GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

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ANNUAL REPORT 2019-20

VICTORIA
State Government

RATINGS LEGEND

2019-20 performance	Well below target (less than 50%)	Below target (50 to 80%)	On target (80 to 110%)	Exceeded target (more than 110%)
Catchment condition	Very poor	Poor	Satisfactory	Good to excellent
Contribution to system function	Very poor	Poor	Satisfactory	Good to excellent
Risk to system thresholds / tipping point - Trend 2017-20	Increasing significantly	Increasing	Stable	Declining

Long-term strategy maturity	Early	Middle	Late	Watch and adapt	Escalated response

The Goulburn Broken CMA continues to develop its approach to catchment condition and performance reporting using a resilience model aligned to the Goulburn Broken Regional Catchment Strategy 2013-2019.

Appendix 1 (page 138) discusses why and how ratings are applied. Although annual performance indicators have high certainty relative to long-term indicators, the uncertainty in setting and monitoring annual targets is still significant because of irregular timing of projects and project-delivery adaptation throughout the financial year. This uncertainty is reflected in an assessment of delivering 'on target' being defined as a large range.

ABOUT THIS REPORT

This report provides information on the Goulburn Broken Catchment Management Authority's (CMA) performance and finances, which can be assessed against its 2019-20 Corporate Plan targets.

The Goulburn Broken Catchment's resilience is explicitly assessed to inform an adaptive approach, consistent with the Goulburn Broken Regional Catchment Strategy 2013-2019.

The Goulburn Broken CMA aims to provide information which is relevant, easily accessed and understood. More detailed and scientific data can be accessed via the website: www.gbcma.vic.gov.au

This report is prepared in accordance with all relevant Victorian legislation. This includes the requirement under the *Catchment and Land Protection Act 1994* for the Goulburn Broken CMA to submit "... a report on the condition and management of land and water resources in its region and the carrying out of its functions."

Design and print complies with Department of Treasury and Finance Reporting Direction 30D, which aims to achieve consistency and minimise costs and environmental impact across government agencies.

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Front cover

Main photo:

Taungurung women celebrate delivery of water to Horseshoe Lagoon.

Inset photos (from left to right):

Rene Marten's winning Year of the Paddock Tree photograph.

Yorta Yorta conduct a burn at Goomalibee.

Brolga at Gaynor Swamp. Photo Pat Feehan.

Celebrating completion of the Mosquito 40 Drain.

Creating habitat on the Seven Creeks.

The photographs included in this report were taken before coronavirus (COVID-19).

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Chair's report

Ongoing dry conditions, devastating bushfires and then Coronavirus (COVID-19) certainly tested the resilience of the catchment's people and natural resources during 2019-20.

Determining how we respond also requires a great deal of resilience. As resilience thinking underpins the Goulburn Broken Regional Catchment Strategy (RCS), the renewal of this overarching framework for managing the region's natural resources, now under way, is timely.

It has been six years since the last RCS was developed, and initial engagement with partners, Traditional Owners and community as part of the renewal process indicates that the region's landscapes, waterways, wildlife and lifestyle continue to be greatly valued. The key drivers of change affecting these natural resources identified in 2012-13 were changes in land and water-use and policy, climate and productivity.

These drivers are still relevant but there have been shifts in how and why the catchment's land, water, and nature are valued and by who. Most notably there has been substantial population growth in the catchment's south, increased absentee and lifestyle landholders, and increased demand from outside the catchment for resources, particularly water.

Technological advances have revolutionised the way we communicate and farm, as well as supporting emerging industries, such as renewables.

There is also a growing acknowledgement that Traditional Owners' deep connection to country brings a holistic and enduring approach to managing the region's natural resources.

Recognising this, we look forward to strengthening our partnerships with the catchment's Registered Aboriginal Parties - Taungurung Land and Waters Council and Yorta Yorta Nation Aboriginal Corporation - in delivering Natural Resource Management outcomes. The Yorta Yorta Traditional Owner Land Management Board's Joint Management Plan for the Barmah National Park released in April will support ongoing efforts to manage pest plant and animals and wetland watering regimes in this Ramsar-listed site; and Taungurung's Recognition and Settlement Agreement will ensure traditional ecological knowledge is incorporated into management of public land across the agreement area.

Engagement with Traditional Owners, and a range of other stakeholders, will continue over the next 12 months to ensure the renewed Goulburn Broken RCS reflects the community's aspirations, provides pathways to guide future management of the catchment's land, water and biodiversity, and helps communities plan how they will adapt to the challenges and opportunities presented by constant change.

The future is in good hands with the next generation of leaders already stepping up to create a more resilient landscape: from the hands-on revegetation and habitat works delivered by school students as part of the RiverConnect initiative; the future-thinking demonstrated through the Kids Teaching Kids Program; and the climate change conversations generated through the Shepparton Statement, young people know that a healthy environment is the key to healthy vibrant communities.

Efforts to embed resilience thinking into Natural Resource Management in the Goulburn Broken have long been championed by Chris Norman who finished up as the Goulburn Broken CMA's CEO in February. On behalf of the Board I would like to acknowledge Chris's passion for the region and leadership over the 10 years he was at the helm. Among his many achievements, fostering and developing genuine partnerships that have helped create collaborative efforts at the local, regional, state and national level (such as the multi-state Tri-state Murray NRM Alliance) stands out. He strongly believed in the CMA going into bat, often behind the scenes, for the community and the environment. This advocacy helped bring about a review of the operating rules on the lower Goulburn River this year to address community concerns about the damage being caused by the increased frequency and volume of flows being transferred to downstream users during summer. Strong partnerships and leadership also put the CMA on the front foot when attracting funding to create employment opportunities for communities affected by fire, flood, industry-adjustment, drought and most recently, coronavirus.

On behalf of the Board I would like to welcome new CEO Chris Cumming, who joined us from the Central Tablelands Local Land Services on June 1. Chris's extensive experience as a senior executive in the agriculture and NRM sectors as well as her strategic planning and engagement skills will ensure continuation of the Goulburn Broken CMA's great track record in working closely with the community and our partners to build the resilience of the region's natural resources and people.

Thank you

Thank you to my fellow Board members for their ongoing support during 2019-20. We welcomed new directors Sarah Parker, Jan Boynton and Mick Harding (who resigned in May) and farewelled Kate Stothers and Jenny Ford. We were saddened by the loss of director Kate Hawkins in September and extend our deepest condolences to her family and friends.

A big thank you too to Acting Chief Executive Officers Carl Walters and Eileen Curtis, who provided leadership and a steady hand during the CEO recruitment process and to all staff who supported them. The Board would also like to thank all staff members for their adaptability in continuing to deliver services to the community during the coronavirus pandemic.

Responsible Body Declaration

In accordance with the *Financial Management Act 1994*, I am pleased to present the Goulburn Broken Catchment Management Authority Annual Report for the year ending 30 June 2020.

Helen Reynolds
Chair

Goulburn Broken Catchment Management Authority
24 September 2020

Chief Executive Officer's report

2019-20 will be remembered for so many reasons. At the catchment level there were significant achievements and, finally, some good rain, while the effects of drought, fires and coronavirus had, and continue to have, regional, national and global ramifications.

Celebrating the first delivery of water for the environment to Horseshoe Lagoon near Trawool during July 2019 was certainly one of the highlights. The site has great cultural significance for Taungurung women and a memorable celebration marking the occasion brought together the landholders, government agencies and Traditional Owners who had all played an important role in making the water delivery happen.

Another collaborative effort between the community, agencies and Yorta Yorta saw water for the environment delivered to Loch Garry north of Shepparton for the first time in April. While only half of the proposed 1000 megalitres could be delivered due to the closure of the irrigation network, the water provided cultural and environmental benefits at this popular recreational site. Release of Parks Victoria's Strategic Action Plan: Protection of floodplain marshes in Barmah National Park and Barmah Forest Ramsar site [2020-2023] provides a clear pathway for protecting another site of great significance for Yorta Yorta people. We look forward to working closely with the Traditional Owners and Parks Victoria to deliver the program of works.

We also appreciated the MDBA agreeing in June 2020 to the Victorian Government's request to limit Goulburn inter-valley trade deliveries to 40 gigalitres a month during summer 2020-21 in response to community concerns about water leaving the region and environmental damage caused by past summers' record inter-valley transfers.

Other program highlights include: the Floodplain Management team processed a record 1100 applications for development, land-use and other works; the GMID Drought Employment Program provided employment for 24 agri-business workers to date; 117 whole farm plans covering 15,000 hectares were completed and the Cornella Creek Catchment drainage course declaration was approved and obstruction removal works completed.

The GMID Regional Irrigated Land and Water Use Mapping project will now be done annually and with the region going through significant transformation this data will be invaluable for informing future NRM decision-making. All four Regional Landcare Program projects funded through the Australian Government met their annual targets. Highlights included working with Taungurung to carry out 1,000 hectares of cat and fox control at Mt Buller to protect threatened mountain pygmy possums; From the Ground Up project staff and partners delivered a number of well-attended virtual farm walks and online workshops covering climate change, soil health, pollinators and sustainable agricultural practices; and The Linking Landscapes and Communities project delivered 56 hectares of revegetation, and 1,225 hectares of pest plant and animal control.

Strong community networks and advocacy for and by the many groups who live, work, or regularly visit the catchment underpins the successful delivery of all our programs. For example, the Whroo Goldfields Conservation Management Network recently celebrated the building and installation of over 1100 nest boxes for gliders and phascogales, work they have been doing since 2009. Our alliance with anglers is another case in point with members of one of these dedicated groups helping relocate a population of threatened Macquarie perch stranded in Holland Creek to the Broken River as dry conditions during much of 2019 saw very low or no flows in many of the region's creeks.

While we were mostly spared from the full impacts of the summer fires that devastated the north-east and Gippsland areas, 3,700 hectares was burnt around Jamieson River/Bluff Creek. Fortunately, rain finally arrived in 2020, however, it was a double-edged sword in some parts of the catchment causing significant soil erosion and high turbidity in the Jamieson River.

As we all started to think 2020 would be a year to recover or even 'bounce forward', largely due to optimistic weather forecasts, coronavirus arrived. To protect our staff and communities, we closed our office doors however we have continued to deliver a full suite of services.

These achievements and the delivery of all programs despite some challenges, contributed towards our vision of 'resilient landscapes, thriving communities'. To help embed and increase community understanding of the benefits of a resilience approach to natural resource management, the Goulburn Broken Regional Catchment Strategy Renewal project team hosted five 45-minute webinars during May and June. More than 200 people registered for the series, including representatives from local and state government, community groups, and the health, arts and tourism sectors. We look forward to building these networks to explore the many synergies between spending time in nature and improved health and wellbeing.

Thank you

The support of the Board and the tremendous commitment by all our agency, community and Traditional Owner partners, along with our dedicated staff, continues to provide a solid foundation for Goulburn Broken CMA's ongoing pursuit of increased environmental, economic and social resilience. I'd like to acknowledge the significant contribution of staff members James Castle and Dean Judd who have moved on to new careers and Geoff Brennan who retired.

I would also like to acknowledge former CEO Chris Norman's legacy; he has built an incredibly skilled and passionate team that reflects his commitment to the catchment community. I thank all the Goulburn Broken CMA staff who have been incredibly helpful and welcoming since I started in this role in June.

The year ahead provides the opportunity to take stock and deliver a response to ongoing and emerging priorities through the planning and delivery of the next reiteration of the Goulburn Broken Regional Catchment Strategy and a new four-year Water for Victoria program.

I look forward to working with our partners and the community as we collectively plan and deliver activities to improve, protect and sustainably manage our precious natural resources.

Chris Cumming
Chief Executive Officer

Goulburn Broken profile

Goulburn Broken Catchment Management Authority

Powers and duties

The Goulburn Broken Catchment Management Authority (CMA) is a Statutory Authority established by the Victorian Parliament in 1997 under the *Catchment and Land Protection Act 1994*. The responsible Ministers for the period from 1 July 2019 to 30 June 2020 were:

- the Hon Lisa Neville MP, Minister for Water; and
- the Hon Lily D'Ambrosio MP, Minister for Energy, Environment and Climate Change.

(See page 130 for names of all persons who were responsible during 2019-20)

The Goulburn Broken CMA develops and coordinates the Goulburn Broken Regional Catchment Strategy implementation by working with the community, all tiers of government and research and funding organisations. The Goulburn Broken Regional Catchment Strategy sets out the framework for coordinating land, water and biodiversity management in the Catchment.

The Goulburn Broken CMA focuses on private land mostly managed for agriculture and on the interface of private and public land. The Goulburn Broken CMA therefore relies on shared contributions from government and private landholders to undertake works.

The Goulburn Broken CMA's role in water is described under the *Water Act 1989* and is to:

- be the caretaker of river health, including managing the environment's right to water (managing the environmental water reserve) and implementing works on waterways via its operational arm
- provide waterway, regional drainage and floodplain management services.

Water storage, delivery and drainage systems are managed by partner agency Goulburn-Murray Water. Urban water and wastewater services are provided by another partner agency, Goulburn Valley Water.

See the 'Governance' section (page 85) for details.

Funding and staff

Goulburn Broken CMA's income for 2019-20 was $18.9 million, derived from the Victorian and Australian Governments, regional sources and other government entities. As at 30 June 2020, 49.8 (full-time-equivalent) staff were directly employed. See the 'Human resources' section (page 78) for details.

The Goulburn Broken CMA acknowledges the Traditional Owners of land in the Goulburn Broken Catchment and strongly respects the rich culture and intrinsic connection Traditional Owners have to the land.

Our Vision

Resilient landscapes, thriving communities

Our Purpose

Through its leadership and partnerships the Goulburn Broken CMA will improve the resilience of the Catchment's people, land, biodiversity and water resources in a rapidly changing environment.

Our values and behaviours

Environmental sustainability: we will passionately contribute to improving the environmental health of our catchment.

Safety: we vigorously protect and look out for the safety and wellbeing of ourselves, our colleagues and our workers.

Partnerships: we focus on teamwork and collaboration across our organisation to develop strategic alliances with partners and the regional community.

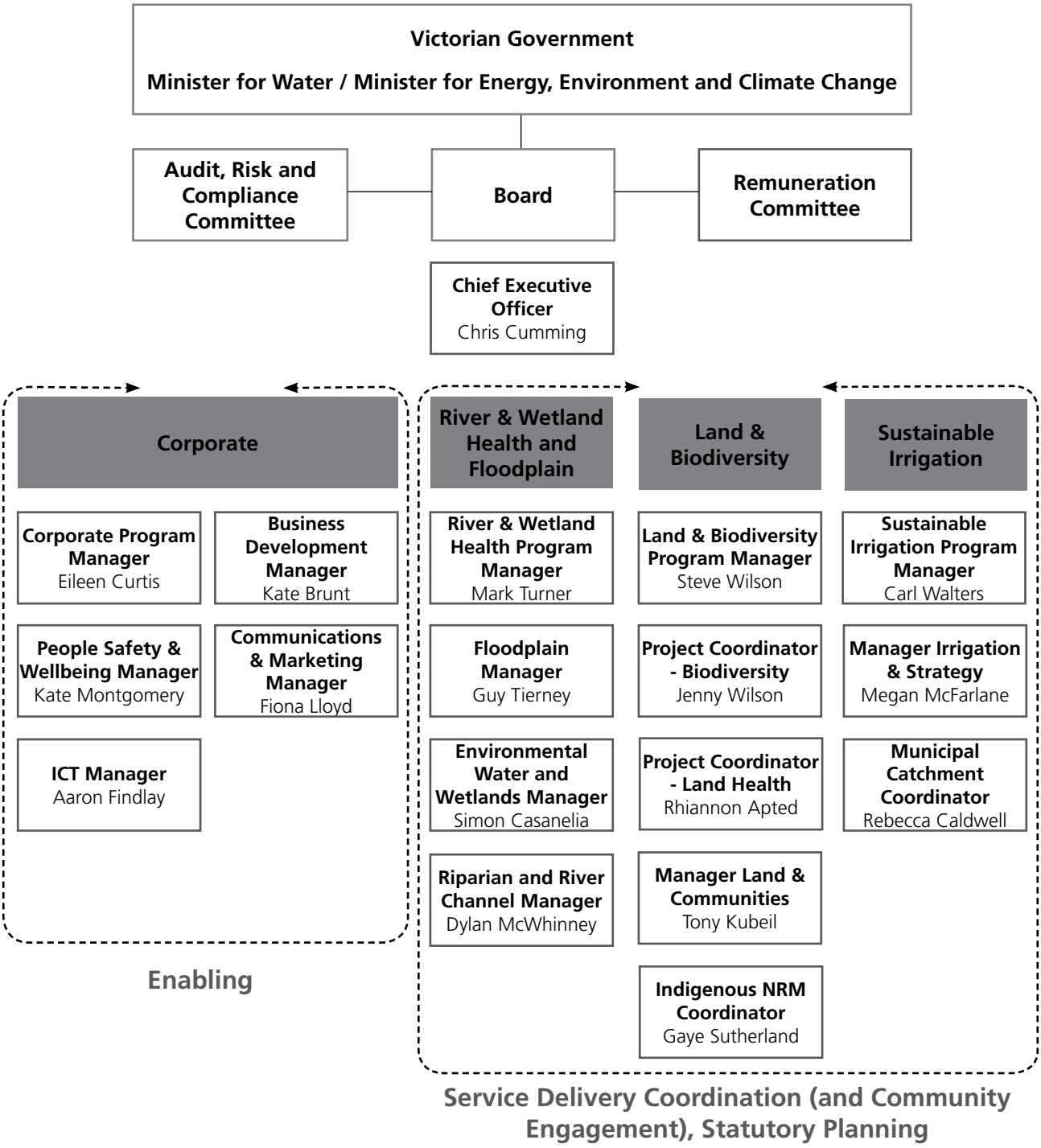
Leadership: we have the courage to lead change and accept the responsibility to inspire and deliver positive change.

Respect: we embrace diversity and treat everyone with fairness, respect, openness and honesty.

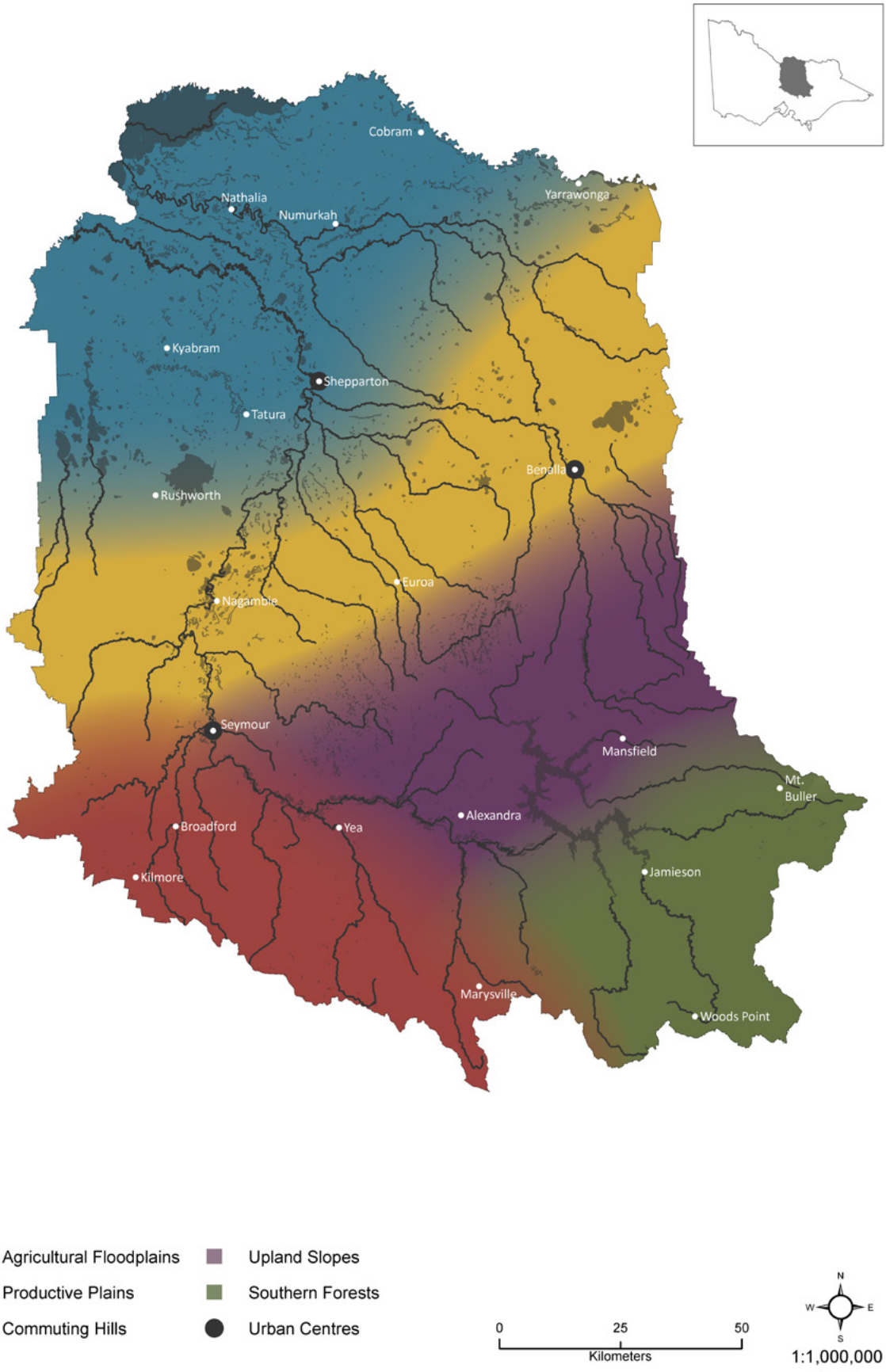
Achievement, excellence and accountability: we do what we say we will do, we do it well and we take responsibility and accountability for our actions.

Continuous learning, innovation and improvement: we are an evidence and science-based organisation and we test and challenge the status quo. We learn from our successes and failures and we are continually adapting using internal and external feedback from stakeholders and the environment. We are an agile, flexible and responsive organisation.

Goulburn Broken CMA business structure



Goulburn Broken Catchment [i,ii]



i. The Goulburn Broken CMA Sustainable Irrigation Program oversees delivery in part of the North Central Catchment as well as the Goulburn Broken Catchment.
ii. Maps of the Catchment showing onground works sites and whole farm plans achieved are included as Appendix 2 and 3 (pages 140 and 141).

Whole of Catchment

The Goulburn Broken Catchment covers 2.4 million hectares, including approximately 10.5 per cent of Victoria, extending north from near the outskirts of Melbourne to the Murray River on the border with New South Wales.

- Has an estimated population of 204,000 people, which includes 6,000 Indigenous Australians.
- Includes approximately one million hectares of dryland agriculture and 270,000 hectares of irrigated agriculture. Public land covers 800,000 hectares, including extensive areas for conservation.
- Yields more than 3,500 gigalitres or 10.5 per cent of the Murray-Darling Basin's water.
- Agriculture is a significant contributor to the Catchment economy with a gross value of agricultural production of $2.37 billion in 2018.

Major environmental challenges include degraded waterways, reduced extent and quality of native vegetation, reduced water quality and quantity, dryland and irrigated area salinity, biodiversity loss, and pest plant and pest animal invasion. These challenges are being exacerbated by changes in climate.

Agricultural Floodplains

Northern floodplains with Murray River along boundary with NSW.

- Landscape highly modified for agriculture with remaining vegetation fragmented and found mainly on waterways, wetlands and roadsides.
- Irrigation supports dairy, horticulture and cropping and a large food processing sector with recent major investment in, on and off-farm irrigation infrastructure.
- Barmah National Park highly valued (Ramsar listed) internationally important breeding site for many bird species.
- Long history of community leadership in managing land and water problems.

Threats: Further loss and decline of vegetation, change in water availability and use, salinity, poor natural drainage, future farming options and floods continue to threaten production and channel form or stability.

Productive Plains

Foothills and floodplains towards the north of the Catchment.

- Habitat provided by vegetation along waterways, roadsides, ranges and spring soak wetlands.
- Dryland farming includes cattle, sheep, cropping and viticulture and many farms remain in same families for generations with average farming populations ageing.
- Rivers and creeks in moderate condition and wetlands in moderate to good condition.
- Landcare and conservation management networks establish sustainable farming practices and protect threatened species.

Threats: More habitat loss, ageing farming populations and declining social connection are threats to biodiversity and farming futures.

Upland Slopes

Includes the slopes and valleys towards the south of the Catchment.

- Grazing and other agricultural enterprises occur in cleared valleys surrounded by partially forested hills and vegetation along waterways.
- Lake Eildon provides water for agricultural production, recreation, tourism and river health along the Catchment and beyond the boundary.
- Generational farmers live alongside increasing numbers of lifestyle properties and absentee landholders.

Threats: Erosion, weeds and fires are among the threats to the amount and quality of highly valued water, used for many purposes.

Commuting Hills

Includes the mountainous southern and south western urban fringe.

- Public and private forests support many plant and animals including the Golden Sun Moth.
- Land use also supports a range of agricultural industries and lifestyle communities.
- Waterways remain largely healthy because of the extent of remaining vegetation.
- People drawn to area for natural beauty and lifestyle and commute to Melbourne for work.

Threats: Fire remains a major threat to safety and properties, along with native vegetation loss through population pressures and development.

Southern Forests

South east mountains, waterways and snow covered alps.

- Unique alpine vegetation supports endangered mountain Pygmy Possum.
- Most of the area is public land managed for conservation, but also for recreation and timber production.
- Waterways are in good condition with recreation and tourism highly valued.
- People live in small and seasonal communities and travel to and from this area.
- The interface between private and public land is important for management.

Threats: Waterway health threatened by erosion along with threats to vegetation including fire, weeds and pest animals.

Urban Centres

Major urban centres of Shepparton, Seymour and Benalla.

- Biodiversity is poor but urban people value the rivers and remaining vegetation for recreation.
- Provide employment, housing, schools and services surrounded by farming and lifestyle properties on Goulburn and Broken River floodplains.
- Water is pumped from the rivers for domestic use and runs off into rivers following storms.
- Large diverse populations.

Threats: Pollution, land development and aquatic weeds threaten river health, including water quality and floods are an ongoing threat to properties and safety.

Key events 2019

July

A public forum attended by 80-plus people presented the outcomes of the Goulburn River Long Term Intervention Monitoring Project which examined the ecological outcomes of environmental flows in the Goulburn River over five years.

An environmental flow with a peak of 8,500 ML/day at McCoys Bridge was delivered down the Lower Goulburn River to encourage banks-stabilising seed and sediment to spread and grow.

Pumping of environmental water into Horseshoe Lagoon commenced. This was a first for the site. The lagoon provides habitat for a variety of wetland plants and animals and is also a site of high cultural significance to Taungurung people, particularly Taungurung women.

Commenced development of a regional community flood portal with Greater Shepparton, Benalla Rural City, Moira and Strathbogie Councils to provide accessible fit-for-purpose flood information to aid community resilience and land-use planning.

August

New partnership with the Euroa Arboretum Indigenous Seedbank created to deliver quality seed over the long term for the catchment's restoration, biodiversity and land management programs.

The Victorian Water Minister announced all new water-use licences for developments in the Lower Murray would need to be approved by her office. This decision was in response to concerns over damage to the Goulburn River. The Minister also announced that from December all trades from the Goulburn system, including water use from tagged accounts, would be treated consistently with Victorian and Basin Plan trading rules.

Successful prosecution of a land manager for breaches of the *Water Act, 1989* for unauthorised works damaging the Steavenson Creek and its surrounds.

September

The Australian Platypus Conservancy presented a number of information and training workshops across the catchment as part of the community-based Australian Platypus Monitoring Network project supported by the Goulburn Broken CMA.

Woka Walla Works crew won the Victorian 2019 Indigenous Land Management Award.

Presented on the Irrigation Energy Calculator developed with AgVic at the International Conference for Irrigation and Drainage in Indonesia. The paper was awarded best paper of the conference.

Water for the environment was delivered down the lower Goulburn River, with flows peaking at just over 8000 ML/day at Murchison. The flow aimed to encourage growth of bank-stabilising vegetation and provide refuge for native fish and other wildlife during the long dry spring and summer.

Yorta Yorta's Woka Walla crew supported by Goulburn Broken CMA, DELWP and Parks Victoria used traditional burning practices at two public land reserves to reduce invasive phalaris and fuel loads, and provide space for native species, such as lilies and orchids to germinate.

October

Goulburn Murray Landcare Network delivered another successful Floodplain Ecology Course at Barmah with 23 participants. This was the 10th year this popular course was delivered.

A celebration of completion of the Community Surface Drain was held at Naring after 10 years of hard work and lobbying by the community.

The 'Mending Mountains for Pygmy Possums' project team contributed to the development and release of the Mountain Pygmy-possum Operational Contingency Plan 2019-2020 (DELWP) in response to pouched young litter loss.

Year of the Paddock Tree Research Forum, celebration and photo competition was held at Eastbank with over 80 attendees.

November

As part of the Our Catchment Our Communities 'Bogies and Beyond' project the first ever systematic bird survey in the Strathbogie Ranges identified 58 species and reinforced the importance of revegetation in increasing populations.

The Hughes Creek Catchment Collaborative hosted a fully-booked native grass identification and management field day with Paul Foreman, as part of the From the Ground Up project.

The Victorian Water Minister announced an interim operational regime for the lower Goulburn River setting an upper water delivery limit of 50 gigalitres a month from the Goulburn inter-valley trade account from December to April to reduce environmental damage.

Reedy Swamp received 350 megalitres of water for the environment providing one of the few drought refuges for wildlife in the region.

The Agricultural Redevelopment Coordination pilot project started to help with a range of new developments to improve environmental outcomes in the region. The project is partnership with local governments, agencies and developers.

The Upper Broken and Boosey Creeks Flood Study commenced.

December

The 13th annual Broken Boosey and Whroo Goldfields Conservation Management Networks calendar, including 29 flora/fauna photographs from 17 local photographers, was completed.

The South West Goulburn Landcare network held its first demonstration site field day for their From the Ground Up project 'Validating and managing grazing effects on soil nutrients on farm' in Kilmore East.

Partnered with Goulburn-Murray Water to host a Barring Djinang Aboriginal Internship Program participant.

Key events 2020

January

The Taungurung Land & Waters Council NRM team, and other contractors completed 19 hectares of weed control at Mount Buller as part of the Mending Mountains for the Pygmy-possum RLP project.

First soil moisture monitoring incentives approved in the SIR as part of a Victorian Government-funded pilot program.

Guilfus Congupna Drainage Course Declaration community engagement underway.

With 2 per cent high-reliability water share in the Broken System there was sufficient resource available to operate the system and deliver carried over allocation. However, there was insufficient water to supply water for critical domestic and stock requirements. In response, the Victorian Water Minister temporarily qualified rights so customers could access water to meet these requirements.

Due to declining water quality 31 Macquarie perch were moved from an isolated pool on the Holland Creek near Tatong to the Broken River below Lake Nillahcootie.

February

The Taungurung works team completed 682 hectares of weed control by in the Heathcote-Graytown National Park as part of the Biodiversity Response Planning project Ribbons of Blue and Sashes of Green.

Goulburn Broken CMA hosted the fully-booked From the Ground Up Soil Carbon workshop at Strathbogie with Dr Cassandra Schefe.

Worked with a LaTrobe University honours student to connect with five farmers as part of a project to build knowledge of changes in soil microorganisms after burning stubble.

The Jamieson River North branch/Bluff creek fire burnt over 3,700 hectares early in the year. Heavy rainfall over the area in early February led to significant soil erosion and high turbidity levels in the Jamieson River.

Parks Victoria released the Strategic Action Plan: Protection of floodplain marshes in Barmah National Park and Barmah Forest Ramsar site [2020-2023]. The plan outlines a four-year program to address threats in the Barmah Forest and protect it for current and future generations

Drought Employment Program crews started work in the GMID.

March

Goulburn Broken CMA closed its offices in response to the coronavirus pandemic but continued to deliver its programs and remain contactable by the public.

Holistic Management training kicked off in Yarck, coordinated by the Upper Goulburn Landcare Network through its From the Ground Up 'Growing regenerative farming systems' project.

Nineteen From the Ground Up face-to-face workshops and field days were put on hold due to coronavirus restrictions; four moved to online delivery.

2,500 seedlings were planted across six hectares of Mountain Pygmy-possum habitat at Mount Buller to increase food resources for this endangered species and address declines in Bogong moths, the possum's primary food resource.

April

The Yorta Yorta Woka Walla works crew completed 164 hectares of weed control in Barmah National Park as part of the Australian Government-funded Barmah Country project

Heavy rain caused minor flooding in some areas of the catchment and high flows in the Goulburn River reaching 16,000 ML/day at Shepparton.

Delivery of water for the environment to Loch Garry for the first time. The wetland provides habitat for a range of waterbirds and wildlife, cultural benefits for Yorta Yorta people and is popular recreational site.

The Yorta Yorta Traditional Owner Land Management Board released the Joint Management Plan for the Barmah National Park. The plan sets out the proposed management directions for the Barmah National Park over the next 10 years.

The Mulana nin iyoga Walking Trail at Mount Major was finally opened to the public. The trail provides a unique experience walking the north face of Mount Major and includes interpretive signage to raise awareness of the local biodiversity values and the Yorta Yorta people as the Traditional Owners of this region.

GMID land use mapping for 2018-19 completed.

400 silver banksia trees planted by Taungurung Works Crew into an isolated patch of 28 old, remnant banksia trees at Lima South to increase genetic diversity for future populations and return a valuable nectar source and seed producer to that ecosystem.

Goulburn to Murray trade rule options are out for comment. A series of community webinars were held in lieu of community meetings due to coronavirus.

Whole Farm Plan incentives expenditure passed $1 million reflecting improved confidence to invest in irrigation farms in the SIR.

May

Goulburn Murray Resilience Strategy released for community comment.

Cornella Creek DCD works completed.

June

The Recovery Plan for the Mountain Pygmy-possum on Mount Buller 2020-2025 was completed through funding support from the RLP 'Mending Mountains for the Pygmy-possum' project. This document incorporates actions from the recent State Recovery team contingency planning and updating revegetation areas and habitat mapping.

Irrigation information booklet released for the GMID that covers general information about a range of technical and planning topics (including links to further advice and support).

The Linking Landscapes and Communities project continued to engage a large number of landowners through incentives for revegetation (17 new landholder agreements covering 162 hectares) and completing 1,225 hectares of pest animal and weed control.

Summary catchment condition assessment (Statewide standard format)

The following reporting format is based on a statewide 2016 CMA and DELWP trial under the Victorian Government's strategy, Our Catchments, Our Communities. Assessments are from the perspective of the catchment manager and based on available evidence. The Goulburn Broken CMA has provided supplementary regionally relevant evidence beyond the scope of statewide needs.

Theme	Catchment condition assessment		Details
	Previous 3 years	2019-20	
Community	Neutral →	Concerned ↓	pages 31 to 35

There are 97 active natural resource management groups, 12 networks, 3,890 members and 5,682 active volunteers in the Catchment (page 32). While participation remains positive, members of the broader community have continuing concerns about the Catchment's health, relating especially to invasive weeds (88 per cent of respondents), declining numbers of native fish (79 per cent), and pest fish species (79 per cent) (Schirmer et al., 2016).

There is a continued increase in social media followers, with June 2020 figures for Facebook 'page likes' reaching 2,861 (up from 2,168 in June 2019), Twitter account followers at 1,735 (up from 1,601) and Instagram followers more than doubled, increasing to 361 (up from 133) (see page 32). The monthly column in the Country News continues to reach more than 44,000 households. Funding available to community NRM groups (including industry) through the CMA was $1.6 million in 2019-20. Diverse stakeholders are now represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked.

From March 2020, the Coronavirus (COVID-19) pandemic drove the need to engage people differently and creatively, which accelerated the transformation of communication technology. Many workshops and other forums complied with social distancing rules by going online.

In 1990, government devolved significant responsibilities and decision-making to regional and local communities to determine their own futures in the face of emerging salinity problems, but trends since are towards less devolution. Traditional Owners are participating more in high-level decisions and there is significant scope for greater involvement if more funding becomes available. Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support. Funding for agencies to provide coordinated support for local community groups and individuals is uncertain and volunteer participation in government programs is dropping off in some locations.

Waterways	Neutral →	Neutral →	pages 36 to 52

Stock grazing has been removed or sensitively managed along 250 kilometres of streams through fencing since 2013-14, including 33 kilometres in 2019-20 (pages 45 and 143). A total of 5,657,137 megalitres of water has been released for the environment since 2007-08, including 772,400 megalitres in 2019-20 (pages 17, 45 and 46). In 2019-20, river inflows were generally low until higher than average autumn rainfall (page 45). Local and regional agency and broader community partnerships associated with waterway management are strengthening. There has been a step-change in the past few years of increased community involvement in raising awareness and onground management (pages 41 to 44).

Water quality and fish populations have improved significantly through changes such as stock-grazing and fish-barrier removal, resnagging of streams, tree planting, and the delivery of water for then environment. Phosphorus loads are better and within the long-term target (graphs pages 39 and 70). However, the risk from high unseasonal flows to streambank vegetation and critical habitat in the high-value lower Goulburn River continues to increase. Managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected Murray-Darling Basin.

Waterways are also subject to increasing recreation pressure. Despite increasing waterbird habitat in the Goulburn Broken Catchment through delivery of water for the environment, populations of many species across the MDB seem to be declining. Waterways are at high risk from climate change. Since 2000, waterways have been impacted by prolonged drought, fires and to a lesser extent, floods. Water availability for agriculture has emerged as a major risk for the Catchment's social-ecological systems. In 2010, 15 per cent of stream length in the Goulburn and Broken basins were in good or excellent condition (9 and 6 per cent respectively, using the index of stream condition (bar chart page 39). The overall ratings had not changed significantly since 2004. There have been significant floodplain management improvements in many geographic areas, with others scheduled (pages 49 to 52). As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management, annual average damages and social trauma have significantly decreased (page 49).

Assessment criteria

Positive	↑	An optimistic future with evidence that events during the year will have a positive impact on the longer term.
Neutral	→	A largely neutral state, where events during the year may have been significant but are within expected variation and will have little impact in the longer term.

Theme	Catchment condition assessment		Details
	Previous 3 years	2019-20	
Biodiversity	Concerned ↓	Concerned ↓	pages 53 to 59

In 2019-20, 12 community groups and networks engaged as delivery partners built capacity and delivered incentives and community engagement projects: four Conservation Management Networks (Longwood Plains, Broken Boosey, Whroo Goldfields, and Strathbogie Ranges); six Landcare Networks (Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray, Hughes Creek Catchment Collaborative and Gecko Clan); and two friends groups (Regent Honeyeater Project and Euroa Arboretum).

A total of 5,670 hectares of remnant vegetation has been fenced since 2013-14, including 667 hectares in 2019-20.

The Linking Landscapes and Communities project delivered 56 hectares of revegetation and 17 land management agreements on private land, and 1225 hectares of pest plant and animal control (page 57). The Mending Mountains for Pygmy-possums project increased and improved critical habitat through 6 hectares of revegetation, 1000 hectares of cat control, and 19 hectares of weed control. Two Victorian government-funded Biodiversity Response Planning projects were delivered: Linking Lower Goulburn delivered 61 hectares under management agreements, and Ribbons of Blue and Sashes of Green delivered 765 hectares of weed control (by Taungurung works crews), 31,624 hectares of goat control (by Parks Victoria), and 335 hectares of 10-year land management agreements (page 57).

Native vegetation, critical to biodiversity, covers about 30 per cent of the Catchment and has been stable since 2000, although it is difficult to measure and ascertain gains and losses vegetation. Long-term targets are not being met (graph page 58). While native vegetation actions on 1.4 per cent of the Catchment's private land in the past 10 years and the removal of logging helps, a net increase in extent of 0.3 per cent is not enough to support all native species. Ongoing clearing, new and existing invasive pest plants and animals, and other threats continue to add to large-scale habitat loss and degradation caused by historic clearing. Some species, such as Grey-crowned Babbler, Turquoise Parrot, and the EPBC-listed Regent Honeyeater are benefiting from targeted revegetation. A repeat of the millennium drought would have grave consequences for many species.

Land	Neutral →	Neutral →	pages 60 to 67

In 2019-20, 353 people participated in 76 activities around resilient farming. Agreements totalling $233,325 (from the National Landcare Program 2) across 19 projects enabled delivery by Goulburn Broken CMA staff and partners, including: AgVic, Landcare and community groups, Landcare and conservation management networks, and industry and producer groups such as Murray Dairy, Irrigated Cropping Council, Maize Association of Australia, Riverine Plains Inc., and Victorian No-Till. Workshops were held online after COVID-19 restrictions came into place (11 workshops and 5 demonstration site activities were postponed). Topics included regenerative grazing, stubble and fertiliser treatments for increased soil carbon and crop performance, different crops and soil carbon (including carbon credit markets), soil carbon in permanent pastures, soil acidification in subsurface irrigation systems, grazing impacts on soil nutrients, native vegetation for horticulture pollination and broadacre crops, organic manures and soil condition, and indigenous food crops. The Victorian Government provided $263,513 for 45 Victorian Landcare Grants to 39 community groups and networks (pages 63 and 148).

Since 1990, perennial grasses have returned to steep hills and farmers are increasingly aware of groundcover and the need to revegetate eroding gullies and manage soil acidity. While management of livestock in dryland pastures has improved, in the last ten years drought, dry springs, poor autumn breaks, and a proliferation of pest and native gazing animals have resulted in low cover, bare ground and exposed soil in many areas (page 61). The start of spring in 2019 was very dry, but conditions improved during summer and some places received record autumn rainfall. Rain on many dry hills without vegetation cover meant infiltration was low and soil washed away, some gullies deepened, and there were minor landslips. Overflowing dams have created further erosion challenges. In 2019-20 across cropping and horticulture industries, beneficial insects were highlighted as a means of moving away from synthetic chemicals and reducing farm input costs, promoting interest in developing insect habitat, native vegetation and biodiversity. Saline discharge sites remain present and active, but with most sites able to be managed, impacts are confined to the local site or farm.

The purpose and use of the Catchment's 800,000 hectares of public land have generally improved (especially grazing in sensitive areas). However, increased visitor numbers (which have escalated because more people are holidaying domestically and locally and under COVID-19 restrictions), along with invasive plant and animal pressures, are impacting on environmental and cultural heritage. Elevated land values are driving farm subdivision and land turnover. Invasive plant and animal management is mainly focused on new and emerging species and complementing community activity. High and increasing long-term risks in hot-spot areas from existing and emerging threats include deer in the foothills and feral horses in Barmah National Park.

Assessment criteria

Concerned	↓	A level of concern that significant events during the year may have an adverse impact in the longer term.

Highly concerned	↓	A high level of concern that significant events during the year are likely to have an adverse impact in the longer term.

Long-term scorecard: Catchment condition and resilience

All investment areas are impacted by key catchment drivers of change such as:

- Land-use change
- Water policy reform
- Climate change and
- Increased farm production.

Investment area [i]	Catchment condition summary			
	1990	2020	Long-term risk [ii] (given current support)	Snapshot
Community	●	●	MEDIUM	– Traditional Owners are participating more in high-level decisions supported by mechanisms such the Recognition and Settlement Agreement. There is significant scope for greater involvement if more funding becomes available. – Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support. – Diverse stakeholders are represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked. Increased urbanisation continues to influence the catchment community. – Funding for agencies to support local community groups and individuals is uncertain and volunteers are ageing and participation in government programs is dropping off in some locations.
Waterways	●	●	MEDIUM	– Water quality and fish populations have improved significantly from changes such as removal of stock-grazing and key fish-barriers, resnagging of streams, tree planting, and the delivery of water for the environment. – Dry periods and climate change continue to be a significant challenge. – Despite increasing waterbird habitat in the Goulburn Broken Catchment through environmental flows, populations of many species across the MDB seem to be declining. – The risk from high unseasonal flows to streambank vegetation and critical habitat in the high-value lower Goulburn River and Barmah Forest continues to increase. Managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected MDB. – Waterways are also subject to increasing recreation pressure. – Local and regional agency and broader community partnerships associated with waterway management are strengthening.
Floodplain management	●	●	MEDIUM	– There have been significant floodplain management improvements in many geographic areas and others have been scheduled. – As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management tools, annual average damages and social trauma have significantly decreased.

Catchment condition: ● Very poor ● Poor ● Satisfactory ● Good to excellent

Ratings in the following table are explained in investment area reports as referenced in the right-hand column. Ratings shown are not a definitive assessment and are a tool for discussion about long-term progress. Comments about the certainty of ratings are shown in each investment area.

Appendix 1 describes the analytical framework, including terms used in this scorecard.

	Resilience assessment							
	Critical attribute affecting long-term catchment health [iii]	Contribution to system function		Risk to system thresholds / tipping point			Long-term strategic implementation	Details page
		1990	2020	Trend 2017-20	With current support	With no support		
	Community capacity to influence and lead	●	●	▲	HIGH	VERY HIGH	Escalated response[iv]	31
	Community capacity be involved and act onground	●	●	▲	MEDIUM	HIGH	Watch & adapt	31
	Streamflows and wetland inundation:							
	– Dammed (regulated) streams	●	●	▲	MEDIUM	VERY HIGH	Early	38, 42
	– Undammed (unregulated) streams	●	●	▲	HIGH	VERY HIGH	Middle	38,41
	Streamside (riparian) vegetation	●	●	▼	LOW	HIGH	Late	39, 43
	Water quality	●	●	—	MEDIUM	HIGH	Watch & adapt	39, 43
	Fish passage and habitat	●	●	▼	LOW	MEDIUM	Late	40, 43
	Flood impact	●	●	▼	MEDIUM	VERY HIGH	Late	48-52

Contribution to system function: ● Very poor ● Poor ● Satisfactory ● Good to excellent

Risk to system thresholds / tipping point: ▲ Increasing significantly ▲ Increasing — Stable ▼ Declining

Investment area [i]	Catchment condition summary: 1990	2020	Long-term risk [ii] (given current support)	Snapshot
Biodiversity	●	●	VERY HIGH	– Native vegetation improvements actions, such as revegetation and stock control, have improved 1.4 per cent (22,470 ha) of the Catchment's private land in the past 10 years. After accounting for losses also during this time, native vegetation extent has increased by the order of 0.3 per cent (4,500 ha), which is not a sufficient scale for all native species to survive. – Current threats, such as clearing, invasive pest plants and animals, and fire management, are exacerbated by climate change and have a compounding effect on past large-scale habitat loss and degradation. The removal of logging on private land such as the Strathbogie Ranges contributes to native vegetation improvement. – The scale of change in areas managed for conservation is also not sufficient. Thresholds have been breached and many ecosystems are in decline. – Public land management is occurring across a greater area of reserves with an increased focus and funding for pest plant and animal control.
Land	●	●	MEDIUM	– The increased awareness of how soils can be improved is being applied on many farms. – Continued dry conditions are also impacting soil health in the region. – The purpose and use of private and public land have generally improved (especially grazing in sensitive areas). – Catchment-wide invasive plant and animal management is now mainly focused on new and emerging species and complementing community activity. Under present arrangements, there are high and increasing long-term risks in hot-spot areas from existing and emerging threats like deer in the alps, foothills and plains; feral horses in Barmah National Park (especially when extremely dry) and key weed species in priority areas.
Sustainable irrigation	●	●	HIGH	– Shepparton Irrigation Region (SIR) social-ecological systems depend on highly productive and efficient irrigated agriculture. They are beyond tipping points and are adapting and transforming, creating significant uncertainty and stress. – While water availability for the environment is improving, high unseasonal flows to meet downstream water demands are creating significant impacts to Goulburn River bank vegetation. – Declining water availability for agriculture is threatening farm and regional viability, making it extremely challenging for the region to adapt to a future with less water. – Water quality has improved significantly, and works and long-term dry conditions have stabilised watertables for now. – Intervention is improving some pockets of native vegetation, however most threatened ecosystems remain at high risk. Native vegetation extent is still poor (less than 3 per cent).

Catchment condition: ● Very poor ● Poor ● Satisfactory ● Good to excellent

i. Investment areas apply to the whole-of-catchment, apart from the Sustainable irrigation, which applies only to the Agricultural Floodplains social-ecological system (and the associated Shepparton Irrigation Region Land and Water Management Plan).

ii. Risk of systems not being in desired state of resilience in the long term given current support. The desired state is often different from the current state and is usually not the pre-European state. Investment areas can be considered as systems and they are highly interconnected. Support includes government funding and community investment.

	Resilience assessment							
	Critical attribute affecting long-term catchment health [iii]	Contribution to system function		Risk to system thresholds / tipping point			Long-term strategic implementation	Details page
		1990	2020	Trend 2017-20	With current support	With no support		
	Native vegetation extent	●	●	▲	VERY HIGH	VERY HIGH	Escalated response [iv]	53-59
	Native vegetation quality	●	●	▲	VERY HIGH	VERY HIGH	Escalated response [iv]	53-59
	Soils for agriculture	●	●	—	MEDIUM	HIGH	Middle	61, 67
	Purpose and use of private land	●	●	—	MEDIUM	HIGH	Watch & adapt	62, 67
	Purpose and use of public land	●	●	—	MEDIUM	HIGH	Watch & adapt	62, 67
	Invasive plants and animals	●	●	▲	HIGH	VERY HIGH	Middle	63-64, 67
	Water availability for:							
	– The environment	●	●	▲	MEDIUM	HIGH	Early	69
	– Agriculture	●	●	▲	VERY HIGH	VERY HIGH	Escalated response [iv]	70
	Water quality	●	●	—	MEDIUM	HIGH	Watch & adapt	70
	Watertables	●	●	—	MEDIUM	HIGH	Watch & adapt	71
	Native vegetation extent	●	●	▲	VERY HIGH	VERY HIGH	Middle	71
	Farm and regional viability	●	●	▲	HIGH	VERY HIGH	Escalated response [iv]	71-72

Contribution to system function: ● Very poor ● Poor ● Satisfactory ● Good to excellent

Risk to system thresholds / tipping point: ▲ Increasing significantly ▲ Increasing — Stable ▼ Declining

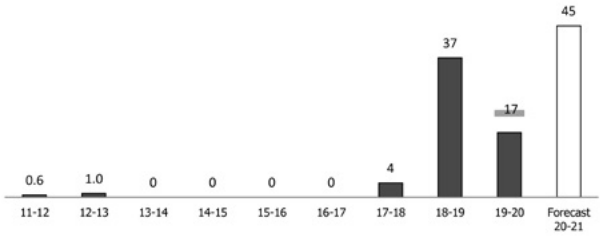
iii. Many critical attributes relate to the 20 to 30-year objectives listed in Goulburn Broken CMA sub-strategies (Level 2 of Regional Catchment Strategy objectives hierarchy; see pages 20 and 21).

iv. 'Escalated response' recognises that the situation has shifted so significantly that difficult and sensitive questions about transformation and transitioning must be considered.

Outputs achieved 2011-12 to 2019-20 and forecast 2020-21

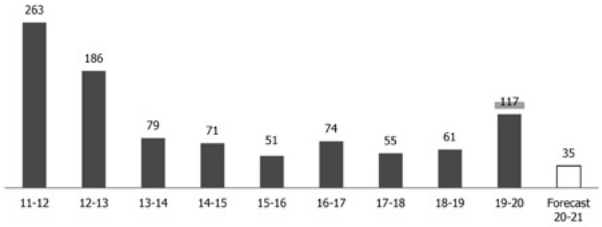
The following outputs were achieved through one or more investment areas (listed on the previous and following pages). They indicate progress towards long-term targets listed in the Regional Catchment Strategy and sub-strategies.

Irrigation drains built, km



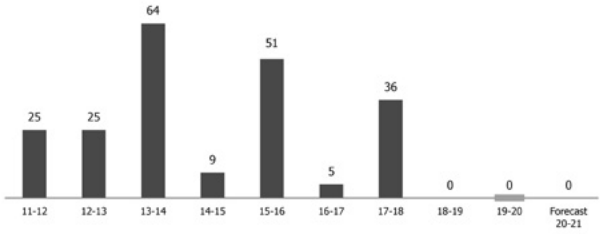
A 2015 review resulted in reduced drainage requirements and renewed priorities. A new hybrid approach is underway (pages 70, 74, 75 and 76).

Whole farm plans prepared, no.



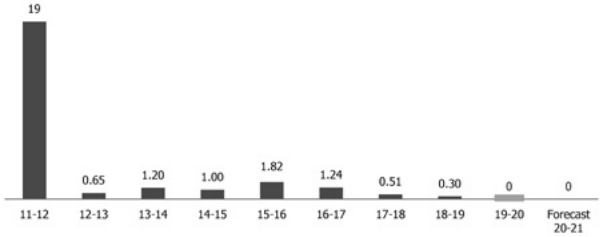
Water-use efficiency has driven whole farm plan numbers in recent years via the Farm Water and Connections Programs. These programs are now completed and funding is reducing, so numbers are expected to be less in future (despite steady demand). (page 72).

Reuse systems installed, no.



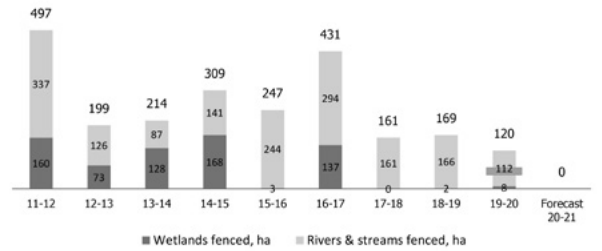
Significant achievements in recent years due to the Farm Water Program. Funding for these works was not available in the Goulburn-Murray Irrigation District from 2018-19 (page 76).

River or stream bed & bank protection actions, km



Hard engineering approaches are used less now, with a preference for vegetation. In the absence of significant flood recovery programs, recent trends are expected to continue (page 39).

Riparian land fenced, ha

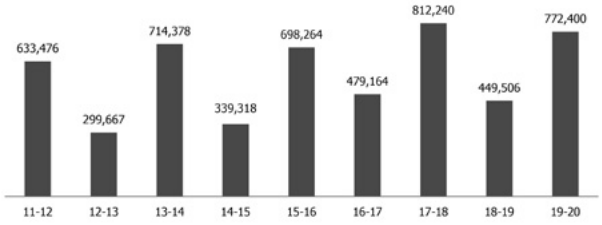


Grazing is now well managed beside long lengths of rivers and streams through fencing from regular and opportunistic fund sources, and through changes in tenure. Significant lengths remain to be improved, and maintenance of previous efforts is becoming a priority (pages 39, 43 & 45).

Note on forecast targets:

Forecast output targets are generally lower than what was achieved previously because they are based on indicative rather than actual funding received. Forecasts are based on outputs from project submissions for 2020-21 and funded projects as at June 2020. Forecasts may change as new funding opportunities arise and project submissions are negotiated.

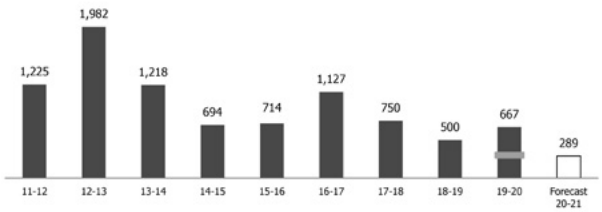
Environmental water use, ML



Annual environmental water use is influenced by seasonal conditions and environmental water availability (page 46).

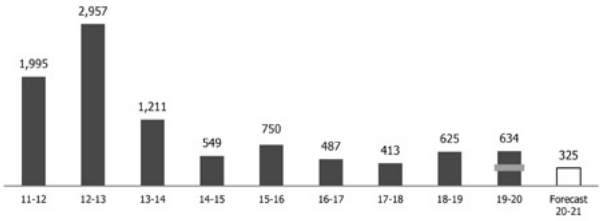
Legend
Target for 2019-20

Remnant vegetation fenced, ha



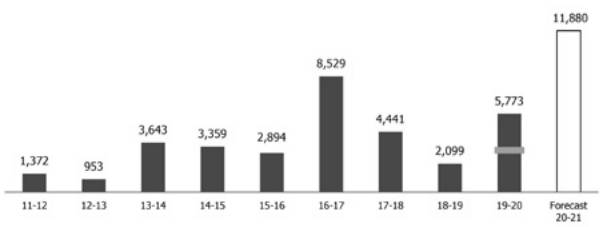
Australian and Victorian governments continue to recognise the importance of remnant vegetation to conserve biodiversity. However much more funding is required if we are to conserve the majority of species. Targets were exceeded as there were several remnant protection projects that delivered more than expected (pages 67 & 59).

Indigenous revegetation (planted), ha



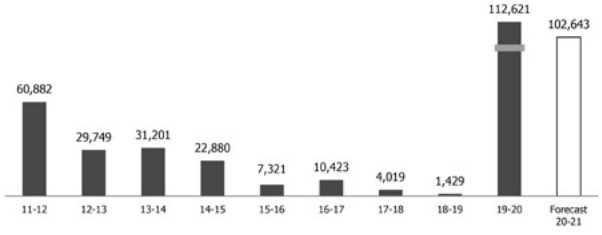
Revegetation continues to be important in creating resilient landscapes through connectivity projects. As for remnant vegetation, revegetation occurred over a greater area than expected (pages 59 & 67).

Weeds treated, ha



Largely driven by community interest with support from Goulburn Broken CMA through Australian and Victorian government projects (page 64 & 67).

Pest animal control, ha



The community continues to drive local solutions and activity in pest animal control. Exponential growth in the amount of pest animal control in 2019-20 is largely due to increased investment in public land pest control funded by the Victorian government (page 64 & 67).

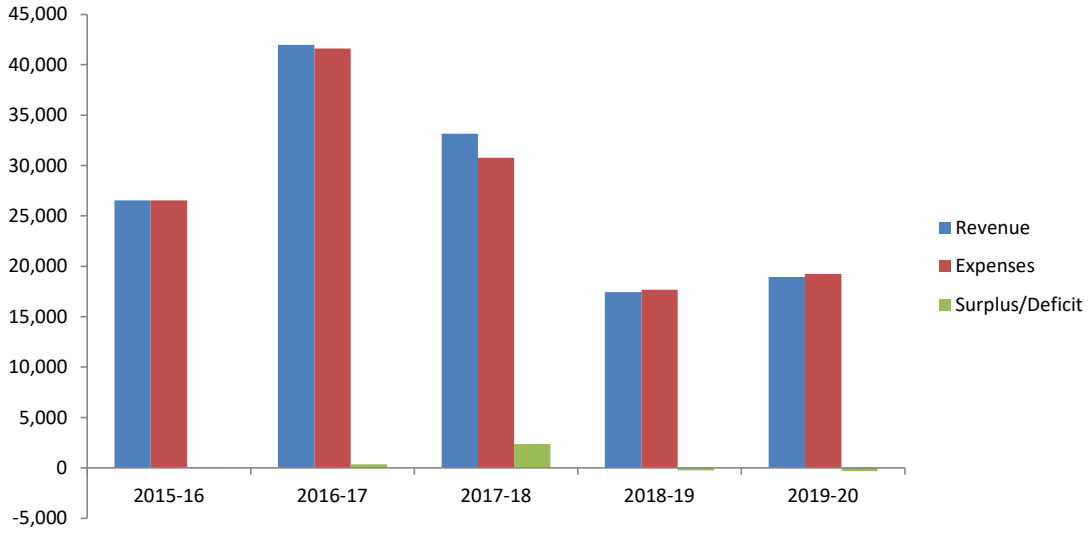
Annual scorecards

Indicative investment and gross output performances in investment areas

Investment area [i]	Investment [ii] (including partnership funds)				2019-20 performance [iv] (outputs)	Details page
	2017-18 $000	2018-19 $000	2019-20 $000	Forecast [iii] 2020-21 $000		
Community and the Environment						
Community [v]	536	603	705	598	On target	31
Sustainable irrigation	21,315	5,509	7,038	6,758	Exceeded target	68
Waterways	4,571	3,997	4,283	4,506	Exceeded target	36
Floodplain management	1,079	940	836	770	On target	48
Biodiversity	2,626	2,612	2,689	2,795	Exceeded target	53
Land	814	435	428	420	Exceeded target	60
The Business (Corporate)						
Governance	1,214	1,181	1,127	1,317	On target	85
Human resources [vi]	6,464	5,598	5,995	6,571	On target	78

i. Appendix 1 describes the analytical framework, including terms used in this table. Ratings legend is inside front cover.
ii. Investment figures include funding to partners, except for the Invasive plants and animals investment area.
iii. Based on the budget in the Corporate Plan 2020-21 as at June 2020.
iv. Performance ratings are based on outputs achieved as listed under investment area details in this annual report. Targets are determined by considering levels of government funding, as listed in the Corporate Plan and any subsequent adjustments over the financial year. Outputs are described in Appendix 4 on page 142.
v. In addition to specific expenditure, community engagement is integrated into the delivery of outputs across all investment areas outlined above.
vi. These are costs rather than investments. Costs are embedded within other investment areas.

Financial summary 2015-16 to 2019-20, $000 [i]



i. See Financial results summary on page 98 for details.

Aggregate output performance across all investment areas in 2019-20

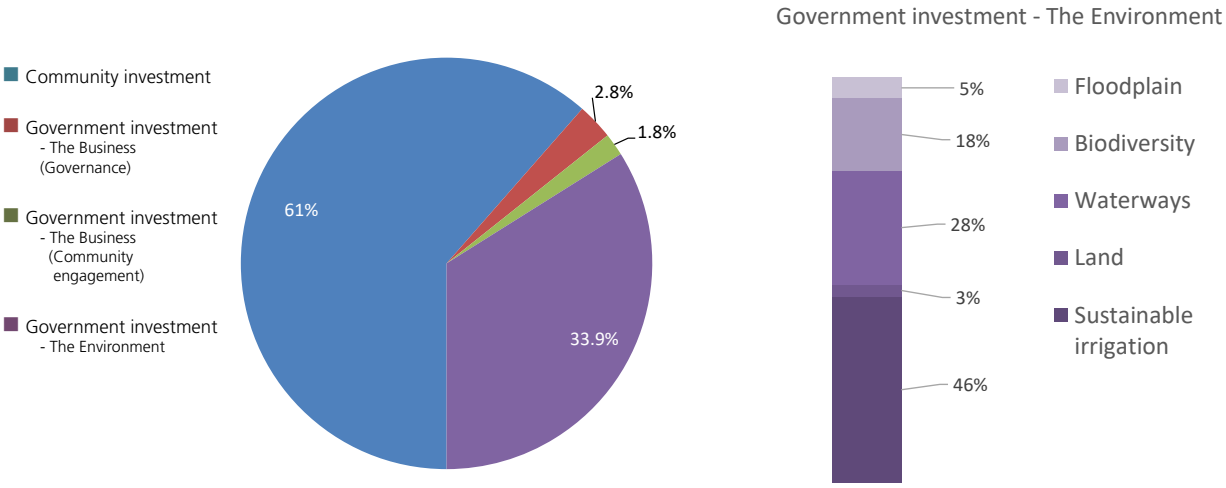
Output [i]	Achieved	Target [ii]	Performance	
			% achieved	Rating
Remnant vegetation fenced, hectares	667	297	225	Exceeded target
Wetlands fenced, hectares	8	0	-	-
Rivers and streams fenced, hectares	112	55	204	Exceeded target
Riparian land fenced, hectares	120	55	219	Exceeded target
Long-term conservation agreements, hectares [iii]	6	0	-	-
Indigenous revegetation planted, hectares	634	330	192	Exceeded target
Irrigation drains built, kilometres	17	22	77	Below target
Reuse systems installed, numbers	0	0	-	-
Laser levelling, hectares	7,580	5,852	130	Exceeded target
Groundwater pumps installed, numbers	0	0	-	-
Weeds treated, hectares	5,773	3,084	187	Exceeded target
Pest animal control, hectares	112,621	95,740	118	Exceeded target
Environmental water use, megalitres	772,400	0	-	-
River or stream bed and bank protection actions, kilometres	0	0	-	-
Fishway structures installed and barriers modified, numbers	0	0	-	-
Threatened species projects, numbers	0	0	-	-
Whole farm plans prepared, numbers	117	131	89	On target

i. Outputs shown in this table are derived from the more detailed set in Appendix 4 on page 142, including the full list of footnotes. Outputs are described in Appendix 1 on page 138 under 'Annual performance'. Detailed outputs relating to each investment area are listed in sections devoted to each investment area throughout this report.
ii. Targets are determined by considering levels of government funding as listed in the Corporate Plan and any subsequent adjustments over the financial year.
iii. These are shown as 'Binding management agreements' in the detailed outputs in Appendix 4 on page 142, This target will only be reported once covenants are on title, which takes more than 12 months.

