the finalisation of the Barwon Strategic Land Use Plan, implement a more substantial planning policy
 - c. Explore options to enhance integrated water management outcomes through the VPP.

- 3** Apply consistent environmental overlay planning controls to the entire river system on an interim basis to protect the catchment against immediate threats while longer-term planning provision opportunities are explored. To protect the catchment in the longer-term, the government should consider amending existing planning tools (such as the Environmental Significance Overlay) or introducing a new planning tool (such as a River Corridor Overlay). This would have statewide application and therefore could be used for other waterways facing similar challenges.

- 4** Develop guidance and/or Practice Notes on the following topics to provide clarity to developers and land owners and to assist local government and other planning authorities in managing the challenges associated with development along waterways in the Barwon catchment:
 - a. Future precinct structure planning guidelines should include specific guidance on structure planning along waterways and ecologically sensitive environments
 - b. Greenfield and infill development guidelines should be developed to provide a consistent, strategic approach to the management of riparian zones in regional areas. These should have statewide application and could be modelled on Melbourne Water's Waterway Corridors Guidelines for greenfield development areas within the Port Phillip and Westernport Region
 - c. Management of former mining and industrial sites to ensure that contaminants in soils don't pollute waterways and surrounding land uses.

- 5** To protect riverine corridors through rapidly growing urban centres, develop new masterplans for the Barwon River through Geelong and the Bellarine Peninsula and the Yarrowee River through Ballarat. This should build on collaborative work already underway by agencies including the Barwon River Parklands project, City of Greater Geelong's Sparrovale Wetlands project, City of Ballarat's Breathing Life into the Yarrowee River project and Barwon Water's Aqueduct Park (*Porronggitj Karrong*) proposal, which will enable Traditional Owner access to cultural values. Targeted investment is required in order to support agencies in protecting these important riverine corridors. Specifically, these masterplans should:
- a. Identify opportunities to extend the existing parklands as new areas of public open space become available
 - b. Establish effective administrative arrangements for the management of assets and public land under one lead agency
 - c. Establish effective long-term funding models for investment to protect and enhance the rivers of the Barwon
 - d. Provide guidance for developers and government agencies
 - e. Support appropriate existing and future active and passive recreation uses.



Supporting healthy waterways and secure water supplies

Key issues and opportunities

The Barwon catchment's traditional water sources and the health of its rivers are facing a number of challenges from a growing population and the impacts of climate change. The rivers of the Barwon are at the centre of a rapidly changing landscape, with the rivers and their tributaries flowing through and providing water supply to the growing cities of Geelong and Ballarat. The rural areas of the catchment are also experiencing major change including shifting demographics, size of land holdings and changing land use practices.

The community expressed a strong desire for improved land management and farming practices and for the government to do more for the health of the rivers in rural areas of the catchment. This includes connecting and enhancing riparian zones, facilitating flows and maintaining wildlife corridors for native fauna. Long-term economic productivity of the region is dependent on healthy waterways, and improved land management practices will be vital in assisting agriculture to remain competitive in domestic and export markets.

Additionally, in the context of reduced water availability in the future, there is a broad recognition of the need for an adaptive management approach to reduce our reliance on traditional sources and support greater uptake of alternative water supplies such as stormwater and recycled water.



Waterway health

Continued large-scale investment in waterway health is critical if we are to see long-lasting improvements to the environmental condition of waterways. The CCMA, partner agencies, Landcare groups, other local landholder volunteers and public land managers have worked together to deliver improved outcomes for the region. Long-lasting improvements will require continued long-term investment to manage the impacts associated with climate change and population growth.

Uncontrolled stock access to waterways is a key threat to the region's waterways, particularly if animals are not fenced out. This can erode banks, damage riparian vegetation and reduce water quality through sedimentation and faecal, nutrient and other types of contamination. Further threats include bed instability and degradation, changes in flow regimes and reduced riverine connectivity, degraded riverbank vegetation and loss of instream woody habitat.

Water security

Water availability in the Barwon catchment has been steadily declining since 1975.⁸ Sourcing reliable and fit-for-purpose water supplies will be crucial to attract and retain industry and support a growing population. It is vital that all available sources of water are maximised including greater use of recycled water and stormwater and uptake of new technologies. The Barwon and Central Highlands Integrated Water Management forums will provide important drivers for this work and will need to be actively supported to deliver lasting improvements for the Barwon catchment.

The decline in water availability has not been shared evenly; there has been a greater impact on environmental water flows than on water for consumptive use. Whilst there has been significant progress to secure water for the environment over recent decades, current arrangements may not be sufficient to sustain the health of the river in the future. The community expressed a strong desire to see more water for the environment in these systems to support the long-term waterway health under a changing climate as well as greater security for future environmental water entitlements.

The Barwon catchment's traditional water sources and the health of its rivers are facing a number of challenges from a growing population and the impacts of climate change.

Invasive species along the rivers of the Barwon

Willows (*Salix* spp.) and reed sweet-grass (*Glyceria maxima*) threaten a number of waterways in the upper section of the Barwon catchment.⁹ For example, willows spread their roots into the bed of the watercourse, slowing the flow of water and reducing aeration. They also form thickets, which divert water outside the main watercourse or channel, causing flooding and erosion where the creek banks are vulnerable. Willow leaves create a flush of organic matter when they drop in autumn, reducing water quality and available oxygen. This, together with the amount of water willows use, can significantly impact stream health.



Figure 7 Members of Birregurra Landcare Group clear weed trees from the banks of the Upper Barwon at Birregurra.