Descriptions of output performance

Investment area details in the community and environment section pages 20 to 77 describe actions undertaken in 2019-20 and illustrate integration between programs, government agencies and priorities, regional authorities, community organisations and individuals.

Goulburn Broken investment share [i, ii]



i. See bar chart on page 31 for cost-sharing details.
ii. See investment and gross output performance in investment areas table on page 18 for more detail.

The Regional Catchment Strategy, resilience and climate change

Compiled by Kate Brunt, Ashley Rogers and Rod McLennan

This section reports on the planning approach and implementation against objectives of the Goulburn Broken Regional Catchment Strategy 2013-2019 (RCS), the Goulburn Broken CMA Corporate Plan 2019-20 and progress towards the renewal of the RCS. The Goulburn Broken RCS 2013-2019 remains the overarching strategy until the renewal process is complete. It also provides the overall strategic context for details of implementation reported in other sections.

The RCS:

- is developed with the community and is aimed at achieving social, economic and environmental benefits
- is a requirement of the *Catchment and Land Protection Act 1994*
- was developed in 1997 (coinciding with the advent of CMAs) and revised in 2003 and 2013 and is currently undergoing renewal.

The resilience approach

In recent years, the Catchment's communities and environment have been severely tested by fires, droughts, floods, the global financial crisis, COVID-19 pandemic and other major events, catalysing the CMA's focus on developing resilience.

Resilience is the ability of the Catchment's people and environment 'to absorb a shock or setback and to flourish in spite of it, maybe even because of it' (Outback, Apr/May 2017). It does not mean 'ploughing through' and doing what we have always done . It is the capacity to cope with change and continue to evolve in positive ways.

The resilience approach to catchment management focuses on connections between people and nature, how these connections change, and at what point this could completely transform our social and ecological systems. Understanding system resilience helps us identify where and how to intervene to influence its future direction and achieve desired, balanced goals for natural resource management. The CMA follows key principles for developing the general resilience of the Catchment:

1. Develop a complexity perspective – shifting from a linear perspective to a complexity perspective recognising systems.
2. Govern for change – governance approaches matched to the dynamics of the Catchment.
3. Design for flexibility – design our business to be flexible, mobile, moveable and compartmentalised.
4. Foster self-organisation, participation and openness to change – allow for self-organisation and local solutions.
5. Manage complexity – consider under or over connections which can present risks to the business.
6. Orientate towards leverage and tipping points – tipping points provide a clear focus for managing systems and leverage points can create the change.
7. Value redundancy, backups and buffers – these provide shock absorption capacity and a source of recovery.
8. Retain and build diversity – multiple response options and sources of innovation.
9. Learn for change – forward-focused learning that can drive adaptation and transformation.

(Ryan, P; 2018, Goulburn Broken CMA resilience principles workshop, adapted from Biggs, R.,M. 2012)

Regional Catchment Strategy 2013-2019 objectives hierarchy and sub-strategies

Level 1 provides the 50-year vision, which is a general sense of what the community would like the Catchment to be. The vision reflects the important relationship between protection and use of the Catchment's natural assets, which generate environmental, economic and social benefits.

Level 2 includes the long-term (20 to 30-year) biodiversity, land, water and people objectives, which are found in the relevant sub-strategies developed by the Goulburn Broken CMA, in consultation with the Catchment community. These objectives define what is to be achieved within the different 'asset' classes of biodiversity, land, water and people, which feature in how the Goulburn Broken CMA structures investment and reporting (see scorecard on pages 12 to 15).

The Goulburn Broken CMA values its theme-based RCS sub-strategies that include long-term objectives for one or more of these asset classes and detailed context and direction for investing in onground action. (See the diagram page 22 that shows the relationship between the RCS sub-strategies.) It is assumed that achieving these objectives will position the Catchment community on the path to achieving the vision.

Level 3 has six-year strategic objectives that help communicate the emphasis for management. It is assumed that achieving these cross-cutting objectives will enable progress towards 20 to 30-year biodiversity, land, water and people objectives.

Level 4 includes six-year strategic priorities, which describe the focus for bundles of management measures needed to address the drivers of change. It is assumed that achieving these strategic priorities will indicate achievement of strategic objectives. Management measures generally describe the tasks to be undertaken over the six years.

Local (social-ecological system) plans

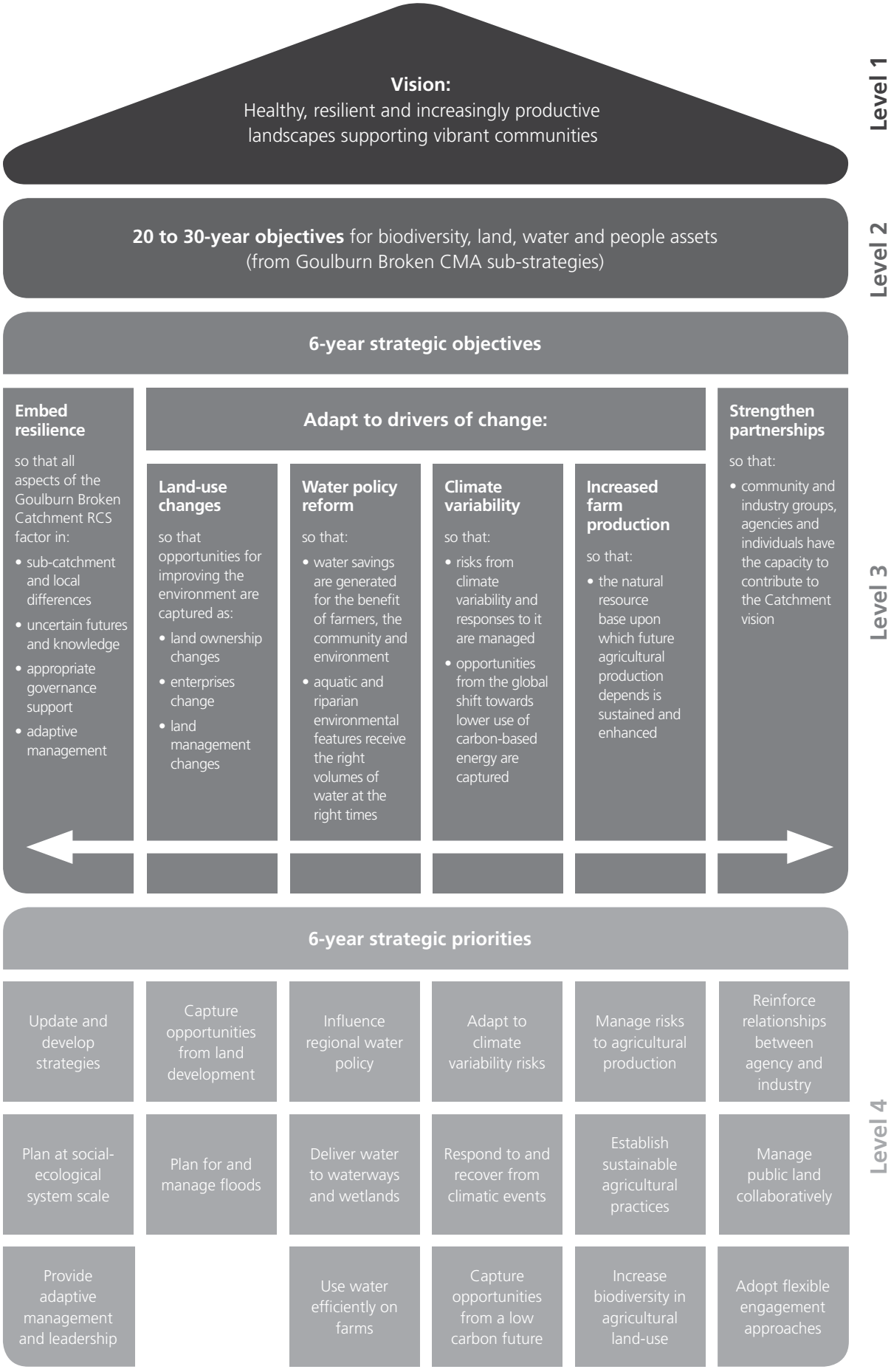
Areas with generally consistent elements of people and nature, including relationships between them, are called social-ecological systems (SES; see map on page 6). Elements include landform, vegetation types, land uses, social structure and dynamics.

Social-ecological systems exist at a range of connected scales, from site to the whole-of-Catchment. The scale chosen for decision-making considers the balance between being small enough to understand details sufficiently, while being large enough to allocate resources efficiently.

Local plans have been developed with the community for each social-ecological system. These plans are reviewed and updated according to community needs and available resources.

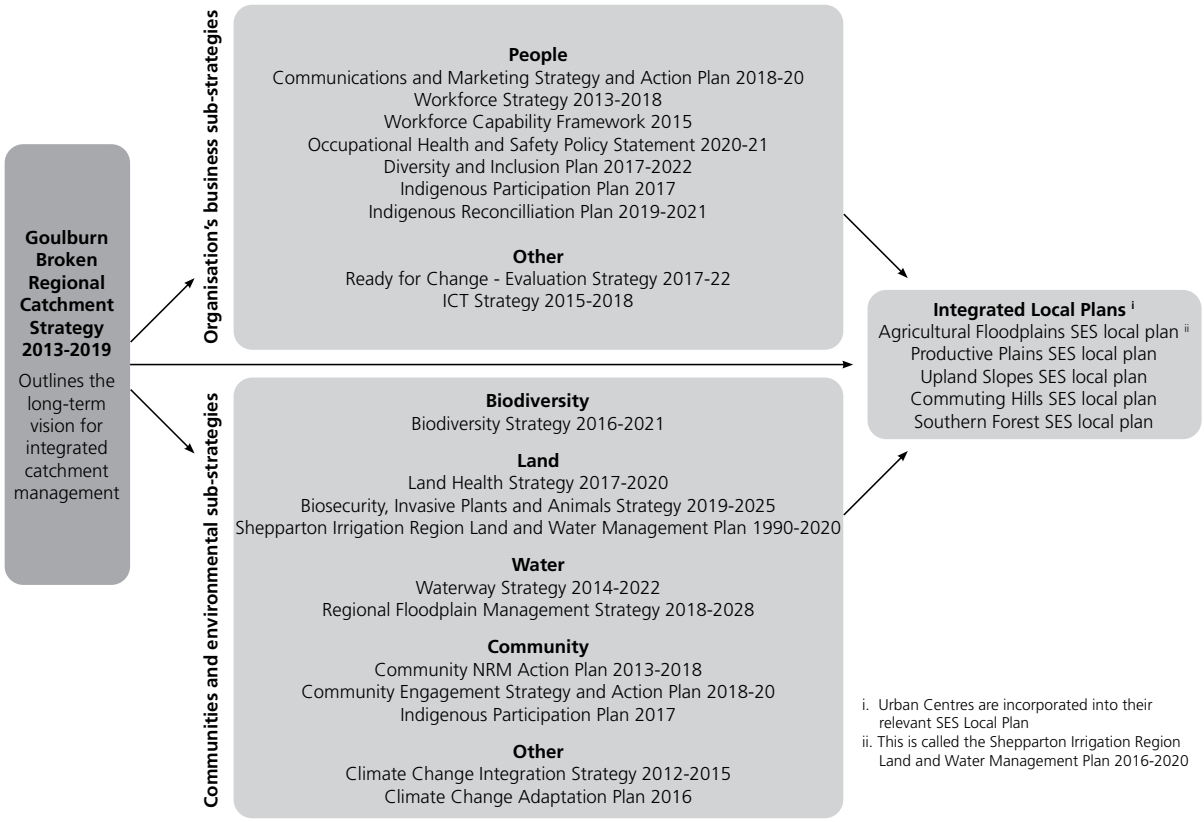
To learn more and have your say about the RCS, sub-strategies and local plans, visit the Goulburn Broken CMA's WeConnect strategy site http://weconnect.gbcma.vic.gov.au

Regional Catchment Strategy 2013-2019 objectives hierarchy



Regional Catchment Strategy and sub-strategies structure [i]

i. see Appendix 8 for the evolutionary status of the sub-strategies



Long-term strategy implementation progress

Progress towards the RCS's 20 to 30-year objectives (level 2) is shown in the long-term scorecards (see pages 12 to 15).

The following table summarises progress towards the six 6-year strategic objectives (level 3), the RCS's cross-cutting success components.

In 2016, a mid-term review of the RCS 2013-2019 found 'significant progress' towards the RCS's 6-year strategic objective (level 3) 'adapt to water policy reform', while progress against the other five strategic objectives was 'on track'. The final desk-top review of the RCS 2013-2019 is has been completed in preparation for the renewal of the RCS. The following table provides a summary of some the key achievements undertaken to achieve the RCS objectives are identified in the RCS review.

Progress towards RCS 2013-19 strategic objectives	Details pages
6-year strategic objective: Adapt to climate variability	
Climate Change Adaptation Plan for NRM in the Goulburn Broken Catchment has been developed identifying landscapes most vulnerable to climate change and priority areas for adaptation and mitigation actions. The above work has been considered in the updates of: — Goulburn Broken Biodiversity Strategy — SES Local Plans — Shepparton Irrigation Land and Water Management Plan — Goulburn Broken Waterway Strategy — Local Government Agricultural Future Project The review and update of the six rural SES Local Plans have had climate change scenarios as a critical consideration at each step of the decision making. Goulburn Broken CMA provided leading support in a collective regional adaptive planning approach across the State.	29-30

Progress towards RCS 2013-19 strategic objectives	Details pages
6-year strategic objective: Adapt to land-use change	
Whole Farm Plans delivered through the Irrigation Modernisation Project. Following the review of whole farm planning in the SIR, 'Concept Planning' was added as a step prior to design to ensure the incorporation of ecological benefits. Euroa Arboretum provides a property assessment service and developed the Healthy Hectares guide for new and small landholders. Implementation of Regenerative Agriculture workshops as part of the NLP/RLP 'From the Ground Up' Actively involved in the development of Integrated Water Management projects under the Victorian Water Plan, including Eastbank Lake Precinct along the Goulburn River and the Kilmore Wastewater Offset Pilot. The Federally funded 'Beyond SoilCare' and the follow-on 'From the Ground Up' projects promote a better understanding of soils and soil management. This has included more than 120 events over the last three years. Landcare Groups and CMNs undertake over 150 community awareness projects. Biodiversity Spring has been running for over 10 years, increasing the understanding of the Catchment's natural assets. The OCOC projects 'Bogies and Beyond' & 'Linking Lower Goulburn' have both had a strong focus on promoting awareness and support for practices that protect and improve the condition of natural assets. Completion, promotion and use of the Land Use Mapping outputs to increase the understanding of the irrigation region's farming systems and how they related to the overall resilience of the Agricultural Floodplains. The Goulburn Broken Greenhouse Alliance has undertaken a project to better understand changes in commodities under a range of climate change scenarios.	54-59, 63-67 72-77
6-year strategic objective: Adapt to increase farm production	
Although there has been significant decline in drainage investment over the life of the RCS the completion of the review of the Shepparton Irrigation Region Surface and Sub-surface Drainage Strategy has resulted in further funding for drainage works. The Beyond SoilCare and the follow on 'From the Ground up' projects facilitated a series of activities to help improve land management practices. Over three years (2015-18), the Beyond SoilCare project engaged 8,790 farmers and land managers in 325 events on soil related topics. As a result, 709 farming entities have implemented practices that improve soil condition. Community networks and groups such as Gecko Clan have taken a lead in creating awareness and acceptance of sustainable management practices. These groups have independently attracted funding to implement onground sustainable agriculture projects as well as implemented elements of projects in partnership with the GB CMA. The Goulburn Broken Local Government Biodiversity Reference Group has been in operation for 10 years. Annual Box Iron Bark and Floodplain Ecology Courses conducted. Conservation Networks and Landcare Groups in the Goulburn Broken run numerous field days. E.g. Bus tours to increase the understanding of the values of landscapes and field days aimed at increasing awareness around habitat requirements. Implementation of long-term management agreements with landholders associated with incentives continues to be important in project implementation Projects managed by a range of stakeholders have taken place across the catchment, including the woodlands and wetland protection, threatened species projects, Conservation Management Network initiatives.	54-59, 63-67 72-77
Strategic objective: Strengthen Partnerships [ii]	
Use of electronic and social media to connect with partners has increased. Traditional Owner engagement has been reviewed to account for the demands on Traditional Owners, the capacity issues this creates and the Traditional Owner country boundaries. The NC, GB and NE CMAs engaging collaboratively with the TOs, sharing information and meeting on a regular basis at an interval that is mutually agreed. Partnerships continue to be promoted across the Catchment through the Partnership Team, the Goulburn Broken Indigenous Consultation Group, Community NRM Network Chairs Forum, Sustainable Agriculture Advisory Group and Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC). SES local planning activities are identifying and building on partnerships. The Goulburn Broken Partnership and Senior Combined Partners Forum continues.	31-35

Progress towards RCS 2013-19 strategic objectives	Details pages
6-year strategic objective: Embed resilience [i]	
13 Sub-strategies developed post-RCS have all incorporated the resilience and SES approach. This includes the GB Waterway Strategy, GB Regional Floodplain Management Strategy, GB Climate Change Adaption Plan and the GB Biodiversity Strategy, Land Health Strategy, Communication and Marketing Strategy, Community Engagement Strategy and Action Plan, GB Indigenous Participation Plan, GB Diversity Plan, Community NRM Action Plan, GB Catchment Water Quality Strategy 1996-2016, GB Biosecurity, Invasive Plants and Animals Strategy 2019-2025 Each of the six rural Social-Ecological Systems undertook a customised engagement process to build resilience thinking and update their Local Plan. A critical part of the process was to build in consideration of climate change at all steps of the decision making. GMID Resilience Master Planning and visioning project has been completed and implementation is underway. 'Building resilient pathways in transformation when no one is in charge: insights from Australia's Murray-Darling Basin' was published in an Ecology and Society journal, highlighting Goulburn Broken CMA's leadership in NRM planning for resilience. See the approach to research and development and evaluation and adaptation on page 27 and a summary of the status of RCS sub-strategy updates in Appendix 8.	20-22
6-year strategic objective: Adapt to water policy reform	
The Connections Project is creating a modernised irrigation system in the Goulburn-Murray Irrigation District. Seasonal watering plans for the environment are developed and implemented. Agricultural Floodplains SES stakeholders collectively identify strongly as an irrigation-based community. Significant effort has gone into building evidence underpinning decisions for managing water for the environment and water for agriculture. Blue-green algae (in storages) and blackwater are the key water quality issues now. Groups within the Goulburn Broken Catchment that create opportunities for leadership include: — Broken and Goulburn Environmental Water Advisory Groups — Goulburn Broken Wetland Management Group — GMW Strategic Advisory Committee — The community participation in the Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC) has been expanded from 7 members to 12. — The Farm and Environment Working Group. — The GMID Water Leadership group. — GM Region Vision Workshop. Community based events to present and discuss the findings of projects related to water.	41-47, 72-77

i. Relevant Corporate plan target: By 2019, CMA strategies are reviewed and up to date.
ii. Relevant Corporate Plan targets: By 2020, the Goulburn Broken Partnership Team meet or exceed key partnership goals; 33 partnership agreements are maintained.

The Corporate Plan is prepared annually in accordance with sections 19C and 19D of the *Catchment and Land Protection Act 1994*. It follows high-level directions set in the RCS and describes priorities in-line with the Ministers letter of expectations. It satisfies new and emerging requirements from the regional community, the Goulburn Broken CMA Board and government funders, and includes annual details on investment and expected achievements within programs:

- Sustainable Irrigation (page 68)
- Land and Biodiversity (page 53)
- Waterways and Floodplain (page 36)
- Community (identified as 'Corporate' in the Corporate Plan page 31).

Victorian Government priority policy area	Goulburn Broken CMA contribution to priority area	Details page
Leadership, diversity, and culture - reflect the diverse needs of its communities by:		
— Developing strategies and goals that will increase cultural diversity in the workforce and gender equity in executive leadership. — Encouraging staff participation in the Victorian Public-Sector Commission 'People Matter Survey' or equivalent survey.	Implement the 2017-2022 Diversity & Inclusion Plan for the Goulburn Broken CMA. Implement the Goulburn Broken CMA Reconciliation Action Plan. Biannual participation in People Matter Survey.	33, 79

Victorian Government priority policy area	Goulburn Broken CMA contribution to priority area	Details page
Climate change - Active investigation into new opportunities to sequester carbon by:		
— Exploring opportunities to provide carbon offsets. — Partnering with Traditional Owners for carbon sequestration. — Progress in relation to Adaptation Programs.	The Goulburn Broken CMA participates in the Victorian NRM Planning for Climate Change Forum and will continue to progress the Catchment Carbon Offsets trial. The Goulburn Broken CMA will also continue to have in-put into the Water Sector Carbon Offset Working Group. The Goulburn Broken will continue to work with Taungurung Land and Waters Council to implement the findings of the 'Traditional Owners and CMA partnership opportunities for carbon sequestration' project. The outcomes of the project will be discussed with Yorta Yorta Nation Aboriginal Corporation and opportunities identified. The implementation of the Goulburn Broken CMA Climate Change Integration Strategy will continue. Climate Change adaptation planning has been embedded in Local Social Ecological Systems (SES) Planning processes implemented over the last two years. This information will inform Regional Catchment Strategy renewal and is being considered as part of delivery of all programs across the organisation.	27, 30
Resilient and liveable cities and towns – contribute to healthy communities and supporting resilient environments by:		
— Collaborating with water corporations and local government, including the participation in Integrated Water Management Forums, to enhance public spaces through integrated water management in existing and new urban environments. — Participating in the development and implementation of integrated water management plans, particularly through prioritising measures to enhance urban waterway values.	The Goulburn Broken CMA will continue to actively participate in the Goulburn Broken Integrated Water Management Forum. This will include supporting the delivery of the Strategic Directions Statement through driving and supporting key projects identified by the forum. The Goulburn Broken CMA is working with the community to enable the GMID to adjust to a future with less water and to build its resilience and adaptive capacity. The region is at a tipping point and the Goulburn Broken CMA has recognised that the community needs to be supported to work through the changes needed to transform.	41, 43-44, 73
Community engagement and partnerships - a strong community engagement focus that is a cornerstone of all CMA functions by:		
— Continue to build extensive, effective, and consistent approaches to community engagement and partnerships in regional planning and implementation. — Work collaboratively with organisations and communities to strengthen engagement approaches and capacity.	Supporting, promoting, and building capacity in our community networks across the Catchment. Key focus and community-led groups include: — the Shepparton Irrigation Region (SIR) People Planning and Integration Committee — Landcare Network Chairs Group — Goulburn Broken Indigenous Participation Group — Local Government Biodiversity Reference Group — Land and Biodiversity Implementation Forum — Environmental Water Advisory Groups (3) — Community driven Local SES Planning. Note, these groups feed into a much larger community network i.e. 96 community NRM groups, 12 NRM networks, over 5,089 members. Focus on the Goulburn Broken CMA-led Senior Combined Partners forum that brings together the leaders from across the agencies that are relevant to the irrigation landscape in the SIR and continuation of the Goulburn Broken Partnership Team.	32-35, 43-44, 55-56, 63, 75

Victorian Government priority policy area	Goulburn Broken CMA contribution to priority area	Details page
Waterway and Catchment Health - Improved health of priority waterways and their catchments by:		
— Implement our regional waterway strategy, Regional Catchment Strategy and related actions in Water for Victoria, Our Catchments Our Communities and the Regional Riparian Action Plan. Priority focus on efforts on large-scale waterway projects, as outlined in Water for Victoria. — A new approach to track progress and report back to communities in your region's Flagship Waterways, incorporating citizen science. — Better demonstrate the environmental, social, cultural, and economic outcomes achieved through waterway and catchment programs. — A new integrated catchment project for the region.	The large-scale projects outlined in Water for Victoria and funded through the 4-year Victorian Water Programs Investment Framework will continue to be delivered, in this the final year. Specifically, this is the Strathbogie Streams project trialling the Rivers 2040 framework to engage community in target setting, implementing, monitoring and demonstrating outcomes. During the year consideration will be given to identifying the next flagship waterway for inclusion in EC5 funding. The Goulburn Broken CMA has installed FLUKER posts at flagship waterway sites and will continue to use this citizen science approach to assist in monitoring the condition of these high value waterways. In addition, a citizen science project has been established to monitor platypus populations in areas where water for the environment is delivered to inform watering management. This project is in the early stages and will be continued and reviewed during the year. The implementation of Our Catchments Our Communities projects highlights the value of integrated catchment management in building partnerships, leveraging opportunities and creating a legacy. The Goulburn Broken CMA will complete the Our Catchment Our Communities projects: the 'Linking Lower Goulburn' Project and 'Bogies and Beyond' Project. The Goulburn Broken CMA will also contribute to the annual CMA Actions and Achievements report which highlights environmental, social, cultural and economic outcomes.	23, 41-47, 56-57, 72
Improved performance and demonstrate results against outcomes:		
— Collaborating with the DELWP to improve reporting systems and processes. — Demonstrate outcomes of government investment into waterways and catchment health. — Delivering efficiency through shared services, smarter procurement, and lower-cost technology. — Commit to working collectively via Vic Catchments membership to strengthen collaboration and performance in the catchment management sector in Victoria. — Commit to the delivery of Our Catchments Our Communities Integrated Catchment Management program, including supporting the development of, and be signatories to, a new Catchment Partnership Agreements.	The Goulburn Broken CMA maintain the policies, procedures, and resources to deliver on reporting and funding obligations. The Goulburn Broken CMA will continue to be an active member of the Regional Investment Coordinators Group which collaborates with DEWLP on reporting process and systems. The Goulburn Broken CMA continues to work along with the nine other CMAs to identify arrangements to reduce costs through shared services (e.g. GIS) and systems (e.g. Finance), smarter procurement (e.g. VicFleet) and lower-cost technology (e.g. shared firewall) to reduce the impact of the funding environment. The Goulburn Broken CMA will continue as a member of Vic Catchments. The Goulburn Broken CMA will continue on the Our Catchment Our Communities Integrated Catchment Management Project (Bogies and Beyond). The Our Catchment Our Communities will continue to support partnership and community engagement in catchment planning and investment decisions. The Goulburn Broken CMA will maintain its Catchment Partnership Agreements.	12-15, 23, 31-35, 85-86, 96-97, 142

Victorian Government priority policy area	Goulburn Broken CMA contribution to priority area	Details page
Recognise and support Aboriginal cultural values and economic inclusion in water sector - Effective engagement of Traditional Owners:		
— Number of engagements with Traditional Owners in water planning. — Manage and report on outcomes.	The Goulburn Broken CMA will continue to facilitate the Indigenous Consultation Forum, including with Yorta Yorta Nation Aboriginal Corporation and Taungurung Land and Waters Corporation. The Goulburn Broken CMA will also engage both Registered Aboriginal Corporations to carry out onground works on country, through State and Federally funded projects. The Goulburn Broken CMA is seeking Yorta Yorta work crew Woka Walla's involvement in the delivery of the Goulburn River Environmental Flow monitoring. Taungurung Land and Waters Corporation have identified key cultural wetland sites and are involved in the planning delivery of environmental water to those sites. The Goulburn Broken CMA is seeking involvement from Traditional Owners in the new flow study for the lower Goulburn River.	32-33, 37, 42-43, 55
Recognise recreational values - support the well-being of rural and regional communities by considering recreational values in water management as follows:		
— Water services that explicitly consider recreational values, within existing frameworks. — Engagement with the community to identify and priorities opportunities to deliver recreational objectives relating to the management of water and waterways. — Accessible and user-friendly information for recreational users about river and waterway conditional to help community members plan their recreations activities. — Information about community recreation objectives relating to waterways shared with organisations seeking to priorities investment in regional development, recreation, and community wellbeing and tourism objectives.	In recent years the Goulburn Broken CMA has worked to strengthen relationships with recreational users of waterways. Significant ground has been made with recreational angling groups, with support of other government agencies, including VRFish, The Australian Trout Foundation and Native Fish Australia. In the past 12 months such groups have increased advocacy for waterway health and have brought further investment and effort into onground works. Over the next twelve months we will continue to work together on all aspects of waterway management including environmental flow planning, riparian vegetation enhancement and instream habitat improvement. The Goulburn Broken Regional Waterway Strategy interim review acknowledges the need to stronger focus on shared benefits and set the path for the regions to improve outcomes in this area.	37-41

Research and development, evaluation and adaptation

While government funding agencies require project reports on short-term performance and impacts on long-term progress, the lack of a standardised approach in catchment management reporting means that requirements change regularly and often differ between and within agencies.

Against this backdrop, the Goulburn Broken CMA has held critical evaluation processes constant, such as monitoring against benchmarks, allowing an understanding of long-term progress (including impact on Catchment condition) to be gained.

The Goulburn Broken region follows a systematic process of reviewing and updating plans and strategies. This was first described in the 2004 Goulburn Broken CMA Monitoring Evaluation Reporting (MER) Strategy that was reviewed and updated in 2016-17 to align with the RCS. The Ready for Change – Evaluation Strategy for the Goulburn Broken Catchment 2017-22 articulates how the Goulburn Broken CMA monitors progress against strategies and plans. This includes the need for adaptation of existing strategies, or the development of new strategies in response to emerging issues or critical drivers, within a resilience framework.

Local social-ecological system (SES) planning across the Catchment is helping the Goulburn Broken CMA understand critical attributes and thresholds. This is critical in local adaptive planning and implementation to build the resilience.

Integrated catchment management involves decisions based on information from different backgrounds and disciplines.

The Goulburn Broken CMA's efforts to standardise outputs since 2002-03 (see page 142) and to summarise progress via long-term scorecards since 2005-06 (see pages 12-15) are important in developing a uniform language and framework, enabling comparisons over time and helping the Goulburn Broken CMA, the community, agencies and government investors to understand the benefits and

tradeoffs of decisions. The framework provides a stable and ongoing approach, while government funding frameworks and language change frequently.

The linking and aggregating of site-specific actions (or outputs) to long-term outcomes via the McLennan-O'Kane equation, Outputs x Assumptions = Outcomes, has further fostered common understanding between disciplines and identified priority knowledge gaps. This helped drive many regional and national research and development projects over several years.

The Goulburn Broken CMA has recently completed a review of the Goulburn Broken RCS 2013-19, in preparation for the renewal of the strategy during 2020-21. The review involved a desktop analysis of progress towards natural resource management long-term targets, strategic objectives, priorities and management measures contained within the Goulburn Broken RCS 2013-19. The Review also provided an opportunity to identify areas that require further attention and initiatives that may need to be considered in the RCS renewal phase (2019-21).

The Review highlighted what had changed (positive and negative) and needed to be considered in the renewal of the Goulburn Broken RCS. Some changes included: increased population in areas commuting to Melbourne, changes in the values of commodities resulting in significant water movement out of the Catchment, increased support for greater Traditional Owner involvement in natural resource management, the impact of climate change, and the increase in pest animal populations (deer and horses). The Review also highlighted considerations for the renewal of the Goulburn Broken RCS and are summarised under the following themes: management measure, draft RCS renewal guidelines, implementation of the RCS and data needs around trend and thresholds.

In addition to the review, we've also engaged with stakeholder advisory groups to understand how effective the current Goulburn Broken RCS has been, areas for improvement, their values and aspirations for NRM, and what's changed in the past six years. The Goulburn Broken CMA has also commissioned a socio-economic analysis of the Catchment by Neil Barr and Natural Decisions to understand the economic and social trends and changes occurring in Catchment. All of this background information will identify areas for further research and the Goulburn Broken RCS Renewal process.

Investment in partnerships that enable the Goulburn Broken CMA to invest in and access research and development activities and information continues to be a priority. Efforts during 2019-20 are highlighted within each investment area section of this annual report.

What's next?

- The Goulburn Broken RCS Renewal process will occur during 2020-21, guided by the VCMC RCS Guidelines, the Wayfinder Resilience Guide (https://wayfinder.earth/) and the 2013-19 RCS Review. The Renewal process will involve the following phases:
  - Creating a shared understanding of the Catchment and exploring system dynamics – Initial stakeholder engagement with key advisory groups, Goulburn Broken socio-economic analysis and theme-based background papers (land, water, biodiversity and community).
  - Broadening our collective knowledge – capacity building activities in resilience thinking, technical advisory groups, Goulburn Broken Insights Paper and background communication materials (e.g. Resilience Fact Sheet, Goulburn Broken socio-economic analysis report, RCS Review Summary, etc.).
  - Developing innovative strategies for change – broader stakeholder engagement using the Goulburn Broken Insights Paper to guide discussion and determining Action Pledges with partners (i.e. how they will contribute to the implementation of the strategy).
  - Developing a plan for collective action – Draft RCS.
  - Providing opportunities for input & increasing community understanding – Public engagement campaign (tailored products to target key groups e.g. youth, business etc.) and an online survey.
  - Tailoring the plan to meet community aspirations and needs – Revise Goulburn Broken RCS based on public feedback and then endorsement from the Goulburn Broken CMA Board.
  - Collaborative and adaptive plan to support resilient landscapes and thriving communities – Final Goulburn Broken RCS 2021-2027.
- Continue implementing and reviewing sub-strategies, as has been done for more than two decades, aligning them with the RCS and its resilience approach and emphasis on social-ecological systems. Each sub-strategy's context varies and continuously changes, so they are renewed independent of the over-arching RCS renewal cycle. Sub-strategies are developed in consultation with government and community organisations and individuals, providing details for investment plans and priorities.
- Continue building knowledge of the Catchment's critical thresholds, including how to monitor and use them in NRM planning, especially in discussions around transformation and implementing an adaptive management framework.
- Refer also to the table on page 22 'Progress towards RCS 2013-19 strategic objectives' for further areas of future emphasis.

Climate change

Climate change impacts significantly on the resilience of the Catchment's natural resources, and therefore across all Goulburn Broken CMA investment areas.

Climate change projections and projected impacts

Murray Basin average temperatures in all seasons are projected to continue to increase and less cool season rainfall is projected (with high confidence) by 2090.

Rainfall will remain unchanged in the warm season (medium confidence).

Natural variability is projected to dominate for the near future.

Even though mean annual rainfall is projected to decline, heavy rainfall intensity is projected (with high confidence) to increase, along with harsher fire weather (Timbal, B et al. 2015. Murray Basin Cluster Report. CSIRO and Bureau of Meteorology, Australia).

Land

Climate change is anticipated to negatively affect soils and production generally.

Climate change is likely to affect the distribution and viability of agricultural enterprises, such as cropping and grazing, because of extreme weather and climate events and changes in pest and disease distribution.

Agricultural industries will need to adapt to a changing climate to be viable in the long term.

Biodiversity

Reduced water availability and increased temperatures will drive biodiversity's response to climate change.

Climate change is anticipated to exacerbate existing pressure on biodiversity, primarily related to habitat loss, resulting in flora and fauna being unable to move through fragmented landscapes, increasing extinction risks through elevated inbreeding and subsequent loss of subpopulations.

Predicting how populations, species and communities will respond is challenging because each is likely to be different.

Almost all biodiversity will be affected by climate change, with alpine, terrestrial and freshwater ecosystems likely to be the most vulnerable.

Waterways

Climate change is projected to exacerbate pressure on water condition.

Most water condition indicators were neutral or trending negatively (the former reflecting NRM program outcomes and water policy reforms).

Terrestrial and freshwater ecosystems are most vulnerable to climate change effects.

Climate change will particularly affect water supply, use and management. The interactions of environment, water policy and use, community desires and increased unpredictability of the amount, seasonality and distribution of water are complex.

Climate change is anticipated to lead to new pressures through rainfall and snow regime changes, reduced average runoff and increased evaporation rates from increased air and water temperature.

Climate change planning in the Goulburn Broken Catchment

The Goulburn Broken CMA aims to be a leader in helping the community and natural environment respond and adapt to climate change.

'Climate variability' is a 'driver of change' in the Goulburn Broken RCS (see diagram page 21).

It is difficult to communicate and respond to the complex, uncertain and interconnected interactions between climate, natural resources, industries and communities. Responses to climate change require complex modelling, strategies and adaptive management.

The CMA's policy statement on climate change is:

> *'In dealing with climate change and the likely impacts, the Goulburn Broken CMA will focus on adaptation strategies to increase catchment resilience; greenhouse gas sequestration activity (e.g. carbon brokering) will be engaged for the purpose of assisting adaptation responses; and mitigation initiatives led by local government will be actively supported.'*

The CMA implements this policy statement via its Climate Change Integration Strategy 2012-2015, which updated the 2007 position paper, and which has outcome aims that remain current (see below). Implementation is supported by the Climate Change Adaptation Plan for Natural Resource Management (NRM) in the Goulburn Broken Catchment 2016, which identifies:

- priority landscapes for climate change adaptation and mitigation in the context of improving the resilience of natural resources
- options for change adaptation and mitigation, including carbon sequestration, with a focus on priority landscapes
- risks to catchment processes from carbon sequestration activities and mitigation actions.

This adaptation plan has been acknowledged as important in implementing Victoria's Climate Change Adaptation Plan.

Climate change implementation responses

The Goulburn Broken CMA is committed to continuing to implement activities that support the following Climate Change Integration outcomes:

- integrate climate change into Goulburn Broken CMA programs
- improve understanding of climate change
- pool and attract resources
- build catchment resilience into sequestration activities
- support community mitigation efforts
- minimise the Goulburn Broken CMA footprint.

2019-20 performance

Most climate change actions are integrated into investment area programs.

As a result of reduced specific funding for climate change, most actions are implemented through statewide collaboration, facilitated by the statewide climate change coordinator and managed through the NRM Planning for Climate Change Vic forum. Actions include:

- Goulburn Broken CMA's local social-ecological system planning focused on climate change, enabling the community to consider a range of climate futures and critical tipping points that will be key inputs into RCS renewal in 2020-21.
- On behalf of the Victorian CMAs, the Goulburn Broken CMA led a project that looks at CMA and Traditional Owners partnership opportunities in carbon sequestration. The project included a series of workshops across the State, and the final report was completed in August 2019.
- The Goulburn Broken CMA is a member of the Victorian CMA NRM Planning for Climate Change Forum that began in 2013.. Through the coordinator, the Forum actively works with the Victorian Government to influence and embed recently developed regional climate change adaptation plans and strategies into State policy development.

What's next?

- Continue implementing the Climate Change Adaptation Plan, including embedding information into Goulburn Broken CMA project planning systems, identifying key projects in priority areas for climate change adaptation, and advocating use of regional climate change NRM plans in development of Victorian and Australian government policy.
- Work with DELWP to have input into the Regional Climate Change Adaptation Plan and NRM Sector Adaptation Plan.
- Work with Traditional Owners to pursue viable carbon sequestration projects.
- Include climate change as a key focus in the RCS renewal.
- Continue supporting Victorian CMAs' Regional NRM Planning for Climate Change Forum and the Victorian CMA statewide climate change coordinator,and associated projects.

Investment area - Community

Compiled by, Kate Brunt, Steve Wilson, Fiona Lloyd, Darelle Backway, Zuzanna Lelito, Tony Kubeil, Gaye Sutherland and Neville Atkinson.

Long-term and annual scorecard [i]

2019-20 performance	On target

Catchment condition [ii]	1990	2020	Long-term risk
	●	●	MEDIUM

Traditional Owners are participating more in high-level decisions supported by mechanisms such the Recognition and Settlement Agreement. There is significant scope for greater involvement if more funding becomes available.

Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support.

Diverse stakeholders are represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked. Increased urbanisation continues to influence the catchment community.

Funding for agencies to support local community groups and individuals is uncertain and volunteers are ageing and participation in government programs is dropping off in some locations.

Resilience assessment							
Critical attribute affecting long-term catchment health	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]			Long-term strategic implementation [v]	
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]	Start	Stage
Community capacity to influence and lead	●	●	▲	HIGH	VERY HIGH	1990	Escalated response [vii]
Community capacity to be involved and act onground	●	●	▲	MEDIUM	HIGH	1990	Watch & adapt

The certainty rating for Community is medium due to well establish links with the community and feedback provided through community forums. Due to COVID-19 NRM group health report cards were unable to be completed this year, reducing the certainty of the rating slightly, however the ratings are established based on long term trends and data.

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Community; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
vii. 'Escalated response' recognises that the situation has shifted so significantly that difficult and sensitive questions about transformation and transitioning must be considered.

Government investment, $000

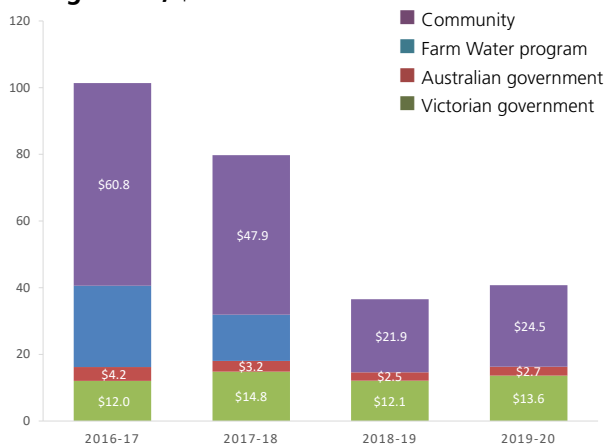
2017-18	2018-19	2019-20	2020-21 [i]
536	603	705	598

i. Forecast is based on the Corporate Plan 2020-21.

Strategic references

The Goulburn Broken Community Engagement Strategy and Action Plan 2018-2020 along with the Goulburn Broken Community NRM Action Plan 2013-2018 (currently under review) factor in numerous national, state, local strategies and policies that aim to engage community groups, partner agencies and individuals, supporting them in leading long-term decisions and implementation. Several strategic engagement documents reflect the needs and knowledge of the Catchment's Traditional Owners, the Yorta Yorta and Taungurung peoples. See Appendix 5 for the list of strategic documents related to community engagement.

Major contributions to natural resources management, $million



Background

The future of the Goulburn Broken Catchment's environment depends on its people. The regional community typically invests $1.50 for every dollar of government funding (see bar chart). Influencing how others invest is therefore a very important activity for the Goulburn Broken CMA.

This section demonstrates how the Goulburn Broken CMA is committed to involving individuals and organisations to make the best long-term decisions and achieve onground change.

Catchment condition - Community (since 1990)

Goulburn Broken Catchment communities' resilience benefit from the legacy of having to face significant threats to the environment and economy in the late 1980s and 1990s. Community leaders at the time recognised the complexity of threats, uncertainties about responding, and the need for a whole-of-Catchment response. Integrated catchment management', along with strong partnerships between communities and government, were at the core of the approach.

A step-change in integration was achieved when waterways and land management responsibilities became part of regionally based organisations with the advent of Victorian CMAs in 1997. The integrated catchment management approach of the Goulburn Broken CMA enabled immediate and strong follow-up responses to significant threats and opportunities in recent years. The Catchment's communities have demonstrated their ability to self-organise and adapt.

For more than a decade, the Goulburn Broken CMA's recognition and inclusion of Traditional Owners, Yorta Yorta and Taungurung peoples, and their knowledge have been reflected in managing the Catchment. The Goulburn Broken CMA has supported Traditional Owners to develop 'Whole of Country Plans' that reflect their values, actions and objectives in relation to caring for country. Building the capacity of the Traditional Owners to be self-determining has been a priority with specific capability building events and ongoing support for Traditional Owner-led natural resource management businesses and employment programs.

Long-term strategy implementation progress and 2019-20 performance

Each Goulburn Broken CMA strategic document highlights the pivotal role of people in achieving environmental outcomes. Community capacity to influence and lead, to be involved and act onground are critical attributes for long-term community resilience. A major function of the Goulburn Broken CMA is to support groups, individuals and agency partners, so they have adequate capacity.

The Goulburn Broken CMA relies on landholders, Traditional Owners, school children, community NRM groups and individuals to deliver programs across the Catchment that protect and improve its natural assets.

Efforts to boost the Catchment's resilience can lead to increasingly productive landscapes, which will support the long-term viability of our communities in the face of constant change.

Community capacity

Long-term (Corporate Plan) objective: By 2020, deliver 300 capacity building events.

Community capacity activity includes:

- Performance of landholder (especially farmer) works consistent with the RCS, with works on thousands of sites covering thousands of hectares and multiple benefits. Onground works generally were on target for the given budget. See bar charts page 16 and 17.
- 35 per cent of Goulburn Broken CMA's Municipal Catchment Coordinator position is funded by the three municipalities in the Shepparton Irrigation Region. These municipalities also contribute 17 per cent of funding for the Public Salinity Works operation and maintenance costs and in some circumstances fund road structures on Community Surface Drains. See further information on pages 74 and 75.
- Community organisations: 97 active groups, 12 community NRM networks; 3,890 members plus 5,682 volunteers (2018-19 Landcare survey); see also Regional Agriculture Landcare Facilitator (page 64).
- $1.6 million for 93 Victorian and Australian government grants to community and partner organisations (see table page 34 for details).
- increasing stakeholder investment in, and support for, the Goulburn Broken RCS and associated programs: a 2017 community awareness survey found the Goulburn Broken CMA continued to perform in promoting understanding of importance of land and water resources compared to previous years.
- Goulburn Broken CMA Indigenous Partnership Plan finalised with Yorta Yorta Nation Aboriginal Corporation and Taungurung Land and Waters Council. This plan defines the cooperative relationship between Traditional Owners and GB CMA.

Awareness and information highlights 2019-20

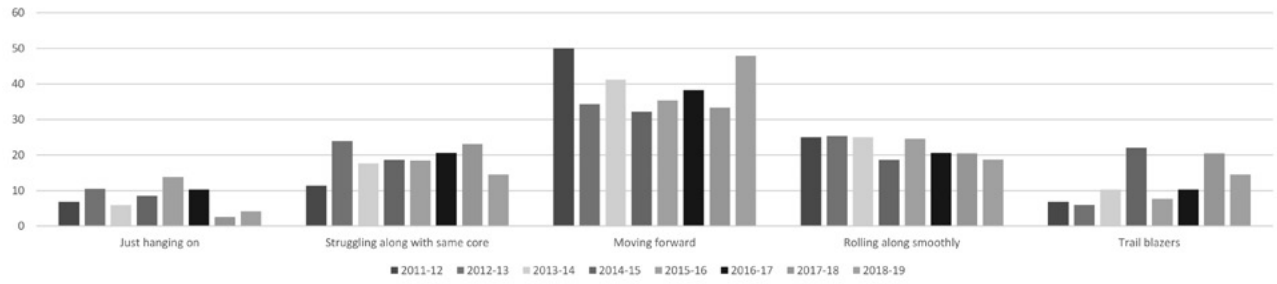
- 48 media releases prepared with almost 100 per cent take up.
- Monthly column in the Country News (reaching more than 44,000 households).
- Monthly session on ABC Goulburn Murray's breakfast show discussing all things flora and fauna.
- Monthly 'info-graphic' promoting the multiple/shared benefits of environmental flows along the lower Goulburn River, targeting urban recreational users.
- Continued increase in social media followers (from June 2019), with Facebook 'page likes' reaching 2,861people (up from 2,168) Twitter followers increasing to 1,735 (up from 1,601) and Instagram followers more than doubled increasing to 361 (up from 133 followers).
- Increased emphasis on creating engaging content using video and apps that can be shared and distributed across multiple platforms. This proved particularly important during Coronavirus (COVID-19) as workshops moved to online delivery.
- Promotion of the combined efforts of all 10 CMAs via the #CMAsGetItDone social media campaign to highlight, primarily to investors, the sector's genuine commitment to collaboration and community engagement.

— The occasional Connecting Community and Catchment e-newsletter has more than 1,000 subscribers and the sustainable agriculture-focused Landcare Links produced by the Regional Agriculture Landcare Facilitator continues to grow its base (1,500 subscribers).

— Refreshed and updated the Goulburn Broken CMA website to make it more accessible, interactive and user-friendly. On average there were 8,548 page views a month, with the floodplain/waterway management and Traditional Owner sections the most visited.

Landcare group health status [i]

Data from annual surveys of Landcare groups.



i. Collection of more up to date information has been affected by COVID-19. The collection of community group activity data occurs as part of the application process for Victorian Landcare Grants. In June 2020 it was decided by DELWP not to proceed with the application process until after the Victorian Budget is released (Late 2020). This has delayed the data gathering process and our ability to describe more up to date information.

Community volunteer contributions in 2018-19 [i]

Activity	Hours [ii]
Onground works	21,286
Learning and training	14,217
Promotion and communications	4,199
Planning and other administration	9,537

i. See note under Landcare group health status.
ii. Excludes network chair meetings and coordinator/facilitator meetings and their other work.

Traditional Owner capacity, engagement and involvement

Long-term objective: More Yorta Yorta and Taungurung people in sustainable employment, traineeships, and GB CMA-funded projects

Since 2015, Traditional Owner capacity has grown significantly through Goulburn Broken CMA projects involving development of Yorta Yorta Nation and Taungurung NRM work teams. Several team members continue to be employed in subsequent Goulburn Broken CMA projects.

Several projects have spring-boarded off the general capacity built through training and engagement with TO and associated community networks.

However, this capacity has weakened in recent years because funding has declined for both general network engagement and participation and for NRM-specific projects directed at capacity building and cultural strengthening. The reduced TO engagement has created a very high medium term risk of losing thousands of years of traditional ecological knowledge as well as significant cultural sites.

Staff support for TO projects declined from 1.6 to 0.8 'full time equivalents' between 2015-16 and 2019-20.

Goulburn Broken CMA has worked actively with landholders and TOs to ensure whole farm plans recognise significant cultural sites. In 2019-20, a total of 117 plans were completed with design consideration of cultural heritage overlays, of these, 20 plans were negotiated in detail to ensure no impact.

Significant sites have been protected, including a 4-hectare burial site on farmland and numerous scar trees.

Traditional Owners involved in GB CMA projects

no. people

Long-term objective: Increased use of Traditional Owner Knowledge in Goulburn Broken CMA projects

The Goulburn Broken CMA involves all staff and Board members in cultural awareness training to ensure that protocols for engagement and protection of Aboriginal cultural heritage are understood across the organisation.

Traditional ecological knowledge is included where possible in planning and delivery of projects, in collaboration with Traditional Owners. In 2019, 48 staff, 5 Board members, and 10 field-based partners received a full day's training in cultural heritage awareness.

Traditional Owner knowledge and language is actively sought after and included in the development of interpretive signage projects, publications, and engagement events with school groups.

A recent Goulburn Broken CMA gap-analysis in implementing statewide Traditional Owners participation principles highlights that capacity building and training opportunities for Aboriginal people are essential to facilitate increased engagement in natural resource management but are limited by current resources.

A similar gap analysis of implementing TO knowledge highlights that programs passing on Traditional ecological knowledge are highly dependent on available funding, and this has been restricting the Goulburn Broken CMA's ability to deliver.

Tri-State Alliance

The Tri-State Murray NRM Alliance is made up of the seven NRM agencies along the Murray River Corridor from Victoria, New South Wales and South Australia. The Alliance works together to build the capacity and capability of the region to 'Grow the Economy, Secure the Environment and Motivate the Community'.

The priorities identified in the Alliance Fish Connections strategy have been funded with one critical fishway completed, wetland habitat enhanced and successful fish transfers. In addition, the Irrigation Fish Screen initiative (led by North Central CMA) was implemented and won the River Basin Management Society Innovation Award. Peter Rose (Native Fish project officer) shared the Fish Connections strategy and the Native Fish Blueprint when he participated in the MDBA Native Fish Strategy Workshop in Canberra. On-going discussions have continued on how the strategy's critical priorities can be incorporated into the MDBA Native Fish strategy.

The Tri-State Murray Alliance, as part of the Indigenous East-West Alliance, developed a shared Farm Assessment Process for Indigenous farms across the Murray River Corridor. Six Farm Assessments have been completed with recommendations provided to each of the Indigenous businesses. The businesses are initially focusing on honey production and are being supported by funding from Indigenous Businesses Australia. The focus on honey not only builds on the experience amongst the Noongar partners (from Western Australia) but also allows them to collectively meet an established market demand. The East-West Alliance has met with the Hon. Ken Wyatt (Minister for Indigenous Australians) and is working with his office to implement the East-West prospectus in partnership with Indigenous Business Australia.

The Alliance Executive have spent time building the awareness of the serious issues facing the Murray River corridor, its importance nationally and the ability of the community and organisations to deliver positive change on the ground. As part of this strategy, the Executive travelled to Canberra in late September for a day of meetings with key NRM and agricultural senior bureaucrats and organisations. An updated set of case studies (Native Fish, Indigenous, Threatened Species and Agriculture) were used to support the discussions. The Alliance was well received and appreciated the information and advice they received. In addition, the Alliance delivered three presentations at the NRM Knowledge conference in November 2019 and benefited from the ensuing discussions and connections.

An initiative of the Alliance across the past year has been to explore the opportunities for increasing natural resource outcomes along the Murray River corridor by facilitating groups to access to the growing 'green' investment sector and improving the ease of doing business for the 'green' NGO sector.

Given the region is still on the long road to recovery from the fires and drought (and now coronavirus), the Alliance directed resources into further developing a Land and Drought Resilience program. A discussion paper on building the resilience of farmers and farm businesses has been developed and discussed with key stakeholders across the three States with an aim to develop a coordinated program.

Grants to community organisations from Victorian and Australian Governments

Victorian and Australian Government grants to community organisations for activities like revegetation and regeneration of native vegetation, eradication and control of invasive plants and animals, support of capacity building initiatives and education and awareness raising activities:

Total grants paid to community groups and other organisations 2019-20	No. of projects	Amount paid $ (ex GST)
Australian Government - 20 Million Trees	2	$46,483
Australian Government - Regional Land Partnerships Program	20	$770,514
Victorian Government - Biodiversity Response Planning	12	$279,858
Victorian Government - Our Catchments, Our Communities	7	$100,998
Victorian Government - Regional Riparian Action Plan	1	$12,243
Victorian Government - Victorian Landcare Grants	40	$234,718
Victorian Government - Victorian Water Programs Investment Framework	7	$79,406
Victorian Government - Other	4	$71,606
Grand Total	**93**	**$1,595,826**

See Appendix 7 for full list of payments made during 2019-20.
The total grants paid in the table above will not reconcile with the grants paid amount in Note 3.3 of the financial statements.
The amount stated in the financial statements includes all incentives paid, including those to individuals for Biodiversity and River Health management activities.

What's next?

The Goulburn Broken CMA will remain vigilant in watching and responding to potential and actual changes impacting on the Catchment's communities and their capacity to contribute to NRM. Community engagement and partnerships continue to be a priority during implementation of the RCS and is supported by:

- implementation of projects aligned to Our Catchments Our Communities and implementation of statewide guidelines
- continuous investigation and development of the best ways to engage with the community to plan at a local scale
- inclusion of a community engagement component in all project planning and development (with a focus on the social-ecological systems)
- continued implementation of the Goulburn Broken Community Engagement Strategy increasing staff community engagement and communication capability

— continued support for statewide and national engagement and communication approaches, such as promoting the benefits of environmental flows
— targeted communication and community engagement activities during renewal of the RCS
— continued engagement with TLaWC and YYNAC Indigenous Consultation Groups, which have been expanded to include neighbouring North East and North Central CMA areas that also include Taungurung and Yorta Yorta Country
— Implementation of Goulburn Broken CMA Community NRM Action Plan,
— Collaboration with Community NRM Groups to access the next iteration of funding under the Local Landcare Facilitator initiative.
— review of our 2019-2021 Reconciliation Action Plan, demonstrating how the CMA is supporting and integrating Indigenous connectivity into our broader NRM business.

Investment patterns and maturity (stages) of implementation [i]

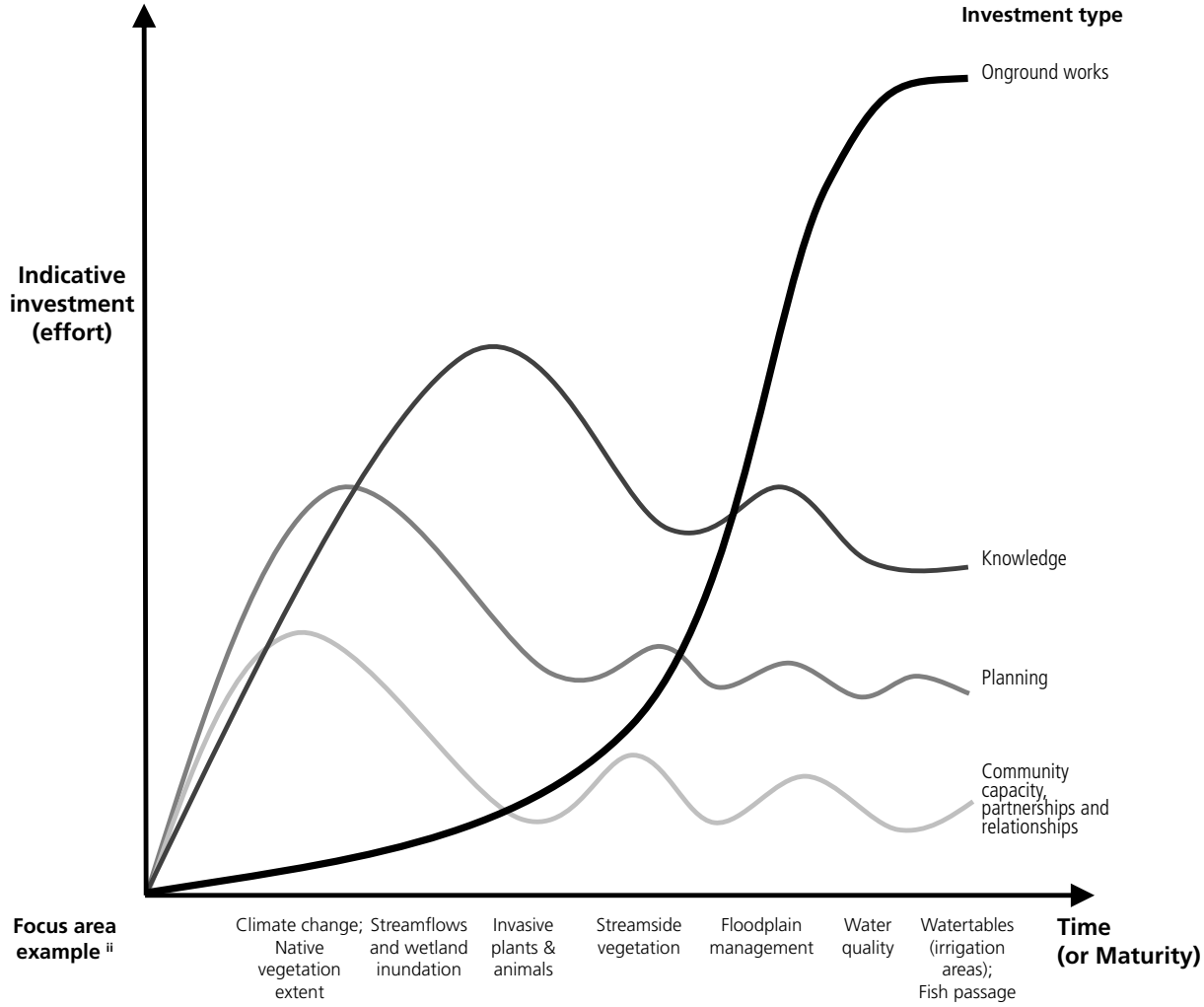
The stylised investment patterns in the graph show the Goulburn Broken CMA is at different stages of maturity of implementing approaches in various focus areas.

For example, more has been more done in watertable management (in irrigation areas) than in most other focus areas: it began much earlier, is much better understood, and has had more works completed, so is considered more mature than floodplain management, which in turn is more mature than efforts in responding to climate change.

The time-scale is different for each focus area. For example, investment in native vegetation extent is not likely to result in an exponential uptake of works in the same timeframe as fish passage works.

Currently, government investment dictates the levels of effort in each investment type (onground works; knowledge; planning; and community capacity, partnerships and relationships), although the Goulburn Broken CMA attempts to ensure the balance of investment between the different types is appropriate for the focus area, and efforts are made to broaden investment to further satisfy strategy and community needs.

Relative investment (effort) in each investment type and maturity of investment [i]



i. Adapted from the Goulburn Broken CMA's From the fringe to mainstream – A strategic plan for integrating native biodiversity 2004-07.
ii. Focus areas shown are examples of various Goulburn Broken CMA and partner endeavours; it is not a complete list.

Investment area - Waterways

Compiled by: Mark Turner, Simon Casanelia, Daniel Lovell, Keith Ward, Tim Barlow, Meegan Judd, Dylan McWhinney, Jo Deretic, Christine Glassford, Corey Wilson, Geoff Brennan, Sue Kosch, Kirsten Roszak, Collin Tate, Fiona Lloyd and Caroline Keenan.

Long-term and annual scorecard [i]

2019-20 performance	Exceeded target

Catchment condition [ii]	1990	2020	Long-term risk
	●	●	MEDIUM

Water quality and fish populations have improved significantly from changes such as removal of stock-grazing and key fish-barriers, resnagging of streams, tree planting, and the delivery of water for the environment.

Dry periods and climate change continue to be a significant challenge.

Despite increasing waterbird habitat in the Goulburn Broken Catchment through environmental flows, populations of many species across the MDB seem to be declining.

The risk from high unseasonal flows to streambank vegetation and critical habitat in the high-value lower Goulburn River and Barmah Forest continues to increase. Managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected MDB.

Waterways are also subject to increasing recreation pressure.

Local and regional agency and broader community partnerships associated with waterway management are strengthening.

Resilience assessment							
Critical attribute affecting long-term catchment health	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]			Long-term strategic implementation [v]	
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]	Start	Stage
Stream flows and wetland inundation							
- Dammed (regulated) streams	●	●	▲	MEDIUM	VERY HIGH	2011	Early
- Undammed (unregulated) streams	●	●	▲	HIGH	VERY HIGH	1995	Middle
Streamside (Riparian) vegetation	●	●	▼	LOW	HIGH	1997	Late
Water quality	●	●	—	MEDIUM	HIGH	1996	Watch & adapt
Fish passage and habitat	●	●	▼	LOW	MEDIUM	1997	Late
Community capacity to be involved and act onground [vii]	●	●	—	HIGH	VERY HIGH	1997	Middle

Certainty of rating is High. Certainty around general waterway condition is high due to repeated application statewide of the 'Index of Stream Condition'. This is supported by further strategy and knowledge work including the Interim review of the Regional Waterway Strategy, the review of the 20 year Water Quality Strategy, increased network of real-time water quality monitoring sites, annual fish population monitoring at selected sites, the statewide Instream Woody Habitat Assessment and increasing knowledge on management of water for the environment.

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Waterways; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
vii. Includes regional government agency and stakeholder leadership, partnerships, and tools to change long-term directions and implement short-term onground changes.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
4,571	3,997	4,283	4,506

i. Forecast is based on the Corporate Plan 2020-21.

Strategic references

The Goulburn Broken Waterway Strategy 2014-2022 integrates direction and guidance from legislation, policies, strategies and plans at international, national, state, regional and local levels. Implementation of this strategy factors in prevailing circumstances, including current priorities identified through local planning (see page 22).

The interim review of this strategy was completed in November 2018. Murray-Darling Basin Authority and Victorian Government water plans and strategies are pertinent references for waterways management. Appendix 5 includes a more complete list. Waterway management in regional Victoria is the responsibility of catchment management authorities (*Water Act 1989*, part 10).

Background

Waterway benefits include water for ecosystems, aquaculture, human consumption, agriculture and irrigation, industry and commerce, recreation, cultural and spiritual values; and mental and physical wellbeing. Waterways are often central to the culture of the Goulburn Broken Catchment's Traditional Owners, the Yorta Yorta and the Taungurung peoples.

Despite covering only two per cent of its area, the Catchment provides 11 per cent of the Murray-Darling Basin's water resources, providing major benefits within and beyond the Goulburn Broken Catchment.

Waterways have been impacted by the construction of weirs for water storage, diversion of flows, native vegetation clearing and removal of snags (woody debris), use of groundwater, invasion by pest plants and animals, stock access, and urban and agricultural development.

Key changes in the second generation Goulburn Broken Waterway Strategy 2014-2022 include:

- incorporation of wetlands and lessons learnt, including from the millennium drought and recent fires and floods
- incorporation of a 'resilience approach' to align with the Goulburn Broken Regional Catchment Strategy
- updated stream and wetland condition data
- identification of new roles and responsibilities in NRM, such as establishment of the Victorian and Commonwealth Environmental Water Holders.

Catchment condition – Waterways (since 1990)

The community's long-term vision for waterways is: 'Resilient waterways, vibrant communities. The waterway systems of the Goulburn Broken region are vibrant and resilient so that communities can enjoy the values and benefits they provide and contribute to their maintenance and improvement.'

Catchment condition assessment part 1: Progress in achieving resilient long-term benefits

There has been significant improvement in water quality and fish populations. Overall amenity has also improved due to significant improvements in streamside vegetation, in the face of increased recreational pressure in many locations.

Clean water
Like much of Australia, Goulburn Broken waterways are well within thresholds for most parameters listed under the EPA's State Environment Protection Policy (Waters of Victoria), and a watching brief (mainly for sudden events and negative long-term trends) is mostly appropriate.

Salinity contributions from the region comply with targets under MDBA processes.

Fish
The Goulburn Broken Catchment has 21 of 46 native fish species in the Murray-Darling Basin. The preferred location for inland recreational fishing in Victoria is the Goulburn Broken Catchment at 26 per cent, creating threats and opportunities for long-term resilience of native and non-native fish species.

A 2017 Victorian Fisheries Authority survey showed wide distribution of Murray cod and good survival rates from spawning; Trout cod at five sites, with good numbers downstream of Lake Nagambie; and silver perch at seven sites, although in low numbers.

Plants, animals and ecological communities
Social media apps are enabling an increase in citizen science, with data starting to help researchers more accurately determine the status of many species. Goulburn Broken CMA has tailored apps to record frogs, reptiles, fish and birds.

Seasonal herbaceous wetlands are mainly on agricultural land across the riverine plains of the Catchment and are critically endangered. Many have discrete characteristics that are often only visible after significant rainfall.

Alpine bogs and fens are in Taungurung Country, and are the subject of investigation because they remain at significant risk from a warming climate, fire, exotic weeds, grazing by non-native animals, and increasing tourism pressure.

Living Murray Icon Sites (Barmah Forest) and Wetlands in the Directory of Important Wetlands of Australia

In the Barmah forest, River red gum health has recovered after declining significantly during the millennium drought. Moira grass marshlands are significantly depleted, estimated to be at five per cent of pre-river regulation levels. Since 2010, the cover and diversity of wetland plants has improved in response to delivery of water for the environment and natural flooding.

Vegetation: In the Barmah forest, River red gum health has recovered after declining significantly during the millennium drought. Moira grass marshlands are significantly depleted, estimated to be at five per cent of pre-river regulation levels. Since 2010, the cover and diversity of wetland plants has improved in response to delivery of water for the environment and natural flooding.

Fish: Stable populations of most native fish species, with silver perch possibly re-establishing in some areas and golden perch spawning. Trout cod have become more prevalent. A trial to re-establish the threatened Southern Pygmy Perch (a six centimetre native fish) in Tahbilk Lagoon commenced. The project is implemented with ARI and Tahbilk Winery. The project aims to reduce the risk of Southern Pygmy Perch extinction by supplementing wild populations and re-establishing them where they have become extinct.

Birds: Delivery of water for the environment has increased opportunities for improving habitat and feeding and breeding for threatened and other waterbirds at several wetlands, including Gaynors and Reedy swamps. Knowledge is emerging of Barmah's importance as stronghold in Victoria for eastern great egret and intermediate egret.

Other: While there are some possible increases in native frogs and turtles, others are declining and becoming locally extinct, and crayfish seem to be impacted by hypoxic blackwater events. Fox impacts on turtles are declining because of improved understanding and management, but will need ongoing management. Frog populations at Moodie Swamp have improved, while populations at Reedy Swamp have been maintained.

Heritage Rivers

Natural, recreational, scenic, cultural and other values of heritage rivers are likely to have at least been maintained since formal declaration in 1992. They have been supported by being factored into works program priorities. Risks to Big River's values are likely to be low because of its remote location and benign land use. Over time many risks to Goulburn River values have been reduced because of reduced stock grazing pressure, delivery of water for the environment and improved irrigation and drainage management. However, over the past three seasons unseasonal delivery of Inter Valley Transfers have negatively impacted on the Lower Goulburn River. In 2010, the Victorian Government created the Lower Goulburn National Park, which has reduced grazing and legal firewood gathering.

Healthy waterways

There has not likely to have been any significant long-term change in overall environmental values.

High community value waterways

There have been significant onground improvements with social benefits in many reaches, although several waterway reaches with high social significance are not priorities under the Waterway Strategy's methodology.

Catchment condition assessment part 2: critical attributes of waterway resilience

The resilience of waterway systems has increased significantly since 1990 because of actions such as:

- creation and use of reserves of water for the environment
- partnering with land managers to action onground works within and along streams and on floodplains
- environmentally sensitive changes in how public and private land is managed
- increased integration to achieve multiple benefits, including cultural heritage
- a step-change increase of community members involved in raising awareness and participating in onground management.

Streamflows and wetland inundation

Dammed (regulated) streams

Water set aside and released for the environment has improved flows in regulated streams.

Long-term objective: Between 2014 and 2022, manage water regimes for ecological outcomes in 13 wetlands and 17 stream reaches.

Since 2008-09, ten wetlands and 25 stream-reaches received 5,656,297 megalitres of water according to seasonal water plans (see table page 46 and bar chart on page 17). One new wetland is expected to receive water in 2020-21. The CMA continues to work with partners to identify opportunities for watering more priority wetlands.

During the unprecedented millennium drought, water was provided to major wetlands and waterways, such as Reedy Swamp, Black Swamp, Moodie Swamp, Goulburn River, Broken Creek and Barmah Forest, providing a bridge to the return of wetter times. Several streams experienced record floods since the millennium drought ended. The resulting floodplain-to-river connection has helped the recovery of waterways, floodplains and wetlands and associated plants and animals.

Many of the Goulburn Broken Catchment's rivers and wetlands were modified as the population grew and land use changed. In some rivers, up to half of the water that would have flowed naturally is removed each year for towns, irrigation and industry, and river flows that do occur are unseasonal. As a result, many waterways and wetlands that depend on the right amount of water at the right time are not able to function as they would naturally.

It is therefore necessary to actively release water down waterways and into wetlands to support the plants, animals and functions that depend on them; these flows are called 'water for the environment' and they come from water in storages. Secondary benefits of water for the environment include recreational activities like fishing, boating and birdwatching; sustained healthy Country for Traditional Owners and clean water for householders, farmers and food processors. Where possible, water for agriculture, industry and towns is released in a complementary manner and infrastructure is used to ensure rivers, wetlands and floodplains receive the right amount of water at the right time.

The Murray-Darling Basin Plan, adopted in 2012, aims to balance water needs of the environment and other users through the establishment of new volumes of water-use (known as sustainable diversion limits). Although we are in the early stages of learning how to best use water for the environment, evidence of increased resilience from its use includes improving native vegetation, water bird and frog breeding, and fish migration and spawning. Despite this, various pressures are resulting in unseasonal water being delivered down the Goulburn River for use beyond the Catchment, impacting the River's resilience.

Opportunities have increased for Traditional Owners to provide technical, cultural and environmental knowledge, and prioritise use of water for the environment. Significant cultural heritage sites are being protected as they are recorded.

Undammed (unregulated) streams

Establishment of sustainable diversion limits and improved management of licensed water-use extraction for agriculture and towns through local management plans has limited flow impacts in unregulated streams. Warm and dry conditions continue to threaten values in unregulated waterways with low and cease to flow events increasing.

Streamside (riparian) vegetation

Long-term objective: Between 2014 and 2022, increase area of streamsides (riparian zones) with stock managed to achieve ecological outcomes by 162 kilometres.

The target is relatively low compared with significant progress made in the two decades preceding the 2014 Goulburn Broken Waterway Strategy update. In the four years until 2016-17, 60 of the targeted 162 kilometres in priority waterway reaches has been achieved.

Landholders are contributing significantly more than the originally expected 20 metre width of streamside zones. A total of 573 hectares of streamside in priority reaches had a modified grazing regime in the first four years of implementing the Waterway Strategy (159 per cent of the entire eight-year target of 359 hectares), and 321 hectares of non-priority reaches had stock opportunistically managed.

Since 1997, over 1,686 kilometres of fencing has been erected (protecting 12,109 hectares).

The establishment of the Broken Boosey State Park and other reserve areas associated with the Broken, Boosey and Nine Mile creeks, and the more recent establishment of the Lower Goulburn National Park, resulted in more passive use of these areas, less stock grazing pressure, and an overall improvement in the condition of streamside vegetation.

Engineering works were often used to control erosion and other processes in waterways prior to 2012, but waterways are now managed to achieve appropriate rates of erosion, sedimentation and avulsion over the long term, consistent with natural processes, and as detailed in Policy 11.1 in the 2013 Victorian Waterway Management Strategy. This means that management of the river channel now focuses on maintaining and improving the bed, banks, instream habitat, riparian land and integrated catchment management through riparian management and restoration.

Significant onground works over the last 20 years has improved streamside vegetation on our priority waterways, supported by improved management of water for the environment, community support for waterways and various partnership arrangements as outlined in the community participation chapter.

Water quality

Long-term objective: Continue to meet water quality targets in instream reaches.

(CMAs are working with DELWP to develop water quality targets based on 2018 State Environment Protection Policy (SEPP) Waters of Victoria (WoV) review. In the meantime, targets around phosphorus load reduction focus efforts.)

In the 1996 water quality strategy, blue-green algal blooms were a key focus, and they were managed by reducing nutrient loads in waterways. Phosphorus was chosen as the most appropriate indicator of progress.

The Catchment goal of a 65 per cent reduction in total phosphorus exported from the catchment set in the 1996 water quality strategy is close to being realised, although this is probably in part due to low loads associated with low flows as much as nutrient management work within the Catchment.

Since the water quality strategy implementation began in 1996:

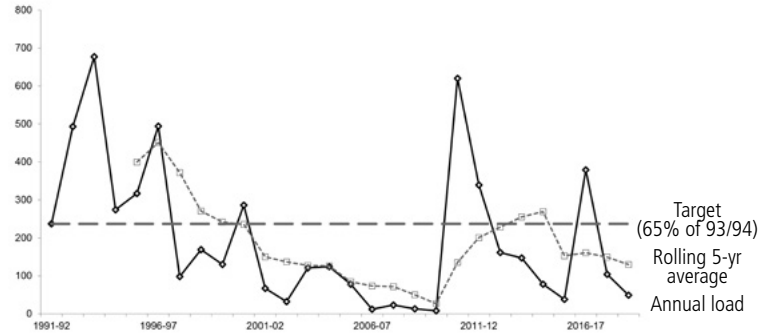
- wastewater treatment plants are no longer a major nutrient source in the Catchment
- the irrigation drainage nutrient contribution has reduced substantially
- the ratio of irrigation drain to dryland source nutrients has changed, such that dryland is now the major nutrient source (in 1996 the ratio of irrigation to dryland was 1.5, in 2016 it was 0.5)
- nutrient loads from intensive animal industries and urban stormwater are unlikely to have changed much.

There have been frequent low dissolved-oxygen and/or hypoxic blackwater events in recent years, which can result in the death of a range of aquatic biota and cause other significant environmental, social and economic impacts. Although hypoxic blackwater events can create problems, not all blackwater events are hypoxic.

Although the processes causing these events are reasonably well understood, they are often difficult to predict and mitigate because they are associated with intense and extensive short-term weather events. The changing climate is likely to increase the risk of low dissolved-oxygen and hypoxic blackwater events through increasing stream temperatures, low flow, and increasing intense rainfall events during warmer months.

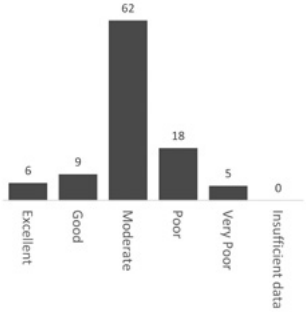
Fires occur regularly in south eastern Australia and can instigate short to medium-term water quality issues. Again, as the climate changes, the impact of fires on water quality needs to be considered. Vast areas of the Catchment were severely burnt between 2006 and 2009 and most of the canopy along riparian zones were removed.

Total phosphorus loads exported from Goulburn Broken Catchment, tonnes/year



Index of stream condition 2010

Goulburn Broken Basin
Stream condition % length



Cold water pollution from dam releases, such as Lake Eildon, can also be significant and needs to be factored into management for ecological outcomes and to meet community expectations.

Fish passage and habitat

Long-term objective: Between 2014 and 2022, maintain and increase instream habitat for native fish and other threatened species at 34 sites.

Habitat was established at 47 sites in the four years until 2016-17: the target of 34 was achieved well inside schedule. New knowledge emerged in July 2013 about the large scale of snag depletion and reinstating snags became a priority.

A total of 26 fish barriers have been removed or modified in Goulburn Broken Catchment waterways since 1997. This has opened 868 kilometres of stream to significantly improve passage. The target set in the Waterway Strategy of 13 fish barriers to remove, has proven to be unrealistic, with only two achieved to date. Remaining barriers are low priority for removal.

Weirs and other instream structures like vehicle crossings, which were built post European settlement, made it impossible for fish to migrate along many of our priority waterways, significantly impacting on their capacity to breed, and reducing their access to available habitat, food and shelter. The removal or modification of barriers (by retrofitting fish ladders or fishways) to allow passage for native fish commenced in the 1990s. Most barriers to fish passage that are feasible to manage in Goulburn Broken Catchment streams have now been removed or modified, and planning is underway to modify or remove the remaining high priority barriers, such as Gowangardie Weir.

Asset owners must now consider and address fish passage when building new or modifications to existing irrigation infrastructure, such as weirs, are planned. Some older fishways might need to have their fish-passage design improved.

Instream habitat, such as snags, are sometimes called the inland equivalent of coastal reefs. They provide habitat for native fish and other animals like turtles and native water rats. Snags have been removed from river systems within the Goulburn Broken Catchment in the past for boating safety and navigation, and in the mistaken belief that it would reduce the risk of flooding. Clearing and inappropriate management of native vegetation along streams has also led to a decrease in large woody material introduced naturally into waterways. The removal and reduction in the number of snags has been identified as a major reason for the decline of native fish populations.

Statewide instream habitat mapping paints a grim picture of the current level of instream habitat in lowland streams (particularly the regulated Goulburn River and Broken Creek) compared to pre-European levels: approximately 50 per cent are classed as severely depleted (a greater than 80 per cent decrease), more than 45 per cent are highly depleted (with a 60 to 80 per cent decrease) and around five per cent are moderately depleted (with a 40 to 59 per cent decrease).

Current resnagging is restoring native fish habitat: native fish populations are responding strongly. However, resnagging on its own is unlikely to be the sole driver of native fish recovery. Better management of water for the environment and streamside zones by restricting stock access will result in a constant natural supply of snags in future.

Several large projects funded through the Recreational Fishing Licence (RFL) Grants Scheme and other recent projects have focused on the introduction of large wood and boulders in the mid and lower Goulburn River, Broken Creek, Hughes Creek, Seven Creeks, Holland Creek, Howqua River, and Tahbilk Lagoon: 3,017 large snags and rock have been placed in these waterways from 2011 until 2019-20.

Managing risks from works and activities on waterways

When people undertake works and activities on or adjacent to waterways, which includes rivers, streams and wetlands, there is a risk they may cause environmental damage. The potentially significant risks to waterway health of new works or activities in, under or over designated waterways are managed through By-Law No. 3 Waterways Protection 2014. Works require a permit from the Goulburn Broken CMA.

Index of stream condition

In Victoria, the Index of Stream Condition and the Index of Wetland Condition measure long-term changes, including changed hydrology, water quality, form (such as width, depth and meander wavelength), vegetation health, and species diversity. These indices provide part of the information for decisions; they are measured against a pre-European settlement baseline, and not what communities desire now.

In 2010, 15 per cent of stream length in the Goulburn and Broken basins were in good or excellent condition (nine and six per cent respectively; see bar chart page 39). The overall condition had not significantly changed since 2004. Assessments of Goulburn Broken Catchment wetlands undertaken since 2009 indicate that most are in good or moderate condition (38 and 40 per cent respectively), with the remaining in excellent (six per cent), poor (15 per cent) and very poor condition (less than two per cent). The results also indicate that wetlands on public land are generally in better condition than those on private land.

Community capacity to be involved and act onground

Includes regional government agency and stakeholder leadership, partnerships, and tools to change long-term directions and implement short-term onground changes.

While the Goulburn Broken CMA has a leading role in waterway and wetlands health, many critical decisions and most works affecting waterways and wetlands are undertaken by parties other than the Goulburn Broken CMA.

Waterway and wetlands resilience depends on strong government agency and broader community partnerships, underpinned by government investment. The extent and proportion of government investment needed varies for different aspects of waterway and wetland management, including different stages of maturity in capturing opportunities to manage risks. Since the early 1990s, the Goulburn Broken CMA (and its predecessors) has actively promoted participation in agency-community partnerships to achieve better and more integrated management.

The Goulburn Broken Catchment's communities have demonstrated the ability to self-organise and adapt to build resilience. Since 2000, responses to extreme changes that are relevant to waterway and wetlands resilience include innovative drought and fruit-industry employment and fire-recovery programs, the $1 billion Foodbowl Initiative, and the Farm Water Program. Many community individuals who have been involved in Goulburn Broken CMA partnership forums are now active advocates for integrated management.

A step-change in integrated catchment management was achieved with the advent of Victorian CMAs in 1997, when these regionally-based organisations became responsible for managing land and waterways. Floodplain management responsibilities were also shifted from Melbourne to the CMAs in 1997.

The Goulburn Broken CMA's evolving strategic approaches are listed in various documents, including updates and evaluations of the Regional Catchment Strategy and sub-strategies.

Landholder grants uptake and ongoing participation

Landholders who implemented streamside works between 1993 and 2016 with the Goulburn Broken CMA are generally very satisfied with outcomes achieved and the support provided:

- those who believe 'their' stream frontage is in good or excellent condition increased from 19 to 69 per cent
- 97 per cent would recommend undertaking works to another landholder, and
- the average score on a scale of 1 to 7, where 1 is poor and 7 is excellent, for effectiveness of works was 6.0; advice/technical support, funding, works coordinated by the CMA, and communication throughout the project was 5.9; follow-up contact post-project 5.

Most landholders are voluntarily maintaining sites following initial works through the initial grant funding, such as weed control (85 per cent) and fence repair (65 per cent).

Long-term strategy implementation progress and 2019-20 performance

This section assesses progress in implementing Goulburn Broken Waterway Strategy 2014-2022 (GBWS) actions. While listed individually, in practice these actions are part of an integrated set working together to deliver the long-term goals of the strategy. Progress in implementing the strategy is shown against the critical attributes for long-term resilience that evolved since the strategy was developed. Implementation of many waterway strategy actions have been used to inform progress, with links to critical attributes being formalised over time.

Long-term strategy implementation progress	2019-20 performance
Progress in building resilience via the five critical waterway attributes varies significantly, largely reflecting the maturity of interventions, budget constraints, or uncertain knowledge when setting targets. Actions have been achieved in accordance with funds provided each year. The trend of a move away from hard (and expensive) engineering approaches continues, towards soft engineering, involving working more with the changes, focusing on the long-term benefits desired and the most cost-efficient way of achieving them. Reviews of the GBWS (in 2013 and 2018) indicate that the Goulburn Broken CMA's waterways program has responded well to unprecedented fires, floods and drought by securing funding and implementing recovery actions.	Actions to build resilience via the five critical attributes specific to waterways were undertaken to the level funded, in partnership with the community and agencies. Actions included fencing, revegetation, pest plant and animal control, improving instream woody habitat, water for the environment delivery, monitoring, employment, engagement and education. Funding sources included the Victorian Government's Onground Works Program, Regional Riparian Action Plan, Victorian Environmental Water Holder, Recreational Fishing Grants Program and The Living Murray Initiative.
Streamflows and wetland inundation	
Undammed (unregulated) streams	
The Goulburn Broken CMA has completed a number of technical studies (environmental flow determinations and streamflow management plans) on unregulated streams, including the Yea River, King Parrot Creek and Seven Creeks. They have sought to determine how available water can be sustainably shared between environmental and consumptive demands. In unregulated streams, water for the environment cannot be released to manage risks, such as when Macquarie perch and Trout cod were dying in the Seven Creeks due to low flow in March 2016. The Goulburn Broken CMA is investigating innovative approaches to secure flows through the Integrated Water Management Forum.	The activities below (streamside vegetation) contribute to the protection and enhancement of undammed streams. Prolonged dry conditions reduced available native fish habitat in a number of unregulated streams. In response, flow, water quality and threatened native fish communities along the Hughes, Seven, Holland and King Parrot creeks were monitored by staff, ARI and the community. ARI staff moved 31 Macquarie perch from Holland Creek to the Broken River to more suitable habitat in January. No other actions were required to safeguard the native fish in these streams. The GB CMA continued to participate as a member of the Goulburn Broken Integrated Water Management Forum. This included participation in the practitioner's group and priority projects.

Long-term strategy implementation progress	2019-20 performance
Streamflows and wetland inundation (continued)	
Dammed (regulated) streams	
Since the early 2000s, with the assistance of partner organisations and input from the regional community, the Goulburn Broken CMA has played a key role in delivering and managing water for the environment to maintain and enhance ecological values of rivers, floodplains and wetlands. Flow in the Goulburn River results from different delivery sources and methods. It can come from releases from Lake Eildon and Goulburn Weir, or from catchment run-off. Releases from Lake Eildon can supply water for human use and environmental needs. Water for the environment is extremely important in very dry periods, such as July to October 2016. The table on page 45 shows the annual volume of environmental water delivered within the Goulburn Broken CMA in the past 11 years. In recent years, the Goulburn Broken CMA has managed the delivery of environmental water to the Goulburn River, Broken River, Broken Creek, Barmah Forest and a number of priority wetlands. This has improved water quality, promoted the growth and establishment of native vegetation, promoted and supported waterbird and fish breeding, provided drought refuge for native fauna, provided habitat for native fish and water bugs, and reduced the growth of nuisance aquatic plants. The Victorian Government, with support from the Goulburn Broken CMA and its partners, has or is increasing water for the environment availability by saving water in supply and delivery for farming through projects such as the Farm Water Program and the GMW Connections Project.	772,400 megalitres of environmental water was delivered to support water quality, fish, macroinvertebrates, water birds, platypus, turtles and native vegetation in the Goulburn River, Broken River, Broken Creek, Barmah Forest, Kinnairds Wetland, Black Swamp, Reedy Swamp, Loch Garry and, Horseshoe Lagoon (in partnership with Taungurung Land and Water Council) (see tables on page 46). Significant ecological outcomes included: — A winter fresh deposited seed-rich sediment on the banks of the lower Goulburn River. This process is important in promoting the growth and establishment of bank stabilising vegetation. Bank vegetation also provides habitat for native fish and macroinverebrates. — Evidence of good Murray cod and golden perch recruitment in the Broken River. Murray-Darling rainbowfish showed a slight increasing trend in abundance after declining in abundance from 2015 to 2018. — The growth and reproduction of wetland and floodplain plants including Moira grass in Barmah Forest. Golden Perch, Silver Perch and Murray Cod spawned between November and December in the Murray River channel. — Thousands of waterbirds utilised habitat at Reedy Swamps including a number of threatened species including Glossy Ibis and Freckled duck. — Environmental water was used for the first time from summer to winter to maintain aquatic habitat in the upper Broken Creek. Platypus, native fish and waterbirds benefited from the water. Water for the environment was delivered in accordance with VEWH processes, with assistance and cooperation of partners. Most priority watering actions were achieved at all sites. 397,970 megalitres of the environmental water delivered down the Goulburn River and lower Broken Creek continued to the Murray River to benefit downstream water quality, recreation, wetlands and rivers. 195,154 megalitres of water in transit to the Murray River provided some environmental benefits in the lower Goulburn River and the lower Broken Creek. The Victorian Water Minister in August 2019 announced several actions to protect the health of the lower Goulburn River including an interim operational regime. The regime restricted the delivery of water from the Goulburn inter-valley trade account to the Murray system to 50 gigalitres a month (unless it caused a significant delivery shortfall) between December and April. 50 gigalitres or less was delivered in each of the months except for January. This reduced flows in the lower Goulburn River below the levels seen last year and reduced the damage to the ecology of the river.

Long-term strategy implementation progress	2019-20 performance
Streamside (riparian) vegetation	
Streamside vegetation implementation programs are at a late stage of maturity after two decades of onground works and significant land tenure changes towards more passive uses. Since 1997, over 1,686 kilometres of fences have been erected and approximately 12,109 hectares of riparian land have been protected and/or enhanced. A total of 573 hectares of streamside in priority reaches were fenced in the first four years of implementing the GBWS (159 per cent of the entire eight-year target of 359 hectares), and 321 hectares of non-priority reaches were opportunistically fenced. The significant over-achievement against target for area is likely to be attributed to bigger than expected acceptance by landholders to fence further back from streambanks, including efficient fencing in straight lines from meander to meander rather than following them around.	Significant onground works were undertaken on streams flowing from the south of the catchment including the Yea, Murrindindi, Acheron, Steavenson and Rubicon rivers. We also continued delivering works on our Flagship Waterways, the Hughes Creek and Seven Creeks. The Hughes Creek in particular had a significant amount of landholder uptake leading to onground works(funded through Victorian Government's Regional Riparian Action Plan). Citizen science continues to be used to monitor a number of waterways. This year, volunteers played a role in monitoring water quality (dissolved oxygen and temperature) at key native fish refuge pools during a summer of low and no flows.
Water quality	
The Goulburn Broken Water Quality Strategy 1996-2016 was reviewed with key contributing partner organisations. The review indicated good progress toward targets and that no major change in direction was needed. The strategic focus on water quality for the region is now covered in the Regional Waterway Strategy as one of the key components of waterway health. Institutional arrangements to manage water quality threats continue through several regional participant forums. There has been a change in focus to invest for the public benefits of streamside vegetation works first, rather than instream soil erosion works. In the absence of significant floods, recent trends are expected to continue.	The Water Quality Forum continued monitoring the water quality conditions. The year proved to be particularly stressing to unregulated systems with water quantity issues driving associated water quality issues. A fire in the Upper Jamieson River catchment is resulting in high turbidity levels in the river causing concern for locals and river users.
Fish passage and habitat	
The Goulburn Broken CMA has focused on resnagging waterways to improve instream habitat. Approximately 2,903 instream habitat structures, including large wood and rock, have been added to priority waterways since 2011 (until the end of 2018-19), including the Goulburn River, Broken Creek, Hughes Creek, Seven Creeks, Holland Creek, Howqua River and Tahbilk Lagoon.	Further instream habitat improvement works were undertaken this year with increasing interest and support, including financial, from recreation fishing groups.

Community capacity to be involved and act onground – long-term strategy implementation

Although local and regional agency and broader community partnerships are strengthening, the capacity to manage waterways for regional priorities is becoming challenging because of often competing priorities from other parts of the southern-connected MDB.

Specific activities that build community capacity to influence and lead decision-making and act onground are detailed within each annual report, including this one.

Landholder grants uptake and ongoing participation

Landholders who implemented streamside works between 1993 and 2016 through the Goulburn Broken CMA are generally very satisfied with the support provided and outcomes, with most voluntarily maintaining sites (Glassford 2017).

Traditional Owners

Traditional Owner participation in onground works continues to grow strongly. Traditional Owners are also more involved in policy development and setting priorities, although significantly more efforts are needed to build ongoing and consistent involvement, which requires more resources (especially at the TO end). (See also page 33.)

Environmental water advisory groups

The Goulburn Broken CMA has established three community and partner agency stakeholder advisory groups to advise on plans for using water for the environment. The Wetland Management Group was established in 2008 and the Goulburn and the Broken Environmental Water Advisory Groups were established in 2012.

A survey of 38 (18 community and 20 partner agency) current and former members of the groups, as part of a 2017 review, indicated general satisfaction with group input into developing annual water plans (also known as seasonal watering proposals).

General community understanding and participation (waterways)

In the last few years, several individuals and community stakeholder groups have become advocates for waterway and wetlands management activities and have led the way by actively participating. Ninety per cent of Goulburn Broken Catchment residents are aware of Goulburn

Broken CMA's role in 'managing waterways', according to a biennial statewide survey. When asked which NRM issues were of the most importance, without prompting with suggestions, 'water quality' and 'drought' were both leading issues, with large increases from 2012, while 'protecting wetlands', 'sustainability', and 'salinity management' also had increased ratings. Other surveys such as 'My Victorian Waterways' and University of Canberra's 'Regional wellbeing survey' also inform decisions.

Goulburn Broken CMA and DELWP (waterways) partnership
Goulburn Broken CMA waterway staff view their partnership with DELWP's waterway staff very favourably. They cite the value of clear understanding by CMA and DELWP waterway staff of their complementary roles and responsibilities, nurtured by ongoing commitment to long-term relationships for a common cause. This is despite often significant and frequent demands on both parties.

Goulburn Broken CMA and regional agency partnerships
Regular CMA survey results indicate that partnerships are meeting or exceeding expectations in all areas. Most of these partnerships have direct applicability to river health outcomes.

Implementation of priority actions
Priority actions listed in the Goulburn Broken Waterway Strategy 2014-2022 are mostly being implemented on schedule.

Community capacity to be involved and act onground in 2019-20

The Broken and Goulburn Environmental Water Advisory Groups and the Goulburn Broken Wetland Management Group continued to meet and guide water for the environment planning, use, monitoring and complementary works. The groups are comprised of agency, stakeholder and community representatives.

Activities to improve the health of Barmah-Millewa Forest included the coordination of a Barmah Forest Ramsar Site Coordinating Committee (which guides the implementation of site management plan priorities) and a Barmah Millewa operational advisory group (which guides environmental water management in the Barmah and Millewa Forests).

The tenth Floodplain Ecology Course was successfully held at Barmah during October, managed by the Goulburn Murray Landcare Network and Goulburn Broken CMA, with 22 participants attending the five-day course funded by the Australian Government's Regional Landcare Program.

RiverConnect, which promotes the Goulburn and Broken rivers as the heart and soul of the Shepparton-Mooroopna community, continued to be supported. A total of 4,280 community members and school students were involved in RiverConnect awareness-raising and education programs.

Goulburn Broken CMA staff presented to a variety of forums on waterway management. These included Goulburn Valley Association of Angling Clubs, Goulburn Broken Indigenous Consultation Groups Goulburn-Murray Water customer forum and executive, GoTafe students, NRM Knowledge conference, Riversymposium, Australian Freshwater Sciences Society. In total, over 8,680 people were engaged through such presentations.

As part of the International River Foundation twinning program for Riverprize Alumni the Goulburn Broken CMA has been partnered with the Republic of Moldova and Ukraine Dniester River project. As part of this two Goulburn Broken CMA delegates toured the Dniester Catchment in October. The tour included four presentations on waterway Management in the Goulburn Broken Catchment to regional water authority staff

Monitoring, research and development, and adapting management in 2019-20

The Goulburn Broken CMA maintains close relationships with research organisations, government investors, and sister-implementation agencies across the country to ensure onground and other actions are implemented according to the best science and appropriate standards. The CMA participates in various statewide working groups involving policy, implementation and monitoring. Activities in this area included:

- monitoring of threatened species continued and included monitoring of Macquarie Perch in the Holland, King Parrot, Seven and Hughes Creeks.
- Lake Benalla was assessed for the presence of Cabomba, an aquatic 'Weed of National Significance'.

The Living Murray program continued to fund a range of activities to improve the health of Barmah-Millewa Forest including monitoring the ecological response of birds, fish and vegetation to delivery of water for the environment. In addition, a state-funded projects investigated and implemented onground works to protect moira grass and assessed the presence of key threatened plant species and Superb Parrot foraging and breeding activity.

The Australian Government funded program called Flow-Monitoring Evaluation and Research monitored native fish, macroinvertebrates, vegetation, geomorphology and ecosystem metabolism responses to environmental water management in the lower Goulburn River. The program is an extension of the five-year Goulburn River Long Term Intervention Monitoring Program which finished in June 2019 with increased focus on research to fill knowledge gaps.

Vegetation, water quality, water depth, waterbirds and frogs were monitored at the following sites that receive water for the environment or were naturally inundated: Reedy Swamp, Moodie Swamp, Black Swamp, Doctors Swamp, Horseshoe Lagoon, Kinnairds Wetland and Loch Garry. The monitoring was funded by DELWP and complementary monitoring was undertaken at a number of these wetlands as part of a statewide wetland monitoring program (Wetland Monitoring and Assessment Program - WetMAP).

Ongoing data collection of water quality parameters continued through the North East Water Quality monitoring partnership.

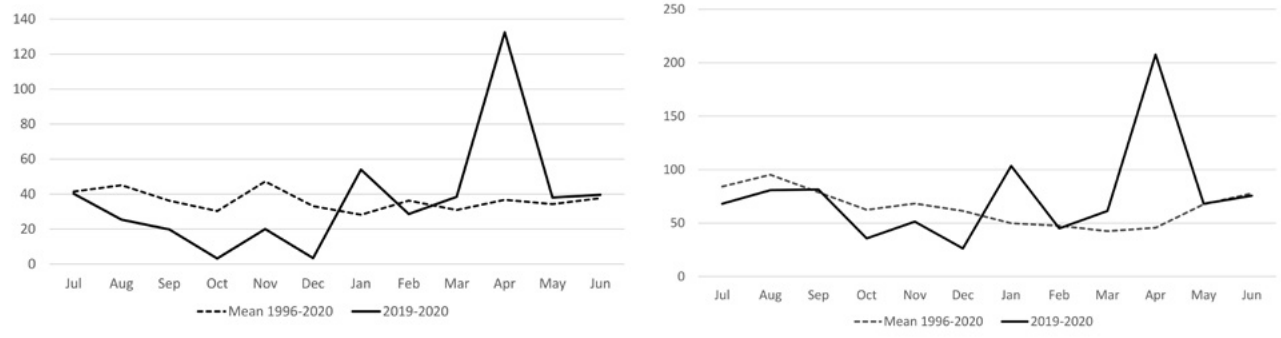
Passive Integrated Transcoder tag readers at seven fishway locations continued to be operated to assist in developing a better undertaking of fish movement within the region and beyond.

Waterways onground Actions 2017-18, 2018-19 and 2019-20

Action		From funds received through Corporate Plan				
		Achieved [i]			Target	% achieved
		2017-18	2018-19	2019-20		
Stock grazing action						
Fence riparian land (= wetland + stream/river remnant below)	ha	161	169	120	60	199
Fence wetland remnant	ha	0	2	8	6	140
Fence stream/river remnant [ii]	ha	161	166	112	55	206
Fence stream/river remnant	km	26	48	33	18	182
Off-stream watering	no.	17	17	22	13	169
Nutrient-rich and turbid water and suspended solids action						
Stormwater management projects [iii]	no.	-	-	-	-	
Instream and near-stream erosion action						
Bank protection actions	km	0.51	0.30	-	-	
Instream & tributary erosion controlled	km	0	-	-	-	
Changed flow-pattern action						
Environmental water use [iv]	ML	812,240	449,506	772,400	-	
Weed invasion action						
Weeds – aquatic weeds controlled (managed)	km	10	9	28	-	
Habitat loss management						
Rock ramp fishway	no.	-	-	-	-	
Fish barrier removal	no.	-	-	-	-	
Instream woody habitat - snags [v]	no.	627	581	259	235	110
Surface water action [vi]						
Drain - primary built [vii]	km	3.76	32	17	22	77
Drain - community built	km	-	4.6	-	-	
Farm reuse systems installed [viii]	no.	36	36	-	-	
High flow drain diversion - high nutrient water removed [ix]	ML	-	-	-	-	
Irrigation systems - improved [x]	ha	5,174	2,538	7,790	-	

i. Achievements include those from investment areas: Waterways and complementary investment areas (Sustainable irrigation, Land, and Biodiversity). Outputs delivered through each fund source are available from the Goulburn Broken CMA.
ii. Area figure supplied by River and Wetland Health Program Manager.
iii. Stormwater management projects are undertaken on a one-to-one funding basis with local government.
iv. Target cannot be set with any confidence because achievement is prone to extreme variation, being affected by climatic and seasonal conditions. Volumes used since 2000-01 were reconciled in 2014 and some figures were adjusted. The NSW component of water delivered to Barmah Forest is included in these figures.
v. Output included for the first time in 2015-16 as 'instream woody habitat - snags'. Updated to 'instream habitat' in 2017-18 to include other habitat structures undertaken in 2017-18 such as groynes and rock seeding.
vi. Surface water management enables the removal of excess rainfall runoff from irrigated lands, alleviating soil salinity. As part of an overall management plan for nutrients, nutrient loads are managed by collecting and reusing water from drains. Nutrient loads are monitored against the Goulburn Broken Water Quality Strategy nutrient target for drains.
vii. Fencing and laneways are relocated along primary drains to control stock. Drains are also hydromulched and seeded to provide vegetative cover on bare batters.
viii. Reuse dams allow for the collection of high nutrient runoff and reirrigation, reducing the water and nutrient loads leaving the farm.
ix. High flow diversion. None completed because of no demand and previous dry conditions.
x. Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area - see footnote iv) + pressurised irrigation systems (micro or drip + sprinkler).

Monthly rainfall 2019-20 at Shepparton airport (left) and Lake Eildon (right), mm [i]



i. Source: Australian Government Bureau of Meteorology.

Environmental water used during 2019-20

System	Quantity, ML	Source
Water used WITHIN the Goulburn Broken Catchment		
Goulburn River	311,211	Commonwealth Environmental Water – Goulburn River System
	24,885	The Living Murray Water – Goulburn River System
	35,000	Victorian Environmental Water – Goulburn River System
Lower Broken Creek	10,522	Commonwealth Environmental Water – Goulburn River System
	7,417	Victorian Environmental Water – Goulburn River System
	0	Goulburn River Water Quality Allowance – Goulburn River System
	7,686	Commonwealth Environmental Water – Murray River System
	10,170	Victorian Environmental Water – Murray River System
Barmah-Millewa Forest	238,779	Commonwealth Environmental Water – Victoria and NSW
	23,711	The Living Murray allocation – Victoria and NSW
	0	Barmah-Millewa Forest Environmental Water Allocation
	0	Victorian Environmental Water – Murray River System
	94,780	River Murray Increased Flows (RMIF) – Victoria and NSW
	3,890	NSW Adaptive Environmental Allowance
Black Swamp (Nine Mile Creek)	65	Victorian Environmental Water – Goulburn and Murray River Systems
Kinnairds Wetland (Lower Broken Creek)	259	Victorian Environmental Water – Goulburn and Murray River Systems
Reedy Swamp (Lower Goulburn River)	500	Victorian Environmental Water – Goulburn River System
Doctors Swamp (Lower Goulburn River)	67	Victorian Environmental Water – Goulburn River System
Loch Garry (Lower Goulburn River)	500	Victorian Environmental Water – Goulburn River System
Horseshoe Lagoon (Mid Goulburn River)	121	Victorian Environmental Water – Goulburn River System
Water used DOWNSTREAM that benefited waterways in the Goulburn Broken Catchment		
Murray River	161554	Inter-Valley Transfers (Goulburn River) [i]
	24885	The Living Murray allocation (Goulburn River)
	33600	Inter-Valley Transfers (lower Broken Creek) [i]
	359757	Goulburn River Unregulated Flows and Operational Releases
	0	Murray Unregulated Flows (lower Broken Creek) [ii]
	33149	Murray consumptive water in transit (lower Broken Creek)

i. Inter-valley transfers are not considered to be environmental water but can provide environmental benefits. These volumes are not included in total environmental water use figures.
ii. This figure includes operational losses, which only represent a small proportion of the total figure.

Environmental water use

Wetland or stream	Volume, ML										
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Barmah-Millewa Forest (Vic) [i]	1,850	184,500	184,500	2,959	195,386	0	109,351	95,800	190,091	75,182	168,500
Barmah-Millewa Forest (NSW) [i]	520	243,500	243,500	0	167,700	0	328,044	158,388	223,919	97,607	192,500
Black Swamp	80	0	0	0	50	0	80	0	0	80	65
Lower Broken Creek	Goulburn River WQ allowance [ii]		10,366	41,230	38,593	34,306	30,319	36,192	41,408	27,633	35,777
Upper Broken Creek	0	0	0	51	0	387	0	0	0	0	597
Broken River	0	24.2	0	0	0	0	0	0	1000	250	258 [iii]
Doctors Swamp	40 (trial)	0	0	0	0	0	594	0	0	0	67
Goulburn River	0	26,670	195,110	255,427	312,349	304,125	228,252	193,272	354,832	247,268	373,256
Kinnairds Wetland	400	0	0	0	179	0	696	0	0	386	259
Moodie Swamp	0	0	0	0	121	500	500	0	500	0	0
Reedy Swamp	300	0	0	0	0	0	475	0	0	500	500
Gaynor Swamp	0	0	0	0	0	0	0	0	500	600	0
Loch Garry	0	0	0	0	0	0	0	0	0	0	500
Horseshoe Lagoon	0	0	0	0	0	0	0	0	0	0	121
TOTALS	**3,190**	**454,694**	**633,476**	**299,667**	**714,378**	**339,318**	**698,311**	**483,652**	**812,250**	**449,506**	**772,400**

i. Final volumes might vary slightly and are reconciled following publication of this annual report.
ii. Environmental water only became available for use in the lower Broken and Nine Mile creeks in 2010-2011. Prior to this flow was managed by regulated and unregulated flows; redirecting Goulburn River and Murray River flows through the lower Broken and Nine Mile creeks; and deployment of the Goulburn River Water Quality Reserve.
iii. In accordance with the Broken System Bulk Entitlement, between May and December 2019 the Goulburn Broken Catchment Management Authority and Goulburn-Murray Water agreed to reduce the passing flow requirement below Lake Nillahcootie from 30 ML/day or natural to 15 ML/day or natural and banked inflows above 15 ML/day. This action was undertaken to ensure sufficient water was available to maintain minimum baseflow requirements in the Broken River throughout the season. Banking water (the banked water can only be used in the Broken River) also allowed available environmental water to be used to meet upper Broken Creek priority watering actions. In 2019-20 258 ML of Banked water was delivered down the Broken River to maintain minimum baseflow requirements.

What's next?

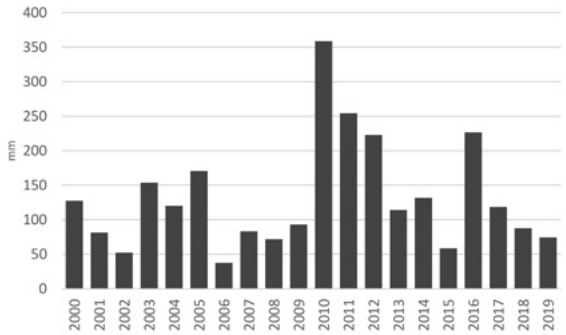
Implementation of the Goulburn Broken Waterway Strategy 2014-2022, in partnership with regional agencies and the community, will continue. Actions from the 2018 interim review will drive the remaining years of the strategy towards its renewal in 2022. Strategic priorities that emerged from the review are around:

1. Strengthen relations with Traditional Owners to increase their participation at all stages of waterway management for environmental, cultural, economic, and community benefits.
2. Make it easier for community members to contribute to Goulburn Broken Waterway Strategy development by framing high-level goals in a way that makes them meaningful when identifying actions.
3. Maximise shared benefits from water entitlements, especially for the environment.
4. Refine streamside vegetation programs as the need for new fencing nears its endpoint on major streams.

Operational priorities for the final three years of the Strategy's implementation are:

1. Develop a frequently updated action plan from the recommendations listed in the interim review and complementary reviews, and from other action checklists.
2. Continue to implement stream-frontage works with adjacent landholders, with an emphasis on increased targeting (of waterway values).
3. Continue to protect and improve the ecological character of Barmah Forest Ramsar site.
4. Consider constructing an implementation program that delineates activities into two types: maintenance and improvement, which relates mainly to vegetation.
5. Continue to improve efficiency and effectiveness of delivering water for the environment by applying tight adaptive management and leveraging off opportunities provided by the Basin plan.
6. Complete the new FLOWS study and ecological models for the lower Goulburn River to inform environmental water planning, delivery and monitoring. (This emerged as a priority after the interim review).

Annual river inflow Goulburn Broken Catchment, mm



i. Lower Goulburn River. Source: Australian National University, Fenner School of Environment & Society.

The Strathbogie streams flagship waterways project is proposed to continue to focus on the Seven Creeks and Hughes Creek, and other streams flowing from the Strathbogie Ranges will be also targeted through the riparian works program. Priority waterways including the Goulburn, are also proposed to be targeted

Opportunities for multiple uses of environmental water will continue to be explored with neighbouring CMAs, the Victorian and Commonwealth Environmental Water Holders, the Murray-Darling Basin Authority, Traditional Owners and the community.

Seasonal watering proposals for 2020-21 aim to use water for the environment to protect and improve the ecological values of waterways for positive ecological achievement outcomes by:

- providing flows in the lower Broken Creek to provide native fish passage, increase native fish habitat during the migration and breeding seasons, and manage threats to native fish from low dissolved oxygen levels or excessive Azolla growth
- providing minimum flows and freshes in the lower Goulburn River to provide habitat and recruitment opportunities for native fish, macroinvertebrates and native vegetation,and support geomorphic processes and nutrient cycling.
- promoting the growth and establishment of Moira Grass and supporting colonial waterbird breeding in Barmah Forest
- promoting the health of native vegetation communities and supporting waterbird and frog breeding at Horseshoe Lagoon, Moodie Swamp, Reedy Swamp, Gaynor Swamp, Loch Garry, Kanyapella Basin and Doctors Swamp.

The Goulburn Broken CMA will continue to support implementation of the Flow-Monitoring Evaluation and Research Program in the Goulburn River and the development and implementation of the Victorian river and wetland monitoring and assessment programs (VEFMAP and WetMAP).

Opportunities to better manage water transfers down the lower Goulburn River will continue to be investigated further with DELWP and partners through the Goulburn to Murray Trade rule review and the associated development of new Goulburn River operating rules.

Activities for the years 2020-21 to 2024-25 will be identified and submitted through DELWP as part of bidding for funding from the Environmental Contributions Levy tranche 5.

Opportunities and obligations from the anticipated Taungurung Recognition and Settlement Agreement will be identified and enacted.

Investment area – Floodplain management

Compiled by Guy Tierney and Joel Leister.

Long-term and annual scorecard [i]

2019-20 performance	On target

Catchment condition [ii]	1990	2020	Long-term risk
	●	●	MEDIUM

There have been significant floodplain management improvements in many geographic areas and others have been scheduled.

As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management tools, annual average damages and social trauma have significantly decreased.

Resilience assessment						Long-term strategic implementation [v]	
Critical attribute affecting long-term catchment health [iii]	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]			Start	Stage
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]		
Flood impact	●	●	▼	MEDIUM	VERY HIGH	2002	Late

Certainty of rating is High. Flood intelligence information translates into Municipal Flood Emergency Plans and Planning Schemes. Total Flood Warning Systems provide access to flood warning and awareness information. Mitigation implementation programs and detailed design phase. Application of sound floodplain management principles to new land-use and development applications.

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Floodplain; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in long-term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
1,079	940	836	770

i. Forecast is based on the Corporate Plan 2020-21.

Strategic references

- Victorian Floodplain Management Strategy (2016)
- Goulburn Broken Regional Floodplain Management Strategy 2018-2028
- *Planning and Environment Act 1987*
- *Subdivision Act 1988*
- *Building Regulations 2018*
- *Water Act 1989*
- *Minerals and Resources (Sustainable Development) Act 1990*
- *Environment Protection Act 1970*

Background

The amount of damage a flood causes depends on its size. The annual average damage (AAD) is what would be expected in a flood-prone area, considering fluctuations over many decades. The Goulburn Broken CMA inherited the highest AAD of all Victorian CMAs outside Melbourne Water's area of responsibility for floodplain management (Victoria Floodplain Management Strategy 1998).

Floodplain management functions are delegated to the Goulburn Broken CMA (*Water Act 1989* Section 202) and include advising local councils, DELWP's Secretary, and the community about flooding and controls on development. Without floodplain management, flood impacts potentially increase if infrastructure and assets are placed within floodplains.

Engineering techniques such as hydrology (the study of rainfall and runoff) and hydraulics (the applied science of water movement across floodplains, rivers, streams and stormwater networks) assist understanding impacts from floods on urban and rural communities. These techniques also help understanding of environmental flow regimes of waterway and wetland systems.

Understanding the nature of flooding (flood extent, depth, velocity and hazard) and flood risk (likelihood and consequences) is paramount in any flood study that investigates mitigation and management options. Such options include structural solutions, e.g. levees, retardation basins, and floodways, and non-structural solutions (flood warning, awareness and education programs, emergency management arrangements and land-use planning controls).

Catchment condition - Floodplain management (since 1990)

Long-term objectives: High-level objectives have been reset and 10-year prioritised actions have been developed with stakeholders following the 2018 release of the regional floodplain management strategy. Goulburn Broken CMA's objectives relate to reducing annual average damages ($), social trauma and property loss, and improving natural environment flooding patterns.

The vision of the Goulburn Broken Regional Floodplain Management Strategy (RFMS; 2018) is: 'Through partnerships, improve the flood resilience of the catchment's people, infrastructure, land, water and biodiversity'.

Implementation of the RFMS is on schedule, building on significant floodplain management improvements in many geographic areas since 1990. AAD and social trauma have decreased significantly through improved flood-intelligence sharing, flood mitigation and land-use planning.

Long-term strategy implementation

Four cross cutting RFMS programs deliver the vision, aiming to:

- **Build community resilience**: encourage communities to responsibly manage their own risks (as part of the Total Flood Warning System program) by improving dissemination, communication, education and awareness of flood and related information.
- **Reduce legacy flood risk**: minimise flood-hazard exposure and consequences (part of all four programs – Flood Mitigation Works, Total Flood Warning Systems (TFWS), Land-use planning, and Municipal Flood Emergency Plans (MFEP)).
- **Avoid future flood risk**: do not make things worse (part of the Land-use Planning program).
- **Manage residual flood risk**: by integrated flood-intelligence sharing with emergency services, interpretation at incident control (part of the MFEP and TFWS programs) and flood insurance (part of the Total Flood Warning System program).

Implementation program	Long-term progress
Flood mitigation works	Using local, Victorian and Australian government grants, authorities are implementing recommendations of several flood studies and floodplain management plans, including structural and non-structural works. It is accepted that tasks completed results in reduced flooding impacts on the built environment and its peoples. Functional and detailed designs are progressing for flood mitigation works at four urban centres (Numurkah, Cobram, Violet Town, and Seymour). However, as of end of June 2020, the Mitchell Shire Council resolved not to continue with the Seymour Town Levee. Implementation is opportunistic through Australian and Victorian Government incentives, such as the Natural Disaster Resilience Grants Scheme. No incentives were available in this financial year, although a flood study of Jamieson commenced using internal resources .
Total flood warning systems	Recently significant augmentation of the rain and stream gauge network has been implemented for the Broken-Boosey Catchment and flood warning services are now provided to Nathalia and currently underway for Numurkah. Since 2000, other flood prediction services are in place for Benalla, Euroa, Shepparton-Mooroopna, and Seymour. Local Flood Guides have been prepared for many communities in the Goulburn Broken Catchment. A Community information portal is currently being finalised for release for at-risk communities in the Acheron Valley, Benalla, Euroa, Merrigum, Murchison, Nagambie, Numurkah, Tatura and Violet Town.
Land-use planning	A total of 55 studies have been completed since 1997 and 6 are underway (Goulburn Broken Rivers, Whiteheads Creek, Sunday Creek Catchment, Kyabram, Jamieson and Boosey and Upper Broken Creeks). All local government authorities have flood zone and overlay control within the Goulburn Broken Catchment with most having incorporated decision criterion. As new studies are finalised opportunities to incorporate flood mapping into planning schemes will be implemented.
Municipal flood emergency plans	Since 2009-10, there have been continued gains and support in the statewide FloodZoom (flood intelligence system) to assist with emergency management (and land-use planning), and significant gains with the standard statewide format of Municipal Flood Emergency Plans.

Improving the natural flooding patterns of ecosystems via sensitive floodplain protection planning is a task in progress.

2019-20 performance

Community capacity, engagement and involvement

Community engagement is an integral part of floodplain management through flood studies and floodplain management plans and their implementation, assisted by several government agencies. The Goulburn Broken CMA currently manages and hosts the Flood Victoria website on behalf of the Victorian Government.

The table below provides a summary of the studies and implementation plans progressed for 2019-20. All studies are carried out under a partnership approach with local government, Victorian and Australian government agencies and local communities. Implementation of the recommendations is a shared responsibility. Civil works such as a town levee system generally rest with local government.

A key initiative is capacity building to implement strategic work and action arising from both the Victorian and Regional Floodplain Management Strategies.

Flood studies and implementation plans for 2019-20

Project name	Lead agency	Status
Flood Mitigation Work Program: Priority actions 22 (9 high, 8 medium, 5 low). Status: 2 completed, 4 ongoing		
Cobram East Flood Mitigation Functional Design	Moira Shire Council	High priority. Several mitigation options have been developed and presented. A community reference group are guiding this project. Ongoing.
Numurkah Functional Design for Flood Mitigation Works	Moira Shire Council	High priority. Community reference group has been established. Detailed surveys underway. Ongoing
Seymour Town Levee Implementation Plan	Mitchell Shire Council	High priority. In June 2020, the Mitchell Shire Council resolved to cease the Seymour Town Levee Project.
Euroa Supplementary Mitigation Works	Strathbogie Shire Council	Detailed design has been drafted. Ongoing
Total Flood Warning Systems: Priority actions 42 (12 high, 17 medium, 5 low). Status: 3 completed, 12 ongoing		
Numurkah	Moira Shire Council	High priority . Following the completion of augmentation of rain and stream gauges, the Bureau of Meteorology is developing its flood prediction services to Numurkah.
Granite Creeks Regional Flood Mapping Project (Hume Freeway to the Goulburn River)	DELWP	Low priority. Study has been completed. Local Flood Guides to be prepared. Ongoing
Shepparton East Overland Flood Study	Goulburn Broken CMA	High priority. Study completed. Local Flood Guide to be prepared. Ongoing
Flood warning improvements for Benalla	Benalla Rural City Council	High priority. Currently part of the regional community flood information portal.
Yea River Flood Intelligence Project Study	Goulburn Broken CMA	Medium priority. A review has determined further work is required.
Whiteheads Creek Floodplain Management Study	Mitchell Shire Council	High priority. Mitigation options are being explored. Ongoing
Flood Study of the Goulburn and Broken Rivers	Goulburn Broken CMA	Low priority. Hydrology report delivered in January 2019 by consultant. Ongoing
Sunday Creek Catchment Flood Intelligence and Mapping Study	Mitchell Shire Council	Medium priority. Study commissioned in October 2018. Ongoing
Boosey and Upper Broken Creeks Flood Study	Moira Shire Council	High-Medium priority. Project commenced in 2019. Hydrology report delivered in February 2020. Ongoing.
Kyabram Flood Study	Campaspe Shire Council	High Priority. Study commissioned in 2019. Data Review delivered in November 2019. Ongoing.
Jamieson Flood Study	Goulburn Broken CMA	Low Priority. Study commenced in 2019. Ongoing.
Euroa Flood Intelligence and Mapping Study	Strathbogie Shire Council	High priority. Study completed. Local flood guide to be developed. Ongoing.
Land-use Planning: Priority actions 68 (28 high, 18 medium, 21 low, 1 very low). Status: 6 completed, 12 ongoing		
Nagambie Flood Study	Strathbogie Shire Council	High priority (completed). Flood zone and overlays completed. The Council will amend its Planning Scheme together with Euroa and Violet Town.
Euroa Flood Intelligence and Flood Mapping Study	Strathbogie Shire Council	High priority (completed). Flood zone and overlays completed. The Council will amend its Planning Scheme together with Nagambie and Violet Town
Violet Town Floodplain Management Study	Strathbogie Shire Council	High priority (completed). Flood zone and overlays completed. The Council will amend its Planning Scheme together with Euroa and Nagambie.
Kilmore Flood Mapping and Intelligence Study	Mitchell Shire Council	High priority (completed). Flood zone and overlays completed. Council to prepare a Planning Scheme Amendment.
Kyabram Flood Overlays	Campaspe Shire Council	High priority (completed). Mapping completed in 2018 with LGA. Put on hold until new flood study is completed.
Flowerdale Flood Zone and Overlays	Murrindindi Shire Council	High priority (completed). Flood overlays completed in late 2017. Murrindindi to consider this as part of an LGA-wide planning scheme amendment including Buxton, Taggerty, Marysville.
Rural flood mapping (Eildon & Nillahcootie catchments)	Goulburn Broken CMA	Low priority. Final report and hydrologic deliverables completed 2015-16. No flood mapping deliverable to date. Ongoing

Project name	Lead agency	Status
Hydrology of the Acheron catchment (Marysville, Buxton and Taggerty)	Goulburn Broken CMA	Medium-High priority. Hydrology and hydraulic modelling completed. Flood overlays to be completed for Planning Scheme Amendment. Ongoing
Shepparton East Overland Flood Study	Goulburn Broken CMA	High priority. Study Completed early 2018. A review is underway to align with new technical standards. Ongoing
Shepparton-Mooroopna Flood Mapping and Intelligence Study	Greater Shepparton City Council	High priority. Final report adopted by Council in 2019. Flood zone and overlay controls not yet analysed. Ongoing
Whiteheads Creek Floodplain Management Plan	Mitchell Shire Council	High priority. Study in progress. Flood overlays to be prepared once study is complete. Ongoing
Flood Study of the Goulburn and Broken Rivers	Goulburn Broken CMA	Medium priority. Study in progress. Flood overlays to be prepared once study is complete. Ongoing
Sunday Creek Catchment Flood Intelligence and Mapping Study	Mitchell Shire Council	High priority. Study in progress. Flood overlays to be prepared once study is complete. Ongoing
Granite Creeks Regional Flood Mapping Project (Hume Freeway to the Goulburn River)	DELWP	Low priority. Study has been completed. Flood Overlays to be prepared. Ongoing.
Upper Broken and Boosey Creeks Flood Study	Moira Shire Council	Medium Priority. Study in progress. Flood overlays to be prepared once study is complete. Ongoing
Kyabram Flood Study	Campaspe Shire Council	High Priority. Study in progress. Flood overlays to be prepared once study is complete. Ongoing
Municipal Flood Emergency Plans: Priority actions 69 (20 high, 25 medium, 23 low, 1 very low). Status:9 completed, 9 ongoing		
Granite Creeks Regional Flood Mapping Project (Hume Freeway to the Goulburn River)	DELWP	Medium priority. MFEP update required following completion of study. Ongoing
Yea River Flood Intelligence Project Study	Goulburn Broken CMA	High priority. MFEP requires a revision based on new gauge. Ongoing
Whiteheads Creek Floodplain Management Study	Mitchell Shire Council	High priority. See TFWS for commentary. MFEP required an update following completion of the report. Ongoing
Flood Study of the Goulburn and Broken Rivers	Goulburn Broken CMA	Low priority. This is across five LGAs where each MFEP will require revisions. Ongoing
Sunday Creek Catchment Flood Intelligence and Mapping Study	Mitchell Shire Council	High priority MFEP required an update following completion of the report. Ongoing
Upper Broken and Boosey Creeks Flood Study	Moira Shire Council	Medium priority. MFEP update required following completion of study. Ongoing
Kyabram Flood Study	Campaspe Shire Council	Medium priority. MFEP update required following completion of study. Ongoing
Nagambie Flood Study	Strathbogie Shire Council	High Priority. Flood study has been completed. Flood intelligence to be included in Strathbogie MFEP. Ongoing.
Violet Town Flood Study	Strathbogie Shire Council	High Priority. Flood study has been completed. Flood intelligence to be included in Strathbogie MFEP. Ongoing.
Whole of region: Priority actions 10 (6 High, 4 Medium). Status: 0 completed, 2 ongoing		
Community flood information portal (HydroNET)	Goulburn Broken CMA	High priority. Ongoing.
Undertake exercising MFEPs	VICSES	High priority. Annually

Statutory Use and Development Planning

A breakdown of the number of floodplain referrals received from each local government area (under a range of Acts see page 93) and the average response time is shown in the graph and table on page 52. In 2019-20, 96.5 per cent of responses were within the prescribed period with an average response time of 14.0 days.

Significant preparation was carried out for Victorian Civil Administrative Tribunal hearings.

Works and activities on a waterway, including its surrounds, require a permit from the Goulburn Broken CMA to ensure risks to river health and stability are not compromised.

Works on waterways permits

There have been 85 permits issued for works and activities on waterways within an average response time of 17.1 days.

Works and operations

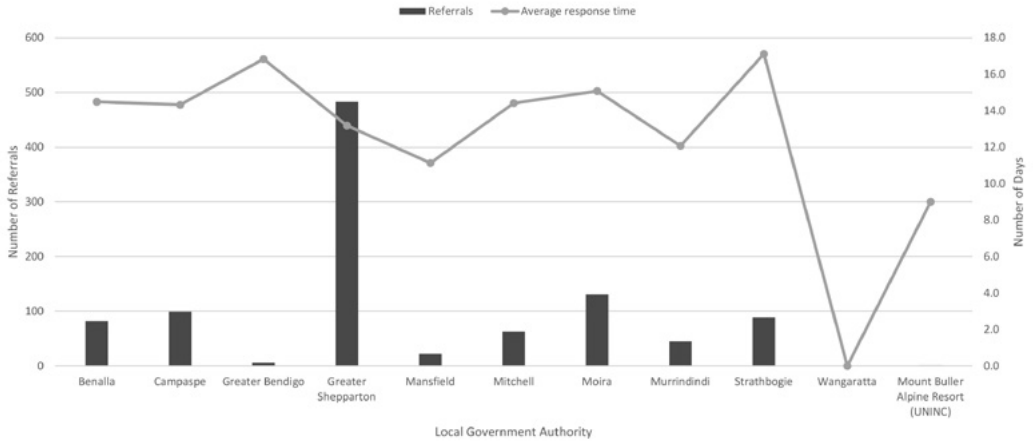
Floodplain management actions 2019-20

Action		From funds received	
		Achieved [i]	% of responses
Integrating knowledge into planning			
Land Use Development Direct Applications (LUD)	no.	260	25.5
Planning Scheme Amendment Direct Application (PSA)	no.	0	0.0
Flood Information Request Direct Applications (FIR)	no.	22	2.2
Other Direct Applications (DAOTH)	no.	5	0.5
Land Use and Development [Formal] (S 55)	no.	412	40.4
Land Use and Development [Advice only] (S 52)	no.	51	5.0
Certification of Subdivision (S 8)	no.	67	6.6
Subdivision and Certification (S 55 & S 8)	no.	1	0.1
Notice of Planning Scheme Amendment (S 19)	no.	4	0.4
Victorian Building Regulations [VBRs] (R 153)	no.	165	16.2
Other LGA Applications (LGAOTH)	no.	29	2.8
Query & Notification of Unauthorised Work	no.	0	0.0
Statement of Compliance (S 8)	no.	0	0.0
Work Plan [Minerals and Energy] (S 77)	no.	1	0.1
Unknown	no.	1	0.1
Other DELWP Application	no.	3	0.3
Total		1021	
Victorian Civil Administration Tribunal and Planning Panels Victoria hearings	days	9	
Floodplain implementation			
Gazettal of Flood Amendment	no.	0	
Urban flood studies and management plans	no.	0	
Regional flood studies and management plans	no.	0	
Creating awareness			
Flood education and awareness program	no.	1	

i. Most actions are performed reactively so no targets are set annually, however there are KPIs relating to regulatory waterway/water functions (see page 93).