⁸ Long-Term Water Resource Assessment for Southern Victoria: Overview Report Draft, State of Victoria Department of Environment, Land, Water and Planning 2019, 49.

⁹ Weeds of National Significance (<https://weeds.ala.org.au/WoNS.html>).

Recommendation 4

Key points in Recommendation Four are as follows:

- 1 Targeted investment is urgently required at priority reaches of the catchment to reduce stock access to waterways, to manage invasive species and to maximise the benefits from environmental water entitlements. By improving waterway condition and removing obstructions and other threats to the river channel, environmental flows will be able to continue further downstream.

- 2 Ensure Crown frontage licences have conditions to protect the river, and explore provision of incentives for landholders to undertake waterway restoration and fencing.

- 3 Prioritise the Barwon River as the next flagship waterway initiative, mirroring the approach taken for The Living Moorabool flagship waterway project.

- 4 All waterway management activities (including the Regional Waterway Strategy) must use 'best available science' to establish the current condition of the river, to set targets for future condition and to monitor progress towards targets.

- 5 To capture the community's aspiration for greater knowledge and participation in waterway management, ensure the next Corangamite Regional Catchment Strategy provides a greater role for citizen science and landholder involvement in monitoring key indicators for the health of the catchment. An education program should also be delivered to inform the public about river health.

- 6 Ensure the next Sustainable Water Strategy process that applies to the Barwon catchment considers the following issues and opportunities identified during the Barwon MAC process:
 - a. Increasing environmental water entitlements and their security
 - b. Examining the impacts of stock and domestic dams on regional water security
 - c. Exploring options to increase uptake of alternative water sources such as recycled water and stormwater
 - d. Examining whether a more natural flow regime could be provided for the Yarrowee/ Leigh River by examining water storage options at the Ballarat South Wastewater Treatment Plant
 - e. Consider the impact of the potential filling of Batesford Quarry on regional water supply including water for the environment.

Addendum

Boundary Creek remediation

In mid-2016 a significant fish kill occurred in the Barwon catchment above Winchelsea, which was ultimately determined to be as a result of high acid levels in Boundary Creek below Big Swamp. The source of the damage was identified as acid sulphate soils in a swamp that had dried out from excessive groundwater pumping. During the Barwon MAC consultation process community members expressed serious concerns over the damage to Boundary Creek and the Barwon River caused by pumping from the Barwon Downs borefield. It should be noted that this issue was specifically excluded from the Barwon MAC Terms of Reference given that a process was already established for government to deal with the matter.

To appropriately acknowledge the community concerns on remediation of Boundary Creek, a summary of feedback from the community will also be released, detailing how this feedback was considered.



Figure 8 The Upper Barwon catchment at Boundary Creek.

Glossary

Amenity

Amenity includes the character of the landscape and the vistas and views from rivers, as well as the many benefits that parklands and open spaces provide along them.

Biodiversity

The numbers and variety of plants, animals and other living beings, including micro-organisms. It includes the diversity of their genetic information, the habitats and ecosystems in which they live and their connections with other life forms.

Catchment

An area of land where run-off from rainfall goes into one river system.

Catchment management authorities

Government authorities established to manage river health, regional and catchment planning, and waterway, floodplain, salinity and water quality management.

Community

Includes individuals, public and private landholders, community groups and business owners.

Connectivity

Refers to the links between different habitats and species within a landscape.

Consumptive use

Water that is provided for all human uses (i.e. non-environmental uses, use for people, agriculture or industry).

Country

Traditional Aboriginal culture revolves around relationships with the land and water. For Traditional Owners, Country is a part of who they are, just as they are a part of it.

Environmental water entitlement

A legally recognised, secure share of the water resources to be taken from a water system to maintain the environmental values of a water system.

Floodplain

Land subject to overflow during floods and that is often valued for its ecological assets.

Megalitre (ML)

One million (1,000,000) litres.

Overlay

An overlay is a map in a council planning scheme for areas that have special planning controls, such as areas of significant vegetation or special heritage significance. These controls are in addition to the zone controls and ensure that important aspects of the land are recognised.

Planning scheme

A statutory document which sets out objectives, policies and provisions for the use, development and protection of land in the area to which it applies. A planning scheme regulates the use and development of land through planning provisions to achieve those objectives and policies.

Ramsar

The Convention on Wetlands of International Importance (known as the Ramsar Convention) aims to halt the worldwide loss of wetlands and to conserve those that remain.

Riparian

Land or vegetation that adjoins a river, creek, estuary, wetland or lake.

River corridor

The river and the strips of land adjacent to it.

Stormwater

Run-off from urban areas. The net increase in run-off and decrease in groundwater recharge resulting from the introduction of hard surfaces such as roofs and roads within urban development.

Sustainable water strategies

Sustainable water strategies are statutory processes for state-wide water resource planning in Victoria. They are used to manage threats to the supply and quality of water resources to protect environmental, economic, cultural and recreational values.

Traditional Owners

Aboriginal people who have traditional connection to an identified geographical area of Country.

Wastewater

Water that has had its quality affected by human influence, deriving from industrial, domestic, agricultural or commercial activities.

Water for the environment

Water to support environmental values and ecological processes.

Waterway condition/waterway health

An umbrella term for the overall state of key features and processes that underpin functioning waterway ecosystems (such as species and communities, habitat, connectivity, water quality, riparian vegetation, physical form, and ecosystem processes such as nutrient cycling and carbon storage).

Waterways

Rivers and streams, their associated estuaries and floodplains (including floodplain wetlands) and non-riverine wetlands.



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