What's next?

- Expand the community flood report tool for those most at-risk communities.
- Local government planning scheme amendments to incorporate new mapping and performance-based assessment criteria will continue.
- Preparation of a four-year work plan and a monitoring, evaluation, reporting and improvement plan to assist with the implementation of the Regional Floodplain Management Strategy.
- Implementation of the Victorian and Regional Floodplain Management Strategies.



Investment area - Biodiversity

Compiled by Jenny Wilson, Steve Wilson, Janice Mentiplay-Smith, Jim Begley, Gaye Sutherland and Tony Kubeil.

Long-term and annual scorecard [i]

2019-20 performance	Exceeded target

Catchment condition [ii]	1990	2020	Long-term risk
	●	●	VERY HIGH

Native vegetation improvements actions, such as revegetation and stock control, have improved 1.4 per cent (22,470 ha) of the Catchment's private land in the past 10 years. After accounting for losses also during this time, native vegetation extent has increased by the order of 0.3 per cent (4,500 ha), which is not a sufficient scale for all native species to survive.

Current threats, such as clearing, invasive pest plants and animals, and fire management, are exacerbated by climate change and have a compounding effect on past large-scale habitat loss and degradation. The removal of logging on private land such as the Strathbogie Ranges contributes to native vegetation improvement.

The scale of change in areas managed for conservation is also not sufficient. Thresholds have been breached and many ecosystems are in decline.

Public land management is occurring across a greater area of reserves with an increased focus and funding for pest plant and animal control.

Resilience assessment						Long-term strategic implementation [v]	
Critical attribute affecting long-term catchment health	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]				
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]	Start	Stage
Native vegetation extent	●	●	▲	VERY HIGH	VERY HIGH	1997	Escalated response [vii]
Native vegetation quality	●	●	▲	VERY HIGH	VERY HIGH	2003	Escalated response [vii]

Certainty of rating is Medium. Certainty that biodiversity information about 'very high' risk is very high. Certainty around native vegetation extent is medium (includes many assumptions). Certainty around native vegetation quality is very low (quantitative method in first year of study).

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Biodiversity; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
vii. 'Escalated response' recognises that the situation has shifted so significantly that difficult and sensitive questions about transformation and transitioning must be considered.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
2,626	2,612	2,689	2,795

i. Forecast is based on the Corporate Plan 2020-21.

Strategic references

Investment in the Catchment's biodiversity is guided by the Biodiversity Strategy for the Goulburn Broken Catchment 2016-2021 and other regional, state and national policies and strategies (see Appendix 5).

Background

Biodiversity provides habitat for native plants and animals, as well as direct benefits for people, such as; cultural connections to country, ecosystem services (e.g. water purification, productive soils, pollination) and aesthetically pleasing landscapes in which to live and recreate.

Biodiversity is integral to all social-ecological systems (SESs) and is therefore considered in all aspects of natural resource management. However, to provide focus and clarity for planning and reporting, such as in this Annual Report, the Goulburn Broken CMA has separated biodiversity from other biophysical features, such as land and waterways.

Since its inception in 1997, the Goulburn Broken CMA has been delivering biodiversity benefits and refining its long-term approach. Biodiversity strategies were evaluated and updated in 2000, 2004, 2010 and 2016, and is currently being reviewed to ensure alignment with the Regional Catchment Strategy renewal.

Catchment condition – Biodiversity (since 1990)

Many ecosystems, plant and animal communities, and species are threatened with extinction, which is reflected in their National and State Conservation Status. The Goulburn Broken CMA aims to achieve more resilient ecosystems, with efforts focused on increasing the extent and quality of habitat to create viable and adapting populations of all native species, including threatened species. The vision of the Biodiversity Strategy is:

Highly valued, resilient and adaptive ecosystems supporting healthy native biodiversity

Long-term objectives are: By 2030:

- *Increase the extent of native vegetation in fragmented landscapes by 70,000 hectares.*
- *Improve the quality of 90 per cent of existing habitat by 10 per cent.*
- *Increase the population viability of 20 flagship species.*

The change in extent of native vegetation is relatively easy to measure (with assumptions). This is an important indicator of progressing towards the vision, and it is identified as a critical attribute for system function by various scientists (at least 10 per cent extent minimum, preferably > 30 per cent). Progression in the long-term objectives for 'Habitat quality' and 'species' population viability' is much more difficult to measure. Therefore, extent is currently the major indicator of catchment condition. However, to improve our understanding of progress, we continue to work with scientists to understand changes in vegetation quality and species' viability. Our understanding of whether we are creating resilient landscapes and viable populations of species is limited.

The trend in change of native vegetation extent is significantly below target (see graph page 58). The amount of revegetation possible to increase extent on private land is currently restricted by funding and not by the desire of communities or individual landholders to revegetate.

Climate change effects, such as the increased frequency and intensity of fire, sporadic and intense rainfall events, drought and heat waves, are likely to create losses that are not easily measured. Species are likely to continue to become extinct with little understanding of how to best intervene, or without enough funding to reverse declines. Other factors to consider given likely near-future extinctions in the catchment include: the continued decline in threatened species as the 'extinction debt' from past clearing is realised; competition from pest species; habitat loss through, for example, logs and live trees used for firewood and 'cleaning up' by landholders; the fragmentation effect of clearing vegetation (permitted and illegal), which results in the inability of flora and fauna to move through landscapes, increasing the risk of extinction through subsequent loss of sub-populations.

Long-term strategy implementation progress and 2019-20 performance

The Biodiversity Strategy's initiatives and actions, which are aligned with Australian and Victorian government strategies and priorities, provide ways to increase biodiversity conservation and progress towards targets. The Goulburn Broken CMA attracts funds from diverse sources to implement the Biodiversity Strategy by demonstrating links between project proposals and catchment-scale strategies in biodiversity-focused and multiple-themed projects. While the strategy focuses more on terrestrial biodiversity, waterways and wetlands are also critical parts of biodiversity, and these are described in the Waterways section (page 36).

Long-term strategy implementation progress	2019-20 performance
Biodiversity Program	
Strategic direction 1: Adapting to change	
Natural resource management policy and socioeconomic drivers are changing rapidly, providing significant threats and opportunities for biodiversity conservation. The Biodiversity team continues to adapt to changes in a variety of ways by: responding to and influencing strategies of all CMA programs and other NRM agencies; adapting a resilience approach to strategic planning and project delivery; improving understanding of and responding to, relationships between social and economic factors in biodiversity conservation.	The Goulburn Broken Biodiversity Strategy 2016-2021 is being implemented. An updated strategy in 2021 will adopt a resilience theme, with a focus on responding to climate change. Projects deliver on both the 'Australia's Strategy for Nature 2019-2030' and DELWP's State Biodiversity Plan 2037.
	The team adapted to major changes from February 2020 to COVID-19 threat, but continued to deliver on all projects, meetings were held remotely, and partners and service delivery agents kept informed and engaged throughout the lockdown
	Goulburn Broken CMA continued to increase knowledge and adapt to change by attending a workshop on 'Climate Future Plots' (DELWP).
	A team member continues to be on DELWPs 'Scientific Sub-Committee' to develop opportunities in delivery of the Biodiversity 2037 Plan.
	BBCMN provides a representative on the Warby Ovens National Park Advisory Committee.
	The team provided submissions on Review of EPBC Act, Drought Resilience Fund, 'Climate Future Plots' and the Victorian Parliaments investigation into 'Ecosystem decline'.

Long-term strategy implementation progress	2019-20 performance
Biodiversity strategic direction 2: Nurturing partnerships	
The Biodiversity team continues to have a focus on building on and nurturing partnerships, with agencies, community networks and groups, indigenous groups and individuals. Partnerships are growing, which is reflected in the development and delivery of partnership projects.	The team continues to work with a diverse, and increasing, range of partners to provide opportunities for collaboration, cross-promotion of projects, and information-sharing, through symposia, media, and community engagement through field days and workshops. ***Key Partners include***:
	Taungurung Land and Waters Council (TLaWC) and **Yorta Yorta Nation Aboriginal Corporation** (YYNAC): Indigenous partnerships continued to grow through attendance at the CMA TLaWC & CMA YYNAC Consultation Group meetings, which ensure both Taungurung and Yorta Yorta people are informed and engaged in project planning and development, policy, strategies and delivery. Together with GB, NE and NC CMA's to benefit of our Traditional Owners, whose Traditional lands often span more than one CMA boundary area.
	Land Management Crews: Woka Walla and Taungurung land management crews continued to deliver environmental management across Traditional Country, to control pest plants and animals, and increase extent and diversity of habitat through revegetation activities, providing significant employment and training opportunities. The crews practiced burning techniques with Goulburn Broken CMA, CFA, Parks Victoria and DELWP, all of whom also attended the Firesticks Conference at Barmah National Park in July 2019
	DELWP: Working with regional staff to deliver several projects; 'Biodiversity On-Ground Action, and Biodiversity Response Planning; responding to DELWPs policies and strategic planning. Goulburn Broken CMA continues to collaborate with DELWP via new compliance officers, to provide information on Native vegetation clearing regulations.
	Parks Victoria: Joint project delivery includes: Goat control in Whroo Heathcote – Graytown reserves; Longwood Plains Reserves project (BOA), and Barmah Country (RLP).
	Australian Government: delivering RLP projects.
	Mount Buller Mount Stirling Resort Management: working TLaWC for effective delivery of the Mending Mountains for the Pygmy-possum RLP project.
	Local Government: Four meetings of the Goulburn Broken Government Biodiversity Reference Group were convened by Goulburn Broken CMA, building capacity of local government and other participants (Vic Roads, CFA, Goulburn Broken CMA, DJPR, DELWP, Broken Boosey CMN, Whroo Goldfields CMN meetings discussed: Council native vegetation loss reporting to DELWP, compliance, managing firewood, RCS renewal, roadside pest plants funding and ecological thinning.
	Goulburn Broken Indigenous Seedbank: In 2019-20, after 7 years, Goulburn Valley Community Energy handed over management to Euroa Arboretum, which now manages many aspects of revegetation; providing seed production expertise: seed collection, cleaning, processing and sales; plant propagation, and weed and flora surveys. We acknowledge University of Melbourne Dookie for their 20 year contribution of hosting the Seedbank.
	Community Networks: Twelve community groups and networks were engaged as service delivery partners, building capacity, delivering incentives to landholders and community engagement projects. The groups are: four Conservation Management Networks (Longwood Plains, Broken Boosey, Whroo Goldfields, and Strathbogie Ranges); six Landcare Networks (Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray, Hughes Creek Catchment Collaborative and Gecko Clan); and two 'friends groups' (Regent Honeyeater Project and Euroa Arboretum). Monthly meetings are held to ensure collaboration and best practice delivery.
	Landcare: Victorian Government's Landcare Grants: 24 individual onground projects funded and 21 organisations supported.

Long-term strategy implementation progress	2019-20 performance
Biodiversity strategic direction 2: Nurturing partnerships (continued)	
	Landowners: Currently 340 landowners are under ten-year conservation agreements that now cover a total of 15,203 hectares (from previous and current projects). Many other landholders are engaged in a variety of ways other than through incentives.
	Volunteers: 31 volunteers attended two Cactus Clean Up days at Wunghnu Common (BBCMN) in partnership with Congupna-Tallygaroopna Landcare, Moira Shire and PV. Thirty volunteers involved in citizen science projects (tree health app and bore monitoring). Eighty landholders planted 4000 plants over Easter as an important 'out with nature' coronavirus inspired activity. (Bogies and Beyond).
	Joint partnerships: '#Year of the Paddock Tree' was a great success with 20 partnerships, including YYNAC, DELWP, community networks, CFA and local businesses. The media enthusiastically promoted the theme relevant to each month. The 10th year of the Floodplain ecology course had 23 participants, in partnership with YYNAC, PV and GMLN. The Heathcote Community House and Mandalay Resources supports the WGCMN Adopt-A-Nest Box program. Moira Shire Council supports the BBCMN for community events.
	New and emerging partnerships: Opportunities were sought to involve the health sector in understanding benefits of connecting with nature. As more National companies are investing in large tracts of land and revegetating at the landscape scale the team is providing revegetation expertise for biodiversity outcomes and this included revegetation of more than 150 hectares (voluntary plantings) this year.
Biodiversity strategic direction 3: Investing more wisely	
Investment in biodiversity conservation in the Catchment is increasingly delivered within a resilience framework, which considers a range of factors and drivers of landscape change that we can respond to. Identifying priority landscapes for onground works and promotion of biodiversity conservation will be a focus of local plan development and implementation. This will result in more targeted funding and increased certainty that works are achieving desired outcomes. Continuous improvement and adaptive management underpin the implementation of the Biodiversity Strategy. Synergies are identified between the Biodiversity Strategy, government funding priorities and the formal Expressions of Interest (EOI) process, which identifies project priorities of community and other partners.	Science continues to drive adaptive planning and implementation processes, as we continue to work with researchers and other experts:
	University Of Melbourne 3 projects: 1. Assessment of large-scale tree deaths due to climate change in the Strathbogie Ranges, 2. Ground water dependent ecosystems in the Strathbogie Ranges, and 3. State and Transition Modelling to better understanding change in quality of vegetation due to interventions.
	Bogong Moth surveys: Mending Mountains for the Pygmy-possum project, to determine future management options to ensure adequate food resources.
	Mountain Pygmy Possum: 2019 spring surveys indicated good numbers of possum recruitment despite recorded litter losses in previous season, with a total of 124 females and 42 males recorded.
	Silver Banksia is a focus for the Goulburn Broken CMA and many statewide groups (e.g. Australian Network for Plant Conservation and CSIRO), in genetics and revegetation techniques. Goulburn Broken CMA staff have partnered with CSIRO and Deakin University in Guidelines for the Development of Banksia marginata seed production areas.
	Australian National University: Farm dams project to identify their biodiversity values to encourage planting native vegetation around dams.
	RMIT: Continuing partnership in understanding the value of community driven local SES planning through the OCOC project 'Bogies and Beyond'.
	Southern Cross University: 40 nest box sites in the Whroo Goldfields CMN region, for the brush-tailed phascogale and gliders, identified variables that affect habitat preferences resulting in a co-authored paper in 'Ecological Management and Restoration' with Goulburn Broken CMA and Orlando Talamo who has been managing the program for 10 years.
	LaTrobe University: Values of nature to farming production.
	Bird Surveys: Repeat Surveys in the Strathbogie Ranges and Grey Box areas show the value of large remnants and revegetation.
	Social surveys and Citizen science: Goal Attainment Scale surveys gauge landholders' attitudes and understanding of Grey Box Citizen science projects: The Tree Health Survey (OCOC) has 260 trees being monitored through Tree Health App.

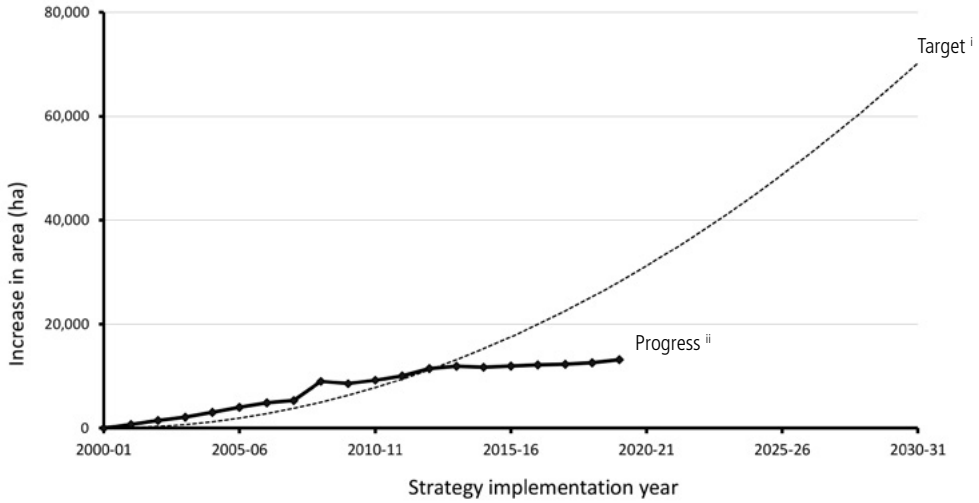
Long-term strategy implementation progress	2019-20 performance
Biodiversity strategic direction 4: Building on our ecological infrastructure	
	Revegetation and remnant enhancement activities continue to be delivered strategically in priority landscapes for critical landscape elements e.g. waterways as corridors and drought refugia, for rocky outcrops (OCOC); increasing steppingstones through protecting emerging paddock trees, and Mending Mountains for the Pygmy-possum project to align with recovery plan objectives at State and Federal levels.
	More expressions of interest for incentives to carry out environmental works than funding available.
	Losses of native vegetation includes: 142 large trees and 14.7 hectares (under permit), and unmeasured losses due to tree dieback, illegal clearing, firewood collection, ploughing of native/derived grasslands for cropping, and fire (planned and wildfire).
	Australian Government funded projects:
Significant effort continues to build biodiversity understanding and awareness across the Catchment. While more landholders may be viewing biodiversity conservation as a legitimate land use and integral part of land management, financial, technical, and other support for them to actively manage biodiversity needs to be available with support from both investors and the broader community. The importance of the links between biodiversity conservation and agricultural production has been promoted through providing opportunities for landholders to act as stewards of the land. Ongoing efforts are required to promote synergies between biodiversity conservation and land management at the farm and landscapes scales. Conservation Management Networks continue to play a valuable role in promoting the importance of biodiversity conservation across land tenures. Mixed and unclear messages from a range of sources, such as ongoing changes to native vegetation clearing regulations, pose challenges in strengthening community support for biodiversity conservation.	The **Linking Landscapes and Communities** Enhancing Grey Box Grassy Woodlands and Derived Grasslands project delivered 17, 10 year land management agreements for 161.55 hectares; 305.7 hectares of pest animal control, 919.4 hectares of weed control, 102.25 hectares of stock grazing removed. Woka Walla Works Crew pest plant and animal control on nature conservation reserves in partnership with Parks Victoria.
	The **Paddock Tree Guard** project ('On Your Guard') focuses on protecting the 'next generation' of paddock trees by supplying landholders with purpose-built mesh tree guards. Eighty landholders have received 250 guards.
	The **Mending Mountains for Pygmy-possums** project increased and improved the critical Mountain Pygmy-possum habitat areas at Mount Buller through 6 hectares of revegetation (with a focus on food resource plants), 1,000 hectares of cat control, and 19 hectares of weed control.
	The **Barmah Country** project delivered 545 hectares of weed control, two fox baiting events across 30,000 hectares and two pig control events across 10,000 hectares of Barmah National Park (Regional Land Partnerships).
	20 Million trees: Building Superb Parrot Habitat: 52 hectares of revegetation. Swift Parrot Winter Wanderers: 54.5 hectares revegetation building upon the food availability for the migratory Swift Parrot
	Victorian Government funded projects:
	BOA Hubs: Managing Threats to the Longwood Plains; Delivered 409 hectares of weed control, 529 hectares of pest animal control and 23 hectares of revegetation, spring burn program with Woka Walla and Taungurung works crews.
	Ribbons of Blue and Sashes of Green (BRP):): This project focuses on the Heathcote-Graytown National Park and Rushworth State Forest. Taungurung Works Crews controlled 765 hectares of weeds, Parks Victoria controlled goats over 31,624 hectares and on private land there are land management agreements over 335 hectares.
	Our Catchment Our Communities ('Bogies and Beyond'): delivered 70.7 hectares of revegetation, 7.1 kilometres of fencing, 141 hectares of remnant protection and two covenants. Four thousand trees and plants were delivered to 80 landowners.
	Nest Boxes: 75 nest boxes built and installed, adding to 1100 nest boxes for gliders and phascogales. Nest Boxes for Neo (Turquoise Parrot) project built and installed 150 nest boxes, for a total of 552 since 2014. BOA HUBS (NECMA project) built and installed 52 turquoise parrot nest boxes.
	Linking Lower Goulburn: 61 hectares under land management agreements.
	Landcare Grants: community engagement, pest plant and animal control, and threatened species protection.
	Other: Working with Corporate organisations revegetated 150 hectares.

Long-term strategy implementation progress	2019-20 performance
Biodiversity strategic direction 5: Legitimising biodiversity conservation	
Significant effort continues to build biodiversity understanding and awareness across the Catchment. While more landholders may be viewing biodiversity conservation as a legitimate land use and integral part of land management, financial, technical, and other support for them to actively manage biodiversity needs to be available with support from both investors and the broader community. The importance of the links between biodiversity conservation and agricultural production has been promoted through providing opportunities for landholders to act as stewards of the land. Ongoing efforts are required to promote synergies between biodiversity conservation and land management at the farm and landscapes scales. Conservation Management Networks continue to play a valuable role in promoting the importance of biodiversity conservation across land tenures. Mixed and unclear messages from a range of sources, such as ongoing changes to native vegetation clearing regulations, pose challenges in strengthening community support for biodiversity conservation.	The Goulburn Broken CMA used a wide variety of communication methods to promote projects and raise awareness of biodiversity, including events, field days, media and flyers, one-on-one discussions, and meetings, often delivered by Community Networks. **Year of the Paddock Tree** proved a great success in raising the profile of paddock trees through workshops, social media, videos, flyers, and traditional media. **Local ABC radio** monthly on the catchment's flora and fauna continues to be popular. **Traditional, Web and Social media**: Production of a Turquoise Parrot You Tube video, several twitter and facebook posts and newspaper articles promoted the biodiversity team's projects. **Booklets and flyers**: 'The Ground Storey' booklet addresses the importance of fallen logs and ground cover for landscape and biodiversity health. Flyers were produced to promote the value of Paddock trees, to advertise field days, and inform the community about threatened species and communities. **Community engagement**: Presentations were made to U3A, schools, Dookie College, community groups, Landcare groups, Probus, partner agencies, conferences and workshops on various topics around biodiversity conservation. Swift Parrot presentations to local schools. Threatened species have been used to promote biodiversity conservation including turquoise parrot and Fat-tailed Dunnarts. 127 photographs of paddock trees were received for the for the 'Year of the Paddock Tree' photography competition. **Conferences and seminars**: Year of the Paddock Tree, Celebration/Research Forum Oct 2019. Presentations at NRM Knowledge Conference, Albury; 'How to protect native vegetation in an agricultural landscape' and 'Implementing resilience at a landscape scale'.

Community capacity, engagement and involvement

Long-term strategy implementation and 2019-20 performance related to the community are included throughout the above table.

Progress towards native vegetation extent target [i], increase in area, hectares



i. Resource condition target (revised 2009): Increase the extent of native vegetation in fragmented landscapes by 70,000 hectares by 2030 to restore threatened Ecological Vegetation Classes and to improve landscape connectivity. Note that native vegetation extent is just one indicator of biodiversity. Other indicators such as native vegetation quality are more difficult to measure.

ii. Based on assumptions of gains in vegetation (such as revegetation and natural regeneration) and losses of vegetation (such as legal and illegal clearing). Vegetation burnt by major fires in natural areas is not included as a loss of extent, as it is assumed the area burnt will regenerate by 2030. However, direct vegetation removal associated with fires, such as removal of 'high risk' trees on roadsides and private land or death of scattered paddock trees from fire, is assumed as a loss in the net outcome in the year of the fire (for example, the 2009 Black Saturday fires, the 2014 Wunghnu fires and the 2015 Lake Rowan, Stewarton and Strathbogie fires) and includes an ongoing loss due to fire suppression activities. Detailed explanation of these assumptions can be found in the Goulburn Broken CMA's Biodiversity Monitoring Action Plan upon request.

Actions 2017-18, 2018-19 and 2019-20

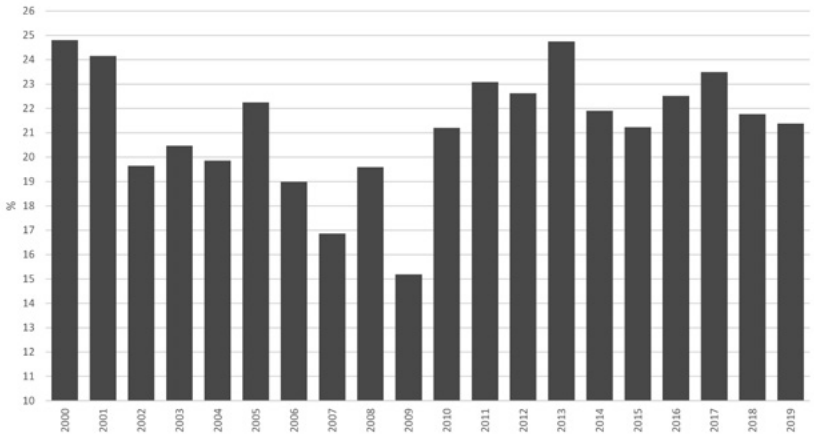
Action		From funds received				
		Achieved [i]			Target	% achieved
		2017-18	2018-19	2019-20		
Stock grazing management action						
Fence terrestrial remnant vegetation	ha	598	331	547	237	231
Fence wetland remnant	ha	0	2	8	6	140
Fence stream/river remnant [ii]	ha	161	166	112	55	206
Binding management agreement (licence, Section 173, covenant)	ha	104	-	6	-	
Grazing regime change	ha	-	-	-	-	
Habitat loss management						
Revegetation – plant natives	ha	413	625	634	330	192

i. Achievements include those from complementary investment areas (SIR salinity, Riparian and instream habitat and channel form and Dryland salinity). For a full list of footnotes please see Appendix 4 on page 142.
ii. Area figure supplied by River and Wetland Health Program Manager.

What's next?

- Continue to support Traditional Owners in their endeavour to build skills, knowledge, and capacity to deliver works on country, and have a greater influence in natural resource management planning and delivering on our obligations under the recently enacted Taungurung Recognition and Settlement Agreement.
- Aboriginal led burning programs will continue to be a focus across the Catchment both on private and public land.
- Climate Change will continue to be a focus for programs, this will include climate matching seed sourcing for native flora to increase the potential for species survival in a warming climate. This Program will include building seed production areas of climate matched species provenances.
- Deliver projects that align with aspirations and objectives of TLaWC and YYNAC Country Plans through OCOC (EC5 project submission)
- Contribute to SES local planning, as SES local plan managers (Upland Slopes and Productive Plains).
- Legitimise biodiversity conservation through community engagement and support to landholders and community groups.
- Continue to promote systems-based approaches for land management to achieve whole-of-farm and catchment outcomes for both biodiversity and agricultural productivity.
- Continue to integrate climate change adaptation into strategies, planning and project design.
- Deliver the range of DELWP and RLP funded projects.
- Continue to work with DELWP, AgVic, PV, Community Networks and other partner agencies to add value to projects.
- Continue with the nest boxes in the WGCMN, look to access more funding to address reptile and turquoise parrot habitat (Pythons & Parrots) in the Warby Ranges (BBCMN). Continue to maintain the CMN Committees. The WGCMN has been in operation 12 years, and the BBCMN for 17 years.

Goulburn Broken Catchment Tree cover change [i]



i. Source: Australian National University - Fenner School of Environment & Society.
While changes often look large between years, this may reflect the quality of data for those years rather than actual changes. Assuming that more recent data is more accurate, then there is a less than half of one percent change (decrease) in vegetation extent between 2018 and 2019. This negative change is also reflected in the GB extent graph (page 58) and shows that current resources are not sufficient to create resilient landscapes nor to achieve 2030 targets.

Investment area - Land

Compiled by Ashley Rogers, Rhiannon Apted, Tony Kubeil, Karen Brisbane-Bullock, Kerstie Lee, Steve Wilson, Kate Cunnew (AgVic), Jaye Caldwell (AgVic) and Brad Costin (AgVic).

Long-term and annual scorecard [i]

2019-20 performance	Exceeded target

Catchment condition [ii]	1990	2020	Long-term risk
			MEDIUM

The increased awareness of how soils can be improved is being applied on many farms.

Continued dry conditions are also impacting soil health in the region.

The purpose and use of private and public land have generally improved (especially grazing in sensitive areas).

Catchment-wide invasive plant and animal management is now mainly focused on new and emerging species and complementing community activity. Under present arrangements, there are high and increasing long-term risks in hot-spot areas from existing and emerging threats like deer in the alps, foothills and plains; feral horses in Barmah National Park (especially when extremely dry) and key weed species in priority areas.

Resilience assessment						Long-term strategic implementation [v]	
Critical attribute affecting long-term catchment health	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]				
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]	Start	Stage
Soils for agriculture			—	MEDIUM	HIGH	2006	Middle
Purpose and use of private land			—	MEDIUM	HIGH	2006	Watch & adapt
Purpose and use of public land			—	MEDIUM	HIGH	2006	Watch & adapt
Invasive plants and animals			▲	HIGH	VERY HIGH	2001	Middle

Certainty around soils for agriculture is moderate to low with rigorous assessments related to land use limited. Certainty around the purpose and use of private land is moderate to low with up-to-date data required to confirm our assessment and annual changes in, for example, ground cover highly likely. Certainty around purpose and use of public land is low as condition can change annually, however there is high confidence that the system is declining. There is high confidence in invasive plants and animals ratings supported by major reductions in investment from state and federal sources and a good understanding the current regional drivers as described in the 2019-20 renewal of the pest plant and animal plan.

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators of higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Land; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
814	435	428	420

i. Forecast is based on the Corporate Plan 2020-21.

The Australian Government invests in the Goulburn Broken Catchment's 'land' via the From the Ground Up project and Regional Agriculture Landcare Facilitator project, funded through the National Landcare Program. Although there is no dedicated funding for many aspects of land, such as soil conservation works (e.g. gully erosion management) and invasive plant and animal management, the Goulburn Broken CMA is able to influence land outcomes through investment in complementary project activities, such as: through the CMA's role as a referral authority on flood-prone land, community extension and engagement, and participation in multi-stakeholder forums. Where possible, the Goulburn Broken CMA implements works to complement community projects funded through programs like the Australian Government's National Landcare Program and the Victorian Landcare Program.

Strategic references

The Goulburn Broken Land Health Strategy 2017-2020 guides investment of public funds in improving the Catchment's land resources, with a significant focus on soil health. The Goulburn Broken Biosecurity, Invasive Plants and Animals Strategy 2019-2025 sets the high-level direction for invasive plants and animals investment in the Catchment and supports the State Invasive Plants and Animals Policy Framework. Priorities for pest management are also guided by community initiative and support. The Murray-Darling Basin Authority and Victorian Government's land, salinity and agricultural strategies are also pertinent references for land management. Appendix 5 includes a more complete list.

Background

Although 'land' is a category of the environment that is commonly used in natural resource management, including by government investors, it is not well defined. However, where the purpose of land is well defined, such as soils for specific types of agriculture, interpretations can be shared, which makes for more straightforward decisions.

This section helps to surface the most important land-related social-ecological issues. Four critical attributes for long-term resilience are proposed (see scorecard above).

As part of connected systems of people and nature, land supports ecosystems that provide many services, including habitat for native plants and animals, natural water purification, agriculturally healthy soils for production, and aesthetically pleasing landscapes in which to live.

Two-thirds of the Catchment is private land that is mainly used for agriculture: farmers are the largest custodians of private land and are therefore responsible for a large part of the Catchment's natural environment.

Farmers respond to fast and slow changes affecting their operating environment such as world markets, changing technologies, climate change and variability, and water availability. The challenge of maintaining profitability in the face of rapid changes can, in the short term, impact on the sustainable management of a farm's natural resources. Supporting farmers to manage their land sustainably benefits farm profitability, ecosystem health, social wellbeing and increases communities' capacity to prepare for, and respond to, change.

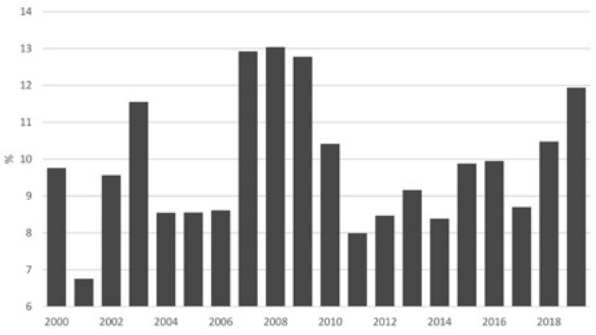
Soils for agriculture

Australia's ancient soils need care to have sufficient structure and fertility for agriculture. The capacity of soils to sustainably support agriculture can be compromised by the pressure on farmers to maximise production in the short term. It is in the national, regional and local communities' interest for farmers to build long-term capacity and health of soils so that existing enterprises can be sustained, or alternatives pursued.

Agricultural soils are in areas that have been cleared and cultivated for dryland and irrigated cropping and pastures, horticulture, viticulture and grazing.

In the late 1980s, in non-irrigated parts of the Goulburn Broken Catchment, agricultural soils were in very poor condition across broad areas. Shallow-rooted annual pastures were dominant, and other 'features' of the landscape were sheet and gully erosion, and compacted, waterlogged and salinised soils. Sheep grazing in the hills and cattle grazing in and along much of the Catchment's waterways also contributed significantly to poor soil condition. This also impacted water quality in the Catchment's waterways, with high levels of turbidity, salinity, and nutrient loads.

Goulburn Broken - Percentage of exposed soil [i]



i. Source: Australian National University - Fenner School of Environment & Society.

Since 1990, perennial grasses have been returning to steep hills and farmers are increasingly aware of the importance of groundcover, revegetation of eroding gullies, and soil acidity and management. While our current understanding and management of livestock in dryland pastures has improved, in the last ten years drought, dry springs, poor autumn breaks, proliferation of pest and native gazing animals, has seen a return in many areas to low cover, bare ground and exposed soil.

Working with partners, the Goulburn Broken CMA helps farmers meet long-term goals for soil health; capacity to store carbon, hold water, and support soil biodiversity. These long-term goals for soils are tackled by increasing soil organic matter, addressing soil acidity, water erosion and salinity.

Catchment condition (since 1990)

Long-term objectives: Between 2017 and 2020:

- *Increase or maintain soil pH at 4.8-5.0 (CaCl2) on 45,000 hectares of farming land, or 150 properties.*
- *Improve or maintain soil organic carbon equal to or above 2 per cent in annual cropland, and equal to or above 5 per cent in pasture and permanent plantings.*
- *Maintain greater than 70 per cent groundcover 100 per cent of the time on 150 agricultural properties.*

Apart from the Agricultural Floodplains SES, soil pH is mostly in a range where plant nutrient uptake is affected by soil acidity (Costin 2019), which is generally understood and managed by farmers.

Across the Catchment, the median soil organic carbon level is 2.7 per cent, although significant spatial variation has not been related to land use, prompting caution in interpreting this figure.

Total vegetation cover in grazing and cropping land of Goulburn Broken Catchment, May 2020

Wind and water erosion risk is being mapped over broad geographic areas. Methods for setting and communicating groundcover targets and evaluating progress need to be considered carefully. Factors to consider include:

- groundcover is critical in preventing erosion, however the amount of groundcover needed varies considerably with topography, soil type, rainfall and land use
- seasonal conditions impact dramatically on achievable groundcover.

Agricultural land is defined as cropping and grazing land and is 66 per cent of the Catchment. As at April 2020, 89.1 per cent of this agricultural land might be protected from wind and water erosion because it has greater than 70 per cent cover. However, cover can vary quickly and more cover is needed depending on slope and rainfall. By May 2020, 97.2 per cent of agricultural land had greater than 70 per cent cover, although there was 13.1 per cent (206,406 hectares) not protected in December 2019. For comparison, in April 2019 68 per cent of agricultural land had at least 70 per cent cover, May 2019 had 86 per cent of land with at least 71 per cent cover and December 2019 had 71 per cent of agricultural land with at least 71 per cent cover.

2019-20 saw a very dry start to spring, with farmers challenged to get soil corers into the ground in many places because it was too hard. Summer improved in many areas with rainfall supporting good growth in perennial and native grasses. Autumn was even better, with places like Eildon receiving record rainfall. Where compaction and bare ground are not limiting, the soil profile is filling and dams are full to overflowing creating further erosion challenges. In other areas the drying of the hills presented a significant issue when the rain came as without vegetation cover infiltration was low and the soil washed away. Gullies deepened and some areas have experienced minor landslips where rainfall exceeded the soil's capacity to hold due to lack of ground cover and root mass, together with gradient.

Ground cover and soil organic carbon are the key to making most use of rain when it falls and therefore healthier soils for sustainable management of the catchment. Chronic soil problems, such as compaction, acidification, erosion, and soil carbon loss, are not immediately obvious, prompting the need for soil assessment and education around maintenance of healthy soils to determine potential solutions.

In 2019-20 across cropping and horticulture industries the importance of beneficial insects and habitat to support them was of significant interest. While it represents an interest in supporting and developing native vegetation and biodiversity areas on farms, it also represents an interest in moving away from synthetic chemicals and reducing input costs.

Saline discharge sites remain present and active, with most sites able to be managed, confining impact to the local site or farm. It remains an expectation that saline discharge will emerge as a more obvious problem in wet years.

Purpose and use of private land

As well as how land is used, the purpose of what land is used for is significant in determining its capacity to meet short and long-term needs. The purpose of what land is used for is closely linked to how it is used. For example, if it is used specifically for cropping or for nature conservation. It is important to work with local governments through their planning processes to match what land is used for to its capability.

Private land has many uses. As markets, climate, land value, farmer age and other aspects of farming change, some farmers are choosing to retain their existing enterprise and adapt their approach and management practices (the 'how' land is used). Others may have transitioned to a completely different purpose (the 'what' land is used for).

Catchment condition (since 1990)

There are opportunities for both biodiversity and agricultural outcomes to be realised within farms and across landscapes. Native vegetation corridors, for example, provide woodland bird habitat, increase beneficial insects, pasture and stock shade and shelter, increasing livestock welfare and production. Some farmers are also working with native grass species in steep areas, or areas with fragile soils. Some farmers are treating large areas of their farms differently and, with financial support, are protecting vegetation and revegetating.

Water policy reform and reduced water availability over the last decade is forcing fundamental changes in the 270,000 hectares of the Shepparton Irrigation Region (see Sustainable irrigation section page 68).

Elevated land values continue to drive farm subdivision and land turnover. Commodity prices have also driven significant changes in land use: for example, the shift in dairying to opportunistic irrigation (such as fodder production, livestock trading and cropping) and the expansion of continuous cropping.

Where appropriate, Goulburn Broken CMA and partners encourage farmers to provide broader community benefits by using areas of native vegetation, waterways and wetlands for more passive purposes. These aspects of land-use purpose are reported in the Biodiversity and Waterways sections. The Goulburn Broken CMA also works with industry and Landcare groups to support innovation in farming methods that increase sustainability such as pasture cropping, multi-species cover cropping, regenerative grazing and integrated pest and disease management.

Purpose and use of public land

The primary purpose for the use of 800,000 hectares of the Catchment's public land is largely set: it is primarily reserved for environmental and cultural conservation, nature-based tourism and timber harvesting.

Active management of public land is needed in areas of relatively more passive use because visitor numbers are rapidly increasing and, along with invasive plant and animal pressures, can lead to negative environmental and cultural heritage impacts. For example, illegal rubbish dumping, driving on sandhills, weed spread via vehicles, or firewood collection without a permit, can reduce habitat for native species and impact on Traditional Owners' cultural heritage.

People fish and camp along the Catchment's many waterways, including Victoria's largest and most preferred fishing locations: the Goulburn River, Victoria's most popular lake for fishers, Lake Eildon, and the world's largest red gum forest in Barmah National Park. The proximity of the Catchment's Alps to Melbourne make them a prime destination for visitors.

The Goulburn Broken CMA helps partner agencies manage public land and stakeholders identify actions needed to meet short-term community expectations, while aiming for long-term resilience.

Catchment condition (since 1990)

The overwhelming trend in what public land is used for has been towards more passive purposes, such as conservation and recreation, with large areas having undergone a change in reservation status since 1990. National Parks like the 9,310 hectares Lower Goulburn National Park and the 28,500 hectares Barmah National Park have been established. Licences to graze Crown frontages along streams have been revoked as part of establishing these national parks, and significantly tighter restrictions have been placed on other existing Crown frontage licences. The changed reservation status has benefited native vegetation and associated ecosystems, improving water quality and land and water habitat for biodiversity.

Although environmental resilience has improved as a result of these changed purposes of land use, significant challenges remain or have emerged, like climate change, invasive plants and animals, and increased recreation

pressure (see www.heartofvictoria.com.au/nature-at-its-best).

Some pockets of tension between personal and broader community purposes, such as those related to logging, deer, or feral horses, require significant whole-of-stakeholder commitment to resolve.

Invasive plants and animals

In the Goulburn Broken Catchment, invasive plant and animal management is built into projects and programs where possible. The 'biosecurity approach' of the Goulburn Broken Biosecurity, Invasive Plants and Animals Strategy 2019-2025 emphasises the prevention and eradication of high-risk new or emerging weed species. This approach is considered the most cost-effective use of limited resources.

Where groups demonstrate sustained, coordinated effort over several years to control State priority invasive plants and animals, AgVic endeavours to provide support through targeted compliance programs.

The Goulburn Broken CMA participates in the North-East Deer Round Table forum, introducing the community to commercial control methods and keeping landholders up to date.

Community groups are leading coordination of local weed programs. In Mansfield, the Up2Us Landcare Alliance coordinates a biannual agency-community weeds forum to collaboratively make best use of limited resources. On the northern side of the Strathbogie Ranges, the six Landcare Groups within the Granite Creeks Project are working with Strathbogie Shire Council to control a variety of community priority weeds on roadsides and adjoining land.

Other Shires adjacent to these have borrowed the model to more effectively coordinate pest plant and animal management, emphasising the need to be collaborative to tackle these burgeoning issues.

Catchment condition (since 1990)

Many species of invasive plants and animals have become naturalised and invade all areas of the Catchment.

Foxes, wild dogs and feral cats kill millions of native animals each year. Rabbits cause erosion and, together with deer, compete for resources and prevent natural regeneration of native flora. Deer impact on alpine bogs, wetlands, and riparian zones. Adult Sambar Deer are 2.5 Dry Sheep Equivalent, pressuring many agricultural industries and enterprises. Kangaroos can also significantly decrease a farm's stock carrying capacity.

Pest plants outcompete native species, reducing diversity, and provide harbour for pest animals.

Long-term strategy implementation progress and 2019-20 performance

The Goulburn Broken CMA continues to work closely with AgVic, Landcare networks and groups, and industry groups for strategic implementation of Land outcomes.

Community capacity, engagement and involvement

See also Community section (page 31).

Integrated delivery via Land, Biodiversity and Indigenous Team

The Goulburn Broken CMA's Land, Biodiversity and Indigenous Team supports the delivery of actions through state and federal funding streams. This recognises that to be resilient, systems within and beyond the farm fence require a focus on connections between all elements, including ecosystems, productive land, and communities.

Team members work closely with relevant agencies like Parks Victoria, DELWP, AgVic, local government, water authorities, the Country Fire Authority, community groups and individuals.

Funding to community groups included the Victorian Government's Landcare grants, Communities for Nature projects, and delivery through the CMA of the Australian Government's National Landcare Program Regional Land Partnerships.

Community engagement is critical to successful delivery. Extension and education events are developed and implemented, often through delivery by community networks, to increase awareness of the importance of creating healthy landscapes, healthy soil and conserving biodiversity.

During 2019-20, our Australian Government-funded project, 'From the Ground Up' delivered activities via 19 projects worth $233,325 through Goulburn Broken CMA and project partners (see Key partners box below).

Activities included 11 demonstration sites, 21 workshops and 44 communication materials. Workshops were held online after COVID-19 restrictions came into place. 25 activities were not able to be completed due to the restrictions. 353 people participated in program activities, 236 of these were farmers. These numbers are less than anticipated due to the postponement of 11 activities and five demonstration sites.

In 2019-20 the Victorian Government's Victorian Landcare Grants funded 45 grants to 39 community groups and networks to the value of $263,513. (See Appendix 7).

Key community groups and partners include:

Landcare Networks: Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray, Hughes Creek, Gecko Clan

Conservation Management Networks: Strathbogie Ranges, Longwood Plains, Whroo Goldfields, Broken Boosey

Industry and producer groups: Irrigated Cropping Council, Maize Association of Australia, Riverine Plains Inc., Vic No-Till.

Landcare and community groups: Friends of the Marysville Walks Inc., Turtles Australia Inc., Fords Creek Landcare Group, Euroa Arboretum Inc., Strathbogie Tableland Landcare Group, Kyabram Urban Landcare Group, Greta Valley Landcare Group, Granite Creeks Project Inc., Gooram Valley Landcare Group, Creightons Creek Landcare Group, Molyullah Tatong Land Management Group, Glenaroua Land Management Group.

Invasive plants and animals

Different pest plants and animals are targeted through various fund sources, including Victorian Biodiversity Response Planning, Landcare and Good Neighbour programs, Local Government Roadside Weeds and the Goulburn Broken CMA Waterways programs. Community groups use local connections to encourage high levels of landholder participation in coordinated pest control programs where neighbours work together. All programs foster community support and ensure the best outcomes from the small investment available.

In consultation with community groups, targeted compliance and extension activities were delivered to support large-scale rabbit and weed control programs, ensuring participation of all land managers in project areas. Pooling the resources of Victorian Landcare Grants, Good Neighbour program and the release of the Calicivirus K5 strain in the Gooram, Ruffy and many other network areas of the Goulburn Broken has supported large investment over 20 years to control rabbit impact.

The treatment of invasive plants and animals on roadsides through the local government Roadside Pest Program again complemented the AgVic and community group invasive plant and animal programs.

There is continued community concern surrounding the rising deer population. Goulburn Broken CMA landholders were informed that the commercial operator Wild Game Resources Australia offers help to manage deer. The proposition of being paid to allow professional shooters harvest deer on private land for meat export was taken up by several landholders in the upper Broken River Catchment. This regained momentum in the second half of 2019 and we are interested with how Wild Game Resources Australia will be able to deliver during the COVID-19 pandemic. Their ability to have maximum impact may once again leave a gap in management options for wild deer.

Landcare and DELWP have partnered to assist the community to access permits for the control of overabundant wildlife and to be included in the kangaroo pet meat trial. With the severe fire season and the COVID-19 pandemic landholders are in some confusion about the continuity of the program but continue to be in desperate need of the management assistance.

Investment in community-driven blackberry control works continued, in parallel with AgVic and existing Blackberry Action Groups. The Victorian Blackberry Taskforce has expanded in our region through support to the newly established groups in the Creightons Creek and Tallarook areas. A new group in the Mansfield region is concentrating their efforts on blackberry and other pests in alignment with the need to raise awareness of pest plants in our agricultural landscape.

Management of all known sites of State Prohibited Weeds and Regionally Prohibited Weeds remained a high priority and a control activity delivered by AgVic.

The Goulburn Broken CMA River Health Program and GMW continue to monitor at risk waterways for aquatic weeds e.g. Cabomba and Arrowhead at Lake Benalla and Broken Creek.

AgVic Invasive Plants and Animals activities in 2019-20 were heavily impacted by staff deployments to fire response and recovery in the North East and Gippsland regions:

- Regionally Prohibited Weeds (7 projects): Targeting Serrated Tussock, Artichoke Thistle, 1 and 2 leaf Cape Tulip and ragwort; 221 properties and public land sites inspected; 12,287 hectares inspected; 11 Directions Notices issued, with all land owners complying. New, small infestations of Serrated Tussock were discovered at Yarrawonga and Tungamah.
- Granite Creeks area Rabbit compliance project: 43 properties and public land areas targeted; 1806 hectares inspected; 12 Direction Notices issued; Works conducted on several properties, some property owners were issued extensions to notices.
- Sunday Creek – Waterford Park area Blackberry extension project: Targeting 26 properties and public land areas; 1466 hectares inspected; advice and information given to land owners.
- State Prohibited Weeds sites were monitored and treated where required: 1 warrant and seizure on a new Water Hyacinth site undertaken (this site will continue to be monitored until eradicated); 2 historical Water Hyacinth sites monitored; 5 Camel Thorn sites monitored and treated; 3 Mexican Feather Grass sites monitored; 1 Giant Knotweed site monitored.

As a consistent investor in pest plants and animals, the Victorian Landcare Grants provided $70,750 in funding across five projects to control pest plants and animals. A coordinated community effort with agency compliance action ensured a high level of landholder participation in the control of priority established invasive plants and animals, including Blackberry and rabbits.

Regional Agriculture Landcare Facilitator and Landcare

The Regional Agriculture Landcare Facilitator sits within the Land, Biodiversity and Indigenous Team. Funded by the Australian Government's National Landcare Program, the Facilitator works to support farmers and land managers in the Goulburn Broken Catchment to increase their awareness, knowledge and skills in sustainable farm management practices. The facilitator also supports regional community leaders and groups engaged in NRM and agricultural production to increase their capacity, confidence and participation.

The project focuses on supporting private land used for agriculture. Supporting the delivery of the NLP/RLP 'From the Ground Up' via workshops, short courses, field days, and publications in partnership with community, industry groups and government.

Project activities were developed with guidance from an independent advisory group (membership includes farmers and industry representatives), feedback from past participants and results from the annual community group survey. The advisory group now has a focus on assisting with the Regional Catchment Strategy and Land Health Strategy on an as needs basis.

The Regional Agriculture Landcare Facilitator assisted the Regional Landcare Coordinator to develop training options for the Coordinators and Facilitators and adapted this training to an online forum when the COVID-19 pandemic created challenges for the preferred face-to-face learning.

The project continues to collaborate with the Regional Landcare Coordinator to work with all the partners (see box page 63), involving more than 5,000 volunteers and 90 natural resource management groups.

Land managed for conservation, ha

Protection type	Total	Added 2019-20
National parks [i]	345,267	0
State parks [i]	41,909	0
Trust for Nature covenants [ii]	1,427	6
Landholder agreements [iii]	7,680	451
Other [i]	525,601	0

i. Data from Public Lands Management spatial dataset (PLM25). 'Other' includes Bushland Reserve, Other Reserves And Public Land, Essentially Natural Catchment, Uncategorised Public Land, State Forest, Bushland Reserve, Nature Conservation Reserve, Wildlife Reserve (Hunting), Other (Non Scheduled), Regional Park, Historic Reserve, Streamside Reserve, Natural Features Reserve, Forest Area, Revegetation Area, PV Managed Land, Natural Features And Scenic Reserve, Scenic Reserve, Reserved Forest, Wildlife Reserve (Sgr Classification Pending Reservation), Roadside Conservation, Proposed National Parks Act.

ii. Trust for Nature total includes 2010-11 to 2018-19. Added 2019-20 refers to Goulburn Broken CMA-funded sites only.

iii. Includes long-term management agreements (Goulburn Broken CMA-funded sites only).

Land Health Strategy strategic implementation

Long-term strategy implementation progress	2019-20 performance
Strategic objective: Practice adaptive management	
Activities have focused on meeting landholder needs, expressed in participant surveys, together with delivering investment priorities of the Australian Government's National Landcare Program. Activities are divided into five themes: soil acidity, soil carbon, hillslope erosion, native vegetation and biodiversity on farm, and climate change adaptation. Activities are delivered by Landcare Networks and groups, producer groups, Conservation Management Networks (see partners box page 63), the University of Melbourne, AgVic and the Goulburn Broken CMA. Participant surveys provide evidence that landholders do make changes as a result of participating in program activities.	Through community and industry expression of interest, From the Ground Up has sponsored 16 demonstration sites of new and emerging practices in the Goulburn Broken Catchment. Demonstrations include regenerative grazing management; stubble and fertiliser (organic and inorganic) treatments for increased carbon and impacts on crop performance; the impact of different crops on soil carbon level, including options to participate in carbon credit markets; options for soil carbon management in permanent pastures; management options to reduce soil acidification in subsurface irrigation systems; measurement and management of grazing impacts on soil nutrient redistribution; native vegetation options for increasing pollinators in horticulture and broad acre crops; organic manures and their impact on soil condition; and, cultivating indigenous food crops with training in their nutritional value and production. 11 of these demonstrations are completed and running, five have completed plans and initial data, but require lifting of COVID-19 restrictions in order to complete their set up. From the Ground Up has also delivered workshops in native grass identification and management, holistic management, managing soil acidity and aluminium, soil organic carbon education and management, local options to build farm resilience to climate change, integrated pest and disease management, and soil test interpretation.
Strategic objective: Strengthen partnerships	
Goulburn Broken CMA continues to foster and grow partnerships with industry groups, community networks and groups and individuals. Partnerships with industry and community Landcare groups are strengthening as reflected in the development and delivery of partnership projects.	Goulburn Broken CMA continued to work with AgVic to plan and deliver locally relevant soil workshops, including Hillslope erosion and soil acidity management. AgVic has continued their work supporting agriculture service providers to access new information and skills in soil management and knowledge through its Service Provider Forums. One Sustainable Agriculture Advisory Group meeting was facilitated, providing feedback on agriculture projects and emerging issues specific to the development of the new RCS. 24 project grants were awarded to Goulburn Broken Catchment community NRM groups through the Victorian Landcare Grants. 16 project grants were devolved through the National Landcare Program's From the Ground Up project. Two project partners meetings were facilitated. The Regional Agriculture Landcare Facilitator assisted with the co-coordination of Central Cascades Connection (previously Northern Rivers Round Up) workshop with North Central and Corangamite CMAs to bring together the Landcare Facilitators and Coordinators for peer learning. The conference is scheduled for 2021, but training has continued online. The Goulburn Broken CMA participated in the Indigenous Consultation Working Group and chaired the statewide Dryland Managers Forum.

Long-term strategy implementation progress	2019-20 performance
Strategic objective: Adapt to land-use change	
Land-use changes continue across the Catchment in response to short-term pressures such as seasonal variation, drought and fire, and long-term pressures such as ageing farmers and increasing competing demands for land resources between farming, lifestyle and urban land use. Drivers include ongoing population growth and migration into and within the Catchment. The ongoing challenge is to balance the environmental, social and economic needs as land use change continues and to manage these changes so natural resources, such as soils, can continue to provide services of high value to people and nature.	Through direct delivery and investment in partners including AgVic, Vic No-Till, Irrigated Cropping Council, Riverine Plains Inc the Goulburn Broken CMA has supported decision making around new and evolving technologies such as organic amendments, precision agriculture, regenerative grazing management, irrigation management, and management of soil structure and non-wetting soils. Through the RCS renewal process the Goulburn Broken CMA has compiled new land use and population data.
Strategic objective: Support the development of resilient farming systems	
We continue to work with Landcare, producer groups, farmers and AgVic to identify and adapt farming enterprises to have the capacity to respond to change, such as climate variability, changing markets, and are integrated with the natural environment. Interest from graziers in developing resilient pastures in the face of variable and drier seasonal conditions remains high. Resilient pastures comprise high ground cover, perennial grasses and good species diversity through good soil condition for water infiltration and water holding capacity, carbon cycling and storage. Practices include pasture cropping, holistic decision making, grazing management and perennial pasture renovation with annual fodder crops. Interest from cropping farmers remains strong in finding efficiencies through technologies like deep soil testing and soil moisture probes. Interest in integrated pest management and supporting beneficial insects and predators is growing. Other resilience building technologies of interest include cover cropping, integrating livestock, managing large stubble loads through technologies other than burning and cultivation, addressing soil compaction using compost and soil moisture probes in grazing landscapes.	Staff and project partners delivered 32 activities and 11 demonstration sites around resilient farming to more than 350 participants; 13 industry and community partners were involved in delivery. Topics included spatial variability in soil acidity, regenerative grazing, soil health and soil biodiversity, non-wetting soils, soil structure management, soil constraints, increasing biodiversity in orchards and native grass identification and management.

What's next?

- Continue to support community-initiated projects through the Landcare Facilitators and Coordinators group and the From the Ground Up partners group, and general expression of interest process.
- Continue to coordinate community education opportunities across agencies and build the 'soil health' community network.
- Continue to invest in Landcare and community groups to deliver soil health and sustainable farming projects.
- Link training packages to promotion of improved management practices.
- Work on the identification of improved management practices.
- Showcase and connect farmers implementing improved management practices.
- Coordinate peer-supported learning opportunities, focused on management solutions and building the soil health community network.
- Continue to build the capacity of community groups and individuals to carry out their own assessments of soil health and management practices in a rigorous and logical way through support of demonstrations.
- All State and Regionally Prohibited weed sites will continue to be surveyed and treated where necessary.
- Review and renew the Goulburn Broken Land Health Strategy 2017-20.

Works and operations

Soils for agriculture, purpose and use of private land - Actions 2017-18, 2018-19 and 2019-20

Action		From funds received				
		Achieved [i]			Target	% achieved
		2017-18	2018-19	2019-20		
Fence remnant vegetation	ha	378	298	486	197	247
Irrigation drainage environment plans	no.	-	-	-	-	
New irrigation referrals dryland zone [iv]	no.	6	3	0	12	0
Improved irrigation dryland zone [ii, iii]	no.	10	6	11	7	157
Sub-surface water action						
Revegetation – plant natives	ha	176	487	344	261	131
Pasture – plant	ha	-	-	-	-	
New groundwater pumps – public installed	no.	-	-	-	-	
Planning for works action						
Whole farm plans - Level 1 [iii]	no.	-	-	-	-	
Whole farm plans prepared - Level 2 dryland zone [iii]	no.	-	-	-	-	

i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes please see Appendix 4 on page 142.
ii. An aggregate of properties and irrigated areas receiving intensive extension support for irrigation whole farm planning, system checks, soil moisture monitoring equipment, scheduling and major system changes.
iii. Level 2 is comprehensive and is equivalent to SIR's whole farm plan. Level 1 is a short-course that is a precursor to Level 2.
iv. Unit of measure published previously should have been 'number' and not 'hectare'. Achievement for 2017-18 includes one new irrigation referral in the SIR.

Invasive plants and animals - Actions 2017-18, 2018-19 and 2019-20

Action		From funds received				
		Achieved [i]			Target	% achieved
		2017-18	2018-19	2019-20		
Weed invasion						
Weeds – aquatic weeds controlled/eradicated	km	10	9	28	-	
Targeted infestations of weeds in high priority areas covered by control programs [ii]	ha	4,441	2,099	5,773	3,084	187
AgVic Biosecurity & Agriculture Services works - Targeted infestations of weeds in high priority areas covered by control programs [iii]	ha	11,001	20,995	14,000	-	
Pest animals						
Pest animal control [iv]	ha		1,429	112,621	95,740	118
AgVic Biosecurity & Agriculture Services works - Area of high priority rabbit infested land covered by control programs [iii]	ha	6,400	3,486	1,806	-	
Area of high priority rabbit infested land covered by control programs	ha	3,510	-	-	-	
Area of high priority fox infested land covered by control programs	ha	509	-	-	-	

i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes see Appendix 4.
ii. This includes 'Weeds - woody weed management' (Appendix 4).
iii. Works completed by DJPR AgVic Biosecurity & Agriculture Services (outside of the Corporate Plan).
iv. Output included for the first time in 2018-19, superseding the two separate outputs of fox and rabbit control (excluding the DJPR AgVic Biosecurity & Agriculture Services rabbit control), to encompass the broader range of pest animals being controlled.

Investment area – Sustainable irrigation

Compiled by: Carl Walters, Chris Nicholson, James Burkitt, Jenny Wilson, Mark Potter (GMW), Mark Turner, Megan McFarlane, Rebecca Caldwell, Rebecca Pike (AgVic), Rod McLennan (consultant), Simon Casanelia, Simon Cowan (GMW), Terry Hunter (GMW).

Long-term and annual scorecard [i]

2019-20 performance	Exceeded target

Catchment condition [ii]	1990	2020	Long-term risk
	●	●	HIGH

Shepparton Irrigation Region (SIR) social-ecological systems depend on highly productive and efficient irrigated agriculture. They are beyond tipping points and are adapting and transforming, creating significant uncertainty and stress.

While water availability for the environment is improving, high unseasonal flows to meet downstream water demands are creating significant impacts to Goulburn River bank vegetation.

Declining water availability for agriculture is threatening farm and regional viability, making it extremely challenging for the region to adapt to a future with less water.

Water quality has improved significantly, and works and long-term dry conditions have stabilised watertables for now.

Intervention is improving some pockets of native vegetation, however most threatened ecosystems remain at high risk. Native vegetation extent is still poor (less than 3 per cent).

Resilience assessment							
Critical attribute affecting long-term catchment health	Contribution to system function [iii]		Risk to system thresholds/tipping point [iv]			Long-term strategic implementation [v]	
			Trend 2017-20	Long-term (10+ years)			
	1990	2020		Current support [vi]	No support [vi]	Start	Stage
Water availability for							
- the environment	●	●	▲	MEDIUM	HIGH	2011	Early
- agriculture	●	●	▲	VERY HIGH	VERY HIGH	2015	Escalated response [vii]
Water quality	●	●	—	MEDIUM	HIGH	1995	Watch & adapt
Watertables	●	●	—	MEDIUM	HIGH	1983	Watch & adapt
Native vegetation extent	●	●	▲	VERY HIGH	VERY HIGH	1997	Middle
Farm and regional viability	●	●	▲	HIGH	VERY HIGH	2015	Escalated response [vii]

Certainty of ratings is high. Certainty around water quality and water tables information is very high (strong long-term monitoring and evaluation). Certainty around native vegetation and water availability for agriculture is high (reasonably consistent long to medium term monitoring and evaluation). Certainty around water availability for the environment and farm and regional viability is medium (mixed consistency or shorter-term monitoring and evaluation).

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
iii. System is Agricultural Floodplains social-ecological system; benchmark for contribution is the desired level, as defined (formally or informally) in 2020.
iv. Risk that system will not be in desired state of resilience in the long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
v. Long-term strategies vary significantly in formality. 'Start' approximates when holistic, integrated approach to influencing critical attribute began.
vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
vii. 'Escalated response' recognises that the situation has shifted so significantly that difficult and sensitive questions about transformation and transitioning must be considered.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
21,315	5,509	7,038	6,758

i. Forecast is based on the Corporate Plan 2020-21.

Strategic references

Strategies for many themes, such as biodiversity and river management, prepared by the Goulburn Broken CMA and state and national organisations are integrated in the Shepparton Irrigation Region Land and Water Management Plan (SIRLWMP) 1990-2020. Murray-Darling Basin Authority and Victorian Government water and agricultural strategies are also included.

SIRLWMP Vision and Purpose

The Shepparton Irrigation Region community leads Australia in producing food in harmony with the environment.

The purpose of the plan is to support and grow the natural base that is vital for agriculture, biodiversity and people to jointly flourish.

Background

The Victorian Government-endorsed final update of the SIRLWMP was launched in 2017. The Sustainable Irrigation Program delivers on the vision through onground works that are supported by the community-based Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC).

Since 1990, the SIRLWMP has evolved from focusing on salinity to managing five attributes that are critical to how the region functions as a system of people and nature:

- water availability (for the environment and for agriculture)
- water quality
- watertables
- native vegetation extent and
- farm and regional viability (which evolved in 2018 from 'farm and food-processor viability').

The approach reflects the Goulburn Broken CMA's emphasis on resilience. The SIRLWMP is implemented by sharing decisions around social-ecological system risks and opportunities. Integration of eight priorities and associated actions to achieve multiple benefits (in terms of critical attributes) remains a key principle, and a consolidated report against each priority is included in this annual report.

Reporting on regional land salinisation and Murray River salinity impacts is included under Watertables (page 71). Additional salinity management in the broader Goulburn Broken Catchment is reported under Land (page 60).

Catchment condition - Sustainable irrigation (since 1990)

The SIR's social-ecological systems are transforming: several key tipping points are breaching, creating uncertainty and significant human and environmental stress.

Over the past three decades, the SIR community has responded to challenges, created opportunities, and contributed more than its share to the broader MDB objectives. The community has pioneered approaches to salinity management, water quality improvement action, water-sharing for all uses, biodiversity protection in a heavily populated landscape, and building stakeholder partnerships.

While it is proving difficult for government to maintain appropriate levels of support, the SIR's future remains in a diverse and productive agricultural system within a landscape where amenity usage is increasing.

A key challenge is to keep building capability to take advantage of strong regional networks, natural assets, existing regional and farm infrastructure, and proximity to markets. Coronavirus (COVID-19) and 2019-20 fires remind us that environmentally sustainable food production is fundamental.

Water availability

The Goulburn Broken Catchment generates a lot of water compared to other inland areas in Australia. Despite covering just two per cent of the Murray-Darling Basin's area, the Goulburn Broken Catchment generates 11 per cent of the Basin's water. Most of the Catchment's water flows through the SIR.

The Murray, Goulburn, Broken and Campaspe Rivers are SIR's major water courses. They have highly variable natural flows and previous generations turned them into 'working rivers' by building dams to manage flows.

Since the late 1990s, extended dry sequences linked to climate change are resulting in less water inflows into the Goulburn Broken Catchment's storages. Environmental entitlements have become significant. Large volumes are also now transferred downstream to meet growing Victorian and interstate agricultural, environmental and other consumptive demands.

Less available water in the SIR means less production from irrigated agriculture, increased risks to habitat and species, and reduced water quality in rivers, streams and wetlands.

Drier conditions are causing the region's irrigation farm-based social-ecological systems to be disrupted and in some cases transform. This rapid rate of change is resulting in extremely high levels of uncertainty and stress.

More water has been made available for the environment by reducing losses in storage and delivery as well as purchase of water from irrigators. More water has been made available to irrigators due to increases in farm efficiency works and practices.

a Water availability for the environment

Water is provided for the environment according to seasonal conditions and opportunities. Volumes and timing of water provided cannot be known ahead each of season, so long-term objectives with specific volume targets cannot be set. Seasonal targets are set through the annual Victorian Environmental Water Holder Seasonal Watering Plan.

Despite extended dry periods since 1990, environmental risks have reduced because water is now set aside in storage to deploy specifically for the environment. This water is targeted at various environmental improvements, including streambank vegetation establishment, water quality, fish habitat, and waterbird breeding. It is used both within and alongside rivers and creeks, and for various wetlands on the plains.

Requirements to transfer water downstream in recent years are now causing high unseasonal flows within the region's rivers, creating significant risks to lower Goulburn River streambank vegetation, and streambank vegetation along the Murray River in Barmah-Millewa Forest.

Public concern about the lack of water for the environment has escalated due to publicity of blackwater events, mass fish deaths, and stopped stream-flows

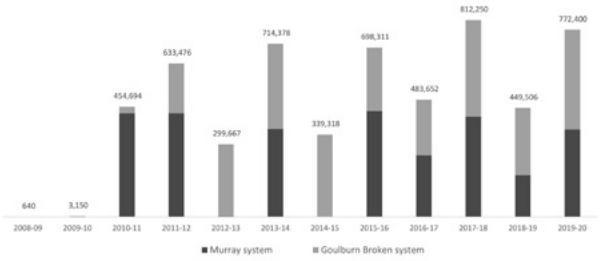
Since 2008-09, between 0.6 and 812 gigalitres have been delivered annually to the SIR and adjacent environment from the Goulburn, Broken and Murray systems (see table and bar chart page 70). Water is delivered to key wetlands and reaches of rivers and creeks in line with the seasonal watering plan. Much of the water used for the environment in the Goulburn Broken Catchment flows downstream for the benefit of other regions.

The annual environmental entitlement held within the Goulburn and Broken systems has been increasing in recent years. For 2019-20, the 'high reliability' entitlement within the Goulburn and Broken systems is 429 gigalitres. Water is also held within the Murray system for Barmah-Millewa Forest (within NSW and Victoria).

Minimum streamflows for water quality and other environmental needs are a condition of urban and rural water authorities' bulk entitlements to water for distribution to irrigators, stock and domestic users, and townships.

See also Streamflows and wetland inundation in the Waterways section page 38.

Environmental water use, megalitres



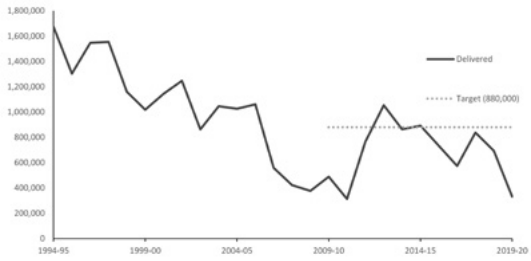
b Water availability for agriculture

Long-term objective: Maintain delivery of 880,000 megalitres for agriculture within the SIR (in an average season of 100 per cent allocation).

Seasonal volumes of water delivered to SIR irrigators reflect water availability and competing downstream demands. Irrigation deliveries in the region have declined significantly from more than 1,200 gigalitres seasonally in the 1990s. In 2019-20, 332 gigalitres were delivered (see graph below).

Volumes are at very high risk of declining further because climate change is reducing rainfall and inflow into storages. Water is also being transferred from the SIR to other parts of the southern connected Murray-Darling Basin in response to industry trends, changes in water demand and trading rules.

Water delivered for agriculture in SIR, megalitres



Water quality

SIR water is naturally of good quality and has improved significantly since 1990. Land and water use are managed so that water quality continues to meet standards for various uses both within the SIR and downstream, including for agriculture, the environment, recreation, culture, industry and domestic consumption.

Goulburn Broken CMA and partners have focused on reducing both instream phosphorus levels (to reduce overall nutrient loads and blue-green algal blooms) and Murray River salinity.

a Salinity

Long-term objective: Manage the salinity impacts on the Murray River at Morgan (in South Australia) from implementation of the Shepparton Irrigation Region Land and Water Management Plan at or below the 8.9EC credit allocated to the Goulburn Broken CMA by the Victorian Government to meet MDBA's requirements.

The SIR is estimated to annually contribute up to 138,596 tonnes of salt to the Murray River, equating to an increase of 5.2EC at Morgan, well within the allocated 8.9EC.

Since 1990, SIR salt loads into the Murray River have declined because drainage and channel outfall water flows have reduced significantly due to improved water-use efficiency through SIRLWMP implementation, other large regional and farm-scale water-use efficiency projects such as Connections (irrigation delivery system upgrade) and the Farm Water Program, and dry conditions.

Salinity thresholds are rarely exceeded because operational procedures manage irrigation channel and drain flow and the disposal of saline groundwater.

b Phosphorus (and nutrient loads)

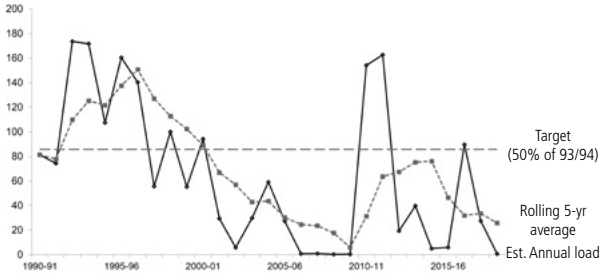
Long-term objectives:
- Reduce potential total phosphorus loads by 65 per cent by 2016 (from the benchmark of 361 tonnes).
- Reduce total phosphorus loads from irrigation drains by 50 per cent by 2016 (from the benchmark of 169 tonnes).

The five-year rolling average total phosphorus loads from both the overall Goulburn Broken Catchment (page 39) and from irrigation drains (below) are below the long-term targets set in 1996.

Implementation of the 20-year Water Quality Strategy was completed in 2016 and is an exceptional example of a successful long-term collaborative effort and achievement.

Improved water-use efficiencies in the channel system and on farms have significantly reduced the relatively fresh waterflows from drains: this might result in higher concentrations of nutrients in streams, but far less overall total loads.

Annual phosphorus loads from all irrigation drains in the Goulburn Broken Catchment, tonnes/year



c Other water quality issues

Waterways are well within the EPA's thresholds for most parameters, and a watching brief is mostly appropriate, mainly for sudden events and negative long-term trends.

Blackwater events in the Goulburn River caused by rain events further upstream from the irrigated landscape are reported under water quality on page 39.

Watertables

Long-term objective: By 2020, minimise irrigation-related salinity impacts from shallow watertables on 500,000 hectares.

Saline and waterlogged soils caused by high watertables impact significantly on soil health and plant growth, and therefore on agricultural and regional productivity. High watertables also degrade environmental features, especially wetlands and streams which are lower in the landscape. Salt mobilised by high watertables can impact on rivers and streams thousands of kilometres downstream.

In 1988, more than one-third (188,000 hectares) of the SIR was subject to high watertables (within two metres of the surface).

The area at risk from high watertables and associated salinity has reduced significantly since 1990 due to:

- a smaller area of land being irrigated because the irrigation delivery system was upgraded (modernised), annual irrigation is more varied and water is being traded out of the region
- better surface water and subsurface drainage systems, as well as improved water-use efficiency (see pages 73, 74 and circle chart below) and
- a drying climate.

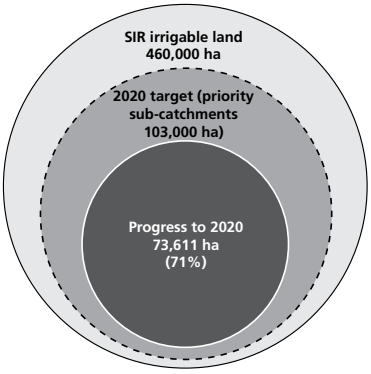
However, wetter seasonal conditions, particularly rainfall on an irrigated landscape, are now known to cause rapidly rising shallow watertables.

Surface drainage and groundwater pumping buffer and reduce watertable accessions during intense rainfall events on an irrigated landscape. These events tend to be localised and random, and increasingly occur in summer.

The uncertain and shifting irrigation footprint, emerging high water-using crops and a transforming GMW create significant challenges, prompting the need for partners to respond rapidly and collaboratively.

Drier conditions in 2018 and 2019 resulted in further contraction in land areas with high watertables.

Progress in managing salinity impacts, Shepparton Irrigation Region



Native vegetation extent

Long-term objective: By 2030, the extent of native vegetation will be increased by 2 per cent across nine focus landscapes.

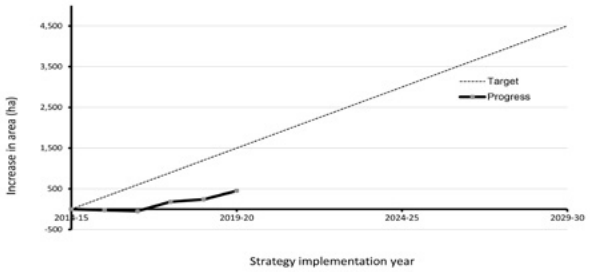
More than 97 per cent of native vegetation on the SIR's private land has been cleared for settlement and agriculture.

Most remaining native vegetation is in public land reserves, including the River Red Gum-dominated 28,500 hectares of Barmah and Lower Goulburn National Parks, and in corridors along waterways and roadsides. Native vegetation away from these reserves and corridors can be isolated fragments and lack the shrubs, ground layer, fallen logs and other habitat elements needed to host a diversity of flora and fauna.

Despite significant levels of stock control, revegetation, and other native vegetation improvements since 1990, the scale of change has not been enough to ensure long-term survival of all native species. Clearing (particularly of paddock trees), invasive plants and animals, fire management, and climate change continue to degrade native vegetation.

'Focus landscapes' are those with the most potential for significant habitat to be protected, restored, and connected. Native vegetation extent has increased by 450 hectares across the nine focus landscapes of the SIR since 2014-15. This is 30 per cent of the target until 2019-20, placing us well behind schedule.

Native vegetation extent across nine focus landscapes in Shepparton Irrigation Region, ha



Farm and regional viability

Long-term objective: Help farm and food-processors to continue to be viable, by supporting the natural base in a way that helps them adapt quickly to changing agricultural markets and demands.

Food production and processing derived from irrigated agriculture dominate the SIR economy. In 2017-18, the gross value of agricultural production in the Shepparton region was $1.9 billion (13 per cent of Victoria's $15 billion) (ABS 2019).

However, farmers face a changing climate, variable domestic and world markets, and increasing input costs, such as land, water, nutrients, oil and technology. Water for irrigated agriculture has become significantly less affordable (see 'Water availability' page 69).

Since 1990, many pre-retirement SIR farmers have left the industry, or now supplement their incomes though off-farm employment. Farming systems have been transforming to be more productive, profitable, and resilient.

Industries dependant on irrigated agriculture have also been transforming.

The transformations in farming and irrigation dependant industries are impacting social dynamics in many localities. When this is coupled with ongoing uncertainty and stress, both the social fabric that enables communities to cohesively adapt, and the viability of farm enterprises to invest in change and the environment, are under threat.

Since 1990, SIRLWMP implementation has supported farmers to upgrade irrigation infrastructure and increase knowledge to improve water-use efficiency, which has helped them become more productive and profitable. However, continued government on-farm incentive programs are still required to support the SIR's irrigation community to meet ongoing and emerging challenges and build on opportunities as they arise. Support to increase resilience is still important as the community faces a future with less water.

The demand for knowledge and advice on energy efficiency and soil moisture monitoring has grown in response to increased energy and water costs. Support has been given to irrigators in assessing their energy needs and in installing soil moisture monitoring equipment to better understand crop water requirements.

Through the Tri-State Alliance, Indigenous businesses that own agricultural land are assisted to become more productive and sustainable as well as overcome low participation rates in agricultural and NRM programs.

Long-term strategy implementation progress and 2019-20 performance

Progress towards long-term strategy implementation is satisfactory in some areas but falling behind in others (see the bar chart on page 76). Further details are provided below.

Long-term strategy implementation progress	2019-20 performance
Priority: Update irrigation infrastructure, including the irrigation delivery system and farm design	
Irrigation modernisation, which began through the GMW Connections project in 2008 and the Farm Water Program in 2009, helps reduce salinity threats and achieve water savings for the environment and irrigators. In recent years the emphasis of government incentive programs has shifted from farm infrastructure to planning and advice on best practice.	On-farm adjustments across the SIR were supported, including installation of two soil moisture monitoring systems. There was another round of pressurised irrigation system assessments throughout the 2019-20 irrigation season. The use of the energy calculator to determine energy efficiency has become a key part of these assessments. A second stage 'solar module' of the energy calculator was developed and tested with a number of irrigators. The AgVic reuse system factsheet was updated with research results. A planning scheme amendment was prepared to pre-lodgement stage.
Priority: Build natural resource management into the farming system	
Whole farm plans in the SIR have been completed on 4,456 properties covering 326,092 hectares and a further 482 'modernised' plans covering 54,233 hectares have been done.	Whole farm plans were completed on 117 SIR properties covering over 15,000 hectares (89 per cent of the target; see table page 76). The June 2020 Irrigation in Northern Victoria booklet provides information on a range of irrigation issues and points to further resources. The Agricultural Redevelopment Coordinator (ARC) Pilot Project helped seven projects in 2019-20, ranging from a single property of less than 100 hectares to the amalgamation of more than 30 properties totalling over 3,000 hectares.
Priority: Reconnect large areas of enhanced nature	
Much of the region's remaining native vegetation is along waterways, roadsides, in and around wetlands, and scattered remnants and paddock trees, which provide continuous habitat for wildlife to move through the landscape. Delivering outcomes in focus landscapes is a priority to increase extent and connectivity of native vegetation across the region. Significant (but largely unquantified) benefits of integrating native vegetation into complementary SIRLWMP activities include: — drain design — whole farm plan design — water for the environment flows (especially for streambank vegetation and specific wetlands; refer to page 73 and the waterways section).	Biodiversity Response Planning (BRP) and National Landcare Program (RLP) projects are being implemented: Linking Lower Goulburn, Ribbons of Blue, Sashes of Green (Ironbark) and Grey Box project incentives deliver native vegetation works of over 100 hectares. New infrastructure returned a natural wetting regime to a private land wetland near Dhurringile as part of the Mosquito Drain 40 project. In October at Shepparton, over 80 attendees at the 'Outstanding in the Paddock: A celebration of paddock trees' forum heard from a range of high calibre presenters. Winners of a photo competition were also presented at the forum, with 127 photos of paddock trees on display. In November at the NRM Knowledge Conference in Wodonga, an ACT ecologist presented to 70 people on 'How to protect native vegetation in an agricultural landscape'.

Long-term strategy implementation progress	2019-20 performance
Priority: Balance water availability for all uses	
Water for the environment	
The Goulburn Broken CMA continued working with delivery partners to maximise environmental benefits of operational deliveries, such as using inter-valley transfers (IVT) to meet lower Broken Creek environmental flow objectives. Seasonal water proposals were prepared for each of the five years (from 2015-16 to 2019-20). Between 332 and 812 gigalitres were delivered annually to the SIR and adjacent environment between 2014-15 and 2019-20. Environmental water delivery began in the Broken River and mid Goulburn River in 2017-18, and upper Broken Creek in 2015 to manage poor water quality. Environmental water deliveries were managed to minimise impact on Cod opening each year.	Eight SIR wetlands now receive environmental water (up from seven; see table on page 46). Key SIR wetland achievements include: — delivery of environmental water to Loch Garry for the first time — planned delivery of environmental water in winter 2020 to Kanyapella Basin — Barmah-Millewa Forest, Black Swamp, Kinnairds Wetland, Reedy Swamp and Doctors Swamp received environmental water — three private wetlands received water managed by the Murray Darling Wetlands Working Group — environmental water was delivered down the upper Broken Creek consistently for the first time in 2019-20. Inter-valley transfer impacts are being monitored and responses pursued. See also Waterways section for details. The 2018 hypoxic blackwater response guideline is being used in planning. Goulburn Broken CMA continued to influence processes around rehabilitating legacy and abandoned quarries.
Water for agriculture	
Understanding water availability and how it interacts with farm and regional viability and the environment is a key challenge for the regional community. There continues to be many reviews and reports generated at the basin and state level. Government incentive programs have helped irrigators adapt as the social-ecological system transforms to a future with less water. For example, 600 projects implemented through the 2010 to 2018 Farm Water Program improved water-use efficiency and productivity over 70,000 hectares and saved over 80 gigalitres of water. The Farm Water Program was completed in 2018 and finalised in 2020.	Goulburn Broken CMA participated in numerous investigations and reviews on water availability with various partners. AgVic staff have provided increased support to irrigators around use and risks of using groundwater resources. Goulburn Broken CMA staff contributed to the GMW Connections Environmental Technical Advisory Committee on behalf SIRPPIC. The northern Victorian Irrigation Development Guidelines have been updated and are awaiting further advice following other water policy issues, such as Goulburn to Murray trade rule review.
Priority: Build stewardship, incorporating local action and ideas	
People and their relationship with the region's natural resources is critical to the success of the SIRLWMP over the next five years. Stewardship of natural resources and the environment is being encouraged. Community leaders are promoting the region within and beyond its boundaries and manage issues of community concern in partnership with agencies and policy makers.	As part of the Tri-State Alliance the Goulburn Broken CMA is establishing linkages with six Aboriginal businesses along the Murray Corridor. A soils discussion group has been supported by the NLP/RLP From the Ground Up project. The Goulburn Murray Resilience Strategy was completed in June 2020 and is a response to the macro drivers of change that are impacting on the GMID – both positive and challenging. Deakin University interviewed more than 50 local leaders to understand the challenges and solutions for a prosperous future in the GMID

Long-term strategy implementation progress	2019-20 performance
Priority: Adapt by understanding change and impact	
The adaptive process in place since the 1990 SIRLWMP continues to be strengthened by more explicitly linking the long-term condition outcomes sought to the annual workplans through the annual critical attributes risk assessment. SIRPPIC is involved in this process. The use of land and water in the SIR has been rapidly changing in recent years and must be understood to achieve good NRM decisions. The GMID Regional Irrigated Land and Water Use Mapping project provides data on land use by industry, such as dairy, cropping, horticulture, and livestock, and on water use (from water use licences).	SIRPPIC assessed the drivers, trends and risks to the five critical risks identified in the SIRLWMP. This process provided a way for the community and partners to reach a joint understanding of the current risks and impacts, and to identify actions to mitigate, adapt or even transform. The Farm and Environment Working Group also had a workshop to consider thresholds for the SIR's water availability, native vegetation and farm and regional viability critical attributes. The annual update of the GMID Regional Irrigated Land and Water Use Mapping for 2018-19 was completed. The Goulburn Murray Region Resilience project released an insights paper and Resilience Strategy following extensive community discussions.
Priority: Match drainage to meet changed needs, aligning it with modernised irrigation delivery	
Goulburn Broken CMA and GMW are jointly implementing drainage management strategies and operational regimes that support future agriculture and protect and enhance the environment. Drainage is tailored to meet varying risks across the landscape, especially for the priority sub-catchments of the 460,000 hectares of irrigable land. Against a 2020 target of 103,000 hectares in the SIR's priority sub-catchments needing drainage, 73,611 hectares of farm, community and regional surface and sub-surface drainage networks have been protected (see figure page 71). A salinity-risk website launched in 2018 is increasingly used by farmers to help them understand and manage risks specific to their properties.	Drainage course declaration (DCD)-based hybrid drainage delivered: — Cornella Creek Catchment DCD was approved and the obstruction removal works program was successfully completed (see case study page 75) — Upper Deakin DCD obstruction removal works program is 80 per cent complete — Guilfus-Congupna drainage course proposal was developed — DCD design standards have been developed and implementation guidelines are being finalised. Community surface water management systems: — a community celebration recognised the completion of Muckatah 2/3P works — Muckatah 3/8P pre-construction design was completed. Early planning and engagement work commenced on Murray Valley Drain 11 catchment and a business case has been developed for a hybrid Waranga Drain and Pump project. Development of a strategy for managing drainage systems is well advanced.
Groundwater resources in the Goulburn Broken Catchment are managed by GMW, supported by partner agencies. 969 observation bores in the SIR are monitored annually by GMW, resulting in maps of shallow groundwater levels across the Murray Valley, Shepparton, Central Goulburn and Rochester irrigation areas. The maps inform plans for managing salinity.	The first stage of public groundwater pump disposal realignment works were completed, with 15 pumps handed over to GMW operations. Three Rochester Irrigation District public groundwater pumps were deactivated. Ten Murray Valley Irrigation District pumps were deactivated, with western Murray Valley deactivation works well advanced. The cost/benefit analysis of decommissioning for EC credits was completed. A new public groundwater network integrated management system (IMS) was successfully piloted SIR monitoring bore network: 155 standpipe covers have been installed. The Riverine Plains Salinity Accountability - Land and Water use Change project framework was finalised. Drain water quality monitoring has continued.

Long-term strategy implementation progress	2019-20 performance
Priority: Maintain partnerships and good governance	
The community-based SIRPPIC includes skills, geographic and industry-based representatives from the local community, GB CMA, GMW, AgVic, DELWP, GMLN and Murray Dairy. The Local Government Agricultural Floodplains Reference Group (MCC Reference Group) is in its 27th year of operation. The group seeks workable and collaborative solutions to improve efficiency and effectiveness of natural resource management delivery in the Shepparton Irrigation Region. Representation includes Moira Shire Council, Campaspe Shire Council, Greater Shepparton City Council and other stakeholders, led by Goulburn Broken CMA. GMW's efficient and adaptive management of regional drainage systems is key to protecting agricultural production and the environment. The long-established partnership between Goulburn Broken CMA's Sustainable Irrigation Program and GMW is being reinvigorated by collaborative drainage initiatives.	Goulburn Broken CMA continued supporting SIRPPIC, Farm and Environment and SIR Drainage Working Groups. SIRPPIC trialled a Goal Attainment Scale approach to assess their performance against their roles. The Sustainable Irrigation Region Senior Combined Partners meeting continued to provide a great opportunity for integration and collaboration. The GMR Resilience Strategy engagements progressed throughout the year with community, stakeholders, agencies and industry. Co-funded projects remain a strength such as: RiverConnect; groundwater management and monitoring; water quality partnerships; GMID land-use project phase 2; Municipal Catchment Coordinator (with Moira, Campaspe and Greater Shepparton municipalities) and the Year of the Paddock Tree. Goulburn Broken CMA's Municipal Catchment Coordinator: — presented to the U3A group, including during a bus trip to Kanyapella Basin — provided advice on strategies such as Moira Shire Roadside Management Strategy, Stanhope Place Based Planning, and the Regional Significance Overlay Project — collaborated with partners to review and update strategies such as the Landscape Plan Guide for Developments — developed and implemented a collaborative approach with GMW around drainage strategies and operations to support agricultural production and improving the environment.

Case study - Cornella Creek Catchment drainage course declaration

The Cornella Creek sub-catchment forms part of the larger Corop Lakes Catchment. Cornella Creek is an ephemeral stream that discharges into Gaynor Swamp Wildlife Reserve and Lake Cooper five kilometres north of Colbinabbin, with flows continuing north to Horseshoe Lake and Greens Lake during high flow periods.

Establishing the Cornella Creek declared drainage course (DCD) to improve surface drainage in the catchment was identified as a priority from the Shepparton Irrigation Region (SIR) Drainage Program Review in 2015, and was funded by the Victorian Government in 2016.

Community and stakeholder engagement in Cornella Creek catchment began in mid-2017, along with drainage investigations including detailed conceptual design, modelling, survey, in-field assessment and on-farm consultation.

Follow-up farm visits occurred throughout the DCD concept design phase, particularly where discussions about proposed obstruction removal works were required, to ensure local 'lived experience' about drainage behaviour was incorporated into DCD design. Campaspe Shire Council was also heavily involved in road culvert design standards.

The Cornella Creek Catchment DCD was declared in August 2019, comprising 17 kilometres of the Cornella Creek Anabranch and Ryan's Floodway. The DCD aims to improve drainage for an area of 43 square kilometres between Waranga Western Channel and Lake Cooper and Gaynor Swamp. Improved drainage has been achieved by removing, modifying or altering existing artificial structures to enable the described flow to pass unobstructed. The three main actions to achieve the DCD were:

- works to restore reasonable flows (including removing obstructions)
- support environmental enhancements and
- activities to maintain reasonable flows.

Obstructions were removed between late 2019 and April 2020. Obstruction works ranged from lowering embankments and installing enlarged road culverts, to remediating existing farm drainage structures.

Project costs and benefits were independently assessed as very positive. Community support for the project remained strong throughout development and implementation. The project has reinforced the benefits of improved drainage to the local farming community.

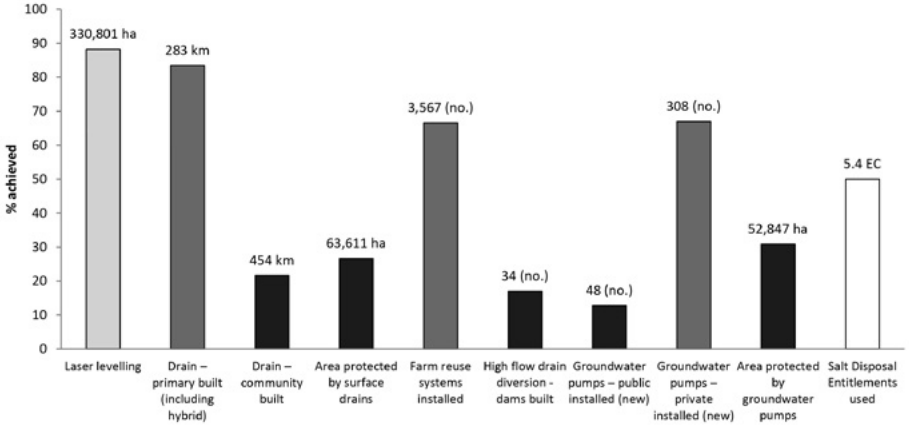
Actions 2017-18, 2018-19 and 2019-20 (Shepparton Irrigation Region only, incl. Rochester)

Action [i, viii]		From funds received				
		Achieved			Target [ii]	% achieved
		2017-18	2018-19	2019-20		
Surface water action [iii]						
Laser levelling [iv]	ha	3,979	2,538	7,580	5,961	127
Drain – primary built [v]	km	3.76	32.0	17.0	22	77
Drain – community built	km	0	4.6	-	-	
Area protected by surface drains [vi]	ha	391	4,330	4,300	2,288	188
Farm reuse systems installed [vii]	no.	36	-		-	
Farm reuse systems installed [vii]	ha	1,584	-		-	
Gravity channel surface irrigation	ha	1,345	-		-	
Pipe and riser irrigation	ha	511	-		-	
Irrigation scheduling systems	ha	86	-		-	
Pressurised irrigation systems - micro or drip	ha	138	-		-	
Pressurised irrigation systems - sprinkler	ha	1,057	-		-	
Irrigation systems - improved [ix]	ha	5,174	2,538	7,790	-	
Salt disposal entitlements used (SDE)	EC	1.4	1.4	5.4	-	
Planning for works action						
Whole farm plans - new	no.	30	30	61	131 [x]	89
Whole farm plans - modernised	no.	25	31	56		
Whole farm plans - new	ha	2,843	1,718	6,200	-	
Whole farm plans - modernised	ha	2,632	3,357	8,959		

i. 'Action' includes actions and outcomes. Several measures were included in this list for the first time from 2014-15, although they were listed elsewhere before. Many actions primarily aimed at achieving salinity targets contribute to other targets, such as those for water quality and biodiversity. Fencing remnant vegetation and revegetation achievements are shown in the table on page 59.
ii. Targets are adjusted as funding is confirmed.
iii. Surface water management enables the removal of excess rainfall runoff from irrigated lands, alleviating soil salinity. As part of an overall management plan for nutrients, nutrient loads are managed by collecting and reusing water from drains. Nutrient loads are monitored against the Goulburn Broken Water Quality Strategy nutrient target for drains.
iv. Assumptions: 2017-18 = Farm Water Program's SIR onground achievements (1,734) + 60 per cent of area put under Whole Farm Plans [new (2,843) + modernised (2,632) - Farm Water Program's SIR onground achievements (1,734)]. Assumption change from 2018-19 is 50 (not 60) per cent of area put under Whole Farm Plans. Target = 50 per cent of area to be put under Whole Farm Plans [For 1990-20 = 0.5 x no. (131) x average area of Whole Farm Plans (91)].
v. Fencing and laneways are relocated along primary drains to control stock. Drains are also hydro-mulched and seeded to provide vegetative cover on bare batters.
vi. Assumption: Area protected = Length of drain (km) x 104. Areas actually measured: 2018-19 Muckatah 2/3P CSWMS 630, Upper Deakin DCD 3,700; 2019-20 Cornella Creek Catchment DCD: 4,300.
vii. Reuse dams allow for the collection of high nutrient run-off and re-irrigation, reducing the water and nutrient loads leaving the farm.
viii. Some actions not implemented for at least three years but which remain possible in future are not shown: High flow drain diversion (no. dams built and volume high nutrient water removed); Farm delivery channel upgrade (length); Groundwater pumps installed (new: no. & area of public & private); Water pumped (volume increased); Groundwater pump protection (area); Tile drains installed (area).
ix. Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area - see footnote iv) + pressurised irrigation systems (micro or drip + sprinkler). In 2019-20, area improved included 210 hectares of soil moisture monitoring.
x. Combined target for the number of new and modernised whole farm plans.

SIR Land and Water Management Plan's 1990-2020 target achieved, % [i]

(achievements listed on top of each bar)



i. The method to set the cumulative target was modified in 2012-13 to be: 1990-2020 plan target multiplied by the number of years since 1990 divided by 30.

What's next?

Communities and partnerships

The SIR's people have rarely experienced the 2020 scale of economic, social, political and environmental changes, upheavals and challenges.

Future prosperity, community harmony, and the environment depend on trusting relationships and genuine partnerships between local community groups, industry groups and local, state, basin and national government agencies. This trust will be more critical than ever in updating and implementing the SIRLWMP. Central to this will be to:

- finalise the 30-year SIRLWMP achievements report in 2020-21
- begin implementing the Goulburn Murray Resilience Strategy
- adapt and transform the SIRLWMP to challenges and opportunities in 2021-22
- support and contribute to the proposed Murray-Darling Basin Cooperative Research Centre.

Water availability

Coordination and Works

- continue advocating the region's perspective in state and MDB water sphere, such as the need for:
  - improving water efficiency on farms
  - balanced and fair water sharing.
- support Indigenous-led involvement in water management
- provide farmers and agribusinesses with opportunities to optimise water availability (via the ARC project below).

Investigations and Information

- improve community understanding and access to water information to help decision making
- improve understanding of water market impacts, climate change and deliveries on water availability and yield
- provide input into reviews of water trading and operational rules, particularly for the Goulburn River
- review the 880 gigalitres threshold of the water for agriculture critical attribute
- improve understanding of ecological responses to environmental watering
- continue investigating the damage from inter-valley transfers of water to the Goulburn River and lower Broken Creek
- complete the new lower Goulburn River flows study.

Watertables and water quality

Coordination and Works

- continue to roll out hybrid drainage systems projects. Three priority catchments are under development: Guilfus-Congupna, Murray Valley Drain 11 and Muckatah Drain 3 catchments
- complete drilling works and monitor, assess and report watertable and salinity impacts of environmental watering of Gaynor Swamp
- integrate and coordinate water quality programs across the region
- engage and align programs with the EPA's general environmental duty approach
- include water quality as part of the next Waterway Strategy.

Investigations and Information

- create and adapt programs that respond to changing needs and risks by:
  - storing and making accessible vast knowledge on watertables, catchment hydrology and hydrogeology
  - finalising technical, policy and planning inputs to deliver the next stages of the public groundwater pump rationalisation project
  - investigating long-term deactivation options for Girgarre Evaporation Basin.
- finalise the Drainage Management Strategy
- continue developing ways to improve on-farm and off-farm drainage
- contribute to MDBA's Basin Salinity Management Strategy
- review water quality targets.

Native vegetation extent

- improve integration of native vegetation into delivery of the whole farm plan incentive scheme
- target onground works through the Linking Lower Goulburn project
- finalise establishment and implementation of the Goulburn Broken Biodiversity Fund
- continue advocating for improvements to Native Vegetation Regulations
- continue facilitating partnerships to discuss increasing native vegetation extent in the SIR
- ensure Goulburn River health (including streambanks) is not compromised when water is provided to supply downstream demand.

Farm and regional viability

Coordination and Works

- implement the Goulburn Murray Region Resilience Strategy with regional partners
- extend the Agricultural Redevelopment Coordinator (ARC)
- understand and communicate the implications of changing water use, ownership and policy changes
- update the Land and Water Use Mapping for the GMID for 2019-20 and undertake analysis
- respond to increased interest in groundwater use
- continue the drought and COVID-19 employment programs.

Investigations and Information

- finalise the irrigation development guidelines review
- continue to work with Traditional Owner groups on agribusiness opportunities.

Human resources (including occupational health and safety)

Compiled by: Kate Montgomery, Caitlin Baker and Mary Dimit.

Long-term and annual scorecard

2019-20 performance	On target

Organisation condition [i]	1990	2020	Long-term risk	Long-term strategic implementation
	n.a.	●	LOW	Late

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.

Government investment [i], $000

2017-18	2018-19	2019-20	2020-22 [ii]
6,234	5,598	5,995	6,571

i. Excludes board and support committees.
ii. Forecast is based on the Corporate Plan 2020-21.

Major strategic references

The Goulburn Broken Workforce Strategy 2013-18 integrates direction and guidance from legislation, policies, strategies and plans at international, national, state, regional and local levels. Appendix 5 includes a more complete list.

Background

The Goulburn Broken CMA through its workforce provides committed leadership, professionalism, industry leading expertise, and respect for our colleagues, community and environment with a continued focus on improvement. Our culture represents these values through the sustained commitment to developing and investing in our people, encouraging innovation and adaptability to respond to opportunities as they present and enabling agility for our employees in the broader workforce and to achieve their own professional development goals.

The Goulburn Broken CMA demonstrates a holistic commitment to providing a healthy workplace and practically supports injury prevention through proactive initiatives and maintaining a focus on both the physical and mental wellbeing of our people, partners and contractors. Further the contributions of our workforce are recognised in a learning environment where employees can develop their skills and capability and teach and share these skills with others.

We have continued to align our workforce capabilities and design, to support the achievement of the Regional Catchment Strategy's vision and provide a resilient workforce strategy the supports the aims of the organisation to provide meaningful outcomes for our people, the community and the environment.

Organisation condition

The strong and proactive participation of employees in internal engagement initiatives has continued this year. This has enabled the organisation to continue to achieve a collaborative and capable workforce culture that is agile and continuously improving. Employee feedback and participation is genuinely considered and used to drive workforce projects.

Key employee data continues to indicate a healthy workforce. With two new positions added to the organisation this year, ten Higher Duties opportunities and participation in the Barring Djinang internship program providing opportunity and diversity to our workforce. Voluntary turnover and absenteeism has also continued to remain at a low level.

Workforce data for the current and previous financial years is contained in the tables on pages 80 and 81.

Long-term strategy implementation progress

Human Resources

The Goulburn Broken CMA Workforce Strategy 2013-18 directs strategic priority projects and opportunities for enhancing the Goulburn Broken CMA employment value proposition. The current strategy has now reached its planned completion date with the initiatives delivered targeting workforce areas of Capability Building, Participation, Recruitment and Attraction, Labour Supply and Governance. The strategy was intended to be renewed this year but was delayed to enable the incoming CEO to be part of the strategic process.

Occupational Health and Safety

The Goulburn Broken CMA's Occupational Health and Safety (OHS) procedures and practises are based on the model of continuous improvement. The Goulburn Broken CMA has delivered a full review of the OHS practices for project delivery across the organisation including the engagement of contractors.

2019-20 Human resources performance

The 2019-20 year has seen a continued focus on effective delivery and updates to existing human resource (HR) processes and operations that are agile and reflective of the operating environment. Key activities undertaken to deliver against the core strategic Workforce Strategy objectives are described below.

Governance

A focus on embedding flexible work practice as taken priority in the latter half of this year as a result of the COVID-19 response. This work will continue into the next financial year to assist the organisation to move beyond an individual case by case approach to flexibility, to an organisational wide flexibility position that enables the business to be prepared for flexibility by building capabilities and processes to embed flexibility in to our culture and way of working.

Attraction and recruitment and labour supply and agility

A major HR project this year was the Job Group framework that enables positions to be presented based on the inherent skills and abilities required by the Goulburn Broken CMA to achieve its business goals and remove the limitation of focusing on single project delivery and funding. Achieving clarity around the positions required by the Goulburn Broken CMA enables us to better understand the skills and knowledge required by the organisation and the workforce structure that will allow us to develop a resilient and agile workforce. A significant benefit of deeply understanding the organisations workforce needs is that it will allow our people to work across the organisation as output needs change with minimal procedural interruption. The implementation of this framework will continue in 2020-2021

Capability building

The Goulburn Broken CMA has continued to provide good quality and diverse learning and development experiences for employees. In 2019-20 20 employees participated in formal knowledge sharing sessions delivered by employees for their peers. 45 employees completed the Project OHS Management training program over three sessions launching the new process for the entire organisation. This year we also supported one employee to commence their PhD in Environmental Water Adaptation.

Participation and motivation

The Goulburn Broken CMA has continued to support workplace flexibility, and this continues to be a highly valued attribute by staff: a total of eight flexible arrangements were formalised this year, double the previous year. The organisation continued to support employees' balance work and life demands: including supporting two parents return to work from parental leave, one Leave Without Pay applications to explore personal aspirations, and a total of nine staff accessing long service leave, an increase of two. One staff also made use of Purchased Leave.

Supporting our community

The Goulburn Broken CMA has continued encouraging and supporting staff to contribute to the community in a variety of ways including via the Greater Shepparton Lighthouse Project and the Learning Club at a local primary school, contributing funds through social club and various fundraising events for a variety of local and national causes.

The organisation again supported a community leader to undertake the Fairley Leadership program via the Ken Sampson Scholarship program.

Three work experience placements were provided by the Goulburn Broken CMA this year up from one in the previous year. The Goulburn Broken CMA's approach to work experience and university placement opportunities was also reviewed resulting in a clear process to provide placement opportunities which resulted in the organisation hosting its first Barring Djinang Aboriginal Internship participant in late 2019.

Diversity and inclusion

2019-20 saw year three of implementation for the Goulburn Broken CMA's Diversity and Inclusion Plan. Initiatives completed this year were aimed at helping us improve our understanding of diversity, diversity in our workplace and enhancing our communication to embrace diversity. See table page below.

Our staff

A list of all Goulburn Broken CMA staff employed for all or part of 2019-20 is on page 156.

Diversity and Inclusion Action Plan 2017-2022

Strategic Priority	# actions	% completed
Use an 'equity lens' in the review of all policy and procedures.	7	57
Continue to strive to achieve gender equity in our recruitment, succession planning and professional development opportunities.	8	50
Build our capacity to be inclusive of cultural diversity	3	33
Maintain, strengthen and support talented Indigenous staff and Indigenous partnerships.	6	100
Ensure that our workplace is accessible and adaptable to support current and future employees with disabilities	3	33
Achieve a communication standard that uses inclusive language that is respectful of LGBTI people in the workplace.	2	100
Provide a workplace that supports people entering, developing, enhancing and exiting their career journey.	11	45

Annualised salary by $20,000 bands for executives and other senior non-executive staff

Income band (salary) [i]	No. (headcount) [ii]
< $160,000	5
$160,000 - $179,999	0
$180,000 - $199,999	0
$200,000 - $219,999	1

i. Income bands in this table differ from Note 8.4 in the Financial Statements as $ values are based on salary only, not total remuneration package.
ii. No. of staff in this table differs from Note 8.5 in the Financial Statements as this table includes CEO.

Other workforce data 2017-18, 2018-19 and 2019-20

	2017-18		2018-19		2019-20		Comments
	no.	%	no.	%	no.	%	
Years of service [i]							
12 months or less	0	0	3	5	6	11	This year we continued to welcome new employees to several Program Areas bringing with them new skills and experience for the Goulburn Broken CMA. We also farewelled a long-term employee who had been with the Goulburn Broken CMA from day one as they entered retirement.
1-3 years	6	11	5	10	3	5	
3-5 years	6	11	5	10	7	13	
5+ years	43	78	39	75	39	71	
Average length of service, years	9.5		9.8			9.6	
Salary distribution [i & ii]							
<$40,000	0	0	0	0	0	0	Salary figures have continued to climb driven by the annual EBA and PEERS increments.
$40,000 - 59,999	0	0	0	0	0	0	
$60,000 - 79,999	19	35	17	33	17	31	
$80,000 - 99,999	20	36	18	35	20	36	
$100,000+	16	29	17	32	18	32	
Average Salary [iii]	$83,506		$87,680		$92,650		
Qualifications [i]							
Year 12 or less	4	7	3	6	3	5	Our employees continue to hold a high level of competency. Recruitment of new positions has continued to attract highly skilled participants with recognised qualifications in their area of expertise.
Certificate	1	2	0	0	0	0	
Advanced Diploma/Diploma	11	20	8	15	9	16	
Degree	31	56	33	63	34	63	
Postgraduate Degree/Graduate Diploma	8	15	8	15	9	16	
Turnover (total)	7	13	6	12	4	7	This year showed further stability in our workforce with turnover dropping below 10 per cent.
Turnover (ongoing staff only, % of total turnover)	3	43	4	67	2	50	
Exit interviews completed	5	71	1	17	2	50	
Absenteeism		3.0		1.7		1.4	
Training expenditure (% of employee related expenditure)	$121,982	1.9	$52,415	0.9	1.0	$57,625	

i. All employees (excluding terminations and Board/committee members).
ii. Based on 1.0 FTE full year salary.
iii. Actual average salary paid including terminations.

2019-20 Occupational Health and Safety performance

Occupational Health and Safety has continued to focus on the review of all employee OHS procedures and supporting documentation.

The 2019-20 focus has been largely on the Occupational Health and Safety governance of how projects are delivered and in particular the use of Contractors. This review has delivered a revised procedure and a training program delivered to all project delivery staff in 2020 and has supported the review of the organisations Project Management Framework.

Further OHS achievements this year include the development of the OHS training matrix mapped to represent the core training requirements for each position type within the organisation and enable training completion and refresher to be tracked by both position and employee.

Via the iAuditor platform, a 100 per cent success rate was achieved for the completion of risk assessments prior to works commencing for activities conducted by the Goulburn Broken CMA. The compliance for Contractor risk assessment with this target is an ongoing focus of reporting to the Senior Management Team.

This year saw of the following wellbeing initiatives offered including:

- flu immunisations, taken up by 30 per cent of employees- due to the impact of COVID-19 on running in-house sessions it has been harder to ascertain real uptake numbers this year
- social engagement activities such as A Taste of Harmony

The reviewed Key Performance Indicators (KPI) for OHS at the Goulburn Broken CMA were implemented in 2019-20. This review saw the inclusion of further KPI into the quarterly reporting of OHS to the Board that looked at both lead and lag indicators and identify performance in both OHS culture and systems. Exerts of this report have now been added to the monthly reporting to the Senior Management team.

The Goulburn Broken CMA has continued to participate in the Statewide OHS forum and contributed to the development of a statewide incident reporting platform to assist CMAs to better identify risks and hazards in our work.

Refer also to the 2019-20 Occupational Health and Safety performance table on page 82.

Comparative workforce data [i, ii]

The following table discloses the headcount and full-time staff equivalent (FTE) of all active employees of the Goulburn Broken CMA employed at the last full pay period in June of the current reporting period (2020) and in the last full pay period in June of the previous reporting period (2019).

	June 2020							June 2019						
	All employees		Ongoing [iii]			Fixed term [iv] and casual		All employees		Ongoing [iii]			Fixed term [iv] and casual	
			Full time	Part time						Full time	Part time			
	No. (headcount)	FTE	No. (headcount)	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	No. (headcount)	FTE	No. (headcount)	FTE
Demographic data														
Gender														
Male	23	22.2	16	2	17.4	5	4.8	22	21.6	14	2	15.6	6	6.0
Female	32	27.6	15	12	23.5	5	4.1	30	26.6	16	10	23.5	4	3.1
Age														
15-24	0	0.0	0	0	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0
25-34	3	2.3	1	2	2.3	0	0.0	3	2.6	2	1	2.6	0	0.0
35-44	16	14.1	9	6	13.3	1	0.8	18	16.1	9	8	15.1	1	1.0
45-54	22	19.9	13	5	16.5	4	3.4	19	17.7	12	2	13.6	5	4.1
55-64	14	13.5	8	1	8.8	5	4.7	12	11.8	7	1	7.8	4	4.0
65+	0	0.0	0	0	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0
Classification data [v]														
Bands														
Band 5	2	2.0	2	0	2.0	0	0.0	2	2.0	2	0	2.0	0	0.0
Band 6	6	5.8	5	1	5.8	0	0.0	6	5.4	4	2	5.4	0	0.0
Band 7	13	11.4	8	3	10.1	2	1.3	14	12.4	9	3	11.1	2	1.3
Band 8	16	13.1	6	8	11.5	2	1.6	13	11.7	7	5	10.9	1	0.8
SEO	12	11.5	10	2	11.5	0	0.0	11	10.7	8	2	9.7	1	1.0
Senior managers	6	6.0	0	0	0.0	6	6.0	6	6.0	0	0	0.0	6	6.0

i. All figures reflect employment levels during the last full pay period in June of each year.
ii. Excluded are external contractors/consultants, and temporary staff employed by employment agencies.
iii. Ongoing employees includes people engaged on an open-ended contract of employment who were active in the last full pay period of June.
iv. Fixed Term employees includes people engaged on a fixed term contract of employment who were active in the last full pay period of June.
v. Employees are classified as a Band (1 to SEO) under the EBA. Senior managers refers to staff not employed under the EBA.

Occupational health and safety statistics summary

		2017-18	2018-19	2019-20
Hazards	Hazards reported, no.	5	6	4
	Rate per 100 FTE	10	12	8
Incidents	Total incidents, no.	5	11	9
	Rate per 100 FTE	10	23	18
	Incidents requiring first aid and/or further medical treatment, no.	1	4	1
Claims	No. of Standard claims	0	0	0
	Rate per 100 FTE	0	0	0
	No. of lost time Standard claims	0	0	0
	Rate per 100 FTE	0	0	0
	No. claims exceeding 13 weeks	0	0	0
	Rate per 100 FTE	0	0	0
Fatalities	Fatality claims	0	0	0
Claim costs	Average cost per Standard claim	0	0	0
Return to work	Percentage of claims with RTW plan <30 days	0	0	0
Management commitment	Evidence of OHS policy statement, OHS objectives, regular reporting to senior management of OHS, and OHS plans (signed by CEO or equivalent)	Completed	Completed	Completed
	Evidence of OHS criteria(s) in purchasing guidelines (including goods, services and personnel)	Completed	Completed	Completed
Consultation and participation	Evidence of agreed structure of designated workgroups (DWGs), health and safety representatives (HSRs), and issue resolution procedures (IRPs)	Completed	Completed	Completed
	Compliance with agreed structure on DWGs, HSRs, and IRPs.	Completed	Completed	Completed
	Number of OHS Committee meetings	5	5	4
Risk management	Percentage of internal audits/inspections conducted as planned.	78	79	50
	Percentage of reported incidents investigated	100	100	100
	Improvement Notices issued across the Authority by WorkSafe Inspector	0	0	0
	Percentage of issues identified actioned arising from: - internal audits - HSR provisional improvement notices (PINs) - WorkSafe notices	 95 n.a. n.a.	 82 n.a. n.a.	 50 n.a. n.a.
Training	Percentage of managers and staff that have received OHS training: - induction - management training - contractors, temps, and visitors	 n.a. 100 100	 100 100 100	 100 100 100
	Percentage of HSRs trained: - acceptance of role - re-training (refresher) - reporting of incidents and injuries	 100 0 100	 n.a. 0 100	 n.a. 1 100

What's next?

Human resources

- Development of a Flexible Work Strategy.
- Review of the Goulburn Broken CMA Enterprise Bargaining Agreement and review of Senior Executive recruitment policy and processes
- Renewal of the Goulburn Broken CMA Workforce Strategy.

Occupational Health and Safety

- Implementation of the VPS Leading the Way OHS Framework
- Ongoing support for the delivery of a safe workplace via the new Project OHS Management procedure.

Environmental footprint

Long-term and annual scorecard

2019-20 performance	On target

Organisation condition [i]	1990	2020	Long-term risk	Long-term strategic implementation
			MEDIUM	Early

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
0	0	0	0

i. Forecast is based on the Corporate Plan 2020-21.

Major strategic references

Appendix 5 includes a list of relevant state, national and international strategies.

Background

With support from management and staff, the Goulburn With support from management and staff, the Goulburn Broken CMA promotes environmentally responsible and sustainable practices.

Data collection for greenhouse gas emissions calculations commenced in 2006-07, and is used as a base year for reporting and comparisons.

Reporting is guided by the Victorian Government's Financial Reporting Directions 24D and in line with current carbon accounting practices.

Organisation condition

The table on page 84 summarises the greenhouse gas inventory, including direct emission sources such as vehicle fleet fuel and indirect sources such as purchased electricity, business travel and waste.

Long-term strategy implementation progress

Since the initial data collection in 2006-07, the Authority's overall emissions report shows a downward trend with continued improvements in energy use and vehicle emissions (the Authority's biggest greenhouse gas emissions sources), waste management and paper use.

2019-20 performance

Total emissions fell during 2019-20, primarily due to reduced travel and staff working from home due to Coronavirus (COVID-19). Total greenhouse gas emissions for the year were 33 per cent below 2006-07 levels. Emissions per FTE fell significantly to just over 8 t CO2e (down from 9.3 in 2018-19), and are 37 per cent lower than 2006-07 levels. Overall the Authority continued to meet its target of 20 per cent below 2006-07 levels of total emissions.

Electricity emissions were 36 per cent below 2006-07 levels, with consumption falling during 2019-20 due to staff working from home.

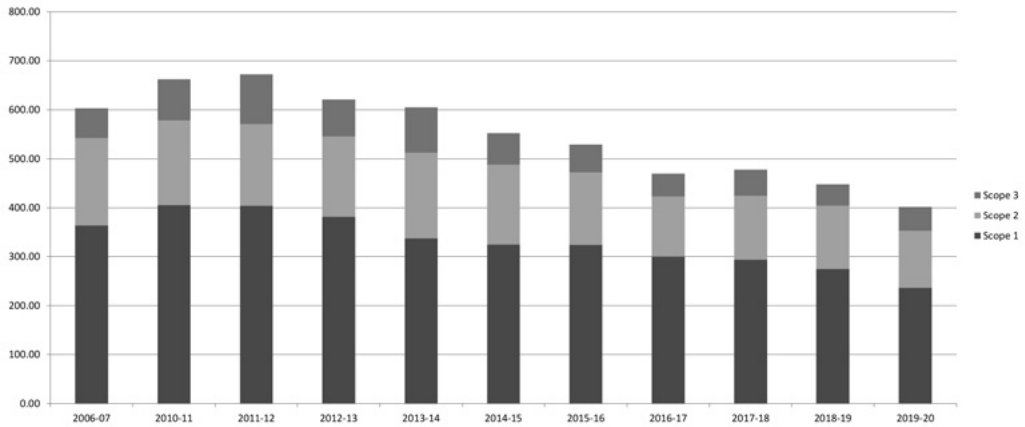
Vehicle fleet emissions continued the downward trend with a fall in total kilometres travelled for the year. Some of this reduction in travel would have been a result of staff working from home. The management decision to preference hybrid/petrol vehicles over diesel vehicles was also a contributing factor. This, combined with ongoing improvements in the vehicle fleet of fuel efficient, lower emission vehicles, resulted in reduced emissions for the year. Total emissions from vehicles were 36 per cent below 2006-07 levels.

Paper use fell to just over 7.2 A4 equivalent reams per FTE, which was almost half the 2006-07 level of 14.2 reams per FTE.

Flight emissions rose compared to the previous year due to several staff traveling overseas to present at international conferences.

Water and waste emissions remain a very small component of the overall emissions. Due to COVID-19, the annual waste audit was not undertaken, therefore waste and recycling data was unavailable and data averages from the previous year were used.

Goulburn Broken CMA emissions - t CO2-e

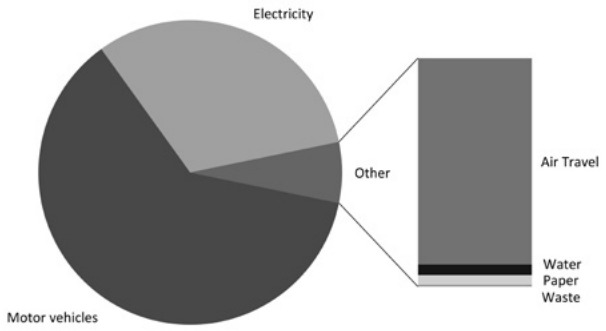


Office-based environmental impacts reporting

Sustainability report	2006-07 (base year)		2018-19		2019-20	
	Consumption	GHG emissions (t CO2-e)	Consumption	GHG emissions (t CO2-e)	Consumption	GHG emissions (t CO2-e)
Direct emissions (Scope 1)						
Petrol for vehicles (L)	74,711	171	8,715	20	17,996	42
Diesel for vehicles (L)	66,127	178	93,594	255	71,538	195
LPG for vehicles (L)	8,936	14	-	-	-	-
Distance travelled by fleet vehicles (km)	Not avail.		1,346,418		1,195,263	
Total Scope 1		363		275		237
Indirect emissions (Scope 2)						
Electricity (kilowatt hour)	147,930	179	120,776	129	113,915	116
Total Scope 2		179		129		116
Optional emissions (Scope 3) [i]						
Electricity (transmission & distribution losses) (kWh)	147,930	22	120,776	12	113,915	12
Flights (km)	Not avail.		61,379	15	93,656	24
Waste - landfill (kg)	8,680	9	139	0	144	0
Water consumption (kL)	Not avail.		563	1	512	1
Paper consumption (reams)	514	2	318	1	295	1
Petrol (extraction, production, etc.) (L)	74,711	14	8,715	1	17,996	2
Diesel (extraction, production, etc.) (L)	66,127	13	93,594	13	71,538	10
LPG (extraction, production, etc.) (L)	8,936	1	-	0	-	0
Total Scope 3		61		44		49
Total Scope 1 + 2		542		404		353
Total Scope 1 + 2 + 3		603		448		402
Offsets purchased (% air travel)	-			2		0

i. Scope 3 emissions are indirect emissions, such as extraction and production of fuels, transport related activities in vehicles not owned or controlled by the Goulburn Broken CMA, waste disposal and electricity-related activities (e.g. transmission and distribution losses) not covered in Scope 2. Reporting of Scope 3 emissions is optional under the international Greenhouse Gas Protocol.

2019-20 Emissions by source activity



Governance

Compiled by Eileen Curtis, Shannon Crawford and Kate Brunt.

Long-term and annual scorecard

2019-20 performance	On target

Organisation condition [i]	1990	2020	Long-term risk	Long-term strategic implementation
	n.a.		MEDIUM	Watch & adapt

i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.

Government investment, $000

2017-18	2018-19	2019-20	2020-21 [i]
1,214	1,181	1,127	1,053

i. Forecast is based on the Corporate Plan 2020-21.

Major strategic references

The Goulburn Broken Corporate Plan 2019-20 to 2023-24 outlines the business undertakings and objectives for the relevant four years. It provides a summary of activities to be undertaken over the next 12 months to contribute to the achievement of objectives. Appendix 5 includes a more complete list of legislation and policies that apply.

Background

This section includes:

- A description of 'Governance'.
- The legislative and funding context of the Goulburn Broken CMA to establish its Corporate Governance practices.
- A scorecard (above) as a summary of annual and long-term performance (including compliance) and the capacity of the Catchment's people to undertake sound and ethical natural resource management.
- An overview of the Goulburn Broken CMA's Governance practices.
- Goulburn Broken CMA's performance of statutory responsibilities as an employer and a Victorian State Government Authority.
- Performance against key performance indicators listed in the Goulburn Broken CMA's Corporate Plan.
- What's next? (strategic priorities over the next 12 months).

Description of Governance investment area

This 'enabling' program exists to ensure that the Goulburn Broken CMA continues to fulfil its statutory and corporate functions; maintains a high level of governance, transparency and accountability in delivering program commitments agreed with investors and ensures that:

- Areas of finance and reporting, business development, communications and marketing, human resources and information and communication technology requirements are clearly aligned with our business objectives.
- A safe workplace is provided for all employees, contractors and visitors.
- An effective risk management framework is in place which forms an integral part of the strategic planning processes, where risks are identified, assessed and monitored under risk treatment plans to mitigate the risk to an agreed level.
- Comprehensive monitoring and evaluation processes are in place ensuring project reporting on expenditure and outputs is of a high level and in line with requirements of the Board and investors.
- Optimum information management systems are in place to allow Goulburn Broken CMA to undertake, record, communicate and report on its business activities undertaken throughout the catchment.
- The environmental footprint is minimised.
- Goulburn Broken CMA works in partnership and openly shares knowledge and information with a range of agencies and other Victorian CMAs to improve the delivery of integrated natural resource management.
- An optimum corporate structure commensurate to its program funding acceptable to all stakeholders and the community at large.
- Governance standards are communicated to the community to ensure that the Goulburn Broken CMA maintains its social licence to operate.

2019-20 performance

The performance of the Governance investment area is described comprehensively though the Business and Financial Report sections.

What's next?

Key areas of the focus for business improvement in 2020-21 will be:

- Continued development and implementation of shared business systems with other CMAs to support a resilient organisation and sector.
- Ongoing shared knowledge and resources across CMAs and wider water sector to respond efficiently and effectively to increasing governance requirements with limited resources.
- Continued implementation of actions identified in the Diversity Plan 2017.
- Implementation of identified improvements to Contractor management.
- Review and update of procurement framework in line with proposed Statewide changes and integration of Social Procurement strategy.
- Continued implementation of actions identified in Protective Data Security Plan.
- Continued improvement of spatial reporting compliance and accuracy

Goulburn Broken CMA's legislative and funding context

Refer to 'Objectives, functions, powers and duties' below for the legislative context.

The Victorian Government funds the Goulburn Broken CMA to fulfil its statutory obligations as detailed in the two relevant Statements of Obligations.

Costs that enable the Goulburn Broken CMA to fulfil its core corporate obligations are partly funded from a direct corporate allocation and interest earned. Other corporate costs are charged to projects up to a board-approved percentage which recognise the degree of support provided to those projects.

Goulburn Broken CMA's funding of $16.3 million was sourced from Regional, Victorian and Australian Government sources in 2019-20. It is estimated that the regional community contributes (in-kind and via products and services) about the same that governments contribute.

An increasing amount of government funding received is from initiative funding sources.

All works undertaken are in line with State, Murray-Darling Basin and National strategies.

Objectives, functions, powers and duties of the Goulburn Broken CMA

The Goulburn Broken CMA has responsibilities under two Statements of Obligations, one under the *Catchment and Land Protection Act* (for obligations under that Act) and another under the *Water Act* (for obligations under that Act). The statements are available under About Us on the Goulburn Broken CMA website www.gbcma.vic.gov.au

Catchment and Land Protection (CaLP) Act 1994

The responsibilities of the Goulburn Broken CMA as they relate to the *CaLP Act 1994* are as follows:

- Prepare, coordinate, monitor and review the Regional Catchment Strategy.
- Prepare and submit an annual report on the condition and management of land and water resources in the region.
- Prepare and submit a corporate plan to the Minister by 30 June each year.
- Comply with the Statement of Obligations.

Water Act 1989

Under the *Water Act 1989*, the Goulburn Broken CMA aims to reduce the impact of flood damage to new buildings, help conserve and preserve flora, fauna and habitat in designated waterways and to reduce water quality decline.

This is done by providing:

- Permits to construct and operate works on a waterway, compliance and community education.
- Resources to planning permit referrals for developments within a flood prone area.
- Responses to applications for flood levels, flood risk reports and flood information before development.
- Flood planning information and advice to councils, state emergency services, developers and others.
- Flood response action plans, including collection of flood information during and after a flood and assistance with emergency planning and flood warning.
- Flood data management.
- Comply with the Statement of Obligations.

Goulburn Broken CMA's corporate governance practices

Sound and ethical corporate governance practices underpin the Goulburn Broken CMA's overall performance including compliance with what is required and expected of it. This is codified in the Goulburn Broken CMA's Financial Code of Practice which all employees are obligated to comply with.

Planning Framework

The Goulburn Broken CMA's planning framework is described within the 'Regional Catchment Strategy, resilience and climate change' section on page 20.

Financial management compliance attestation statement

I, Helen Reynolds, on behalf of the Board, certify that the Goulburn Broken CMA has no Material Compliance Deficiency with respect to the applicable Standing Directions under the *Financial Management Act 1994* and Instructions.

Helen Reynolds

Chair

24 September 2020

Goulburn Broken CMA Board

Members of the Goulburn Broken CMA Board of Directors are drawn from within the region and together have extensive experience and knowledge of land management, water resources management and the water industry, waterway management, environment or natural resources management, primary industry, strategic or business planning and financial management.

Under the direction of the board, the Goulburn Broken CMA develops detailed environmental management strategies under the umbrella of the overarching Regional Catchment Strategy.

Helen Reynolds, Chair (from 1 October 2019) - For the past 17 years Helen has owned and managed a farming business at Congupna with her partner Craig. The business produces a wide range of irrigated fodder, grains and small seeds and does contracting work and grain drying for other farms. Helen has an interest in sustainable and profitable private land-use and effective management of public land. Helen believes the greatest challenge facing the Catchment is the disconnection of people's lives from nature and food production while the greatest opportunity is the chance to use water specifically for environmental benefits. She also believes one of our biggest advantages is our location and the innovative and committed people in the community and involved in agriculture that enrich our catchment.

Adrian Weston, Chair (from 1 July 2019 to 30 September 2019) - Adrian, who previously ran a dairy farm, owns and operates an irrigated prime lamb and cropping farm enterprise at Rushworth. He is also Mayor of Campaspe Shire, representing the Waranga Ward. Adrian has a long-standing interest in natural resource management and believes the greatest challenge facing the Catchment community is balancing the demand for increased productive use of land (soil) and water resources with protecting and improving the condition of the region's unique natural environment. He says the key to building the Catchment's environmental and social resilience relies on the willingness of business, industry and communities to embrace and adapt to change.

Kate Stothers (to 30 September 2019) - Kate lives in Upotipotpon and has many years' experience in sustainable land management, private land conservation and community development. She also has a strong interest in community-based democracies and advocating for climate change action. Kate's farming background, extensive contacts and networks, environmental restoration skills and professional experience provide her with a good understanding of the Catchment community's natural resource management priorities. Kate believes that using the natural ecological processes of our land and water scapes as the basis to determine community-driven local pathways towards sustainable land management practices is the key to addressing challenges such as climate change.

Kate Hawkins (to 29 September 2019) - The Goulburn Broken CMA Board and staff were saddened by Kate's death after a long illness. Kate was heavily involved in her community and passionate about the environment and will be greatly missed.

Jenny Ford (to 31 August 2019) - Jenny has held senior executive roles in corporate affairs, economic development, tourism and strategic planning in the public and private sectors. She is currently employed in the not-for-profit sector. Jenny has extensive experience in external and internal stakeholder management, community engagement, public policy and media and issues management. Jenny sees changes in population, land use and water policy as the greatest challenges facing the catchment. She believes working in collaboration with a well-informed community is the best way to understand and plan for the social and economic effects of current and future governments' natural resource management policy decisions.

Ron Harris - Ron is an agricultural scientist who is a farmer at Nagambie supplying a branded grass fed beef program. He has held executive roles in the Department of Agriculture covering agricultural service delivery, natural resource management, biosecurity and emergency response and recovery. Ron is currently chair of the Victorian Cattle Compensation Advisory Committee which recommends the expenditure of levy funds to the Minister for Agriculture. Until recently he also chaired the Wild Dog Management Advisory Committee. He has lived in the Goulburn Broken catchment for over 40 years.

Michael (Mick) Harding (from 1 October 2019 to 3 May 2020) - Mick is Deputy Chair of the Taungurung Land and Waters Corporation and has experience in cultural heritage and natural resource management. He has completed the Australian Institute of Company Directors course and has served as an Aboriginal Cultural Heritage Officer. He is a small business owner with a Master of Fine Arts degree who is committed to creating opportunities for Koorie people and providing cultural awareness in the community.

Sarah Parker (from 1 October 2019) -Sarah holds a Master of Agriculture and Rural Development and has completed the Australian Institute of Company Directors course. She has experience in executive and management roles in agriculture, extension and research and community development and education. Sarah has been a partner in an irrigated dairy farm near Undera since 2004. She is involved in Australian Women in Agriculture, National Rural Women's Coalition, Australian Dairy Collective (milk supply group) and the Victorian Farmers Federation. Sarah is passionate about a sustainable future for agriculture and the environment, enjoys working with variety of stakeholders and is keen to see next generation become more involved in natural resource management.

Jan Boynton (from 1 October 2019) - Jan runs a cattle stud and cereal cropping business with her partner. Her professional experience includes executive roles at Central Goldfields Shire, Castlemaine District Community Health, Regional Development Victoria, City of Greater Bendigo, Department of Natural Resources and Environment and the North Central CMA. She currently sits on the Boards of Haven; Home Safe, Bendigo Art Gallery, CVGT Australia and the Bendigo Jockey Club. Jan has a Bachelor of Town & Regional Planning and an Australian Institute of Company Director's Diploma. She is a Fellow of the AICD.

Sam Lolicato - Sam grows apples, walnuts and fodder crops and is further developing his irrigation infrastructure for sustainable, intensive production, while being actively involved in the Tatura community. He has a Master of Agricultural Science degree, teaching qualifications, a Graduate Diploma in Climate Change for Primary Industries and has completed the Australian Institute of Company Directors course. He has worked in agricultural research, development and education, promoting sustainable management practices in dryland grazing, irrigated cropping, dairy farming and apple growing in parts of Victoria, New South Wales, and overseas. Sam believes our main challenges come from the tensions arising from achieving economic wealth and social wellbeing, while maintaining and enhancing the values and resilience of our natural environment for current and future generations.

Board members and meeting attendance 2019-20

Name	Position	Term	Attended	Eligible to attend
Helen Reynolds	Chair (from 1 October 2020) Deputy chair (to 30 September 2020)	1 July 2019 to 30 June 2020	10	11
Adrian Weston	Chair (to 30 September 2019) Deputy chair (from 24 October 2019)	1 July 2019 to 30 June 2020	11	11
Ron Harris		1 July 2019 to 30 June 2020	10	11
Sam Lolicato		1 July 2019 to 30 June 2020	11	11
Kate Hawkins		1 July 2019 to 29 September 2019	0	3
Kate Stothers		1 July 2019 to 30 September 2019	3	3
Jenny Ford		1 July 2019 to 31 August 2019	2	2
Jan Boynton		1 October 2019 to 30 June 2020	8	8
Sarah Parker		1 October 2019 to 30 June 2020	8	8
Michael Harding		1 October 2019 to 3 May 2020	1	6

Board Committees

The Goulburn Broken CMA has established an Audit Risk and Compliance Committee and a Remuneration Committee. Both committees operate under the terms of their respective Charter.

Audit, Risk and Compliance Committee

The members of the Audit, Risk and Compliance Committee in 2019-20 are detailed in the table below.
The responsibilities of the Audit, Risk and Compliance Committee are set out in Standing Direction 3.2.1.1.
Key responsibilities of the Audit, Risk and Compliance Committee are to:

- Review and report independently to the board on the annual report and all other financial information published by the Goulburn Broken CMA.
- Assist the board in reviewing the effectiveness of Goulburn Broken CMA's internal control environment covering:
  - effectiveness and efficiency of operations
  - reliability of financial reporting
  - compliance with applicable laws and regulations.
- Determine the scope of the internal audit function and ensure its resources are adequate and used effectively, including coordination with the external auditors.
- Maintain effective communication with external auditors.
- Consider recommendations made by internal and external auditors and review the implementation of actions to resolve issues raised.
- Oversee the effective operation of the risk management framework.

Members are appointed by the board, usually for a three year term, and are subject to the committee's Terms of Reference. Meetings are held quarterly and at any other time on request of a committee member or the internal or external auditor. In 2019-20, the committee met five times. Attendance of committee members is detailed in the table below.

Audit, Risk and Compliance Committee membership and meeting attendance 2019-20

Name	Position	Term	Attended	Eligible to attend
Adrian Weston (ex officio to 30 September 2019)	Chair from 24 October 2019, Independent	1 July 2019 to 30 June 2020	5	5
Kate Stothers	Chair to 30 September 2019, independent	1 July 2019 to 30 September 2019	2	2
Kate Hawkins	Independent	1 July 2019 to 29 September 2019	1	2
Ron Harris	Independent	1 July 2019 to 30 September 2019	2	2
Helen Reynolds (ex officio from 1 October 2019)	Independent	1 October 2019 to 30 June 2020	2	3
Sarah Parker	Independent	1 October 2019 to 30 June 2020	3	3
Michael Harding	Independent	1 October 2019 to 3 May 2020	0	2
Craig Marshall	CPA external appointee	1 July 2019 to 30 June 2020	3	5

Remuneration Committee

To assist the Board, the Remuneration Committee oversees the implementation of the Victorian Government's Remuneration Policy as it applies to the Goulburn Broken CMA CEO and any roles with a significant management responsibility. Attendance of committee members is detailed in the table below.

Remuneration Committee membership and meeting attendance 2019-20

Name	Position	Term	Attended	Eligible to attend
Helen Reynolds (ex officio from 1 October 2019)		1 July 2019 to 30 June 2020	2	3
Sam Lolicato		1 July 2019 to 30 June 2020	3	3
Adrian Weston (ex officio to 30 September 2019)		1 July 2019 to 30 September 2019	2	2
Jan Boynton		1 October 2019 to 30 June 2020	1	1
Ron Harris	Chair	1 October 2019 to 30 June 2020	1	1
Jenny Ford		1 July 2019 to 31 August 2019	1	1

Compliance

The following table includes several summaries of Goulburn Broken CMA's compliance that are discussed in more detail elsewhere in this Annual Report.

Goulburn Broken CMA's performance of statutory responsibilities as a Victorian State Authority and Employer

Act or policy	Board's major tasks	2019-20 issues and status
Catchment and Land Protection Act 1994	Prepare, coordinate, monitor and review of Regional Catchment Strategy.	Regional Catchment Strategy for 2013-2019 was approved on 16 May 2013. Renewal of the 2021-27 RCS is underway.
	Submit to Minister and Council by the prescribed date: 'A report on the condition and management of land and water resources in the region and carrying out of its functions.'	2018-19 Annual Report submitted on time and 2019-20 on schedule.
	Corporate Plan to be submitted to the Minister under the *Catchment and Land Protection Act 1994* by 30 June annually.	Submitted to Minister on 30 June 2020.
	Members declare new interests at each (monthly) board meeting and document it in Pecuniary Interests Register. New members must submit a primary return and other members an annual ordinary return.	Declarations of Pecuniary Interests have been duly completed by relevant directors and officers of the Goulburn Broken CMA and are available for inspection.
Water Act 1989	Corporate Plan available for inspection.	Copy is available for inspection during business hours at 168 Welsford Street, Shepparton.
	Review funds at each (monthly) board meeting. Policy for investment as per the Standing Directions 2016.	All invested funds and Treasury and Investment policy are compliant with Standing Directions 2018 under the *Financial Management Act 1994*.
	Submit statement of borrowings. Review borrowings at each (monthly) board meeting. Finance leases are borrowings and subject to Treasurer's approval.	Included as part of Corporate Plan. Finance Leases are classified as borrowings due to the accounting treatment. Board reviews monthly.
	Meeting Procedures of Authorities.	Minutes are available through application under Freedom of Information. Goulburn Broken CMA has adopted Governance Guidelines for Statutory Authority Board Members, DELWP model policies and Code of conduct for public sector employees adopted.
	Waterway management responsibilities.	Goulburn Broken CMA was established as a body corporate under the *Catchment and Land Protection Act 1994* and then established as an Authority under the *Water Act* with delegated waterway management, floodplain management and drainage functions under Part 10 of the *Water Act 1989*.
Environmental Protection and Biodiversity Conservation Act 1999	Provide for the protection of the environment and promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources and promote the conservation of biodiversity.	All works have a process which assesses the works against this Act. The Goulburn Broken CMA and its partners have complied with all requirements.
Financial Management Act 1994	Undertake review of its annual operations and advise the Minister regarding compliance with Financial Management Compliance Framework.	Information listed under FRD 22H is available under the *Freedom of Information Act 1982*. See page 86 for Statement regarding level of compliance with Standing Direction.

Act or policy	Board's major tasks	2019-20 issues and status
Freedom of Information Act 1982	Report requests for access to documents in Annual Report. Report requests at each (monthly) board meeting. *The Freedom of Information Act 1982* (the Act) allows the public a right of access to documents held by the Goulburn Broken CMA (the Authority). The purpose of the Act is to extend as far as possible the right of the community to access information held by government departments, local councils, Ministers and other bodies subject to the Act. An applicant has a right to apply for access to documents held by the Authority. This comprises documents both created by the Authoity or supplied to the Authority by an external organisation or individual, and may also include maps, films, microfiche, photographs, computer printouts, computer discs, tape recordings and videotapes. The Act allows the Authority to refuse access, either fully or partially, to certain documents or information. Examples of documents that may not be accessed include: cabinet documents; some internal working documents; law enforcement documents; documents covered by legal professional privilege, such as legal advice; personal information about other people; and information provided to the Authority in-confidence. From 1 September 2017, the Act has been amended to reduce the Freedom of Information (FOI) processing time for requests received from 45 to 30 days. However, when external consultation is required under ss29, 29A, 31, 31A, 33, 34 or 35, the processing time automatically reverts to 45 days. Processing time may also be extended by periods of 30 days, in consultation with the applicant. With the applicant's agreement this may occur any number of times. However, obtaining an applicant's agreement for an extension cannot occur after the expiry of the timeframe for deciding a request. If an applicant is not satisfied by a decision made by the Authority, under section 49A of the Act, they have the right to seek a review by the Office of the Victorian Information Commissioner (OVIC) within 28 days of receiving a decision letter.	**Making a request:** FoI requests can be lodged online at www.foi.vic.gov.au. An application fee of $29.60 applies. Access charges may also be payable if the document pool is large, and the search for material, time consuming. Access to documents can also be obtained through a written request to the Goulburn Broken CMA's Freedom of Information officer, as detailed in s17 of the *Freedom of Information Act 1982*. When making an FoI request, applicants should ensure requests are in writing, and clearly identify what types of material/documents are being sought. Requests for documents in the possession of the Goulburn Broken CMA should be addressed to: Freedom of Information Officer PO Box 1752, Shepparton, Vic 3632. **FoI statistics/timeliness:** During 2019-20, the Authority received 1 application from the general public. The Authority made 0 FoI decisions during the 12 months ended 30 June 2020. The average time taken to finalise requests in 2019-20 was 0 days. During 2019-20, 1 request was subject to a complaint/internal review by OVIC with Nil progressing to the Victorian Civil and Administrative Tribunal (VCAT). **Further information** Further information regarding the operation and scope of FoI can be obtained from the Act; regulations made under the Act; and www.foi.vic.gov.au.
Public Interest Disclosures Act 2012	Report actions in Annual Report. Report actions at each (monthly) Board meeting.	Disclosures of improper conduct by the Goulburn Broken CMA or its employees may be made to IBAC. (See page 95 for information).
Flora and Fauna Guarantee Act 1988	Conserve the Catchment's communities of flora and fauna and manage potentially threatening processes and educate the community in the conservation of flora and fauna.	The Goulburn Broken CMA continues to support the implementation of action statements and recovery plans for threatened flora and fauna by DELWP.

Act or policy	Board's major tasks	2019-20 issues and status
Public Administration Act 2004	Ensure operations of Board comply with Part 5.	Policy and Procedures ensure that obligations and best practice approaches are built into current operations and practices. The Goulburn Broken CMA is committed to applying merit and equity principles when appointing staff. The selection processes ensure that applicants are assessed and evaluated fairly and equitably on the basis of the key selection criteria and other accountabilities without discrimination.
Environmental Protection Act 1970	Protection agencies need to report in their annual reporting processes, actions taken to implement the Policy (as per their responsibilities in State Environment Protection Policy (Waters of Victoria) and Schedules), so that Environment Protection Authority can then report to the community.	The Goulburn Broken CMA continues to undertake activities against the Regional Waterway Strategy, Regional Floodplain Management Strategy, Shepparton irrigation Land and Water Management Plan and the Biodiversity Strategy.
	Outlines CMAs roles with respect to set goals, priorities and targets.	
	Refers to water allocations and environmental flows.	
	Relates to responsibilities of various agencies for ensuring sustainable agricultural activities with the catchment.	
	Relates to the management of irrigation channels and drains.	
	Refers to vegetation protection and rehabilitation.	
Privacy and Data Protection Act 2014	Ensure details of individuals are protected.	Goulburn Broken CMA has reviewed the Privacy Procedure (in accordance with the Act) on how personal information is stored and under what circumstances it can be accessed or released to third parties.
Forest Act 1958	Liaise with the Department of Environment, Land, Water and Planning as required.	For waterways in areas managed by DELWP under the Act, the Goulburn Broken CMA complied with elements of the code which deals with access to waterways and crossings.
Building Act 1993	Comply with standards for the construction and maintenance of buildings.	Goulburn Broken CMA does not own or control any government buildings and consequently is exempt from notifying its compliance with the building and maintenance provisions of the *Building Act 1993*.
Aboriginal Heritage Act 2006	Ensure the use of cultural heritage management plans for certain development plans or activities and interact with registered Aboriginal parties to evaluate management plans, advise on permit applications and enter into cultural heritage agreements.	The Goulburn Broken CMA applies diligence with regard to the requirements of the Act and encourages best practice in partner organisations through its cultural heritage support program. The Goulburn Broken CMA is committed to policies, programs and strategies aimed at delivering culturally appropriate services to all Victorians. Current practices of inclusive and thorough public consultation ensure that all persons who have an interest in investigations are kept informed and have the opportunity to provide input into Goulburn Broken CMA deliberations.
Fair Work (Registered Organisations) Act 2009	Comply with the Award system which provides a minimum set of terms and conditions for Goulburn Broken CMA employees.	Goulburn Broken CMA's policies have been evaluated for alignment against the Act and are available to staff on its portal (intranet). The enterprise agreement was in bargaining at the time of this report.

Act or policy	Board's major tasks	2019-20 issues and status
Equal Opportunity Act 2010	Annual data return reporting gender, diversity and complaints lodged and investigated.	The Goulburn Broken CMA is an equal opportunity employer. In 2017 the first Diversity & Inclusion Action Plan was developed for the Goulburn Broken CMA. People, Safety and Wellbeing Manager is the contact for any complaints. Nil complaints were received in the reporting period. Of the Goulburn Broken CMA staff, 58 per cent are female and 42 per cent male (see page 81). Of the Goulburn Broken CMA Board members, as at 30 June 2020, 50 per cent are female and 50 per cent male (see page 87).
Statutory Referral and Advice (Planning and Environment) Act 1987, Subdivision Act 1988, Building Regulations 2018, Water Act 1989, Mineral Resources (Sustainable Development) Act 1990	Goulburn Broken CMA has delegated floodplain management functions and is the floodplain management authority under the *Planning and Environment Act 1987*, *Subdivision Act 1988* and Building Regulations where various types of application for use and development are referred. Furthermore, functions require direct advice to be provided to any body or person under the *Water Act 1989*. Goulburn Broken CMA is a referral authority for applications from Department of Jobs, Precincts and Regions (*Mineral Resource Act, 1990*) for work plans on floodplain areas. Goulburn Broken CMA is referral authority from regional water authorities under section 67 licences for dams on waterways and for permits/licences to landowners to carry out works or activities on waterways.	The Goulburn Broken CMA processed 1021 referral and advice applications relating to floodplain management and 85 applications for works on waterways for 2019-20. ***Statutory functions under Part 10 of the Water Act:*** *Target: Ninety per cent of statutory requirements (permits, referrals, advice and licenses) associated with waterway and floodplain management are responded to within the prescribed period.)* In 2019-20, 96 per cent of responses were within the prescribed period. ***Statutory functions under Part 11 of the Water Act:*** *Target: Ninety per cent of statutory requirements (permits, referrals, advice and licences) associated with irrigation management are responded to within the prescribed period.* In 2019-20, 100 per cent of responses were within the prescribed period .
	Board is advised of application refusals at each (monthly) meeting.	Decisions are made in accordance with the Victorian Floodplain Management Strategy, the Goulburn Broken Regional Floodplain Management Strategy, the Victoria Planning Provisions Practice Notes and Authority Policy, all of which have largely been incorporated into respective municipal planning schemes as performance based criteria.
	Local government can request advice but are not required to implement it.	Advice has been provided where appropriate.
Competitive Neutrality Policy	Competitive neutrality requires government businesses to ensure where services compete, or potentially compete with the private sector, any advantage arising solely from their government ownership be removed if it is not in the public interest. Government businesses are required to cost and price these services as if they were privately owned. Competitive neutrality policy supports fair completion between public and private businesses and provides government businesses with a tool to enhance decisions on resource allocation. This policy does not override other policy objectives of government and focuses on efficiency in the provision of service.	Goulburn Broken CMA continues to comply with the requirements of the Competitive Neutrality Policy.

Act or policy	Board's major tasks	2019-20 issues and status
Country Fire Authority Act 1958	Work with other related organisations to assist in the control, prevention and suppression of fires within the Catchment.	Goulburn Broken CMA has policies relating to waterway operations that comply with the Act and reduce fire risk.
Local Jobs First Act 2003	Local Jobs First aims to foster industry development by encouraging Victorian government departments and public bodies to genuinely consider Victorian, Australian and New Zealand supply. In regional Victoria, the policy applies to all procurement and project activities valued at $1 million or more.	During 2019-20, Goulburn Broken CMA did not commence any contracts valued at over $1m for which a VIPP Plan or LIDP was required.
Occupational Health and Safety Act 2004	Report Occupational Health and Safety (OHS) issues at each (monthly) board meeting and in Annual Report. Quarterly Report of measurable OHS targets to the Audit Risk and Compliance Committee.	Goulburn Broken CMA continues to review and update its OHS Policy Statement and supporting OHS procedures to provide and maintain a safe work environment for employees as per section 21 of the *OHS Act 2004*. All staff are inducted in the procedures that reflect their work function. A revised Project OHS Management process was introduced in 2019-20 to clarify the OHS responsibilities of both Goulburn Broken CMA activities and those of contractors. Employee Health and Safety Representatives and Designated Work Groups are part of the consultative processes under sections 35 and 36 of the *OHS Act 2004*. Policies and procedures are available to staff on the portal (intranet). An OHS Report against agreed KPIs is provided to Audit, Risk and Compliance Committee quarterly.
Government Advertising Expenditure	Relates to the disclosure of government advertising expenditure under FRD 22H	Nil issues to report.
Victorian Government Risk Management Framework *Victorian Managed Insurance Authority Act 1996*	The Victorian Government Risk Management Framework provides for a minimum risk management standard across Public Sector entities. Attestation by accountable officer in annual report which ensures that requirement is built into corporate planning and reporting processes.	See page 86 for Statement regarding Goulburn Broken CMA compliance with the applicable Standing Directions under the *Financial Management Act 1994*.
DataVic Access Policy (2012)	The DataVic Access Policy provides direction on the release, licensing and management of Victorian Government data so that it can be used and reused by the community and businesses.	Goulburn Broken CMA did not supply any data sets to DataVic during 2019-20.
Gifts, benefits and hospitality policy framework	The Victorian Government Framework requiring employees to record gifts, benefits and hospitalities offered to them in their capacity with Goulburn Broken CMA.	The Goulburn Broken CMA has a comprehensive policy in relation to this issue and all staff are required to comply and record any benefits on the Register. A subset of the information in the register is published annually at www.gbcma.vic.gov.au
Charter of Human Rights and Responsibilities Act 2006	Requires public authorities to act consistently with charter rights when making decisions, developing policies and providing services.	Goulburn Broken CMA continues to provide information regarding rights and responsibilities to all new staff as part of the induction process.
Gender Equality Act 2020	Victorian public sector organisations, universities and local councils (with 50 or more employees) have obligations to plan, measure and track progress towards gender equality.	Act introduced obligations begin on 31 March 2021.

Statement of availability of other information

The Goulburn Broken CMA 2019-20 Annual Report is available on the website www.gbcma.vic.gov.au

Additional information available on request

In compliance with the requirements of the Standing Directions of the Assistant Treasurer, details in respect of the items listed below have been retained by the Authority and are available on request, subject to the provisions of the *Freedom of Information Act 1982*:

- details of publications produced by the entity about itself and how these can be obtained
- details of changes in prices, fees, charges, rates and levies charged by the entity
- details of any major external reviews carried out on the entity
- details of major research and development activities undertaken by the entity
- details of overseas visits undertaken including a summary of the objectives and outcomes of each visit
- details of major promotional, public relations and marketing activities undertaken by the entity to develop community awareness of the entity and its services.

The information is available on request from:

Eileen Curtis, Corporate Program Manager, Goulburn Broken CMA, PO Box 1752, Shepparton VIC 3630
Phone (03) 5822 7700.

Additional information included in annual report

Details in respect of the following items have been included in Goulburn Broken CMA's annual report, on the pages indicated below:

- assessments and measures undertaken to improve the occupational health and safety of employees (on page 78)
- a list of Goulburn Broken CMA's major committees; the purposes of each committee; and the extent to which the purposes have been achieved (on page 88)
- a statement of completion of declarations of pecuniary interests by relevant officers (on page 90).

Information that is not applicable to Goulburn Broken CMA

The following information is not relevant to Goulburn Broken CMA for the reasons set out below:

- a declaration of shares held by senior officers (no shares have ever been issued in Goulburn Broken CMA)
- a statement on industrial relations within Goulburn Broken CMA and details of time lost through industrial accidents and disputes (no industrial relations issues occurred during 2019-20).

Compliance with *Public Interest Disclosures Act 2012*

The *Public Interest Disclosures Act 2012* enables people to make a disclosure about corrupt or improper conduct by a public officer or a public body.
The Goulburn Broken Catchment Management Authority is a 'public body' for the purposes of the Act.

What is a public interest disclosure'?

A public interest disclosure is a complaint of corrupt or improper conduct or detrimental action by a public officer or a public body.
'Improper or corrupt conduct' involves substantial mismanagement of public resources, risk to public health or safety or the environment, or corruption.
'Detrimental action' is action taken against a person in reprisal for making a public interest disclosure.

How do I make a 'Public Interest Disclosure'?

You can make a public interest disclosure about the Goulburn Broken Catchment Management Authority or its board members, officers or employees by contacting the Independent Broad-Based Anti-Corruption Commission (details below).
Goulburn Broken Catchment Management Authority is not able to receive public interest disclosures.

How can I access the Goulburn Broken Catchment Management Authority's procedures for the protection of persons from detrimental action?

Goulburn Broken Catchment Management Authority has established procedures for the protection of persons from detrimental action in reprisal for making a protected disclosure about Goulburn Broken Catchment Management Authority or its employees. You can access Goulburn Broken Catchment Management Authority's procedures on its website at: www.gbcma.vic.gov.au

Contacts

Independent Broad-Based Anti-Corruption Commission (IBAC) Victoria

Address: Level 1, North Tower, 459 Collins Street, Melbourne Victoria 3000.

Mail: IBAC, GPO Box 24234, Melbourne Victoria 3001.

Internet: www.ibac.vic.gov.au

Phone: 1300 735 135

Email: see the website above for the secure email disclosure process, which also provides for anonymous disclosures.

Performance indicators

Performance area	Performance target	Progress 2019-20
Business management and governance	Submit annually, a board performance assessment report according to any guidelines issues.	Report submitted and complied with guidelines issued.
	A risk management framework in place and approved by the board.	Risk Register is reviewed by the Board at each Board meeting. Risk Management Framework is reviewed and approved by the Board annually.
	One hundred per cent of the CMA's policies and procedures reviewed every three financial years. Full compliance with all applicable Standing Directions under the Financial Management Compliance Framework Checklist.	85 per cent of policies and procedures updated within the 3 year target. No material non-compliance with Standing Directions.
	Submit annually, a board performance assessment report according to any guidelines issues.	Full compliance was achieved
Regional planning and coordination	A Regional Catchment Strategy (RCS) approved by the Minister.	Goulburn Broken Regional Catchment Strategy was approved by the Minister in 2013. The RCS is currently being renewed and due for approval in mid-2021.
	A stakeholder and community engagement framework / plan approved by the board.	Goulburn Broken Community Engagement and Action Plan 2018-20 was approved by the board and is being implemented.
	A regional Landcare support plan approved by the board.	Goulburn Broken Community NRM Action Plan 2020-2025 has been finalised and is due to be endorsed by the Board.
	A regional waterways strategy approved by the minister.	Goulburn Broken Waterway Strategy 2014-2022 was completed and endorsed by the Minister in November 2014 and is being implemented.
	A regional floodplain strategy approved by the board.	Goulburn Broken Regional Floodplain Management Strategy 2018 was completed and endorsed by the board in December 2017 and is being implemented.
	Land and water management plans (LWMP) in designated irrigation areas (or equivalent) approved by the board.	The SIR LWMP 2016 Review was completed and approved by the board in August 2016.
	The regional contribution to the annual report on salinity management activities and the allocation and update of salt disposal entitlements is submitted to the department by 31 July or as otherwise directed by the department.	The relevant information was provided to the State's reporting and presented to the Independent Audit Group of the Murray-Darling Basin Authority in November 2019. The review of the SIR Basin Salinity Management Register Entry and the Goulburn Broken Legacy of History entry were approved by the MDBA.
Regional delivery	Progress with implementation of the RCS (and its major sub-strategies) is reviewed by the board annually.	Progress with the Goulburn Broken RCS was provided to the Goulburn Broken CMA Board through the Final Review of the 2013 RCS.
	Projects / activities to implement the RCS are delivered and reported according to associated funding agreements.	Planned projects for 2019-20 were delivered and reported according to associated funding agreements.
	Project activities to implement the regional waterways strategy and the regional floodplain management strategy delivered and reported according to associated funding agreements.	Planned projects for 2019-20 were delivered and reported according to associated funding agreements.
	Projects / activities to implement the LWMP are delivered and reported according to associated funding agreements.	Planned projects for 2019-20 were delivered and reported according to associated funding agreements.

Strategic organisational measures

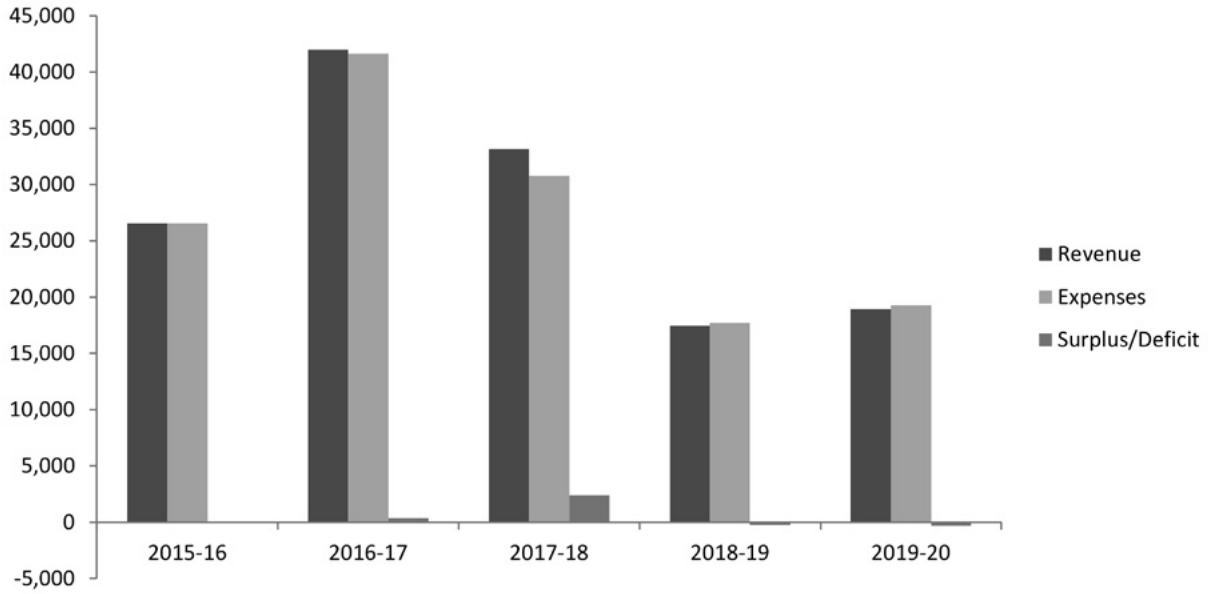
Performance area	Performance indicators	Targets	Progress 2019-20
NRM Results	Catchment objectives are achieved or evidence demonstrates movement towards meeting the objectives.	20-30 year objectives for Catchment condition.	On target. See pages 12 to 15 and 20 to 30 for further detail.
Client Focused	Clients and stakeholders value the services received from the Goulburn Broken CMA and see the services making a positive contribution to catchment condition.	Satisfaction rating as rated by people having contact with the CMA.	The 2017 Wallis Community Awareness survey found: • Those who had been in contact with the CMA gave an average satisfaction rating of 6.6 out of 10 for their experience dealing with them This was not significantly different to 2012 (6.1). • Total awareness of the Goulburn Broken CMA was at a historical high of 86 per cent - an increase of 4 per cent on 2012 levels. Subject to funding availability, the next community awareness survey will be held in 2021.
		Awareness of the Goulburn Broken CMA as a land, water and biodiversity management body.	
Operational Effectiveness	Projects delivered as planned, aligned to Goulburn Broken CMA strategy, on time, on budget, and to an agreed quality.	Progress against agreed RCS Implementation Plan.	On track. As outlined in the Goulburn Broken CMA RCS Final Review
		Performance against Annual Internal Audit Plan.	One Audit was delayed from June to July due to COVID-19 related restrictions impacting resource availability, otherwise all on track per the Internal Audit 3 year workplan.
		% projects finished on time and on budget (trend over time, and by service provider).	In 2019-20, standard output targets for program areas have been met for 64 per cent of funding lines during the financial year (25 from 39 funding lines). This compares to 76 per cent in 2018-19.
Financial	The Goulburn Broken CMA optimises investment to onground works by minimising (as much as possible) the costs incurred by the CMA in facilitating the delivery of NRM activities within the Catchment.	Ratio of CMA staff : $ works on the ground (as a measure of leverage).	Ratio of 3.1 FTE staff for every $1 million of onground works.
		Growth in income (incl. proportion of Govt. to Non-Govt.).	The total government funded revenue increased by 12 per cent from prior year at $16.6 million and accounts for 86 per cent of total revenue. The majority of the increase is due to additional funding received for Victorian Government funded Drought Employment Program.
People	The Goulburn Broken CMA has capable and motivated people to enable it to deliver on the RCS and who are able to support the achievement of the Authority's vision and purpose.	Organisational Leadership (in the Organisational Performance Excellence Review).	7.5/10 recognised at best practice level from Organisational Performance Excellence Review 2015.
		Overall job satisfaction (% of staff).	As at 2018, 93 per cent of staff were satisfied with their job. An increase of 5 per cent on the 2016 survey results
Governance and Social Responsibility	Governance structures and processes enable the board to professionally and competently discharge their responsibilities to the Catchment community.	Strategy and purpose (Aggregated results from Board Assessment).	On track.
		Compliance and Reporting (Aggregated results from Board Assessment).	

Financial results summary: current plus past four years

	2015-16	2016-17	2017-18	2018-19	2019-20
Revenue and expenditure					
State Government	10,808	12,033	14,802	12,117	13,639
Australian Government	13,962	28,516	17,065	2,499	2,694
Government contributions	24,770	40,549	31,867	14,616	16,333
Revenue from government entities	728	781	863	1,739	869
Other revenues	1,041	654	432	1,109	1,740
Total Revenue	26,539	41,984	33,162	17,464	18,941
Programs Expenditure	26,556	41,627	30,779	17,698	19,197
Interest	5	2	-	-	62
Total expenses	26,561	41,629	30,779	17,698	19,259
NET RESULT	(22)	355	2,383	(234)	(318)
Balance sheet items					
Current assets					
Cash	13,708	23,733	14,692	13,808	13,404
Receivables	673	555	898	2,042	1,475
Prepayments	209	158	216	187	154
Total current assets	14,590	24,446	15,806	16,037	15,033
Non-Financial assets	1,247	1,120	970	1,154	2,451
Total assets	15,837	25,566	16,776	17,191	17,484
Current liabilities					
Trade creditors	804	1,340	1,084	1,390	817
Unearned revenue/Contract Liabilities	3,771	12,269	1,173	1,176	1,221
Borrowings	26	14	-	103	675
Accruals	450	720	590	663	333
Provisions	1,735	1,904	2,256	2,000	1,907
Total current liabilities	6,786	16,247	5,103	5,332	4,953
Non-current liabilities					
Borrowings	15	-	-	418	1,388
Other	112	40	11	13	33
Total non-current liabilities	127	40	11	431	1,421
NET ASSETS	8,924	9,279	11,662	11,428	11,110
Equity items					
Contributed capital	4,209	4,209	4,209	4,209	4,209
Reserves	4,715	5,070	7,453	7,219	6,901
TOTAL EQUITY	8,924	9,279	11,662	11,428	11,110
Cash flow items					
Net operating activities	1,635	10,269	(8,821)	(949)	(180)
Net investing activities	(380)	(218)	(206)	98	75
Net financing activities	(36)	(27)	(14)	(33)	(299)
Net cash movement	1,219	10,024	(9,014)	(884)	(404)

Financial results summary: current plus past four years (Cont'd)

Financial summary 2015-16 to 2019-20, $000



Significant changes in financial results for 2019-20

	Corporate Plan 2019-20 $000	Actual 2019-20 $000	Actual Variance to Corporate Plan $000
Comprehensive Operating Statement			
Total revenue [i]	18,071	18,941	870
Total expenditure	(21,856)	(19,259)	2,597
Net result	(3,785)	(318)	3,467
Statement of financial position			
Cash and receivables	8,626	14,879	6,253
Other	220	154	(66)
Non-current assets	2,434	2,451	17
Total assets	11,280	17,484	6,204
Liabilities			
Payables	1,500	1,150	350
Employee provisions	2,175	1,940	235
Lease Liabilities	2,057	2,063	(6)
Contract Liabilities [i]	-	1,221	(1,221)
Total liabilities	5,732	6,374	(642)
Net assets	5,548	11,110	5,562

i For comparative purposes Corporate Plan excludes effect of AASB 15 on Revenue and Contract Liabilities

Current Financial Review

The variance in the actual result to end June 2020 of $0.3 million deficit compared to the Corporate Plan of $3.8 million deficit related to additional State funding received for a Drought Employment Program. The expenditure of this program together with other State funded program's were budgeted to be completed by 30 June however delivery was extended as the organisation adjusted to working from home and changed on-ground delivery requirements due to Coronavirus (COVID-19). These programs are expected to be fully delivered within the next reporting period.

Significant changes or factors affecting performance

Other than as detailed above, there were no other significant changes or factors which affected our performance against the Corporate Plan.

Consultancy expenditure

	2015-16		2016-17		2017-18		2018-19		2019-20	
	No.	$ (excl. GST)	No.	$ (excl. GST)	No.	$ (excl. GST)	No.	$ (excl. GST)	No.	$ (excl. GST)
Consultancies valued at $10,000 or greater	44	1,045,043	43	1,185,788	40	890,530	27	665,437	26	631,581
Consultancies valued at less than $10,000	51	131,139	32	111,794	22	66,491	29	112,412	25	100,254

Details of individual consultancies valued at $10,000 or greater are outlined on the Goulburn Broken Catchment Management Authority website, at www.gbcma.vic.gov.au.

Information and Communication Technology expenditure

For the 2019-20 reporting period, Goulburn Broken CMA had a total ICT expenditure of $1,085,012 with the details shown below.

All operational ICT expenditure	ICT Expenditure related to projects to create or enhance ICT capabilities		
Business as usual ICT expenditure	Non-Business as usual ICT expenditure	Operational expenditure (OPEX)	Capital expenditure (CAPEX)
Total $	Total $ = OPEX + CAPEX)	$	$
841,889	243,123	63,544	179,579

- ICT expenditure refers to the Goulburn Broken CMA's costs in providing business enabling ICT services within the current reporting period. It comprises Business as usual ICT expenditure and Non-business as usual ICT expenditure.
- Non-business as usual expenditure relates to extending or enhancing the Goulburn Broken CMA's current ICT capabilities.
- Business as usual ICT expenditure is all remaining ICT expenditure which primarily relates to ongoing activities to operate and maintain the current ICT capability
- Excludes expenditure on shared systems and security services including Dynamics 365 implementation that has been recharged to CMA's.

Other financial disclosures

Local Jobs First - Victorian Industry Participation Policy

During 2019-20, Goulburn Broken CMA did not commence any contracts valued at over $1m which a VIPP Plan or LIDP was required.

Government advertising expenditure

Nil advertising campaigns with a media spend of $100,000 or greater were entered into during the year.

Disclosure of major contracts

Goulburn Broken CMA did not award any major contracts (valued at $10 million or more) during 2019-20.

Capital projects

Goulburn Broken CMA did not manage any capital projects.

Subsequent events

There were no events occurring after balance date which may significantly affect the Goulburn Broken CMA's operations in subsequent reporting periods.

Financial Statements

Goulburn Broken Catchment Management Authority

Australian Business Number (ABN): 89 184 039 725

Accountable Officers' and Chief Finance Officer's declaration

The attached financial statements for the Goulburn Broken Catchment Management Authority (Goulburn Broken CMA) have been prepared in accordance with Direction 5.2 of the Standing Directions of the Assistant Treasurer under the *Financial Management Act 1994*, applicable Financial Reporting Directions, Australian Accounting Standards including Interpretations, and other mandatory professional reporting requirements.

We further state that, in our opinion, the information set out in the comprehensive operating statement, balance sheet, statement of changes in equity, cash flow statement and accompanying notes, presents fairly the financial transactions during the year ended 30 June 2020 and financial position of the Goulburn Broken CMA at 30 June 2020.

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

We authorise the attached financial statements for issue on 27 August 2020.

H Reynolds

Chair

C Cumming

Chief Executive Officer

E Curtis

Chief Finance Officer

27 August 2020

Independent Auditor's Report

VAGO
Victorian Auditor-General's Office

To the Board of Goulburn Broken Catchment Management Authority

Opinion

I have audited the financial report of Goulburn Broken Catchment Management Authority (the authority) which comprises the:

- balance sheet as at 30 June 2020
- comprehensive operating statement for the year then ended
- statement of changes in equity for the year then ended
- cash flow statement for the year then ended
- notes to the financial statements, including significant accounting policies
- accountable officers' and chief finance officer's declaration.

In my opinion, the financial report presents fairly, in all material respects, the financial position of the authority as at 30 June 2020 and its financial performance and cash flows for the year then ended in accordance with the financial reporting requirements of Part 7 of the *Financial Management Act 1994* and applicable Australian Accounting Standards.

Basis for Opinion

I have conducted my audit in accordance with the *Audit Act 1994* which incorporates the Australian Auditing Standards. I further describe my responsibilities under that Act and those standards in the *Auditor's Responsibilities for the Audit of the Financial Report* section of my report.

My independence is established by the *Constitution Act 1975.* My staff and I are independent of the authority in accordance with the ethical requirements of the Accounting Professional and Ethical Standards Board's APES 110 *Code of Ethics for Professional Accountants* (the Code) that are relevant to my audit of the financial report in Victoria. My staff and I have also fulfilled our other ethical responsibilities in accordance with the Code.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.

Board's responsibilities for the financial report

The Board of the authority is responsible for the preparation and fair presentation of the financial report in accordance with Australian Accounting Standards and the *Financial Management Act 1994*, and for such internal control as the Board determines is necessary to enable the preparation and fair presentation of a financial report that is free from material misstatement, whether due to fraud or error.

In preparing the financial report, the Board is responsible for assessing the authority's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless it is inappropriate to do so.

Level 31 / 35 Collins Street, Melbourne Vic 3000
T 03 8601 7000 enquiries@audit.vic.gov.au www.audit.vic.gov.au

Auditor's responsibilities for the audit of the financial report

As required by the *Audit Act 1994,* my responsibility is to express an opinion on the financial report based on the audit. My objectives for the audit are to obtain reasonable assurance about whether the financial report as a whole is free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes my opinion. Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with the Australian Auditing Standards will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of this financial report.

As part of an audit in accordance with the Australian Auditing Standards, I exercise professional judgement and maintain professional scepticism throughout the audit. I also:

- identify and assess the risks of material misstatement of the financial report, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the authority's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board
- conclude on the appropriateness of the Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the authority's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the authority to cease to continue as a going concern.
- evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

MELBOURNE
15 September 2020

Paul Martin
as delegate for the Auditor-General of Victoria

Comprehensive Operating Statement for the financial year ended 30 June 2020

	Note	2020 $000	2019 $000
Income from transactions			
Government contributions	2.2.1	16,333	14,616
Interest	2.2.2	140	228
Other revenue	2.2.3	2,427	2,550
Total income from transactions		18,900	17,394
Expenses from transactions			
Employee Expenses	3.2	(5,995)	(5,598)
Depreciation & Amortisation	4.1.1	(510)	(342)
Materials, grants, contracts and consultancies	3.3	(10,957)	(10,063)
Operating lease expenses	3.4	(156)	(330)
Other Operating expenses	3.5	(1,641)	(1,365)
Total expenses from transactions		(19,259)	(17,698)
Net result from transactions (net operating balance)		(359)	(304)
Other economic flows included in net result			
Net gain/(loss) on non-financial assets [i]	8.2	41	70
Net result for the period		(318)	(234)
Comprehensive result		(318)	(234)

i. Net gain/(loss) on non-financial assets includes unrealised and realised gains/(losses) from impairments and disposals of all physical assets and intangible assets.

The accompanying notes form part of these financial statements.

Balance Sheet as at 30 June 2020

	Note	2020 $000	2019 $000
Assets			
Financial assets			
Cash and deposits	6.1	13,404	13,808
Receivables	5.1	1,475	2,042
Total financial assets		14,879	15,850
Non-Financial assets			
Property, plant and equipment	4.1	2,286	1,119
Intangible assets	4.2	165	35
Other non-financial assets	5.3	154	187
Total non-financial assets		2,605	1,341
Total assets		17,484	17,191
Liabilities			
Payables	5.2	1,150	2,053
Contract liabilities	5.4	1,221	-
Unearned revenue	5.5	-	1,176
Interest bearing liabilities	6.2.1	2,063	521
Employee benefits	3.2.2	1,940	2,013
Total liabilities		6,374	5,763
Net assets		11,110	11,428
Equity			
Contributed equity		4,209	4,209
Accumulated funds		-	-
Reserve	8.3	6,901	7,219
Total equity		11,110	11,428

The above Balance Sheet should be read in conjunction with the accompanying notes.

Statement of Changes in Equity for the financial year ended 30 June 2020

	Contributions by owner $000	Reserves $000	Accumulated funds $000	Total $000
Balance at 1 July 2018	4,209	7,453	-	11,662
Net result for the period	-	-	(234)	(234)
Transfer to / (from) Reserves	-	(234)	234	-
Balance at 30 June 2019	4,209	7,219	-	11,428
Total Comprehensive (Deficit) for the year	-	-	(318)	(318)
Transfer to / (from) Reserves	-	(318)	318	-
Balance at 30 June 2020	4,209	6,901	-	11,110

The above Statement of Changes in Equity should be read in conjunction with the accompanying notes.

Cash Flow Statement for the financial year ended 30 June 2020

	Note	2020 $000	2019 $000
Cash flow from operating activities			
Receipts			
Government contributions		16,920	13,342
Revenue from other Government Entities		956	1,913
GST (remitted to) received from Australian Tax Office		786	931
Interest received		142	252
Other revenue		1,763	833
Total Receipts		20,567	17,271
Payments			
Payments to suppliers and employees		(20,685)	(18,215)
Interest paid		(62)	(5)
Total Payments		(20,747)	(18,220)
Net cash from/(used in) operating activities	6.1.1	(180)	(949)
Cash flow from investing activities			
Proceeds from sale of property, plant and equipment		259	257
Payment for property, plant and equipment		(184)	(159)
Net cash flows from/(used in) investing activities		75	98
Cash flow from financing activities			
Repayment of finance lease liabilities		(299)	(33)
Net cash from/(used in) financing activities		(299)	(33)
Net (decrease) / increase in cash held		(404)	(884)
Cash and cash equivalents at beginning of year		13,808	14,692
Cash and cash equivalents at end of year	6.1	13,404	13,808

The above Cash Flow Statement should be read in conjunction with the accompanying notes.

Notes to the financial statements for the year ended 30 June 2020

1. About this report

The Goulburn Broken Catchment Management Authority is a government authority of the State of Victoria, established on 1 July 1997 by the state government.

Its principal address is:

Goulburn Broken Catchment Management Authority
168 Welsford St
Shepparton VIC 3630

The Goulburn Broken CMA is responsible for coordinating land, water and biodiversity management of the Goulburn Broken Catchment. Further description of the nature of its operations and its principal activities is included in the Report of Operations, which does not form part of these financial statements.

Basis of preparation

These financial statements are in Australian dollars and the historical cost convention is used unless a different measurement basis is specifically disclosed in the note associated with the item measured on a different basis.

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

Unless otherwise stated, all accounting policies applied are consistent with those of the prior year.

The Coronavirus (COVID-19) global pandemic has seen the Federal and State governments implement a range of measures and restrictions to protect the Australian Community from the spread of COVID-19. These measures and restrictions have adversely impacted the global and Australian economies, and this financial report has been prepared within that context. The Goulburn Broken CMA has taken a number of measures to monitor and mitigate the effects of COVID-19 including maintaining social distancing, working from home and securing the supply of materials that are essential to operations. As at 30 June 2020, the impact of COVID-19 on Goulburn Broken CMA's operations and finances has not been significant. The authority continues to monitor business activity and economic conditions to support this ongoing assessment.

The following standards have been adopted by the Authority for the first time at 1 July 2019:

AASB 15 Revenue from Contracts with Customers
AASB 15 Revenue from contracts with customers, which replaces AASB 118 Revenue. AASB 15 requires the Authority to recognise revenue when the Authority satisfies a performance obligation by transferring a promised good or service to a customer. The Authority has adopted AASB 15 as at 1 July 2019 and has applied the new rules on a modified retrospective basis as mandated by the DTF through FRD 121 Transitional requirements on the application of AASB 15 Revenue from Contracts with Customers. As a result, comparatives for 2018/19 in our 30 June 2020 accounts have not been restated. The transition adjustment was $Nil. Further disclosures in relation to AASB 15 are at note 8.9 of this report.

AASB 16 Leases
AASB 16 Leases was issued in February 2016 and replaces AASB 117 Leases. It will result in almost all leases being recognised on the balance sheet, as the distinction between operating and finance leases is removed for lessees. Under the new standard, an asset (the right to use the leased item) and a financial liability to pay the obligation for lease payments are recognised. The Authority has adopted AASB 16 as at 1 July 2019 and has applied the new rules on a modified retrospective basis as mandated by the DTF through FRD 123 Transitional requirements on the application of AASB 16 Leases. As a result, comparatives for 2018/19 in our 30 June 2020 accounts have not been restated. The transition adjustment was the recognition of Right of Use Assets of $1,170,782 and a corresponding lease liability of $1,170,782. Further disclosures in relation to AASB 16 are at note 6.2 and 8.9 of this report.

AASB 1058 Income for Not-for-Profits
AASB 1058 Income for Not-for-Profits replaces requirements of income transactions previously accounted for under AASB 1004 Contributions. It establishes principles for not-for-profit entities that apply to (a) transactions where the consideration to acquire an asset is significantly less than fair value principally to enable a not-for-profit Corporation to further its objectives; and (b) the receipt of volunteer services. It will apply to capital grants from government and grants with no sufficiently specific performance obligation. The Authority needs to determine whether a transaction falls under AASB 1058 or actually a contract with a customer under AASB 15. The Authority has adopted AASB 1058 as at 1 July 2019 and has applied the new rules on a modified retrospective basis as mandated by the DTF through FRD 122 Transitional requirements on the application of AASB 1058 Income of Not-for-Profit Entities. As a result, comparatives for 2018/19 in our 30 June 2020 accounts have not been restated. The transition adjustment was $Nil. Further disclosures in relation to AASB 1058 are at note 8.9 of this report.

Judgements, estimates and assumptions are required to be made about financial information being presented. The significant judgements made in the preparation of these financial statements are disclosed in the notes where amounts affected by those judgements are disclosed. Estimates and associated assumptions are based on professional judgements derived from historical experience and various other factors that are believed to be reasonable under the circumstances. Actual results may differ from these estimates.

Revisions to accounting estimates are recognised in the period in which the estimate is revised and also in future periods that are affected by the revision. Judgements and assumptions made by management in the application of Australian Accounting Standards (AASs) that have significant effects on the financial statements and estimates are disclosed in the notes under the heading: 'Significant judgement or estimates', and relate to:

- fair value measurements of assets and liabilities (7.3);
- employee benefit provisions (3.2);
- accrued expenses (5.2);
- Contract Liability (5.4);
- estimation of useful lives (4.1.1);
- determining whether the performance obligations are sufficiently specific so as to determine whether the arrangement is within the scope of AASB 15 or AASB 1058 (8.9);
- for leases, determining whether the arrangement is in substance short-term arrangement (6.2); and
- estimating discount rate when not implicit in the lease (6.2).

All amounts in the financial statements have been rounded to the nearest $1,000 unless otherwise stated.

Compliance Information

These general purpose financial statements have been prepared in accordance with the *Financial Management Act 1994* (FMA) and applicable AASs which include Interpretations, issued by the Australian Accounting Standards Board (AASB). In particular, they are presented in a manner consistent with the requirements of *AASB 101 Presentation of Financial Statements*.

Where appropriate, those AASs paragraphs applicable to not-for-profit entities have been applied. Accounting policies selected and applied in these financial statements ensure that the resulting financial information satisfies the concepts of relevance and reliability, thereby ensuring that the substance of the underlying transactions or other events is reported.

2. Funding delivery of our services

Introduction

The Authority's overall objective is for the coordinated control of natural resource management within the broader catchments of Goulburn Broken. The role of the Authority is to ensure effective implementation of the Regional Catchment Strategy. Associated with this role the Authority carries out strategic planning and advises Government.

To enable the Authority to deliver on its objectives, it receives revenue predominantly through State and Commonwealth Government Contributions.

Structure

2.1 Summary of revenue that funds the delivery of our services

2.2 Revenue from transactions

2.1 Summary of revenue that funds the delivery of our services

	Note	2020 $000	2019 $000
Government contributions	2.2.1	16,333	14,616
Interest	2.2.2	140	228
Other revenue	2.2.3	2,427	2,550
Total revenue from transactions		18,900	17,394

Revenue is recognised to the extent that it is probable that the economic benefits will flow to the entity and the revenue can be reliably measured at fair value. Revenue is accounted for consistently with the requirements of the relevant accounting standards disclosed in the following notes.

Notes to the financial statements for the year ended 30 June 2020

2.2 Income from transactions

2.2.1 Government contributions

	2020 $000	2019 $000
Income recognised as income of not-for-profit entities		
State Government		
Corporate and Statewide	921	930
Sustainable Irrigation	7,038	5,509
River Health	3,703	3,524
Floodplain Management	836	940
Land and Biodiversity	1,141	1,214
	13,639	12,117
Income recognised as revenue from contract with customers		
Commonwealth Government		
National Landcare Program	2,653	2,410
Other Commonwealth Funding	41	89
	2,694	2,499
Total Government contributions	16,333	14,616

The Authority has determined that all Government Contributions are recognised as income of not-for-profit entities in accordance with AASB 1058, except for contracts that are enforceable and with sufficiently specific performance obligations are accounted for as revenue from contracts with customers in accordance with AASB 15.

The impact of initially applying AASB 1058 on the Authority's Government Contributions is described in Note 8.9. Due to the modified retrospective transition method chosen in applying AASB 1058, comparative information has not been restated to reflect the new requirements [AASB 1058.C3(b)]. The adoption of AASB 1058 did not have an impact on Other comprehensive income and the Statement of Cash flows for the financial year. Revenue from Government Contributions that are enforceable and with sufficiently specific performance obligations are accounted for as revenue from contracts with customers in accordance with AASB 15. These grants relate to the provision of activities and services provided to the Commonwealth. Revenue is recognised at the point in time Authority satisfies the performance obligation by completing the relevant service as specified in the contract, This is recognised based on the consideration specified in the funding agreement and to the extent that it is highly probable a significant reversal of the revenue will not occur. As this funding is invoiced in arrears of the work performed, the funding payments are normally received after the relevant obligation is satisfied.

2.2.2 Interest

	2020 $000	2019 $000
Interest on bank deposits	140	228
	140	228

Interest revenue includes interest received on bank term deposits. Interest revenue is recognised using the effective interest method which allocates the interest over the relevant period.

2.2.3 Other revenue

	2020 $000	2019 $000
Partnership Contributions - Government entities	869	1,739
Partnership Contributions – non-Government entities	84	88
Recoverable costs	1,432	687
Application fees	42	36
Total other revenue	2,427	2,550

Partnership contributions and Recoverable costs consists of funds received from organisations as partners in projects. The Authority has determined that all Other Revenue are recognised as income of not-for-profit entities in accordance with AASB 1058 as contracts are not enforceable or do not have sufficiently specific performance obligations.

There was no impact of initially applying AASB 1058 on the Authority's Partnership Contributions and Recoverable Costs. Due to the modified retrospective transition method chosen in applying AASB 1058, comparative information has not been restated to reflect the new requirements [AASB 1058.C3(b)]. The adoption of AASB 1058 did not have an impact on Other comprehensive income and the Statement of Cash flows for the financial year.

All other revenue is recognised when the right to receive payment is established.

3. The cost of delivering services

Introduction

This section provides an account of the expenses incurred by the Authority in delivering services. In Section 2, the funds that enable the provision of services were disclosed and in this note the cost associated with the provision of services are recorded.

Significant judgement: Employee benefit provisions
In measuring employee benefits, consideration is given to expected future wage and salary levels, experience of employee departures and periods of service. Expected future payments are discounted using a single weighted average discount rate based on market yields of national government bonds in Australia that reflects the estimated timing and amount of benefit payment.

Structure

3.1 Expenses incurred in delivery of services

3.2 Employee expenses

3.3 Materials, grants, contracts and consultancies

3.4 Operating lease expenses

3.5 Other operating expenses

3.1 Expenses incurred in delivery of services:

	Note	2020 $000	2019 $000
Employee expenses	3.2	5,995	5,598
Materials, maintenance, grants, contracts and consultancies	3.3	10,957	10,063
Operating lease expenses	3.4	156	330
Other operating expenses	3.5	1,641	1,365
Total expenses from delivery of services		18,749	17,356

3.2 Employee expenses

3.2.1 Employee expenses in the comprehensive operating statement

	2020 $000	2019 $000
Salaries & wages	4,660	4,302
Annual leave	386	368
Long service leave	137	153
Superannuation	467	440
FBT	184	184
Other	161	151
Total employee expenses	5,995	5,598

Employee expenses include all costs related to employment including wages and salaries, payroll tax, fringe benefits tax, leave entitlements, termination payments and WorkCover premiums.

The amount recognised in comprehensive operating statement in relation to superannuation is the 9.5% employer contributions for members of both defined benefit and defined contribution superannuation plans.

3.2.2 Employee related provisions in the balance sheet

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

	2020 $000	2019 $000
Current provisions for employee benefits		
Time in lieu		
Unconditional and expected to be settled within 12 months	26	27
Annual leave		
Unconditional and expected to settle within 12 months	341	311
Unconditional and expected to settle after 12 months	48	40
Long service leave		
Unconditional and expected to settle within 12 months	47	112
Unconditional and expected to settle after 12 months	1,237	1,286
On-costs [i]		
Unconditional and expected to settle within 12 months	48	54
Unconditional and expected to settle after 12 months	160	170
Total current provisions	1,907	2,000
i. On-costs include payroll tax, superannuation and worker's Compensation Insurance		
Non-current provisions for employee benefits		
Long service leave		
Conditional and expected to be settled after 12 months	30	12
On-costs		
Conditional and expected to be settled after 12 months	3	1
Total non-current provisions	33	13
Total provisions for employee benefits and on-costs	1,940	2,013

Reconciliation of movement in on-cost provision

	2020 $000	2019 $000
Opening balance	225	236
Additional provisions recognised	66	62
Reductions arising from payments/other sacrifices of future economic benefits	(73)	(73)
Unwind of discount and effect of changes in the discount rate/Reductions arising from re measurement of payroll tax	(7)	-
Closing balance	211	225

Wages and salaries and annual leave:

Liabilities for wages and salaries (including non-monetary benefits, time in lieu, annual leave and on-costs) are recognised as part of the employee benefit provision as current liabilities, and are measured at their undiscounted amounts expected to be paid, because the Authority does not have an unconditional right to defer settlements of these liabilities.

Depending on the expectation of the timing of settlement, liabilities for wages and salaries, and annual leave are measured at:

- undiscounted value - if the Authority expects to wholly settle within 12 months;
- present value - if the Authority does not expect to wholly settle within 12 months.

Long service leave (LSL):

Regardless of the expected timing of settlement, unconditional LSL is classified as a current liability because the Authority does not have an unconditional right to defer the settlement of these liabilities.

Unconditional LSL liability amounts expected to be wholly settled within 12 months are measured at the nominal value. Unconditional LSL liability amount that are not expected to be wholly settled within 12 months are measured as the present value of the estimated future cash outflows to be made by the entity.

Unconditional LSL represents long service leave entitlements accrued for employees with more than 7 years of continuous service.

Conditional LSL is classified as a non-current liability and measured as the present value of the estimated future cash outflows to be made by the entity.

3.2.3 Superannuation contributions

Employees of the Authority are entitled to receive superannuation benefits and the Authority contributes to both defined benefit and defined contribution plans. The defined benefit plans provide benefits based on year of service and final average salary. Obligations for superannuation contributions are recognised as an expense in Comprehensive Operating Statement when they are made or due.

The Authority does not recognise any defined benefit liability for contributions to the ESS because it has no legal or constructive obligation to pay future benefits relating to its employees. The Department of Treasury and Finance discloses in its annual financial statements the States net defined benefits cost related to the members of these plans as an administered liability. For contributions to the defined benefit fund with Vision Super(the Fund) the Authority does not use defined benefit accounting for its defined benefit obligations because the Fund's Defined Benefit plan is a pooled multi-employer sponsored plan.

The amount recognised in the comprehensive operating statement in relation to Superannuation is employer contributions for members of both defined benefit and defined contribution superannuation plans that are paid or payable during the reporting period.

	2020 Rate %	2020 $000	2019 $000
Defined benefit plans: [i]			
Vision super defined benefits scheme	9.5	6	6
Emergency Services Superannuation Scheme	various	43	53
Defined contribution plans			
Vision super defined contribution scheme	9.5	131	118
Vic super	9.5	128	118
Other private schemes	9.5	159	145
		467	440

i. The bases for determining the level of contributions is determined by the various actuaries of the defined benefit superannuation plans.

There was $35,385 in contributions outstanding to the above schemes as at 30 June 2020 (2019: $16,633) The expected contributions to be paid to the Defined Benefit category of Vision Super for the year ending 30 June 2021 is $6,435.

3.3 Materials, grants, contracts and consultancies

	2020 $000	2019 $000
Grants paid	2,781	1,784
Consultants	1,889	1,101
Contractors	6,018	6,931
Materials	269	247
Total materials, maintenance, grants, contracts and consultancies	10,957	10,063

Materials, grants, contracts and consultancies are recognised as an expense in the reporting period in which they are payable.

3.4 Operating lease expenses

	2020 $000	2019 $000
Operating property lease rental expenses	-	330
Short-term lease expenses	156	-
Operating lease expenses	156	330

Operating lease payments up until 30 June 2019 are recognised on a straight-line basis over the lease term.

From 1 July 2019 lease payments are Short-term leases with a term less than 12 months and are recognised on a straight-line basis (refer note 6.2 Leases).

3.5 Other operating expenses

	2020 $000	2019 $000
Victorian Auditor-General's Office for audit of financial statements	24	23
Internal audit expenses	19	12
Information Technology and Communication expenses	901	664
Events and Publicity	119	136
Other expenses	578	530
	1,614	1,365

Other operating expenses generally represent the day-to-day running costs incurred in normal operations and are recognised as an expense in the reporting period in which they are paid or payable.

Information Technology and Communication expenses includes costs for implementation of upgraded finance system. The finance system and upgrade costs are shared across seven Catchment Management Authorities with costs recovered recorded in Other Revenue as Recoverable costs (2.2.3).

4. Key assets available to support output delivery

Introduction

The Authority controls property and other investments that are utilised in fulfilling its objectives and conducting its activities. They represent the key resources that have been entrusted to the Authority to be utilised for delivery of those outputs.

Significant judgement: Fair value measurement
Where the assets included in this section are carried at fair value, additional information is disclosed in Note 7.3 about how those fair values were determined.

Structure

4.1 Total property, plant and equipment

4.2 Intangible assets

4.1 Total property, plant and equipment [i]

	Gross carrying amount		Accumulated Depreciation		Net carrying amount	
	2020 $000	2019 $000	2020 $000	2019 $000	2020 $000	2019 $000
Buildings at fair value	1,209	38	(207)	(38)	1,002	-
Plant and equipment at fair value	1,347	1,251	(1,177)	(1,133)	170	118
Computer equipment	-	62	-	(62)	-	-
Computer equipment purchased at cost	-	55	-	-	-	55
Motor vehicles at fair value	1,529	831	(415)	(406)	1,114	425
Motor vehicles under finance lease	-	555	-	(34)	-	521
	4,085	2,792	(1,799)	(1,673)	2,286	1,119

i. AASB 16 Leases has been applied for the first time from 1 July 2019

Notes to the financial statements for the year ended 30 June 2020

4.1(a) Total right-of-use assets: buildings, plant, equipment and vehicles

The following tables are subsets of buildings, and plant and equipment by right-of-use assets.

2020	Gross carrying amount $000	Accumulated Depreciation $000	Net carrying amount $000
Right of Use Buildings at fair value	1,171	(169)	1,002
Motor vehicles at fair value	1,225	(200)	1,025
Net Carrying amount	2,396	(369)	2,027

	Right of Use Buildings at fair value $000	Plant and equipment at fair value $000	Motor vehicles at fair value $000
Opening balance – 1 July 2019 [i]	1,171	-	521
Additions	-	-	670
Disposals	-	-	-
Depreciation expense	(169)	-	(166)
Closing balance – 30 June 2020	1,002	0	1,025

i. This balance represents the initial recognition of right-of-use assets recorded on the balance sheet on 1 July 2019 along with the transfer from finance lease assets (recognised under AASB 117 at 30 June 2019) to right-of-use assets (recognised under AASB 16 at 1 July 2019).

Initial recognition:

Items of property, plant and equipment, are measured initially at cost and subsequently revalued at fair value less accumulated depreciation and impairment. Where an asset is acquired for no or nominal cost, the cost is its fair value at the date of acquisition.

The cost of constructed non-financial physical assets includes the cost of all materials used in construction, direct labour on the project and an appropriate proportion of variable and fixed overheads.

Motor Vehicles are measured initially at cost and subsequently revalued at fair value less accumulated depreciation and impairment.

Computer equipment purchased at cost are non-financial physical assets purchased at year end and not yet in use. These items are measured at cost. There were no Computer assets purchased and not yet in use at 30 June 2020.

Right-of-use asset acquired by lessees (Under AASB 16 Leases from 1 July 2019) – Initial measurement:

The Authority recognises a right-of-use asset and a lease liability at the lease commencement date. The right-of-use asset is initially measured at cost which comprises the initial amount of the lease liability adjusted for:

- any lease payments made at or before the commencement date less any lease incentive received; plus
- any initial direct costs incurred.

Subsequent measurement:

Property, plant and equipment are subsequently measured at fair value less accumulated depreciation and impairment.

Buildings relate to specialised portable structures and are valued based on depreciated replacement cost.

Vehicles are valued using the depreciated replacement cost method. Goulburn Broken CMA acquires new vehicles and at times disposes of them before the end of their economic life. The process of acquisition, use and disposal in the market is managed by experienced external fleet managers who set relevant depreciation rates during use to reflect the utilisation of the vehicles.

Fair value for plant and equipment that are specialised in use (such that it is rarely sold other than as part of a going concern) is determined using the depreciated replacement cost method.

Note 7.3 includes additional information in connection with fair value determination of property, plant and equipment.

Right-of-use asset – Subsequent measurement

The Authority depreciates the right-of-use assets on a straight-line basis from the lease commencement date to the earlier of the end of the useful life of the right-of-use asset or the end of the lease term. The right-of-use assets are also subject to revaluation.

In addition, the right-of-use asset is periodically reduced by impairment losses, if any and adjusted for certain remeasurements of the lease liability.

4.1.1 Depreciation and amortisation

Charge for the period [i]	2020 $000	2019 $000
Buildings	169	-
Plant & equipment	57	65
Motor vehicles	284	241
Motor vehicles under finance lease	-	34
Computer equipment	-	-
Intangible assets	-	2
Total depreciation and amortisation	510	342

i. The table incorporates depreciation of right-of-use assets as per AASB 16 Leases. All non-financial physical assets that have finite useful lives are depreciated.

All non-financial physical assets that have finite useful lives are depreciated.

Depreciation is calculated on a straight-line basis, at rates that allocate the asset's value, less any estimated residual value, over its estimated useful life. Typical estimated useful lives for the different asset classes for current and prior years are included in the table below:

Asset	Useful life
Buildings: Leased assets	7 years
Plant and equipment	2.5 - 10 years
Motor vehicles (including leased assets)	5-8 years
Intangible assets	5 years

The estimated useful lives, residual values and depreciation method are reviewed at the end of each annual reporting period, and adjustments made where appropriate.

Right-of-use assets are generally depreciated over the shorter of the asset's useful life and the lease term.

Impairment

Non-financial assets, including items of Property, Plant and Equipment, are tested for impairment whenever there is an indication that the assets may be impaired.

The assets concerned are tested as to whether their carrying value exceeds their recoverable amount. Where an asset's carrying value exceeds its recoverable amount, the difference is written off as an 'other economic flow', except to the extent that it can be debited to an asset revaluation surplus amount applicable to that class of asset.

If there is an indication that there has been a reversal in impairment, the carrying amount shall be increased to its recoverable amount. However this reversal should not increase the asset's carrying amount above what would have been determined, net of depreciation or amortisation, if no impairment loss had been recognised in prior years.

The recoverable amount for most assets is measured at the higher of depreciated replacement cost and fair value less costs to sell. Recoverable amount for assets held primarily to generate net cash inflows is measured at the higher of the present value of future cash flows expected to be obtained from the asset and fair value less costs to sell.

4.1.2 Reconciliation of movements in carrying values of property, plant and equipment

	Buildings at fair value $000	Plant and equipment at fair value $000	Motor vehicles at fair value $000	Motor vehicles under finance lease $000	Equipment under finance lease $000	Computer Equipment purchased at cost $000	Total $000
2020							
Opening balance	-	118	425	521	-	55	1,119
Recognition of right-of-use assets on initial application of AASB 16 [i]	1,171	-	521	(521)	-	-	1,171
Additions	-	109	670	-	-	-	779
Disposals	-	-	(218)	-	-	(55)	(273)
Depreciation expense	(169)	(57)	(284)	-	-	-	(510)
Amortisation	-	-	-	-	-	-	-
Closing balance	1,002	170	1,114	-	-	-	2,286
2019							
Opening balance	-	114	853	-	-	-	967
Purchased assets not in use				-		55	55
Additions	-	69	-	555	-	-	624
Disposals	-	-	(187)	-	-	-	(187)
Depreciation expense	-	(65)	(241)	(34)	-	-	(340)
Amortisation	-	-	-	-	-	-	-
Closing balance	-	118	425	521	-	55	1,119

i. This balance represents the initial recognition of right-of-use assets recorded on the balance sheet on 1 July 2019 relating to operating leases - refer to Note 8.9.

Purchased assets not in use is computer hardware at year end 30 June 2019 and were not yet in use at the end of the financial period. These items are measured at cost. There were no Purchased assets not in use at year end 30 June 2020.

4.2 Intangible assets

Computer software	2020 $000	2019 $000
Gross carrying amount		
Opening Balance	71	36
Computer software in development and not in use	130	35
Additions	-	-
Disposals	-	-
Closing balance	201	71
Accumulated Amortisation		
Opening Balance	(36)	(33)
Amortisation	-	(3)
Closing balance	(36)	(36)
Net book value at end of financial year	165	35

Intangible assets are initially recognised at cost. Subsequently, intangible assets with finite useful lives are carried at cost less accumulated amortisation and accumulated impairment losses.

Intangible amortisation assets with finite useful lives are amortised as an 'expense from transactions' on a straight line basis over their useful lives. The amortisation period is 5 years.

Computer software in development and not in use relates to the implementation of a new finance, payroll and human resource system that is a multi year project. At the end of the financial period the project was in the user testing stage. This project is scheduled to be finished during the 2020-21 financial period.

Notes to the financial statements for the year ended 30 June 2020

5. Other assets and liabilities

Introduction

This section sets out those assets and liabilities that arose from the Authority's operations.

Significant judgement: Accrued revenue and accrued expenses

Accrued revenue and accrued expenses represent goods or services that have been received or supplied but have not been invoiced by the supplier.

In estimating the amount of an accrued revenue or accrued expense, consideration is given to the stage of completion of the services being performed.

Structure

5.1 Receivables

5.2 Payables

5.3 Other non-financial assets

5.4 Contract Liabilities

5.5 Unearned revenue

5.1 Receivables

	2020 $000	2019 $000
Contractual		
Government grants receivables	1,264	1,765
Trade receivables	39	88
Less provision for bad debt	-	-
Accrued interest	-	2
Total contractual	1,303	1,855
Statutory		
GST input tax credits recoverable	172	187
Total current receivables	1,475	2,042

Contractual receivables are classified as financial instruments and categorised as 'financial assets at amortised cost'. They are initially recognised at fair value plus any directly attributable transaction costs. Subsequent to initial measurement they are measured at amortised cost less any impairment.

Statutory receivables do not arise from contracts and are recognised and measured similarly to contractual receivables (except for impairment), but are not classified as financial instruments.

The Authority applies AASB 9 simplified approach to measuring expected credit losses, which uses a lifetime expected credit loss allowance for contracted receivables. Contracted receivables are written off when there is no reasonable expectation of recovery.

Trade and other receivables are due for settlement 30 days from the from the end of the month that they were invoiced.

There are no material financial assets that are individually determined to be impaired.

Details about the Authority's impairment policies, the Authority's exposure to credit risk, and the calculation of the loss allowance are set out in note 7.1.

5.2 Payables

	2020 $000	2019 $000
Contractual		
Trade payables	766	1,333
Accrued expenses	333	663
	1,099	1,996
Statutory		
FBT payable	41	47
Payroll tax	10	10
	51	57
Total current payables	1,150	2,053

Contractual payables and are classified as financial instruments and categorised as 'financial liabilities at amortised cost'. They are initially recognised at fair value plus any directly attributable transaction costs. Subsequent to initial measurement, they are measured at amortised cost.

Statutory payables are recognised and measured similarly to contractual payables, but are not classified as financial instruments and not included in the category of financial liabilities at amortised cost, because they do not arise from contracts.

5.2.1 Maturity analysis of contractual payables

	Carrying amount $000	Maturity dates		
		Less than 1 $000	1-3 months $000	3-6 months $000
2020 Payables				
Trade payables	766	707	59	-
Accrued expenses	333	333	-	-
Other payables	-	-	-	-
	1,099	1,040	59	-
2019 Payables				
Trade payables	1,333	1,333	-	-
Accrued expenses	663	663	-	-
	1,996	1,996	-	-

Payables for supplies and services have an average credit period is 30 days.

5.3 Other non-financial assets

Current other assets	2020 $000	2019 $000
Prepayments	154	187
Total other assets	154	187

Total current other assets include prepayments which represent payments in advance of receipt of goods or services or that part of expenditure made in one accounting period covering a term extending beyond that period.

5.4 Contract Liabilities

Contract liabilities	2020 $000
Opening balance brought forward from 30 June 2019 adjusted for AASB15	1,176
Add: Payments received for performance obligations yet to be completed during the period	45
Add: Grant consideration for sufficiently specific performance obligations received during the year	-
Less: Revenue recognised in the reporting period for the completion of a performance obligation	-
Total contract liabilities	1,221
Represented by:	
Current contract liabilities	1,221
Non-current contract liabilities	-

Contract liabilities include consideration received in advance from customers in respect of services. Invoices are raised once the services are provided to them.

5.5 Unearned Revenue

	2020 $000	2019 $000
Victorian On-Farm State Project	-	178
Victorian On-Farm State Project - Interest	-	-
Victorian Farm Modernisation Project	-	92
Victorian Farm Modernisation Project Interest	-	111
Temporary Water Allocation Funds	-	795
Total	-	1,176

In 2019 and prior years funding received by Goulburn Broken CMA to pay Farm Water Program proponents was taken to unearned revenue and released to the revenue and expenditure account to match Goulburn Broken CMA expenditure under the Program in accordance with AASB 118 Revenue. No further funding was received in 2020 and the remaining balance is shown as contract liabilities under AASB 15 Revenue from contracts with customers. Refer to Contract liabilities note 5.4.

6. How we financed our operations

This section provides information on the sources of finance utilised by the Authority during its operations, other information related to financing activities of the Authority.

This section includes disclosures of balances that are financial instruments, such as cash balances. Note 7.1 provides additional, specific financial instrument disclosures.

Structure

6.1 Cash flow information and balances

6.2 Leases

6.3 Carry forward project funding

Notes to the financial statements for the year ended 30 June 2020

6.1 Cash flow information and balances

Cash and deposits, including cash equivalents, comprise cash on hand and cash at bank, deposits at call and those highly liquid investments with an original maturity of three months or less, which are held for the purpose of meeting short-term cash commitments rather than for investment purposes, and which are readily convertible to known amounts of cash and are subject to an insignificant risk of changes in value.

Cash and deposits disclosed in the balance sheet	2020 $000	2019 $000
Cash on hand	1	1
Cash at bank	2,492	3,024
Deposits at call	10,911	10,783
Balance as per cash flow statement	13,404	13,808

6.1.1 Reconciliation of net result to cash flow from operating activities

	2020 $000	2019 $000
Net result for the period	(318)	(234)
Non-cash movements		
(Gain) / loss on disposal of non-current assets	(41)	(70)
Depreciation and amortisation of non-current assets	510	342
Movements in assets and liabilities		
Decrease/(increase) in receivables	567	(1,144)
Decrease/(increase) in prepayments	32	29
(Decrease)/increase in contract liabilities	45	3
(Decrease)/increase in payables	(903)	379
(Decrease)/increase in employee benefits	(72)	(254)
Net cash flows from/(used in) operating activities	(180)	(949)

6.2 Leases

Information about leases for which the Authority is a lessee is presented below.

The Authorities leasing activities

The Authority leases buildings and motor vehicles. The lease contracts are typically made for fixed periods of 1-5 years with an option to renew the lease after that date. Lease payments for buildings are renegotiated every five years to reflect market rentals.

Property leases with contract terms of 1 year are short-term. The Authority has elected not to recognise right-of-use assets and lease liabilities for these leases.

6.2 (a) Right-of-use Assets

Right-of-use assets are presented in note 4.1(a)

6.2 (b) Amounts recognised in the Statement of Comprehensive Statement

The following amounts are recognised in the Statement of Comprehensive Operating Statement relating to leases:

	2020 $000
Interest Expense on lease liabilities	62
Expenses relating to short term leases	156
Depreciation	336
Total amount recognised in the statement of comprehensive statement	553

Amounts recognised in the Statement of Cashflows
The following amounts are recognised in the Statement of Cashflows for the year ending 30 June 2020 relating to leases.

	2020 $000
Total cash outflow for leases	361

For any new contracts entered into on or after 1 July 2019, the Authority considers whether a contract is, or contains a lease. A lease is defined as 'a contract, or part of a contract, that conveys the right to use an asset (the underlying asset) for a period of time in exchange for consideration'. To apply this definition the Authority assesses whether the contract meets three key evaluations:

- Whether the contract contains an identified asset, which is either explicitly identified in the contract or implicitly specified by being identified at the time the asset is made available to the Authority and for which the supplier does not have substantive substitution rights;
- Whether the Authority has the right to obtain substantially all of the economic benefits from use of the identified asset throughout the period of use, considering its rights within the defined scope of the contract and the Authority has the right to direct the use of the identified asset throughout the period of use; and
- Whether the Authority has the right to take decisions in respect of 'how and for what purpose' the asset is used throughout the period of use.

This policy is applied to contracts entered into, or changed, on or after 1 July 2019.

Separation of lease and non-lease components
At inception or on reassessment of a contract that contains a lease component, the lessee is required to separate out and account separately for non-lease components within a lease contract and exclude these amounts when determining the lease liability and right-of-use asset amount.

Recognition and measurement of leases as a lessee (under AASB 16 from 1 July 2019)

Lease Liability – initial measurement
The lease liability is initially measured at the present value of the lease payments unpaid at the commencement date, discounted using the interest rate implicit in the lease.

Lease payments included in the measurement of the lease liability comprise the following:

- fixed payments (including in-substance fixed payments) less any lease incentive receivable;
- variable payments based on an index or rate, initially measured using the index or rate as at the commencement date;
- amounts expected to be payable under a residual value guarantee; and
- payments arising from purchase and termination options reasonably certain to be exercised.

Lease Liability – subsequent measurement
Subsequent to initial measurement, the liability will be reduced for payments made and increased for interest. It is remeasured to reflect any reassessment or modification, or if there are changes in-substance fixed payments.

When the lease liability is remeasured, the corresponding adjustment is reflected in the right-of-use asset, or profit and loss if the right-of-use asset is already reduced to zero.

Short-term leases
The Authority has elected to account for short-term leases using the practical expedients. Instead of recognising a right-of-use asset and lease liability, the payments in relation to these are recognised as an expense in profit or loss on a straight-line basis over the lease term. At 30 June 2020, the Authority was committed to short term leases and the total commitment at that date was $156K.

Presentation of right-of-use assets and lease liabilities
The Authority presents right-of-use assets as 'buildings' and 'motor vehicles'.. Lease liabilities are presented as 'Interest bearing liabilities' in the balance sheet.

Recognition and measurement of leases (under AASB 117 until 30 June 2019)
In the comparative period, leases of buildings and motor vehicles were classified as either finance lease or operating leases.

The Authority determined whether an arrangement was or contained a lease based on the substance of the arrangement and required an assessment of whether fulfilment of the arrangement is dependent on the use of the specific asset(s); and the arrangement conveyed a right to use the asset(s).

Leases of motor vehicles where the Authority as a lessee had substantially all of the risks and rewards of ownership were classified as finance leases. Finance leases were initially recognised as assets and liabilities at amounts equal to the fair value of the leased property or, if lower, the present value of the minimum lease payment, each determined at the inception of the

lease. The leased asset is accounted for as a non-financial physical asset and depreciated over the shorter of the estimated useful life of the asset or the term of the lease. Minimum finance lease payments were apportioned between the reduction of the outstanding lease liability and the periodic finance expense, which is calculated using the interest rate implicit in the lease and charged directly to the consolidated comprehensive operating statement.

Contingent rentals associated with finance leases were recognised as an expense in the period in which they are incurred.

Assets held under other leases were classified as operating leases and were not recognised in the Authority's balance sheet. Operating lease payments were recognised as an operating expense in the Statement of Comprehensive Income on a straight-line basis over the lease term.

6.2.1 Total Interest bearing liabilities

Interest bearing liabilities	Minimum future lease payments [i]	
	2020 $000	2019 $000
Not longer than 1 year	733	117
Longer than 1 year but not longer than 5 years	1,279	427
Longer than 5 years	189	-
Minimum future lease payments		544
Less future finance charges	(138)	(23)
Present value of minimum lease payments	2,063	521
Included in the financial statements as:		
Interest bearing liabilities - current	675	103
Interest bearing liabilities - non-current	1,388	418
Total	2,063	521

i. Minimum future lease payments include the aggregate of all base payments and any guaranteed residual.

Lease liabilities relate to motor vehicles and building leases. During the prior reporting period the Authority commenced transitioning the procurement of motor vehicles through VicFleet as has been mandated under the State Motor Vehicle Policy. The motor vehicles are leased from VicFleet for two to three years.

6.3 Carry forward project funding

Catchment Management Authorities are responsible for the facilitation and coordination of catchments in an integrated and sustainable manner. This is achieved by undertaking projects funded by Victorian and Australian Government programs. The Authority received funding for specific projects which are guided by the Regional Catchment Strategy and delivered in line with the Authority's Corporate Plan approved by the Minister for Water and recognised under AASB 1058.

The projects funded by the State and Commonwealth Governments can be undertaken over multiple financial years and funding is received at various stages of the project life based on contractual agreements. At the end of the financial year there are some projects that have not reached completion but will be completed within the contractual terms in future financial periods. Refer Note 8.3 for Committed funds reserve. At balance date the Authority has cash and cash equivalents that will be utilised to complete these projects in future financial years.

7. Risks, contingencies and valuation judgements

Introduction

The Authority is exposed to risk from its activities and outside factors. In addition, it is often necessary to make judgements and estimates associated with recognition and measurement of items in the financial statements. This section sets out financial instrument specific information, (including exposures to financial risks) as well as those items that are contingent in nature or require a higher level of judgement to be applied, which for the Authority relate mainly to fair value determination.

Structure

7.1 Financial instruments specific disclosures

7.2 Contingent assets and contingent liabilities

7.3 Fair value determination

Notes to the financial statements for the year ended 30 June 2020

7.1 Financial instruments specific disclosures

Introduction

Financial instruments arise out of contractual agreements that give rise to a financial asset of one entity and a financial liability or equity instrument of another entity. Due to the nature of the Authority's activities, certain financial assets and financial liabilities arise under statute rather than a contract, and as such, do not meet the definition of financial instruments.

Categories of financial instruments

Financial Assets at amortised cost are measured at amortised cost if they are held by the Authority to collect contractual cash flows, the contractual terms give rise to cash flows that are solely payments of principal and interest, and if they not designated as fair value through net result. These assets are initially recognised at fair value plus any directly attributable transaction costs. Subsequent to initial measurement, these financial assets are measured at amortised cost using the effective interest method less any impairment. The financial assets at amortised cost category includes cash and deposits, and trade and other receivables (excluding statutory receivables).

Collectability of trade receivables is reviewed on an ongoing basis. Bad debts which are known to be uncollectible are written off and classified as a transaction expense. A provision for impaired receivables is established when there is objective evidence that the Authority will not be able to collect all amounts due according to the original terms of receivables.

Financial liabilities at amortised cost are initially recognised on the date they originated. They are initially measured at fair value plus any directly attributable transaction costs. Subsequent to initial recognition, these financial instruments are measured at amortised cost with any difference between the initial recognised amount and the redemption value being recognised in profit and loss over the period of the interest bearing liability, using the effective interest rate method. Financial instrument liabilities measured at amortised cost include all of the Authority's contractual payables(excluding statutory payables), and lease liabilities.

A financial liability is derecognised when the obligation under the liability is discharged, cancelled or expires.

7.1.1 Financial instruments: Impairment of Financial Assets

The authority has been recording the allowance for expected credit loss for the relevant financial instruments, applying AASB 9's Expected Credit Loss Approach. Subject to AASB 9 impairment assessment include the Authority's contractual receivables and statutory receivables.

Contractual receivables at amortised cost

The Authority applies AASB 9 simplified approach for all contractual receivables to measure the expected credit losses using a lifetime expected loss allowance based on the assumptions about the risk of default and the expected loss rates. The Authority has grouped contractual receivables on shared credit risk characteristics and days past due, and the credit loss rate based on the Authority's past history, existing market conditions, as well as forward-looking estimates at the end of the financial year.

Statutory receivables at amortised cost

The Authority's non-contractual receivables arising from statutory requirements are not financial instruments. However, they are nevertheless recognised and measured in accordance with AASB 9 requirements as if those receivables are financial instruments.

Statutory receivables are considered to have low credit risk, taking into account the counterparty's credit rating, risk of default and capacity to meet contractual cash flow obligations in the near term. As a result, the loss allowance recognised for these financial assets during the period was limited to 12 months expected losses.

The expected credit loss rate is 0% (2019: 0%) and the credit loss allowance is Nil (2019: Nil).

Notes to the financial statements for the year ended 30 June 2020

7.1.2 Financial instruments: Categorisation

2020	Contractual financial assets at amortised cost $000	Contractual financial liabilities at amortised cost $000	Total $000
Contractual financial assets			
Cash and deposits	13,404		13,404
Receivables [i]			
Trade and government grant receivables [i]	1,303		1,303
Accrued interest	-		-
Total contractual financial assets	14,707		14,707
Contractual financial liabilities			
Payables [i]			
Trade payables		766	766
Accrued expenses		333	333
Lease liabilities		2,063	2,063
Contract liabilities		1,221	1,221
Total contractual financial liabilities		4,383	4,383

i. The total amounts disclosed here exclude statutory amounts.

2019	Contractual financial assets at amortised cost $000	Contractual financial liabilities at amortised cost $000	Total $000
Contractual financial assets			
Cash and deposits	13,808		13,808
Receivables [i]			
Trade and government grant receivables	1,853		1,853
Accrued interest	2		2
Total contractual financial assets	15,663		15,663
Contractual financial liabilities			
Payables			
Trade payables		1,333	1,333
Accrued expenses		663	663
Finance leases		521	521
Unearned Revenue		1,176	1,176
Total contractual financial liabilities		3,693	3,693

i. The total amounts disclosed here exclude statutory amounts.

7.1.3 Financial risk management objectives and policies

The Authority's main financial risks include credit risk, liquidity risk and interest rate risk. The Authority manages these financial risks in accordance with its financial risk management policy.

The Authority uses different methods to measure and manage the different risks to which it is exposed. Primary responsibility for the identification and management of financial risks rests with the Audit, Risk and Compliance committee of the Authority.

Financial instruments: Credit risk

Credit risk refers to the possibility that a borrower will default on its financial obligations as and when they fall due. The Authority's exposure to credit risk arises from the potential default of a counter party on their contractual obligations resulting in financial loss to the Authority. Credit risk is measured at fair value and is monitored on a regular basis.

Credit risk associated with the Authority's contractual financial assets is minimal because the main debtor is the Victorian Government. For debtors other than the Government, the Authority has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral where appropriate. For cash assets, the Authority's policy is to only deal with banks with high credit-ratings assigned by international credit-rating agencies. All cash and deposits are held with Authorised Deposit Taking Institute's (ADI's) with a minimum credit rating of AAA.

Financial instruments: Liquidity risk

Liquidity risk arises from being unable to meet financial obligations as they fall due. The Authority operates under the Government fair payments policy of settling financial obligations within 30 days and in the event of a dispute, making payments within 30 days from the date of resolution.

The Authority's exposure to liquidity risk is deemed insignificant based on prior periods' data and current assessment of risk. The Authority does not have any borrowings and maintains high levels of cash and deposits readily available to meet its financial obligations. The Authority manages its liquidity risk by maintaining adequate cash reserves and continually monitoring the Authority's expenditure commitments and cash flow needs.

Financial instruments: Market risk

The Authority's exposure to market risk is primarily through interest rate risk with significant surplus funds held in deposits at call in the Central Banking System. The Authority has no exposure to foreign exchange risk or other price risk.

Cash flow interest rate risk is the risk that the future cash flows of a financial instrument will fluctuate because of changes in market interest rates. The Authority is required to invest surplus funds with the State Government Central Banking System (CBS) in compliance with the Standing Directions 2018 under the *Financial Management Act 1994* (2018 Directions).

Management monitors movements in interest rates on as required basis.

The carrying amounts of financial assets and financial liabilities that are exposed to interest rates and the Authority's sensitivity to interest rate risk are set out in the table that follows.

Interest rate exposure of financial instruments

2020	Weighted average interest rate %	Carrying amount $000	Interest rate exposure		
			Fixed interest rate $000	Variable interest rate $000	Non-interest bearing $000
Financial assets					
Cash and deposits	0.65	13,404	-	10,911	2,493
Contractual receivables		1,303	-	-	1,303
Total financial assets		14,707	-	10,911	3,796
Financial liabilities					
Lease Liabilities	3.45	(2,063)	(2,063)	-	-
Contractual payables		(1,099)	-	-	(1,099)
Contract Liabilities		(1,221)	-	-	(1,221)
Total financial liabilities		(4,383)	(2,063)	-	(2,320)

2019	Weighted average interest rate %	Carrying amount $000	Interest rate exposure		
			Fixed interest rate $000	Variable interest rate $000	Non-interest bearing $000
Financial assets					
Cash and deposits	1.5	13,808	-	13,807	1
Contractual receivables		1,855	-	-	1,855
Total financial assets		15,662	-	13,807	1,856
Financial liabilities					
Lease liabilities	3.0	(521)	(521)	-	-
Contractual payables		(1,996)	-	-	(1,996)
Unearned revenue		(1,176)	-	-	(1,176)
Total financial liabilities		(3,693)	(521)	-	(3,172)

Interest rate risk sensitivity

The sensitivity analysis below shows the impact on the Authority's net result and equity for a movement of 100 basis points up and down in market interest rates. The Authority believes a movement of 1% over the next year is reasonable given consideration of past performances and recent movements in interest rates.

	Carrying amount $000	Interest rate			
		-1 per cent		+1 per cent	
		Net result $000	Equity $000	Net result $000	Equity $000
2020					
Cash and deposits [i]	13,404	(134)	(134)	134	134
2019					
Cash and deposits [i]	13,808	(138)	(138)	138	138

i. Cash and deposits includes $10,911K (2019: $13,807K) that is exposed to floating rates movements. Sensitivities to these movements are calculated as follows:
2020: $10,911,000 x 0.01 = $109,110
2019: $13,807,000 x 0.01 = $138,070

7.2 Contingent assets and contingent liabilities

Contingent assets and contingent liabilities are not recognised in the balance sheet but are disclosed and, if quantifiable, are measured at nominal value.

	2020 $000	2019 $000
Contingent assets		
As at 30 June 2020, the Authority has no known contingent assets.	-	-
Contingent liabilities		
As at 30 June 2020, the Authority has no known contingent liabilities.	-	-

7.3 Fair value determination

Significant judgement: Fair value measurements of assets and liabilities
Fair value determination requires judgement and the use of assumptions. This section discloses the most significant assumptions used in determining fair values. Changes to assumptions could have a material impact on the results and financial position of the Authority.

The Authority's Property, plant and equipment are carried at fair value.

In addition, the fair values of other financial assets and liabilities which are carried at amortised cost, also need to be determined for disclosure purposes.

The Authority determines the policies and procedures for determining fair values for both financial and non-financial assets and liabilities as required.

Fair value hierarchy

In determining fair values, a number of inputs are used. To increase consistency and comparability in the financial statements, these inputs are categorised into three levels, also known as the fair value hierarchy. The levels are as follows:

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

The Authority determines whether transfers have occurred between levels in the hierarchy by reassessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

7.3.1 Fair value determination of financial assets and liabilities

The Authority currently holds a range of financial instruments that are recorded in the financial statements where the carrying amounts are a reasonable approximation of fair value, either due to their short-term nature or with the expectation that they will be paid in full by the end of the 2019-20 reporting period.

These financial instruments include:

Financial assets	Financial liabilities
Cash and deposits	
Receivables:	Payables:
• Trade receivables	• Trade payables
• Accrued revenue	• Accrued expenses
	• Lease liabilities

7.3.2 Fair value determination: non-financial physical assets

Fair value measurement hierarchy

2020	Carrying amount as at 30 June $000	Fair Value measurement at end of reporting period using: Level 1 [i] $000	Level 2 [i] $000	Level 3 [i] $000
Buildings at fair value				
Buildings - right of use	1,002	-	1,002	-
Total Buildings at fair value	1,002	-	1,002	-
Plant and Equipment at fair value				
Plant and Equipment	170	-	-	170
Total Plant and Equipment at fair value	170	-	-	170
Motor vehicles at fair value				
Motor vehicles	1,114	-	-	1,114
Total motor vehicles at fair value	1,114	-	-	1,114

i. Classified in accordance with the fair value hierarchy, see Note 7.3.

2019	Carrying amount as at 30 June $000	Fair Value measurement at end of reporting period using: Level 1 [i] $000	Level 2 [i] $000	Level 3 [i] $000
Plant and Equipment at fair value				
Plant and Equipment	118	-	-	118
Total Plant and Equipment at fair value	118	-	-	118
Equipment under finance lease at fair value				
Computer equipment leased	-	-	-	-
Motor Vehicles Leased	521	-	-	521
Total equipment under finance lease at fair value	521	-	-	521
Motor vehicles at fair value				
Motor vehicles	425	-	-	425
Total motor vehicles at fair value	425	-	-	425

i. Classified in accordance with the fair value hierarchy, see Note 7.3.

There have been no transfers between levels during the period.

The fair value of the financial assets and liabilities is included at the amount at which the instrument could be exchanged in a current transaction between willing parties, other than in a forced or liquidation sale. The following methods and assumptions were used to estimate fair value:

Buildings

Buildings – right of use asset is valued based on the net present value of future lease payments over the lease term, using a discount rate based on the Authority's incremental borrowing rate. (refer note 4.1(a)).

Motor vehicles

Motor vehicles are valued using the depreciated replacement cost method. The Authority acquires new vehicles and disposes of them before the end of their economic life. The process of acquisition, use and disposal in the market is managed by experienced fleet managers within VicFleet and the Authority who set the relevant depreciation rates during use to reflect the utilisation of the motor vehicles.

Plant and equipment and computer equipment

Plant and equipment and computer equipment is held at fair value. When plant and equipment or computer equipment is specialised in use, such that it is rarely sold other than as part of a going concern, fair value is determined using the depreciated replacement cost method.

There were no changes in valuation techniques throughout the period to 30 June 2020.

For all assets measured at fair value, the current use is considered the highest and best use.

Reconciliation of Level 3 fair value movements

	Motor vehicles $000	Plant and equipment $000	Office furniture and equipment $000	Total $000
2019-20				
Opening Balance	946	118	55	1,119
Purchases (sales)	670	109	-	779
Transfers in (out) of Level 3	-	-	-	0
Depreciation	(284)	(57)	-	(341)
Gains or losses recognised in net result	(218)	-	(55)	(273)
Closing balance	1,114	170	-	1,284

	Motor vehicles $000	Plant and equipment $000	Office furniture and equipment $000	Total $000
2018-19				
Opening Balance	853	114	-	967
Purchases (sales)	555	69	55	679
Transfers in (out) of Level 3	-	-	-	0
Depreciation	(275)	(65)	-	(340)
Gains or losses recognised in net result	(187)	-	-	(187)
Closing balance	946	118	55	1,119

Description of unobservable inputs to level 3 valuations

	Valuation technique	Significant unobservable inputs
Plant and equipment – Specialised	Depreciated replacement cost	Cost per unit Useful life of plant and equipment
Computer equipment	Depreciated replacement cost	Cost per unit Useful life of plant and equipment
Motor vehicles	Depreciated replacement cost	Cost per unit Useful life of motor vehicles

Notes to the financial statements for the year ended 30 June 2020

8. Other disclosures

This section provides additional material disclosures required by accounting standards or otherwise, for the understanding of this financial report.

Structure

8.1 Ex-gratia expenses

8.2 Other economic flows included in net result

8.3 Reserves

8.4 Responsible persons

8.5 Remuneration of executive officers

8.6 Related parties

8.7 Remuneration of auditors

8.8 Subsequent events

8.9 Changes to Accounting Policies

8.10 Economic dependency

8.11 Australian Accounting Standards issued that are not yet effective

8.12 Glossary of technical terms

8.1 Ex-gratia expenses

Ex-gratia expenses are the voluntary payments of money or other non-monetary benefit (e.g. a write-off) that is not made either to acquire goods, services or other benefits for the entity to meet a legal liability, or to settle or resolve a possible legal liability of or claim against the entity.

The Authority had no Ex-gratia expenses for the year ending 30 June 2020 (2019 $0).

8.2 Other economic flows included in net result

Other economic flows measure the change in volume or value of assets or liabilities that do not result from transactions.

Net gain/(loss) on non-financial assets	2020 $000	2019 $000
Net gain/(loss) on disposal of property, plant and equipment		
Proceeds from sale of non-financial assets	259	257
Less written down value	(218)	(187)
Net gain/(loss) on non-financial assets	41	70

8.3 Reserves

Committed funds reserve [i]	2020 $000	2019 $000
Balance at the beginning of the reporting period	7,219	7,453
Net transfers (to) / from accumulated funds	(318)	(234)
Balance at the end of the reporting period	6,901	7,219

i. The Committed funds reserve has been established to recognise that the Authority receives funding for programs in advance of the program works taking place. The Authority is committed to expending these funds in accordance with its Corporate Plan in succeeding years. At the end of the financial year any Accumulated Funds which represents unexpended program funding, has been transferred to the reserve, while any losses which represent program expenditure in excess of current year funding is transferred from the reserve.

Notes to the financial statements for the year ended 30 June 2020

8.4 Responsible persons

In accordance with the Ministerial Directions issued by the Assistant Treasurer under the *Financial Management Act 1994*, the following disclosures are made regarding responsible persons for the reporting period.

The names of the persons who were responsible persons of the Authority at any time during the financial year were:

Minister for Water	Lisa Neville MP	I July 2019 to 30 June 2020
Minister for Energy, Environment and Climate Change	Lily D'Ambrosio MP	I July 2019 to 30 June 2020

Position		Period
Chair	H Reynolds	1 Oct 2019 to 30 June 2020
Chair	A Weston	1 July 2019 to 30 September 2019
Board Member	A Weston	1 October 2019 to 30 June 2020
Board Member	H Reynolds	1 July 2019 to 30 September 2019
Board Member	K Stothers	1 July 2019 to 30 September 2019
Board Member	K Hawkins	1 July 2019 to 29 October 2019
Board Member	J Ford	1 July 2019 to 31 August 2019
Board Member	R Harris	1 July 2019 to 30 June 2020
Board Member	S Lolicato	1 July 2019 to 30 June 2020
Board Member	J Boynton	1 October 2019 to 30 June 2020
Board Member	S Parker	1 October 2019 to 30 June 2020
Board Member	M Harding	1 October 2019 to 3 May 2020
CEO	C P Norman	1 July 2019 to 7 February 2020
Acting CEO	C Walters	23 December 2019 to 17 January 2020 and 8 February 2020 to 29 February 2020
Acting CEO	E Curtis	1 March 2020 to 31 May 2020
CEO	C Cumming	1 June to 30 June 2020

Remuneration

Remuneration received or receivable from the Authority in connection with the management of the Authority during the reporting period was:

Income bands	2020	2019
$1-$9,999	6	-
$10,000-$19,999	4	6
$20,000-$29,999	1	1
$30,000-$39,999	1	-
$50,000-$59,999	1	-
$190,000-$199,999	1	-
$260,000-$269,999	-	1
Total number of responsible persons	14	8
Total remuneration $	$404,038	$365,382

The compensation detailed above excludes the salaries and benefits the Portfolio Ministers receive. The Ministers' remuneration and allowances is set by the *Parliamentary Salaries and Superannuation Act 1968* and is reported within the Department of Parliamentary Services' Financial Report.

8.5 Remuneration of executive officers

The number of executive officers, other than ministers and accountable officers, and their total remuneration during the reporting period are shown in the table below. Total annualised employee equivalents provides a measure of full time equivalent executive officers over the reporting period.

Remuneration comprises employee benefits in all forms of consideration paid, payable or provided by the entity, or on behalf of the entity, in exchange for services rendered, and is disclosed in the following categories.

Short-term employee benefits include amounts such as wages, salaries, annual leave or sick leave that are usually paid or payable on a regular basis, as well as non-monetary benefits such as allowances and free or subsidised goods or services.

Post-employment benefits include pensions and other retirement benefits paid or payable or a discrete basis when employment has ceased.

Other long-term benefits include long service leave, other long-service benefit or deferred compensation.

Income bands [iii]	2020	2019
Short-term employee benefits	$830,789	$862,300
Post-employment benefits	$70,140	$67,711
Other long-term benefits	$26,224	$29,463
Total remuneration	$927,153	$959,474
Total number or executives [i]	6	6
Total annualised employee equivalents [ii]	5.5	5.9

i. The total number of executive officers excludes persons who meet the definition of Key Management Personnel (KMP) of the entity under AASB 124 Related Party Disclosures and are reported within the related parties note disclosure (Note 8.4)
ii. Annualised employee equivalent is based on the time fraction worked over the reporting period and has been adjusted for periods of Acting CEO whereby Officers have been defined as KMP and reported within note 8.4.

8.6 Related parties

The Authority is a wholly owned and controlled entity of the State of Victoria. Related parties of the Authority include:

- all key management personnel and their close family members;
- all cabinet ministers and their close family members; and
- all departments and public sector entities that are controlled and consolidated into the whole of state consolidated financial statements.

All related party transactions have been entered into on an arm's length basis.

Significant transactions with government-related entities

During the year, revenue received from government-related entities for grants and reimbursements that enable the Goulburn Broken CMA to deliver on the Regional Catchment Strategy, statutory obligations and implement IT platform across the sector. The Authority received funding from the following government-related entities under normal commercial terms and conditions:

Entity	2020 Funding received ($000)	2019 Funding received ($000)
Department of Environment, Land, Water and Planning	14,714	12,268
North East Catchment Management Authority	251	32
Corangamite Catchment Management Authority	247	44
West Gippsland Catchment Management Authority	239	168
Wimmera Catchment Management Authority	237	82
East Gippsland Catchment Management Authority	221	-
Glenelg Hopkins Catchment Management Authority	191	116
Goulburn Valley Water	124	947
Victorian Environmental Water Holder	73	165
Department of Jobs, Precincts & Regions (formerly DEDJTR)	59	55
North Central Catchment Management Authority	34	74
Victorian Fisheries Authority	-	96
Port Phillip Catchment Management Authority	-	88
Goulburn-Murray Water	-	88

Receivables outstanding at 30 June 2020: $321,131 (2019: $714,802).

During the year, payments to government-related entities were made for contract services relating to the delivery of Goulburn Broken CMA's programs. The Authority made significant payments to the following government-related entities under normal commercial terms and conditions:

Entity	2020 Payments made ($000)	2019 Payments made ($000)
Goulburn-Murray Water	3,827	3,992
Department of Environment, Land, Water and Planning	819	792
Department of Jobs, Precincts & Regions (formerly DEDJTR)	327	584
Department of Treasury & Finance	239	40
West Gippsland Catchment Management Authority	202	165
North Central Catchment Management Authority	121	70
Parks Victoria	55	-
Trust for Nature (Victoria)	49	63
Goulburn Valley Water	-	50

Payables outstanding at 30 June 2020: $302,132. (2019: $732,221).

Key management personnel

Key management personnel are those persons having authority and responsibility for planning, directing and controlling activities of the Authority, directly or indirectly this comprises Directors and the CEO. Key management personnel includes all Responsible persons as listed in Note 8.4.

The compensation detailed below excludes the salaries and benefits the Portfolio Minister receives. The Minister's remuneration and allowances is set by the *Parliamentary Salaries and Superannuation Act 1968* and is reported within the Department of Parliamentary Services' Financial Report.

Compensation of KMPs	2020	2019
Short-term employee benefits	369,436	333,277
Post-employment benefits	28,225	24,749
Other long-term benefits	6,377	7,356
Total	404,038	365,382

Transactions with key management personnel and other related parties

Given the breadth and depth of Authority activities, related parties transact with the Victorian public sector in a manner consistent with other members of the public e.g. stamp duty and other government fees and charges. Further employment of processes within the Victorian public sector occur on terms and conditions consistent with the *Public Administration Act 2004* and Codes of Conduct and Standards issued by the Victorian Public Sector Commission. Procurement processes occur on terms and conditions consistent with the Victorian Government Procurement Board requirements. Outside of normal citizen type transactions with the Authority, there were no related party transactions that involved key management personnel and their close family members. No provision has been required, nor any expense recognised, for impairment of receivables from related parties.

Not all transactions that occurred with KMP and their related parties have been considered material for disclosure. In this context, transactions are only disclosed when they are considered necessary to draw attention to the possibility that Goulburn Broken CMA's financial position may have been affected by the existence of related parties, and by transactions and outstanding balances, including commitments, with such parties.

During the year $84,812 of grant payments were made for environmental projects to a not for profit Natural Resource Management community group of which Director K Stothers holds an office. The grant selection process is through a competitive arms length process.

8.7 Remuneration of auditors

	2020 $000	2019 $000
Victorian Auditor-General's Office for audit of financial statements	24	23
Internal audit costs	19	12
Total auditors' remuneration	43	35

Notes to the financial statements for the year ended 30 June 2020

8.8 Subsequent events

The COVID-19 pandemic has created unprecedented economic uncertainty. Actual economic events and conditions in the future may be materially different from those estimated by the Authority at the reporting date. As responses by government continue to evolve, management recognises that it is difficult to reliably estimate with any degree of certainty the potential impact of the pandemic after the reporting date on the Authority, its operations, its future results and financial position. The state of emergency in Victoria was extended on 16 August 2020 until 13 September 2020 and the state of disaster still in place.

No other matters or circumstances have arisen since the end of the financial year which significantly affected or may affect the operations of the Authority, the results of the operations or the state of affairs of the Authority in the future financial years.

8.9 Change in Accounting Policies

AASB 15 Revenue from Contracts with Customers

In accordance with FRD 121 requirements, the Authority has applied the transitional provisions of AASB 15, under modified retrospective method with the cumulative effect of initially applying this standard against the opening retained earnings at 1 July 2019. Under this transition method, the Authority applied this standard retrospectively only to contracts that are not 'completed contracts' at the date of initial application.

Comparative information has not been restated.

The adoption of AASB 15 did not have an impact on Other comprehensive income and the Statement of Cash flows for the financial year.

AASB 1058 Income for not-for-profits

In accordance with FRD 122 requirements, the Authority has applied the transitional provision of AASB 1058, under modified retrospective method with the cumulative effect of initially applying this standard against the opening retained earnings at 1 July 2019. Under this transition method, the Authority applied this standard retrospectively only to contracts and transactions that are not completed contracts at the date of initial application.

Comparative information has not been restated.

The adoption of AASB 1058 did not have an impact on Other comprehensive income and the Statement of Cash flows for the financial year.

AASB 16 Leases

This note explains the impact of the adoption of AASB 16 Leases on the Authority's financial statements.

The Authority has applied AASB 16 with a date of initial application of 1 July 2019.

The Authority has elected to apply AASB 16 using the modified retrospective approach, as per the transitional provisions of AASB 16 for all leases for which it is a lessee. The cumulative effect of initial application is recognised in retained earnings as at 1 July 2019. Accordingly, the comparative information presented is not restated and is reported under AASB 117 and related interpretations.

Previously, the Authority determined at contract inception whether an arrangement is or contains a lease under AASB 117 and *Interpretation 4 Determining whether an arrangement contains a Lease*. Under AASB 16, the Authority assesses whether a contract is or contains a lease based on the definition of a lease as explained in note 6.2.

On transition to AASB 16, the Authority has elected to apply the practical expedient to grandfather the assessment of which transactions are leases. It applied AASB 16 only to contracts that were previously identified as leases. Contracts that were not identified as leases under AASB 117 and Interpretation 4 were not reassessed for whether there is a lease. Therefore, the definition of a lease under AASB 16 was applied to contracts entered into or changed on or after 1 July 2019.

Leases classified as operating leases under AASB 117

As a lessee, the Authority previously classified leases as operating or finance leases based on its assessment of whether the lease transferred significantly all of the risks and rewards incidental to ownership of the underlying asset to the Authority. Under AASB 16, the Authority recognises right-of-use assets and lease liabilities for all leases except where exemption is availed in respect of short-term and low-value leases.

On adoption of AASB 16, the Authority recognised lease liabilities in relation to leases which had previously been classified as operating leases under the principles of AASB 117. These liabilities were measured at the present value of the remaining lease payments, discounted using the Authority's incremental borrowing rate as of 1 July 2019. On transition, right-of-use assets are measured at the amount equal to the lease liability, adjusted by the amount of any prepaid or accrued lease payments relating to that lease recognised in the balance sheet as at 30 June 2019.

The Authority has elected to apply the following practical expedients when applying AASB 16 to leases previously classified as operating leases under AASB 117:

- Applied a single discount rate to a portfolio of leases with similar characteristics;
- Adjusted the right-of-use assets by the amount of AASB 137 onerous contracts provision immediately before the date of initial application, as an alternative to an impairment review;
- Applied the exemption not to recognise right-of-use assets and liabilities for leases with less than 12 months of lease term;
- Excluded initial direct costs from measuring the right-of-use asset at the date of initial application; and
- Used hindsight when determining the lease term if the contract contains options to extend or terminate the lease.

For leases that were classified as finance leases under AASB 117, the carrying amount of the right-of-use asset and lease liability at 1 July 2019 are determined as the carrying amount of the lease asset and lease liability under AASB 117 immediately before that date.

Impacts on financial statements

On transition to AASB 16, the Authority recognised $1,170,782 of right-of-use assets and $1,170,782 of lease liabilities.

When measuring lease liabilities, the Authority discounted lease payments using its incremental borrowing rate at 1 July 2019. The weighted average rate applied is 3.85 per cent.

	2020 $000
Total operating lease commitments disclosed at 30 June 2019	495
Discounted using the incremental borrowing rate at 1 July 2019	380
Finance lease liabilities as at 30 June 2019	521
Recognition exemption for:	
Extension option reasonably certain to be exercised	894
Short-term leases	(103)
Lease liabilities recognised at 1 July 2019	1,692

Transition impact on financial statements

Impact on balance sheet due to the adoption of AASB 15, AASB 1058 and AASB 16 is illustrated with the following reconciliation between the restated carrying amounts at 30 June 2019 and the balances reported under the new accounting standards at 1 July 2019:

Balance sheet	Notes	Before new accounting standards Opening 1 July 2019 $000	Impact of new accounting standards AASB 16, 15 and 1058 $000	After new accounting standards Opening 1 July 2019 $000
Total financial assets		15,850	-	15,850
Total non-financial assets	4.1	1,341	1,171	2,512
Total assets		17,191	1,171	18,362
Payables and contract liabilities		3,229	-	3,229
Interest Bearing Liabilities	6.2	521	1,171	1,692
Other liabilities		2,013	-	2,013
Total liabilities		5,763	1,171	6,934
Accumulated surplus/(deficit)		-	-	-
Other items in equity		11,428	-	11,428
Total equity		11,428	-	11,428

Note 8.10 Economic dependency

GB CMA is dependent on the Department of Environment, Land, Water and Planning for the majority of its revenue used to operate the entity. At the date of this report, the Board of Directors has no reason to believe the Department of Environment, Land, Water and Planning will not continue to support the CMA.

Notes to the financial statements for the year ended 30 June 2020

8.11 Australian Accounting Standards issued that are not yet effective

Certain new Australian Accounting Standards (AAS) have been published that are not mandatory for the 30 June 2020 reporting period. DTF assesses the impact of all these new standards and advises the Authority of their applicability and early adoption where applicable. The following is a list of the AASs issued but are not yet effective for the 2019-20 reporting period.

Topic	Key requirements	Applicable for annual reporting periods beginning on or after	Estimated impact on Financial Statements
AASB 17 Insurance Contracts	The new Australian standard eliminates inconsistencies and weaknesses in existing practices by providing a single principle based framework to account for all types of insurance contracts, including reissuance contract that an insurer holds. It also provides requirements for presentation and disclosure to enhance comparability between entities. This standard does not apply to the not-for-profit public sector entities. The AASB is undertaking further outreach to consider the application of this standard to the not-for-profit public sector.	1 Jan 2021	The assessment has indicated that there will be no significant impact on the Authority's financial statements.
AASB 2018-7 Amendments to Australian Accounting Standards – Definition of Material	This Standard principally amends AASB 101 Presentation of Financial Statements and AASB 108 Accounting Policies, Changes in Accounting Estimates and Errors. The amendments refine and clarify the definition of material in AASB 101 and its application by improving the wording and aligning the definition across AASB Standards and other publications. The amendments also include some supporting requirements in AASB 101 in the definition to give it more prominence and clarify the explanation accompanying the definition of material.	1 Jan 2020	The assessment has indicated that there will be no significant impact on the Authority's financial statements.
AASB 2020-1 Amendments to Australian Accounting Standards – Classification of Liabilities as Current or Non Current	This Standard amends AASB 101 to clarify requirements for the presentation of liabilities in the statement of financial position as current or non-current. A liability is classified as non-current if an entity has the right at the end of the reporting period to defer settlement of the liability for at least 12 months after the reporting period. The meaning of settlement of a liability is also clarified.	1 January 2022. However, ED 301 has been issued with the intention to defer application to 1 January 2023.	The assessment has indicated that there will be no significant impact on the Authority's financial statements.

8.12 Glossary of technical terms

The following is a summary of the major technical terms used in this report.

Actuarial gains or losses on superannuation defined benefit plans are changes in the present value of the superannuation defined benefit liability resulting from:

a) experience adjustments (the effects of differences between the previous actuarial assumptions and what has actually occurred); and
b) the effects of changes in actuarial assumptions.

Administered item generally refers to a Authority lacking the capacity to benefit from that item in the pursuit of the entity's objectives and to deny or regulate the access of others to that benefit.

Amortisation is the expense that results from the consumption, extraction or use over time of a non-produced physical or intangible asset. This expense is classified as an 'other economic flow'.

Associates are all entities over which an entity has significant influence but not control, generally accompanying a shareholding and voting rights of between 20 per cent and 50 per cent.

Borrowings refers to interest-bearing liabilities mainly raised from public borrowings raised through the Treasury Corporation of Victoria, lease liabilities, service concession arrangements and other interest-bearing arrangements. Borrowings also include non interest-bearing advances from government that are acquired for policy purposes.

Commitments include those operating, capital and other outsourcing commitments arising from non-cancellable contractual or statutory sources.

Notes to the financial statements for the year ended 30 June 2020

Comprehensive result is the amount included in the operating statement representing total change in net worth other than transactions with owners as owners.

Controlled item generally refers to the capacity of an Authority to benefit from that item in the pursuit of the entity's objectives and to deny or regulate the access of others to that benefit.

Current grants are amounts payable or receivable for current purposes for which no economic benefits of equal value are receivable or payable in return.

Depreciation is an expense that arises from the consumption through wear or time of a produced physical or intangible asset. This expense is classified as a 'transaction' and so reduces the 'net result from transaction'.

Effective interest method is the method used to calculate the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset or, where appropriate, a shorter period.

Employee benefits expenses include all costs related to employment including wages and salaries, fringe benefits tax, leave entitlements, redundancy payments, defined benefits superannuation plans, and defined contribution superannuation plans.

Ex-gratia expenses mean the voluntary payment of money or other non-monetary benefit (e.g. a write off) that is not made either to acquire goods, services or other benefits for the entity or to meet a legal liability, or to settle or resolve a possible legal liability or claim against the entity.

Finance lease is a lease that transfers substantially all the risks and rewards incidental to ownership of an underlying asset.

Financial asset is any asset that is:

a) cash;
b) an equity instrument of another entity;
c) a contractual right:
   - to receive cash or another financial asset from another entity; or
   - to exchange financial assets or financial liabilities with another entity under conditions that are potentially favourable to the entity; or
d) a contract that will or may be settled in the entity's own equity instruments and is:
   - a non-derivative for which the entity is or may be obliged to receive a variable number of the entity's own equity instruments; or
   - a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments.

Financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity.

Financial liability is any liability that is:

a) a contractual obligation:
   - to deliver cash or another financial asset to another entity; or
   - to exchange financial assets or financial liabilities with another entity under conditions that are potentially unfavourable to the entity; or
b) a contract that will or may be settled in the entity's own equity instruments and is:
   - a non-derivative for which the entity is or may be obliged to deliver a variable number of the entity's own equity instruments; or
   - a derivative that will or may be settled other than by the exchange of a fixed amount of cash or another financial asset for a fixed number of the entity's own equity instruments. For this purpose, the entity's own equity instruments do not include instruments that are themselves contracts for the future receipt or delivery of the entity's own equity instruments.

Financial statements in the Model report comprises:

a) a balance sheet as at the end of the period;
b) a comprehensive operating statement for the period;
c) a statement of changes in equity for the period;
d) a cash flow statement for the period;
e) notes, comprising a summary of significant accounting policies and other explanatory information;
f) comparative information in respect of the preceding period as specified in paragraph 38 of AASB 101 Presentation of Financial Statements; and
g) a statement of financial position as at the beginning of the preceding period when an entity applies an accounting policy retrospectively or makes a retrospective restatement of items in its financial statements, or when it reclassifies items in its financial statements in accordance with paragraphs 41 of AASB 101.

Grant expenses and other transfers are transactions in which one unit provides goods, services, assets (or extinguishes a liability) or labour to another unit without receiving approximately equal value in return. Grants can either be operating or capital in nature.

While grants to governments may result in the provision of some goods or services to the transferor, they do not give the

transferor a claim to receive directly benefits of approximately equal value. For this reason, grants are referred to by the AASB as involuntary transfers and are termed non-reciprocal transfers. Receipt and sacrifice of approximately equal value may occur, but only by coincidence. For example, governments are not obliged to provide commensurate benefits, in the form of goods or services, to particular taxpayers in return for their taxes.

Grants can be paid as general-purpose grants, which refer to grants that are not subject to conditions regarding their use. Alternatively, they may be paid as specific purpose grants, which are paid for a particular purpose and/or have conditions attached regarding their use.

General government sector comprises all government Authority's, offices and other bodies engaged in providing services free of charge or at prices significantly below their cost of production. General government services include those that are mainly non-market in nature, those that are largely for collective consumption by the community and those that involve the transfer or redistribution of income. These services are financed mainly through taxes, or other compulsory levies and user charges.

Interest expense represents costs incurred in connection with borrowings. It includes interest components of lease repayments.

Interest income includes interest received on bank term deposits and other investments.

Leases are rights conveyed in a contract, or part of a contract, the right to use an asset (the underlying asset) for a period of time in exchange for consideration.

Net result is a measure of financial performance of the operations for the period. It is the net result of items of revenue, gains and expenses (including losses) recognised for the period, excluding those classified as 'other non-owner movements in equity'.

Non-financial assets are all assets that are not financial assets. It includes land, buildings, infrastructure, plant and equipment, cultural and intangibles.

Operating result is a measure of financial performance of the operations for the period. It is the net result of items of revenue, gains and expenses (including losses) recognised for the period, excluding those that are classified as 'other non-owner movements in equity'. Refer also to 'net result'.

Other economic flows included in net result are changes in the volume or value of an asset or liability that do not result from transactions. In simple terms, other economic flows are changes arising from market remeasurements. They include gains and losses from disposals, revaluations and impairments of non-current physical and intangible assets; fair value changes of financial instruments and agricultural assets; and depletion of natural assets (non produced) from their use or removal.

Other economic flows – other comprehensive income comprises items (including reclassification adjustments) that are not recognised in net result as required or permitted by other Australian Accounting Standards. They include changes in physical asset revaluation surplus; share of net movement in revaluation surplus of associates and joint ventures; and gains and losses on remeasuring available-for-sale financial assets.

Payables includes short and long-term trade debt and accounts payable, grants, taxes and interest payable.

Produced assets include buildings, plant and equipment and certain intangible assets. Intangible produced assets may include computer software, motion picture films and research and development costs (which does not include the start-up costs associated with capital projects).

Receivables include amounts owing from government through appropriation receivable, short and long-term trade credit and accounts receivable, accrued investment income, grants, taxes and interest receivable.

Sales of goods and services refers to income from the direct provision of goods and services and includes fees and charges for services rendered, sales of goods and services, fees from regulatory services and work done as an agent for private enterprises.

Supplies and services generally represent cost of goods sold and the day-to-day running costs, including maintenance costs, incurred in the normal operations of the Authority.

Taxation income represents income received from the State's taxpayers and includes:

- payroll tax, land tax and duties levied principally on conveyances and land transfers;
- insurance duty relating to compulsory third-party, life and non-life policies;
- insurance company contributions to fire brigades;
- motor vehicle taxes, including registration fees and duty on registrations and transfers; and
- other taxes, including landfill levies, licence and concession fees.

Transactions are those economic flows that are considered to arise as a result of an interaction between two entities by mutual agreement. They also include flows into an entity such as depreciation, where the owner is simultaneously acting as the owner of the depreciating asset and as the consumer of the service provided by the asset. Taxation is regarded as mutually agreed interactions between the government and taxpayers. Transactions can be in kind (e.g. assets provided/given free of charge or for nominal consideration) or where the final consideration is cash.

Appendix 1: Understanding progress and ratings

Compiled by Rod McLennan.

NRM decisions to create or respond to change are usually made in context of a complex and dynamic system of people and nature with countless relationships. The operating environment is highly integrated and changing and there are significant uncertainties in measuring natural resources and evaluating progress. Well-constructed scorecards with summary narratives are distilled evaluations that help many stakeholders make better shared choices, while promoting transparency and accountability.

Shared mental models of progress and a desired future

Resilience model

Problem: While in everyday life individuals use their own ways of viewing the state of a complex world and possible future states, sharing views (based on solid evidence) can be extremely challenging.

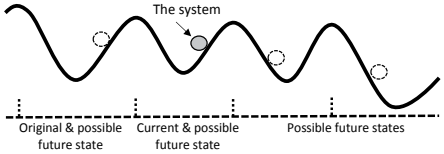
Solution: The Goulburn Broken CMA uses a resilience model to describe the current state, identify desired long-term future states, and determine required actions.

Many of the most important elements underpinning a resilience model, such as stakeholder relationships, consideration of system tipping points, and integration across NRM themes, have been emphasised by Goulburn Broken Catchment communities since salinity management plans were founded on joint action in the late 1980s (Northage 2014). Although it was not explicitly stated and there was no roadmap to follow, resilience was pursued by these pioneers of holistic catchment management. A culture of interagency and community-government collaboration was fostered through strong and insightful leadership at all levels within Victorian government and across regional and local communities.

Technology advances have transformed how people communicate and relate. As the number of interactions escalate, relationships can be diluted. The Goulburn Broken CMA continues to integrate the efforts of stakeholders to holistically manage the Catchment and has formalised use of the resilience model: it is central to the Regional Catchment Strategy 2013-2019 and its current renewal. The approach emerged from the Goulburn Broken CMA's sustainability and ecosystem services thinking.

Resilience is '**the ability of the Catchment's people and environment to absorb a shock or setback and to flourish in spite of it, maybe even because of it**' (R.M. Williams Outback, Apr/May 2017). **It does not mean 'ploughing through and doing what you have always done'** (Corocher in Outback Apr/May 2017).

The resilience model can be easily shared: people can relate the model to phases and other aspects of their personal lives, such as alternate states for emotions, finances, relationships, and physical health. A 'resilience roller-coaster' shows alternate states of resilience.



The resilience model lends itself neatly to a small number of high-level choices for managing systems in the face of unforeseen and shifting circumstances: restore, persist, accept change and adapt while preparing to transform, or drive transformation.

In NRM, **system examples** include biodiversity (page 53), community (page 31), and social-ecological (page 7). High-level choices for these interconnected systems have been described as visions and long-term goals, such as 'increase the population viability of 20 flagship species' and '65 per cent reduction in total phosphorus exported from the catchment'.

Resilience, tipping points, risks and opportunities

Problem: While visions and long-term goals have been described for NRM systems for 30 years or more, it has been challenging to build the bridge (a simply understood model) between high-level intent and required short and long-term actions: the links between cause and effect are often obscure.

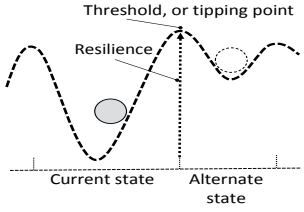
Solution: A **risk mitigation model** that considers the risk of the system being in an undesirable state in the long term (more than 10 years) focuses on problems, opportunities and evidence that are material (high consequence), helping to eliminate 'noise'. The risk mitigation model is also familiar, making the step between risk and action (and progress) easy to communicate.

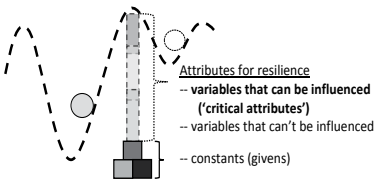
Determining the **risk of the system being in an undesirable state** in the long term requires consideration of **thresholds (tipping points)**, likelihood and consequences, uncertainties with data and what desirable futures are, and risk and opportunities given both current investment (from government and other sources, including in-kind) and no investment.

Some attributes that define a system's resilience are constants that cannot be changed, such as location downstream or upstream of a significant tributary. Other attributes vary, with some that cannot be readily influenced, such as rainfall or market conditions, and others that can be influenced, such as native vegetation extent and wetland inundation.

A **critical attribute for long-term resilience is**:

- critical to how the system functions
- at a level and trajectory that places the delivery of highly valued services at risk in the long term (because the system is at long-term risk of tipping into an undesirable state)
- influenced by actions that can be easily defined
- 'concrete' enough to readily convey an image or concept that is readily shared and not prone to misinterpretation
- measurable over the medium term (about 5 years), or at least enables a sense of progress to be conveyed.





Evaluation, planning levels and decision-making cycles

Catchment management decisions have vastly different timeframes, from daily operational decisions by extension officers to once-in-six-year strategic decisions by the Goulburn Broken CMA Board. The Goulburn Broken CMA arranges data to inform three critical and connected levels of evaluation for strategic planning and implementation, as shown in the table below. While different NRM funders have different ways of operating and different and changing data requirements, the Goulburn Broken CMA orders information according to the equation: Outputs x Assumptions = Outcomes, to document progress in implementing actions and to update understanding of progress in achieving desired long-term states of system resilience, including contributions by various partners to outcomes (including overall condition).

Evidence for three levels of evaluation (and decision-making)

	Evaluation level	Typical key evaluation questions used to focus evaluation	Examples of evidence to inform evaluation
1	Annual performance	How did we go this year against what we said we would do?	Outputs (onground works and capacity building actions or tasks) achieved and funds spent against targets set.
2	Long-term strategy implementation progress	How have we gone against what we said we would do when we wrote the (various) strategies? How effective were the implemented measures?	Outputs and assumptions of their impact (especially on critical attributes) listed in strategies.
3	Catchment condition	What state is the system we are influencing in? What is the risk that the system will not be in the desired state in the long term? Was the original strategy appropriate? Have circumstances (such as new knowledge or different weather patterns) changed sufficiently to warrant a revised strategy? Does the investment mix need to be modified?	System state; risk trends; tipping points; indicators of resilience such as critical attribute contribution levels; responses such as restoration, prevention, maintenance, driving transformation, acceptance of change and adaptation.

Rating progress and performance

Details on each of the investment areas within sections of this annual report justify ratings provided. Further details are on the Goulburn Broken CMA's website www.gbcma.vic.gov.au and in relevant RCS sub-strategies.

Rating annual performance

Annual performance is rated by measuring outputs achieved against annual targets. Targets are determined by funds available and are derived from the relevant long-term strategy. It is usually not known what funds are available beyond one year. There is usually a high degree of certainty in rating annual performance within a single investment area when funding is known, outputs and other indicators are well documented, and accounting mechanisms are sound.

Annual targets and achievements in this report do not include outputs delivered beyond Goulburn Broken CMA's direct control, especially by landholders who voluntarily undertake works. Data on these external outputs is also critical to inform long-term decisions and is increasingly captured. A complete list of detailed outputs is in Appendix 4 on page 142 and detailed outputs are listed in sections devoted to each investment area throughout this report.

Rating long-term progress

Long-term progress ratings are needed for three separate areas of focus for Goulburn Broken CMA decision-making.

1 Long-term strategy implementation stage. Strategies vary in formality, comprehensiveness, and funds to implement them. Implementation stage considers aspects such as degree of integration with other NRM themes, involvement of stakeholders, and quantities of outputs achieved compared to desired levels. See the graph that indicates the relative maturity or stages of implementation within investment areas on page 35.

2 Catchment condition. The Goulburn Broken CMA chooses **investment areas** to frame ratings of catchment condition because they align well with how the CMA and many funders 'think' (compartmentalise NRM) and invest. From 2016-17, ratings of critical attributes' contribution level and the associated long-term risk to the desired state of resilience are explicitly listed as indicators of catchment condition (see long-term scorecards throughout this report). Other high-level indicators of condition, such as viability of threatened species and gross value of agricultural production, are also factored into ratings.

The **benchmark system state is the desired state**: this varies from many NRM assessments that use 'natural' or 'pre-European settlement' as the benchmark. To get a sense of long-term progress over a timeframe meaningful for NRM, critical attributes' contribution to system function are rated for 1990 as well as the current year.

No explicit quantitative weightings have been applied when 'rolling-up' critical attributes to arrive at the overall catchment condition for an investment area. Assessment by individual social-ecological system areas (see page 7) and subsequent rolling-up has so far only been done for the Agricultural Floodplains (see Sustainable Irrigation Program).

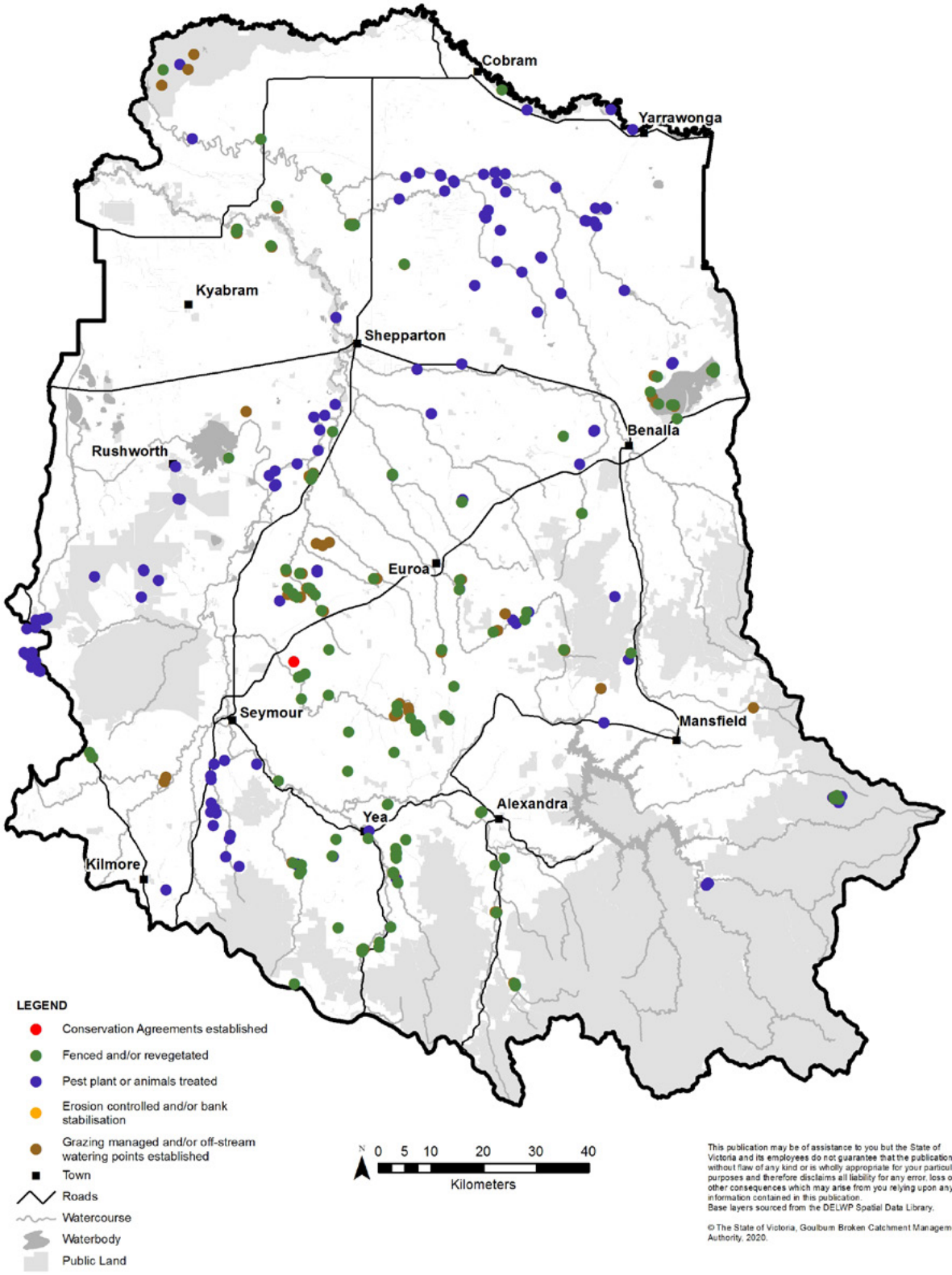
Structuring and communicating long-term progress are works-in-progress that try to retain the integrity of Goulburn Broken CMA's evaluation efforts over two decades while aligning with emerging national and state approaches.

3 Organisational business condition. The Goulburn Broken CMA is an important contributor to catchment condition, and several indicators are similarly rolled-up to rate condition in terms of human resources and governance (and annual performance; see pages 78 and 85).

Appendix 2: Works

1 July 2019 to 30 June 2020

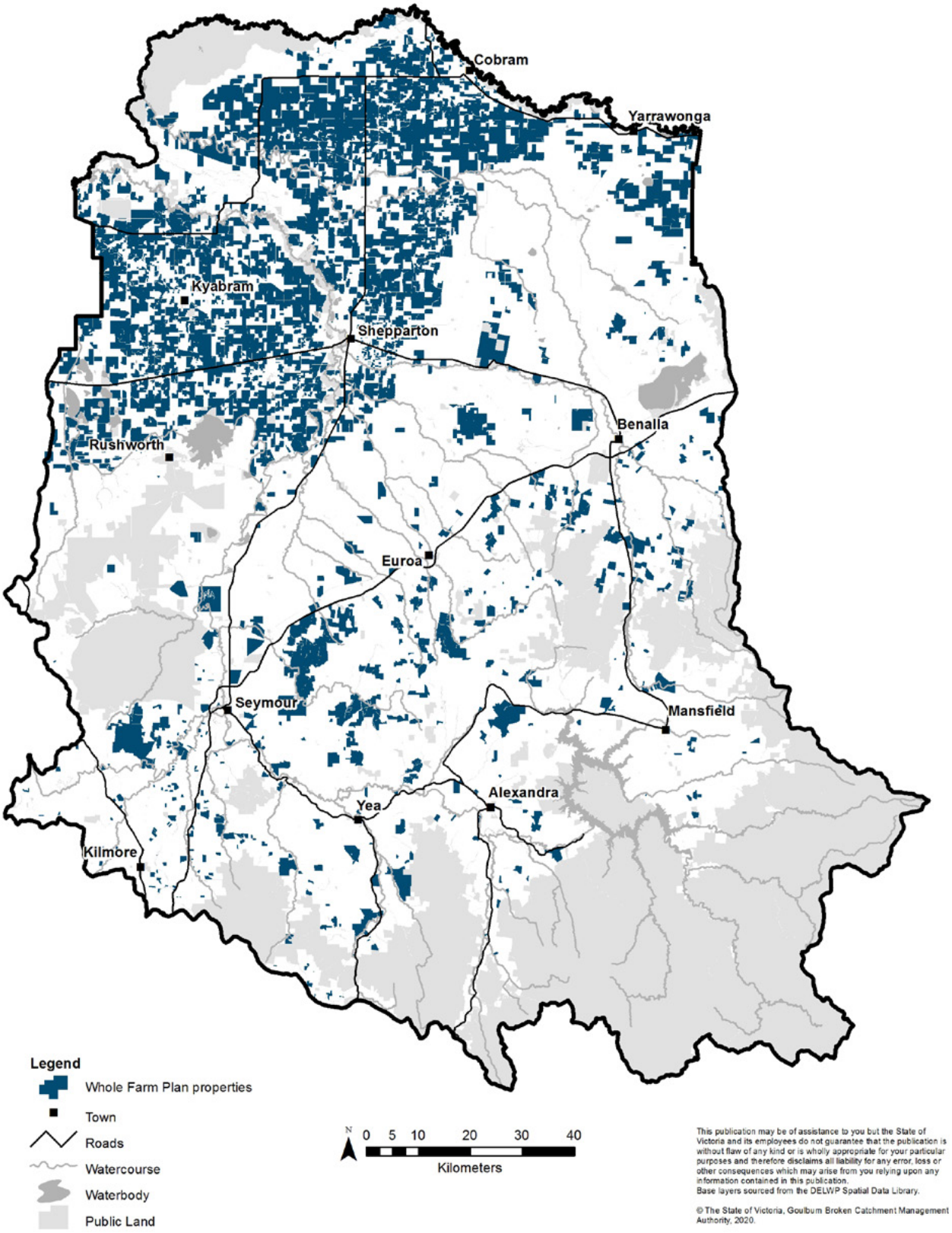
This map shows onground works completed in 2019-20 through Goulburn Broken CMA programs. These works relate to outputs listed in tables throughout this Annual Report. Some major works under Waterways, Floodplain Management and Sustainable Irrigation Programs are not shown. Onground works that landowners fully fund themselves are not shown. The Goulburn Broken CMA is investigating ways to capture such important contributions. The points indicated on this map are an approximate location of where the works occurred only.



Appendix 3: Properties covered by a whole farm plan

to 30 June 2020

This map shows the properties covered by a whole farm plan or modernised whole farm plan completed since the start of the Program.



Appendix 4: Outputs - detailed list of achievements

Standard GB Threat or Impact Managed	Output	Land & Biodiversity			
		Target [i]	Achieved	% Achieved	
Threat					
Land and water use practices					
Stock grazing (ha = terrestrial; km = riparian)	Fence terrestrial remnant vegetation (ha)	197	486	247	
	Fence wetland remnant (ha)				
	Fence stream/river remnant (ha)				
	Fence stream/river remnant (km)				
	Off-stream watering (no.)				
	Binding Management Agreement (licence, Section 173, covenant) (ha)		6		
Induced Threat					
Saline water & high watertables					
Surface water [iii]	Laser levelling (ha) [ii]				
	Drain – primary built (including hybrid; km) [iv]				
	Drain – community built (km)				
	Weir – replace (no.)				
	Farm reuse systems installed (no.) [v]				
	Drain – additional water diverted from regional drains (ML)				
	Irrigation systems – improved (ha) [vi]				
	Pasture – plant (ha)				
Sub-surface water	Groundwater pumps - public installed (new; no.)				
	Groundwater pumps - private installed (new; no.)				
	Volume water pumped - increase (ML)				
	Tile drains – install (ha)				
	Revegetation - plantation / farm forestry (ha)				
Nutrient-rich & turbid water & suspended solids	Waste water treatment plants - install (no.)				
	Stormwater management projects (no.) [vii]				
Instream and near-stream erosion	Bed and bank protection actions (km) [viii]				
	Instream & tributary erosion controlled (km)				
Changed flow pattern	Environmental water use (ML) [ix]				
Weed invasion	Weeds – woody weed management (ha)	2,667	3,055	115	
	Weeds – aquatic weeds controlled/eradicated (km)				
	Targeted infestations of weeds in high priority areas covered by control programs (ha) [x]	2,802	3,525	126	
Pest animals	Pest animal control (ha) [xi]	95,695	112,560	118	
Impact					
Habitat loss - terrestrial	Revegetation - plant natives within or next to remnants (ha) [xii]	261	344	131	
	Revegetation - plant natives away from remnants (ha)				
Habitat loss – instream	Fish release (no.)				
	Vertical slot fishway (no.)				
	Rock ramp fishway (no.)				
	Fish barrier removal (no.)				
	Instream habitat (no.) [xiii]				
Habitat loss – wetlands	Reinstate flood regime (ML) [xiv]				
	Construct new wetland (ha)				
Habitat loss – threatened species	Threatened Species Recovery Plan and Action Statements (no. projects)				
Planning	Whole farm plans (no.) [xv]				

i Targets are determined by considering levels of government funding as listed in the Corporate Plan and any subsequent adjustments over the financial year.

ii Assumptions: 2011-12 = 90 per cent of area under Whole Farm Plans (25,841) + 70 per cent of Farm Water Program onground achievements (965; 1,783 was used to calculate figures in 2011-12 report); 2012-13 = Farm Water Program onground achievements (2,163) + 60 per cent of area put under Whole Farm Plans [new (8,424) + modernised (9,075)]; 2013-14 = Farm Water Program' SIR onground achievements (3,736) + 60 per cent of area put under Whole Farm Plans [new (4,224) + modernised (4,403) – Farm Water Program's SIR onground achievements (3,736)];2014-15, 2015-16, 2016-17 & 2017-18 = Farm Water Program's SIR onground achievements (478, 1,963, 360 & 1,734) + 60 per cent of area put under Whole Farm Plans [new (4,143, 2,576, 3,289 & 2,843) + modernised (2,572, 2,037, 3,905 & 2,632) - Farm Water Program's SIR onground achievements (478, 1,963, 360 & 1,734)]. Assumption change from 2018-19 is 50 per cent of area put under Whole Farm Plans (not 60). Target = 50 per cent of area to be put under Whole Farm Plans [no. (120) x average area of Whole Farm Plans (91)]

iii Surface water management enables the removal of excess rainfall runoff from irrigated lands, alleviating soil salinity. As part of an overall management plan for nutrients, nutrients loads are managed by collecting and reusing water from drains. Nutrient loads are monitored against the Goulburn Broken Water Quality Strategy nutrient target for drains.

iv Fencing and laneways are relocated along primary drains to control stock. Drains are also hydro-mulched and seeded to provide vegetative cover on bare batters.

v Reuse dams allow for the collection of high nutrient runoff and re-irrigation, reducing the water and nutrient loads leaving the farm. Figures include Farm Water Program installations. In 2014-15 the number of new farm reuse systems installed is assumed to be: 67 per cent of projects install a new system and 33 per cent reconnect the project area to an existing system. In 2012-13 and 2013-14 the number of new systems was assumed to be: 100 per cent of projects install a new system i.e. new systems and extensions of existing systems were both counted as 'new systems'.

vi Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area see footnote ii) + pressurised irrigation systems (micro or drip + irrigation); 2013-14 = Farm Water Program's SIR onground achievements (laser grading + overhead spray + drip; 3,736 + 567 + 0) + 70 per cent of area put under Whole Farm Plans [new (4,224) + modernised (4,403) less Farm Water Program's SIR onground achievements]. In 2019-20, area improved included 210 hectares of soil moisture monitoring.

vii Stormwater management projects are undertaken on a one-to-one funding basis with local government.

viii From 2013-14, the actions for erosion control have been bundled with this to make the tally.

	2019-20									Total achieved							
	Sustainable Irrigation			Waterways & Floodplain			Total Catchment			2018-19	2017-18	2016-17	2015-16	2014-15	2013-14	2012-13	2011-12
	Target [i]	Achieved	% Achieved	Target [i]	Achieved	% Achieved	Target [i]	Achieved	% Achieved								
	40	61	153				237	547	231	331	589	696	468	385	1,004	1,783	728
				6	8	140	6	8	140	2		137	3	168	128	73	160
				55	112	206	55	112	206	166	161	294	244	141	87	126	337
				18	33	182	18	33	182	48	26	35	38	70	42	6.8	26
				13	22	169	13	22	169	17	17	25	19	15	3	1	17
								6			104	18	70	112	0	329	360
	5,961	7,580	127				5,961	7,580	127	2,538	3,979	4,460	3,553	4,220	6,671	12,662	24,505
	22	17.0	77				22	17.0	77	32	4					1	0
										5							1
											36	5	51	9	64	25	25
		7,790						7,790		2,538	5,174	4,460	3,553	4,745	7,330		24,145
																	1
																	75
																	2
										0.30	0.51	0.62	0.91	0.40	0.20	0.65	19
												0.62	0.91	0.60	1.00		
					772,400			772,400		449,506	812,240	479,164	698,264	339,318	714,378	299,667	633,476
	40	206	516	25	64	260	2,732	3,326	122	1,555	4,060	7,481	1,363	2,317	210		
					28			28		9	10	9	14	97	3	77	76
	240	2,174	906	42	74	176	3,084	5,773	187	2,099	4,441	8,529	2,894	3,359	3,643	953	1,372
	45	61	136				95,740	112,621	118	1,429	4,019	10,423	7,321	22,880	31,201	29,749	60,882
	40	245.2	613	29	45	155	330	634	192	625	413	487	750	549	1,211	2,957	1,995
																517	
															2		
																	2
				235	259	110	235	259	110	581	627	363	334	357	337		
					362,512			362,512		174,355	415,010	254,188	439,740	500	363,436	2,959	428,000
	131	117	89				131	117	89	61	55	74	51	71	79	186	263

ix Target cannot be set with any confidence because achievement is prone to extreme variation, being affected by climatic and seasonal conditions. Volumes used since 2000-01 were reconciled in 2014 and some figures were adjusted. The NSW component of water delivered to Barmah Forest is included in these figures.

x This includes 'Weeds woody weed management'. DPI Biosecurity Victoria works were completed outside of the Corporate Plan from 2009-10. 2011-12 figures do not include an achievement of 14,300 hectares for weeds in high priority areas and an achievement of 15,800 hectares for high priority rabbit control completed by DPI. 2012-13 figures do not include 9,315 hectares for weeds and 10,500 hectares for rabbit control completed by DPI. 2013-14 figures do not include 12,880 hectares for weeds and 6,175 hectares for rabbit control completed by DPI. 2014-15 achievements do not include 10,060 hectares for weeds and 6,850 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2015-16 achievements do not include 11,820 hectares for weeds and 7,480 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2016-17 achievements do not include 7,781 hectares for weeds and 2,911 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2017-18 achievements do not include 11,001 hectares for weeds and 6,400 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2018-19 achievements do not include 20,995 hectares for weeds and 3,486 hectares for rabbit control completed by DJPR AgVic Biosecurity & Agriculture Services. 2019-20 achievements do not include 14,000 hectares for weeds and 1806 hectares for rabbit control completed by DJPR AgVic Biosecurity & Agriculture Services (see page 67).

xi Output included for the first time in 2018-19, superseding the two separate outputs of fox and rabbit control, to encompass the broader range of pest animals being controlled.

xii Natural regeneration from the Caring for Our Country, Sustainable Farming Practices project are also included: 515.8 hectares for 2011-12. Natural regeneration from the Caring for Our Country, Targeting Landscape Scale Biodiversity project are included: 712 hectares for 2011-12 and 1,676.38 hectares for 2012-13. 2013-14, 2014-15, 2015-16 & 2016-17 achievements do not include 1,080, 175, 186.8 & 624.6 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivered in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service.

xiii Output included for the first time in 2015-16 as 'instream woody habitat - snags'. Updated to 'instream habitat' in 2017-18 to include other habitat structures undertaken in 2017-18 such as groynes and rock seeding.

xiv Figures for years prior to 2018-19 entered retrospectively in 2018-19.

xv Figures for total catchment historically include those outside of Sustainable Irrigation Program also, which were for comprehensive Level 2 whole farm plans, equivalent to Shepparton Irrigation Region's whole farm plan. Level 1 is a short course that is a precursor to Level 2 and not included in these figures. In 2012-13 whole farm plans under the Land and Biodiversity Program were achieved by Department of Environment and Primary Industries, using funding received outside of the Corporate Plan.

Appendix 5: Major Strategic References

Legislation

Federal legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984
Australian Heritage Commission Act 1975 (Register of the National Estate)
Environment Protection and Biodiversity Conservation Act 1999
Native Title Act 1993
Water Act 2007
Water Amendment Act 2008

State legislation

Aboriginal Heritage Act, 2006
Aboriginal Heritage Regulations 2007
Alpine Resorts (Management) Act 1997
Building Regulations 1996
Catchment and Land Protection Act 1994
Charter of Human Rights and Responsibilities Act 2006
Climate Change Act 2010
Conservation, Forests and Lands Act 1987
Crown Land (Reserves) Act 1978
Environment Protection Act 1970
Equal Opportunity Act 2010
Financial Management Act 1994
Fisheries Act 1995
Flora and Fauna Guarantee Act 1988
Forests Act 1958
Heritage Rivers Act 1992
Land Act 1958
Mineral Resources (Sustainable Development) Act 1990
Murray-Darling Basin Act 1993
National Parks Act 1975
Occupational Health and Safety Act 2004
Parks Victoria Act 1998
Privacy and Data Protection Act 2014
Planning and Environment Act 1987
Public Administration Act 2004
Public Interest Disclosures Act 2012
Reference Areas Act 1978
State Environment Protection Policy (Groundwaters of Victoria)
State Environment Protection Policy (Waters of Victoria)
Subdivision Act 1988
Sustainable Forests (Timber) Act 2004
Traditional Owner Settlement Act 2010
Victorian Conservation Trust Act 1972
Victorian Environment Assessment Council Act 2001
Water Act 1989
Wildlife Act 1975
Yorta Yorta Cooperative Management Agreement 2004

Relevant Policies, Strategies and Agreements

International

China Australia Migratory Bird Agreement 1986
Convention of Migratory Species (Bomm Convention) 1979
Greenhouse Gas Protocol (www.ghgprotocol.org)
Japan Australia Migratory Bird Agreement 1974
Ramsar Convention on Wetlands 1971
Republic of Korea Australia Migratory Bird Agreement 2009
UN Declaration on the rights of Indigenous Peoples 2007

Federal

A Directory of Important Wetlands in Australia (2001)
A Framework for Determining Commonwealth Environmental Watering Actions 2009
Agricultural Competitiveness White Paper (2015)
Australia's Strategy for Nature 2019-2030
Australia's Native Vegetation Framework 2012
Australian Government Indigenous Advancement Strategy 2014
Australian Pest Animal Strategy 2007
Australian Weed Strategy 2017- 2027
Barmah-Millewa Environmental Management Plan 2005
Basin Salinity Management Strategy 2030 (2001-2015)
COAG Closing the Gap initiative 2008
Empowered Communities: Empowered Peoples – Design report (2015)
Living Murray First Step Decision (2003)
Murray-Darling Basin Plan 2012
Murray-Darling Native Fish Management Strategy 2004
National Framework for the Management and Monitoring of Australia's Native Vegetation (2001)
National Greenhouse Accounts Factors – Department of Climate Change and Energy Efficiency
National Indigenous Reform Agreement (Closing the Gap)
National Water Quality Management Strategy (ARMCANZ and ANZECC 1992)
Public Entity Executive Remuneration Policy
Reconciliation Australia – Economic Benefits of closing the gap in Indigenous employment outcomes (2014)
Strategy for Australia's National Reserve System 2009–2030
The Clean Energy Future Initiative (2012)
Threatened Species Strategy and Action Plan (2015)
Wetlands Policy of the Commonwealth Government of Australia 1997
www.thelivingmurray.gov.au

State

Aboriginal Participation Guidelines for Victorian Catchment Management Authorities 2015 and Implementation Plan 2016
Advisory lists of rare and threatened species in Victoria
Agriculture Victoria Strategy: Supporting Victoria's Agriculture 2017
Alpine Resorts Strategic Plan 2012
Biosecurity Victoria Strategic Plan for Victoria 2009
Community Engagement and Partnerships Framework for Victoria's Catchment Management Authorities 2013 and Toolkit 2017
DELWP Guide to Good Governance – board members
Food & Fibre Strategy 2016
Indigenous Partnership Framework 2007-10 (reviewed 2010)
Invasive Plants and Animal Policy Framework 2010
Native Vegetation Net gain accounting first approximation report 2008 (DSE)
Our Catchments, Our Communities – Integrated Catchment Management in Victoria 2016-19
Permitted Clearing of Native Vegetation – Biodiversity Assessment Guidelines 2013
Policy for Sustainable Recreation and Tourism on Victoria's Public Land 2002
Protecting Victoria's Environment – Biodiversity 2037 (2017)
Regional Riparian Action Plan (2015)
Soil Health Strategy 2012
Sustainability Charter for Victoria's State Forests 2006
Threatened Species Recovery Plans
Victoria's Native Vegetation Management - A. Framework for Action
Victoria's Nature based Tourism Strategy 2008–2012
Victoria's Salinity Management Framework 2000
Victorian Bushfire Strategy 2008
Victorian Bushfires Royal Commission 2009
Victorian Climate Change Adaptation Plan 2017-2020
Victorian Climate Change Framework 2016
Victorian Floodplain Management Strategy 2016
Victorian Landcare Program Strategic Plan 2012
Victorian Planning Provisions 1998-1999
Victorian Protective Data Security Standards 2018
Victorian Waterway Management Strategy 2013
Water for Victoria – Water Plan (2016)

Regional

Barmah Strategic Action Plan
Climate Change Adaptation Plan for Natural Resource Management in the Goulburn Broken Catchment 2016
Dryland Landscape Strategy 2009-2011
Goulburn Broken Biodiversity Strategy 2016-2021
Goulburn Broken Biosecurity, Invasive Plants and Animal Strategy 2019-2025
Goulburn Broken Climate Change Integration Strategy 2012
Goulburn Broken CMA Capability Framework 2013-2018
Goulburn Broken CMA Climate Change position paper 2007
Goulburn Broken CMA Organisational Environmental Footprint Policy 2011
Goulburn Broken CMA Organisational Environmental Footprint Strategy and Action Plan 2012-2014
Goulburn Broken Communications and Marketing Strategy and Action Plan 2018-2020
Goulburn Broken Community Engagement Strategy and Action Plan 2018-2020
Goulburn Broken Community NRM Action Plan 2013-2018
Goulburn Broken Corporate Plan 2019-20 to 2023-24
Goulburn Broken Dryland Salinity Management Plan 1990 (and reviews 1995, 2001, 2008)
Goulburn Broken Hand Health Statement 2014
Goulburn Broken Land Health Strategy 2017-2020
Goulburn Broken Native Vegetation Plan 2003
Goulburn Broken Regional Catchment Strategy 2013-2019
Goulburn Broken Regional Floodplain Management Strategy 2018-2028
Goulburn Broken Strategic Directions Statement 2018
Goulburn Broken Water Quality Strategy 1996-2016
Goulburn Broken Waterway Strategy 2014-2022
Goulburn Broken Workforce Strategy 2013-2018
Goulburn Murray Resilience Strategy 2020
Hume Regional Growth Plan (2014)
Hume Strategy for Sustainable Communities (2010-2020)
Joint Management Plan for Barmah National Park
Monitoring Evaluation and Reporting Strategy for the Goulburn Broken Catchment 2004
Municipal Planning Schemes
Northern Region Sustainable Water Strategy 2009
Recognition and Settlement Agreement (Taungurung Land and Waters Council)
Review of Goulburn Broken Water Quality Strategy 1996-2016 (2001)
Shepparton Irrigation Region Land and Water Management Plan 1990-2020 (latest update 2016)
Taungurung Country Plan 2016
Various Memoranda of Understanding
Yorta Yorta Cooperative Management Agreement 2004
Yorta Yorta Nation Whole of Country Plan 2012-2017
Yorta Yorta Traditional Land Management Agreement 2010

Appendix 6: Roles of Catchment Partners

Agency / Authority / Organisation / Individual	Role relative to the development and implementation of the RCS
Alpine Resorts Coordinating Council and Alpine Resort Management Boards	The Alpine Resorts Coordinating Council is a statutory body established under the *Victorian Alpine Resorts Management Act 1997*. The Alpine Resort Management Boards are responsible for the development, promotion, management and use of each Alpine Resort.
Australian Government – Department of Agriculture, Water and the Environment.	The Australian Government Department develops and implements policies and programs to ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable, and supports the sustainable and productive management and use of rivers and water resources. The Department designs and implements Australian Government policy and programs to protect and conserve the environment, water and heritage, promote climate action, and provide adequate, reliable and affordable energy. The Department administers the *Environment Protection and Biodiversity Conservation Act 1999*. Regionally, the Department plays an important role in the implementation of the RCS by funding projects across the Catchment.
Community groups (e.g. CMNs, Landcare and environmental groups)	The Goulburn Broken Catchment's natural resource management groups, networks and sustainable farming groups mobilise community involvement, attract corporate, philanthropic and corporate funding and influence and implement significant parts of the RCS in local areas, usually with an emphasis on onground works. They are represented on many of the CMA's advisory groups and steering committees.
Department of Jobs, Precincts and Regions	The Department of Jobs, Precincts and Regions (DJPR) was established to ensure Victoria's strong economic performance by growing industries and regions - to make sure Victoria's economy benefits all Victorians by creating more jobs for more people, building thriving places and regions and nurturing inclusive communities.
Department of Environment, Land, Water & Planning	The Department of Environment, Land, Water and Planning (DELWP) aims to protect and manage Victoria's natural and built environments supporting economic growth and building communities while responding to increased population and climate change.
Environment Protection Authority	The Environment Protection Authority's sole role is to regulate pollution and has independent authority to make regulatory decisions under the *Environment Protection Act 1970*.
Goulburn Valley Water	Goulburn Valley Water's delivery of water and waste water services to its customers has a considerable impact on non-renewable natural resources. Primary objectives of the organisation include a commitment to improve environmental performance by minimising resource demand and preventing pollution.
Goulburn-Murray Water	Goulburn-Murray Water is Australia's largest rural water corporation managing around 70 per cent of Victoria's stored water resources, around 50 per cent of Victoria's underground water supplies and Australia's largest irrigation delivery network.
Individuals / land Managers	Under the *Catchment and Land Protection Act 1994* land managers have a number of responsibilities. Land managers must also seek authority to interfere, obstruct or carry out works in relation to a waterway, bore or drainage course, or (in some cases) a private dam. Regionally, landholders across the Catchment invest significant resources (time, money and land) into activities that contribute to meeting the objectives of the RCS.
Industry groups	Peak industry groups such as Murray Dairy, and the Victorian Farmers Federation, Southern Australia Meat Research Council, Fruit Growers Victoria and the Irrigated Cropping Council can strongly influence catchment management through their networks with regional land managers.
Local government	Services provided by councils are diverse. They include property, economic, human, recreational and cultural services. Councils also enforce State and local laws relating to such matters as land-use planning and environment protection. Local government plays a significant role in land-use planning, which is administered under the *Planning and Environment Act 1987*.
Other groups	The Goulburn Broken CMA and community and advisory groups develop close relationships with many organisations as needs arise during research, planning and implementation, including the Goulburn Broken Greenhouse Alliance, Committees of Management (Crown land reserves) and the various environment and climate action groups across the Catchment.
Parks Victoria	Under the *Parks Victoria Act 1998*, Parks Victoria's (PV) responsibilities are to provide services to the State and its agencies for the management of parks, reserves and other public land.
Traditional Owners	The role of Traditional Owners is outlined in the Community Engagement section of this document. Registered Aboriginal Partners have responsibilities relating to the management of Aboriginal cultural heritage under the *Aboriginal Heritage Act 2006*. These include evaluating Cultural Heritage Management Plans, providing advice on applications for Cultural Heritage Permits, decisions about Cultural Heritage Agreements and advice or application for interim or ongoing Protection Declarations.
Trust for Nature	Trust for Nature (TfN) is Victoria's specialist private-land conservation statutory entity whose statewide services include covenanting, land purchase, ongoing post-protection landowner support, short-term management agreements and environmental market agreements.
Victorian Catchment Management Council	The Victorian Catchment Management Council (VCMC) is appointed under the C*atchment and Land Protection Act 1994*.

Appendix 7: Community grants

Below is a list of grants paid to community groups and organisations for projects during the 2019-20 financial year.
Payments made to Traditional owner groups are done on a works basis and may be across more than one funding source.

Total grants paid to community groups and other organisations 2019-20	Amount paid $ (ex GST)
Australian Government - 20 Million Trees The Australian Government's 20 Million Trees Program was established in 2014 with the aim of planting 20 million trees by 2020 to re-establish green corridors, urban forests and threatened ecological communities.	
Building Future Superb Parrot Habitat	
Goulburn Valley Community Energy - Seed Bank	$9,269
Yorta Yorta National Aboriginal Corporation	$37,214
Australian Government - Regional Land Partnerships Program The Regional Land Partnerships component of the Australian Government's National Landcare Program Phase Two will deliver $450 million dollars over five years Australia-wide to deliver national priorities at a regional and local level, supporting vital on-ground environment and agricultural projects across the country that offer benefits to our environment, our farms, and our communities.	
Linking Landscapes and Communities	
Euroa Arboretum Inc.	$206,227
Gecko Clan	$9,300
Goulburn Murray Landcare Network Inc.	$27,950
Goulburn Valley Community Energy - Seed Bank	$14,148
Longwood Plains Conservation Management Network Inc	$30,715
Regent Honeyeater Project Inc.	$175,000
South West Goulburn Landcare Inc	$20,000
Taungurung Land and Waters Council (Aboriginal Corporation)	$45,883
Trust for Nature	$13,636
Yorta Yorta National Aboriginal Corporation	$140,525
Winton Wetlands Committee of Management Inc	$15,600
Resilient sustainable agriculture enhancing farmers' skills and knowledge	
Gecko Clan	$12,150
Growing regenerative Farming Systems	
Goulburn Murray Landcare Network Inc.	$15,000
Upper Goulburn Landcare Network	$2,896
Floodplain Ecology Course	
Goulburn Murray Landcare Network Inc.	$10,000
Putting our heads together: Collaboration and knowledge sharing across the Catchments	
Greta Valley Landcare Group	$2,000
Assessment and modelling of Soil Carbon profiles in the Hughes Creek catchment	
Hughes Creek Catchment Collaborative Inc.	$5,384
Evaluating plant-based opportunities to increase soil carbon in cropping systems	
Riverine Plains Inc.	$8,000
Validating grazing effects on soil nutrients on farms	
South West Goulburn Landcare Inc	$8,900
Inspiring small farms to grow big ideas	
UP2US Landcare Alliance	$7,200
Victorian Government - Biodiversity Response Planning Biodiversity Response Planning (BRP) is a new area-based planning approach to biodiversity conservation in Victoria; designed to strengthen alignment, collaboration and participation between government agencies, Traditional Owners, non-government agencies (NGOs) and the community. BRP aims to progressively deliver a collective area-based response to the statewide targets in Biodiversity 2037.	
Ribbons of Blue and Sashes of Green	
Euroa Arboretum Inc.	$1,565
Gecko Clan	$15,000
Goulburn Murray Landcare Network Inc.	$15,000
Longwood Plains Conservation Management Network Inc	$17,800
Regent Honeyeater Project Inc.	$90,000
South West Goulburn Landcare Inc	$15,000
Taungurung Land and Waters Council (Aboriginal Corporation)	$81,126
Yorta Yorta National Aboriginal Corporation	$14,902
Winton Wetlands Committee of Management Inc	$4,800
Linking Lower Goulburn to Barmah	
Goulburn Murray Landcare Network Inc.	$10,000
Goulburn Valley Community Energy - Seed Bank	$2,165
Trust for Nature	$12,500

Total grants paid to community groups and other organisations 2019-20	Amount paid $ (ex GST)
Victorian Government - Our Catchments, Our Communities The Victorian Government provided $22 million over four years to implement Our Catchments, Our Communities, ensuring our approach to catchment management is ready for future environmental and economic challenges and opportunities.	
Our Catchments, Our Communities	
Trust for Nature	$18,500
Supporting Local Social Ecological Planning in the Commuting Hills	
Mitchell Shire Council	$5,000
Murrindindi Shire Council	$5,000
Bogies and Beyond	
Euroa Arboretum Inc.	$789
UP2US Landcare Alliance	$45,000
On-ground works	
Taungurung Land and Waters Council (Aboriginal Corporation)	$20,709
Tree Storey	
Upper Goulburn Landcare Network	$6,000
V***ictorian Government - Regional Riparian Action Plan*** The Regional Riparian Action Plan is a five-year plan to accelerate onground riparian management works to improve the health of riparian land along Victoria's regional rivers, estuaries and wetlands. Works include fencing to manage stock, revegetation programs, weed management and construction of off-stream watering systems.	
Regional Riparian Action Plan	
Euroa Arboretum Inc.	$12,243
Victorian Government - Victorian Landcare Grants The Victorian Government through Victorian Landcare Grants provides funding to the Goulburn Broken CMA to support Landcare and other community-based natural resource management groups to protect and restore the Victorian landscape.	
Biodiversity, Environment, Aquatic Discovery Program (BEAD)	
Goulburn Murray Landcare Network Inc.	$19,463
FarmBlitz	
South West Goulburn Landcare Inc	$11,450
Maintenance Grants	
Delatite Landcare Group	$500
Euroa Environment Group Inc.	$1,000
Goulburn Murray Landcare Network Inc.	$1,000
Home Creek Spring Creek Landcare Group	$500
Howes Creek Landcare Group	$500
Kinglake Ranges Neighbourhood House Inc.	$500
Koyuga Kanyapella Landcare Group	$500
Muckatah Landcare Group	$500
Nulla Vale Pyalong West Landcare Group	$500
Rubicon Forest Protection Group Inc	$500
Strath Creek Landcare Group	$500
Sunday Creek Dry Creek Landcare Group	$500
Tatura Community House Inc	$5,000
UP2US Landcare Alliance	$500
UT Creek Maintongoon Landcare Group	$500
Willowmavin Landcare Group	$500
Wyuna Landcare Group Inc	$500
Yea River Catchment Landcare Group	$500
Support of attendance 2019 Landcare Conference	
UP2US Landcare Alliance	$1,500
Connecting kids to nature	
Euroa Arboretum Inc.	$13,450
Gardens For Wildlife	
Euroa Arboretum Inc.	$8,000
Flourishing Fords Creek for Platypus Health	
Ford's Creek Landcare Group	$13,450
Narbethong Holly Control Program	
Friends of the Marysville Walks Inc	$9,450
Turning dung to dirt	
Gecko Clan	$8,000
Rescuing and sustaining paddock trees (old and new) in a changing climate	
Gooram Valley Landcare Group	$11,000

Total grants paid to community groups and other organisations 2019-20	Amount paid $ (ex GST)
Matching farming to our landscapes	
Goulburn Murray Landcare Network Inc.	$13,450
The Granite Creeks Ongoing Pest Plant and Animal Control and Maintenance of Investments Made	
Granite Creeks Project Inc.	$18,950
Community-based weeds and feral animal control program	
Hughes Creek Catchment Collaborative Inc.	$13,450
Year round access into Ern Miles Reserve	
Kyabram Urban Landcare Group	$2,000
Microcarpa Corridors	
Longwood Plains Conservation Management Network Inc	$8,000
Protection of remnant paddock trees	
Molyullah Tatong Land Protection Group	$2,950
Support for cultural burns training attendance	
South West Goulburn Landcare Inc	$1,000
Information and advice for new landholders	
Strathbogie Ranges Conservation Management Network	$8,000
Saving Bandicoots Saving Bogs	
Strathbogie Ranges Conservation Management Network	$6,000
Being Culturally Correct	
UP2US Landcare Alliance	$8,000
Mansfield's War on Weeds 2	
UP2US Landcare Alliance	$19,450
Environmental education for schools and community	
Upper Goulburn Landcare Network	$13,450
Controlling pest plants and animals in the Murrindindi Shire	
Upper Goulburn Landcare Network	$9,450
Cultural heritage training	
Upper Goulburn Landcare Network	$305
Victorian Government - Victorian Water Programs Investment Framework The VWPIF supports an integrated approach to water investment in Victorian catchment regions to improve the health of Victoria's catchments and waterways through effective and efficient integrated catchment management.	
Provision of land management and conservation services on Country	
Yorta Yorta National Aboriginal Corporation	$1,138
RiverConnect Project	
Greater Shepparton City Council	$50,000
On-ground works	
Strath Creek Landcare Group	$10,389
More Creek Exploration and Discovery	
Hughes Creek Catchment Collaborative Inc.	$6,000
Blackberries below Boathole	
Hughes Creek Catchment Collaborative Inc.	$7,500
Environmental Water Reserve Officer	
Taungurung Land and Waters Council (Aboriginal Corporation)	$4,379
Victorian Government - Other The Victorian Government provides opportunities for investment in activities that help protect, enhance and strengthen the resilience of our quality built and natural environments, assets and resources.	
Provision of land management and conservation services on Country	
Yorta Yorta National Aboriginal Corporation	$18,405
Managing threats in the Longwood Plains	
Euroa Arboretum Inc.	$9,000
Taungurung Land and Waters Council (Aboriginal Corporation)	$18,109
Yorta Yorta National Aboriginal Corporation	$26,092
Grand Total	**$1,595,826**

Appendix 8: RCS sub strategies progress

Plan or strategy Overview of plan purpose and status in 2019-20	Further details
Community and Environment sub-strategies	
Biodiversity Strategy for the Goulburn Broken Catchment 2016-2021 The Biodiversity Strategy for the Goulburn Broken Catchment 2016-2021 builds on three previous versions prepared over the past 20 years. This 2016 version factors in reviews of previous strategies, current regional drivers of change, and regional, state and national government policies and strategies. The strategy identifies initiatives under five-year strategic directions for achieving a 15-year vision.	See Biodiversity page 53.
Land Health Strategy 2017-2020 The Land Health Strategy 2017-2020 defines land health and outlines strategic priorities and associated actions to guide land health activities that contribute to selected strategic priorities of the RCS.	See Land page 60.
Goulburn Broken Biosecurity, Invasive Plants and Animals Strategy 2019-2025 Prevention and eradication of new incursions remains the highest priority and additional effort is being invested into coordinating community projects that target established species ensuring high levels of stakeholder participation.	See Land page 60.
Shepparton Irrigation Region (Agricultural Floodplains) Land and Water Management Plan 1990-2020 (latest update 2016) The Shepparton Irrigation Region community leads Australia in producing food in harmony with the environment. The purpose of the plan is to support and grow the natural base that is vital for agriculture, biodiversity and people to jointly flourish. The purpose will be achieved by realising long-term goals for five critical regional attributes: water availability, water quality, watertables, native vegetation extent, and farm and food processor viability.	See Sustainable irrigation page 68.
Goulburn Broken Waterway Strategy 2014-2022 This Strategy presents an integrated catchment planning framework for waterways (including wetlands) in the Goulburn Broken region and is the primary guide for priority setting, maintenance and improvements in our waterways.	See Waterways page 36.
Goulburn Broken Regional Floodplain Management Strategy 2018-2028 The new Strategy built on the previous strategies and provides a single, regional planning document for floodplain management and a high level regional work plan to guide future investment priorities. The Regional Floodplain Strategy aligns with the vision and priorities of the Regional Catchment Strategy and the Regional Waterway Strategy.	See Floodplain page 48.
Climate Change Adaptation Planning for Natural Resource Management in the Goulburn Broken Catchment Funded through the Australian Government, the Climate Change Planning sub-strategy better integrates climate change adaptation and support the implementation of the Goulburn Broken Regional Catchment Strategy 2013-2019 (RCS).	See Climate change page 29.
Organisation's business sub-strategies	
Corporate plan Communicate a clear picture of success to investors (the government) and hence the value to the Victorian community requires: • an unbroken line of sight between the regional vision for the plan period and output delivery; • clearly articulating the plan with a compelling and simple narrative; and • transparent performance measures. In accordance with section 19D of the *CaLP Act*, a CMA's corporate plan should cover a five-year period, which is intended to ensure an integrated and strategic approach over an extended period. However, the financial statements are required to cover a three-year period.	See progress report page 24.
Community NRM Action Plan 2013-2018 Aligned to the Community articulated Visions and Goals, the Plan outlines the actions that the Goulburn Broken CMA will undertake and support to deliver on two of the strategic priorities of the Goulburn Broken RCS, that is 'strengthen Partnerships' and 'embedding resilience'. Embedding resilience is a significant step in helping individuals, communities and organisations achieve their goals in the face of on-going change.	See Community page 31.

Plan or strategy Overview of plan purpose and status in 2019-20	Further details
Communication and Marketing Strategy 2018-20 Communication and Marketing Strategy aims to have coordinated, innovative marketing and communication effectively informing stakeholders on how the Goulburn Broken CMA will achieve and deliver its vision.	See Community page 31.
Community Engagement Strategy and Action Plan 2018-20 The Community Engagement Strategy and Action Plan are designed to be flexible, dynamic and responsive documents that reflect the constantly evolving environment the Goulburn Broken CMA and its stakeholders operate in.	See Community page 31.
Ready for Change – Evaluation Strategy for the Goulburn Broken Catchment 2017-2022. The aim of evaluation process for the Catchment's people to continue to be quick in adapting to change circumstances while retaining a strong sense of the RCS' long-term vision. The purpose of the ready for change strategy is to support evaluation processes that make the RCS response to unforeseen and shifting circumstances.	See Research and development page 27.
Goulburn Broken CMA Climate Change Integration Strategy 2012-2015 The Climate Change Integration Strategy consolidates a framework for implementing the Goulburn Broken CMA climate change policy statement: 'In dealing with climate change and likely impacts, the Goulburn Broken CMA will focus on adaptation strategies to increase catchment resilience; greenhouse gas sequestration activity such as carbon brokering will be engaged for the purpose of assisting adaptation responses; and mitigation initiatives led by local government will be actively supported.'	See Climate change page 29.
Goulburn Broken Information and Communication Technology Strategy 2015-2018 Internal strategy to guide development and delivery of information and communication technology services. Development of the Information and Communication Technology Strategy was postponed due to unexpected staff resource losses and budget uncertainty. Focus of available resources was to maintain existing capability and continue to meet defined service levels agreements.	See Governance page 85.
Workforce Strategy and Action Plan 2013-2018 (including capability) Part of the annual business cycle to forecast workforce needs to ensure appropriate staffing mix with the necessary capability to ensure current and future delivery of business objectives.	See Human resources page 78.
Goulburn Broken CMA Diversity & Inclusion Plan 2017-2022 The Goulburn Broken CMA provides a workplace and work practices that embrace, reflect, respect and promote the inclusion and participation for all regardless of difference.	See Human resources page 78.
Goulburn Broken Indigenous Participation Plan This participation plan defines the cooperative relationship between Traditional Owners, represented by Yorta Yorta Nation Aboriginal Corporation (YYNAC) and Taungurung Land and Waters Council (TLaWC), and the Goulburn Broken Catchment Management Authority (Goulburn Broken CMA), with respect to participation activities, programs and partnerships within the Goulburn Broken Catchment.	See Community page 31.
Reconciliation Action Plan 2019- 2021 The RAP acknowledges our intent and desire as an organisation to expresses our continuing commitment to reconciliation including as leaders for increased cultural respect, engagement, equity and opportunity for employment and business on Country for Traditional Owners, and other Aboriginal and Torres Strait Islander people.	See Community page 31.
Integrated Local Plans	
SES Local Plans (Agricultural Floodplains, Commuting Hills, Upland Slopes, Southern Forests and Productive Plains) Local Plans have been developed to communicate the priorities – and actions - for supporting the local community as it responds to changes in land use, water policy reform, and climate and farm production. Local Plans have been developed for each SES as we recognise the people living and working in each SES are best placed to priorities the activities needed to build the resilience of the region's critical ecosystem services (such as productive soils, clean air, high quality water). These local actions contribute to the success of Catchment-wide efforts to respond to issues such as fire, flood, drought and changes in land use. These plans are available on WeConnect (http://weconnect.gbcma.vic.gov.au).	These plans will be updated annually.

Appendix 9: Disclosure index

The Annual Report of the Goulburn Broken CMA is prepared in accordance with all relevant Victorian legislations and pronouncements. This index has been prepared to facilitate identification of the Authority's compliance with statutory disclosure requirements.

Information relevant to the headings listed in Financial Reporting Direction 22H of the *Financial Management Act 1994* is held at the Authority's office and is available on request, subject to the *Freedom of Information Act 1982*.

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Legislation	Requirement	page
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Financial statements		
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Glossary of terms

Biolink: Areas identified for targeted action to increase ecological function and connectivity, improving the potential of plants and animals to disperse, recolonise, evolve and adapt naturally.

Bioregions: Large, geographically distinct areas of land with common biophysical characteristics such as geology, landform patterns, climate and ecological features.

Carryover was introduced in northern Victoria in early 2007 as an emergency drought measure to allow entitlement holders to carry over some unused water allocation to use in the following season.

Critical attributes: see Appendix 1, page 138.

Dammed (regulated) streams: A river system where major dams or weir structures have been built to regulate the supply or extraction of water. Prior to the establishment of sustainable diversion limits and material volumes of water were set aside for the environment, flow in regulated streams relied solely on water from rainfall and flow remaining after water was extracted for consumptive uses (urban, irrigation and industry).

Ecosystem: A diverse and changing set of living organisms within a community, interacting with each other and the physical elements of the environment in which they are found.

End-of-valley targets have been proposed for major rivers contributing salt to the Murray River under the (Murray-Darling) Basin Salinity Management Strategy. The purpose of these targets is to maintain salinity levels at the benchmark site, Morgan in South Australia, at or under 800 EC for 95 per cent of the time. These enable within-valley targets to be set. The proposed end-of-valley targets are being investigated to align them with expectations and obligations of different parties at regional, State and Federal levels.

FLOWS: A method for determining environmental water requirements in Victoria

GMW Connections is a $2 billion project funded by the Victorian Government, Australian Government and Melbourne Water to develop a water delivery network to match changing needs and support opportunities for irrigated agriculture across Northern Victoria.

Investment area: see Appendix 1, page 138.

Long-term objectives: Long-term (20-30 year) goals for the system components of the Catchment - people, land, water and biodiversity. These objectives are found in the sub-strategies of the Goulburn Broken CMA. Achieving these objectives will contribute to the Vision being realised. In some instances these objectives may be related to known (or assumed) thresholds and tipping points.

Minimum (river) flow: A minimum level of flow that the water authority needs to maintain in the river at a particular location, or a trigger below which water cannot be harvested from the river. Minimum flows are usually specified in water authority bulk entitlements or in environmental entitlements. (See also 'qualification of rights' below.)

Modernised Whole Farm Plan is a plan revised to take account of the changed regional channel delivery infrastructure as a result of modernisation.

Qualification of rights: If on a seasonal basis there is insufficient water in a water supply system to meet critical water needs, a water shortage may be declared by the Minister for Water and rights to water may be qualified temporarily. A qualification of rights changes a legal entitlement. Rights that may be qualified include licenses, water shares, bulk and environmental entitlements. Private rights may be suspended, reduced, increased or otherwise altered after a water shortage has been declared.

Regional Catchment Strategy is a blueprint for integrated natural resource management across a geographic area.

Registered Aboriginal Parties are the voice of Aboriginal people in managing and protecting Aboriginal cultural heritage under the *Victorian Aboriginal Heritage Act 2006*. The Act recognises Aboriginal people as the primary guardians, keepers and knowledge holders of Aboriginal cultural heritage.

Resilience is the ability of the Catchment's people and environment 'to absorb a shock or setback and to flourish in spite of it, maybe even because of it'. It does not mean 'ploughing through' and doing what we have always done. See pages 20 and 138.

Resource Condition Target relates to the condition of the resource and can be measured over the short term or the long term depending on ease of measurement.

Risk: see Appendix 1, page 138.

Salt registers of salt debits and credits are required to be maintained by the State under the Federal *Water Act 2007*. The delayed impacts of dryland salinity are accounted for in the B Registers. The Goulburn Broken CMA has set up the framework for the B Register and is establishing a process with DELWP and the Murray-Darling Basin Authority for entering data to complement data already in the A Register under the salinity and drainage strategy.

Social-ecological systems (SES): Linked and generally similar systems of people and nature, taking into account cultural, political, social, economic, ecological and technological components.

System state: see Appendix 1, page 138.

Thresholds: A breakpoint between two states of a system that must be exceeded to begin to produce some sort of effect or response.

Tipping points: A point where a small change can have a large effect on the state of a system.

Undammed (unregulated) streams: A river system where no major dams or weir structures have been built to regulate the supply or extraction of water. Prior to the establishment of sustainable diversion limits and improved management of licensed water use extraction, through local management plans, many unregulated streams were flow-stressed.

Abbreviations

AASB	Australian Accounting Standards Board
AgVic	Agriculture Victoria
ARI	Arthur Rylah Institute
BBCMN	Broken Boosey Conservation Management Network
BRP	Biodiversity Response Planning is a area-based planning approach to biodiversity conservation in Victoria.
BOA	Biodiversity On-Ground action - on-ground initiatives and funding through the Victorian Government
BOM	Bureau of Meteorology
BSMS	Basin Salinity Management Strategy (MDBA)
CaLP	*Catchment and Land Protection Act 1994*
CEO	Chief Executive Officer
CEWH	Commonwealth Environmental Water Holder
CFA	Country Fire Authority (Victoria)
CMA	Catchment Management Authority
CMN	Conservation Management Network
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DELWP	Department of Environment, Land, Water and Planning
DJPR	Department of Jobs, Precincts and Regions.
DTF	Department of Treasury and Finance
DWG	Designated Work Group
EBA	Enterprise Agreement
EC	Electrical Conductivity unit
EPBC	*Environment Protection and Biodiversity Conservation Act 1999*
EVC	Ecological Vegetation Class
EWAG	Environmental Water Advisory Group
FoI	Freedom of Information
FTE	Full-time Equivalent
FWP	Farm Water Program
GB CMA	Goulburn Broken Catchment Management Authority
GHG	Greenhouse Gas
GL	Gigalitre
GMID	Goulburn-Murray Irrigation District
GMLN	Goulburn Murray Landcare Network
GMW	Goulburn-Murray Water
GST	Goods and Services Tax
ha	Hectare
HSR	Health and Safety Representative
IRP	Issue Resolution Procedures
IT / ICT	Information Technology / Information and Communications Technology
IVT	Inter-Valley Trade transfers
km	Kilometre
KPI	Key Performance Indicator
L	Litre
LaBIF	Land and Biodiversity Implementation Forum
LiDAR	Light Detection and Ranging remote sensing technology
LIDP	Local Industry Development Plans (under (VIPP)
LGA	Local Government Authority
LWMP	Land and Water Management Plan
MDB	Murray-Darling Basin
MDBA	Murray-Darling Basin Authority
MFEP	Municipal Flood Emergency Plan
ML	Megalitre
MLA	Member of the Legislative Assembly
MLC	Member of the Legislative Council
MP	Member of Parliament
MoU	Memorandum of Understanding
no.	Number
NLP	Australian Government's National Landcare Program
NRM	Natural Resource Management
NRIP	Natural Resources Investment Program
OCOC	Our Catchments Our Communities - Integrated Catchment Management in Victoria 2016-19
OHS	Occupational Health and Safety
PEER	Public Entity Executive Remuneration Policy
PV	Parks Victoria
RCS	(Goulburn Broken) Regional Catchment Strategy
RLP	Australian Government's Regional Land Partnerships
ROBSOG	Ribbons of Blue and Sashes of Green (Biodiversity project)
RSMP	Regional Salinity Management Plan
RTW	Return to Work
SES	Social-Ecological System
SIR	Shepparton Irrigation Region
SIRCIS	Shepparton Irrigation Region Catchment Implementation Strategy
SIRLWMP	Shepparton Irrigation Region Land and Water Management Plan
SIRPPIC	Shepparton Irrigation Region People and Planning Integration Committee
SoO	Statement of Obligations
t CO2e	Tonnes of carbon dioxide (CO2) emitted
TCV	Treasury Corporation of Victoria
TfN	Trust for Nature
TFWS	Total Flood Warning System
TLaWC	Taungurung Land and Waters Council
VCAT	Victorian Civil Administrative Tribunal
VEPP	Victorian Environmental Partnerships Program
VEWH	Victorian Environmental Water Holder
VFMP	Victorian Farm Modernisation Program
VIPP	Victorian Industry Participation Policy
WGCMN	Whroo Goldfields Conservation Management Network
YYNAC	Yorta Yorta Nation Aboriginal Corporation

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Staff list 2019-20

Aaron Findlay
Andrea Muskee
Annette Neessen
Ashley Rogers
Brett McFarlane
Caitlin Baker
Carl Walters
Caroline Keenan
Chris Cumming
Chris Nicholson
Chris Norman
Christine Glassford
Collin Tate
Corey Wilson
Daniel Lovell
Darelle Backway
Dean Judd
Dylan McWhinney
Eamon Reeves
Eileen Curtis
Fiona Lloyd
Gaye Sutherland
Geoff Brennan
Guy Tierney
James Burkitt
Janice Mentiplay-Smith
Jenny Wilson
Jessica Carruthers
Jim Begley
Jim Castles
Jo Deretic
Joel Leister
Karan Balfour
Karen Brisbane-Bullock
Kate Brunt
Kate Montgomery
Keith Ward
Kerstie Lee
Kirsten Roszak
Mark Turner
Mary Dimit
Meegan Judd
Megan McFarlane
Neville Atkinson
Pam Beattie
Rachael Spokes
Rebecca Caldwell
Rhiannon Apted
Russel Haque
Samantha Moreno
Shannon Crawford
Simon Casanelia
Steve Wilson
Sue Kosch
Tim Barlow
Tom O'Dwyer
Tony Kubeil
Vicki Mackenzie
Zuzanna Lelito

RECOGNISING MAJOR NRM CONTRIBUTIONS

GARY DEAYTON

If not for the coronavirus (COVID-19) pandemic, Numurkah's Gary Deayton and his wife Lisa would be happily birdwatching at a nature reserve in central Australia.

"That was the plan," Gary lamented, as he sipped tea and looked forlornly at the couple's impressive caravan sitting idle in his backyard.

Gary retired from his role as Natural Resources Officer at the Moira Shire two and a half years ago.

While enjoying retirement, Gary said he missed the collaborative nature of his work and was proud of a number of initiatives he helped establish.

"I worked very closely with the Goulburn Broken CMA. We worked together on Kinnairds Wetland, environmental watering and monitoring revegetation," Gary said.

"I was also instrumental in establishing roadside management and native vegetation retention control through planning."

He said his role involved sourcing outside funding, developing programs and improving the environmental credentials of the Moira Shire.

"I always felt it was much more effective to partner with other agencies in large-scale programs rather than trying to do little programs ourselves."

He counted among his achievements the solid working relationship he helped develop between the Moira Shire and the Goulburn Broken CMA.

"I thoroughly enjoyed working with GB CMA. They were prepared to take some calculated risks and back a good idea."

He said the highly regarded Roadside Management Program sprang from a casual conversation he had with the GB CMA.

"At the time Moira Shire was the only council in the catchment to have a roadside management plan and now all eight councils are on-board to protect these important corridors. That is very satisfying."

Reflecting on his career, Gary pointed to the road- side management work and the development of a biodiversity reference group as highlights.

"That group is still going now and is about to turn 15. The work is just so important because in many parts of the catchment, the roadsides are the only remnant vegetation we have left," he said.

"There's about 17,000 hectares of roadside vegetation in the Goulburn Broken Catchment, which equates to a fairly large reserve of old growth.

"And the roadsides are important to birds like the Superb Parrot which use the corridors and don't like to fly out in the open."

He was also heavily involved in the Drought and Fruit Employment programs where he supervised teams and actively flew the flag in councils about the benefits of such programs.

"Those programs were terrific. I met some fantastic people and we got a lot of work done at a relatively low cost."

He said the programs highlighted the need for on-ground work crews in the catchment.

"The drought and fruit crews were terrific. They were regular people from the community who needed work and it showed you don't have to be an ecologist to do valuable conservation work."

Nature conservation has been a defining thread in Gary's life after his passion was ignited during a trip around Australia in the early 1990s.

"I'd never really given nature much thought. I grew up on a bush block in Gippsland where we chased rabbits with the dogs."

His love of the natural environment was triggered during his travels when he was struck by governments' cavalier approaches to the environment.

"We were in Perth and the State Government was funding the large-scale destruction of native forests to put in pine plantations and it just seemed so crazy to me. So needless and wasteful.

"Then we were in sugarcane country in Queensland and we saw an excavator knocking over two thin strips of remnant rainforest either side of a meandering creek and straightening the creek like a channel.

"Until then I hadn't thought about conservation that much but seeing those terrible things had a real impact on me and changed the course of my life."

It was a result of working in nature conservation for local government that formed Gary's firm belief about funding.

"I've said for a long time that CMAs should be given more responsibilities and resources."

Not long after he and Lisa returned home to Numurkah, the couple became heavily involved in the campaign to protect the endangered Superb Parrot.

"We were hooked after we saw a parrot and a Grey-crowned babbler in the wild near Barmah."

And while he's not a card-carrying "twitcher", his involvement in that program did pique an interest in bird-watching that continued today.

"At the moment I'm getting a real thrill from a very unusual Honeyeater that's being living in our front tree for the last four months.

"It's a White-fronted Honeyeater which is nothing spectacular but it's just so wonderful to have it in our front yard. That little bit of habitat supports it. It's just one of the day-to-day pleasures that I get from nature."

So until such time as Gary and Lisa can get that caravan back out on the open road, he contents himself with the wonder of nature close to home.

"We were out at Kinnairds Wetland yesterday and we saw a Peregrine Falcon. That was a thrill. Such a wonderful bird."

PARTNERS IN CATCHMENT MANAGEMENT

The health of the Catchment relies on many partner organisations and individuals. In fact, there are so many partner organisations of the Goulburn Broken Catchment Management Authority that we have found it challenging to capture them all. Any partner logo not appearing above does not undervalue their contribution to the Catchment.

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