



**GOULBURN
BROKEN**

CATCHMENT
MANAGEMENT
AUTHORITY



GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

ANNUAL REPORT 2016-17



RATINGS LEGEND

2016-17 performance		Well below target (<50%)	Below target (50 to <80%)	On target (80 to <110%)	Exceeded target (≥110%)
Catchment condition and Critical attribute contribution to resilience		Very poor	Poor	Satisfactory	Good to excellent
Risk to system resilience	Trend 2014-17	Increasing significantly	Increasing	Stable	Declining
	Long-term	Very high	High	Medium	Low
Long-term strategy implementation stage		Early	Middle	Late	Watch and maintain

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 127) 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 2016-17 to 2020-21 Corporate Plan targets.

This year's report explicitly assesses the Goulburn Broken Catchment's resilience, which is a further step in including the Goulburn Broken Regional Catchment Strategy 2013-2019's emphasis on resilience in the CMA's annual reporting.

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.gbcm.vic.gov.au A separate summary of this annual report is available from the website or from the Goulburn Broken CMA offices (see back cover).

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." This year's report also includes a catchment condition report card that has been developed as part of a statewide trial for Victorian CMAs to adopt a consistent approach to annual reporting on catchment condition.

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.

Feedback on this report is encouraged to help improve future annual reports. Please provide comments by 31 December 2017 to guarantee consideration.

A feedback form to help direct comments is available at the website www.gbcm.vic.gov.au

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Front cover

Main photo:

Volunteers after completing a planting day in the Lurg Hills for the Regent Honeyeater project.

Inset photos (from left to right):

Installing the 200th nest box for the Turquoise Parrot project in the Warby Ranges.

Yorta Yorta's Woka Walla crew re-introduce sweet quandong to Mooropna's sand hills.

Bank condition monitoring in the lower Goulburn as part of the Long Term Intervention Monitoring project.

Chicks in the Sticks celebration at Mt Buller.



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Recognising a major natural resource management contribution – Orlando Talamo

Back cover

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Chair's review



I am pleased to present Goulburn Broken Catchment Management Authority's 2016-17 Annual Report as we celebrate 20 years of CMAs across Victoria.

While marking this milestone it is timely to highlight how the activities of each of the State's 10 CMAs over the past two decades complement the goals and

objectives of the Victorian Government's *Our Catchments Our Communities* – a statewide approach to integrated catchment management.

This strategy not only recognises the good work that has gone before, but has committed to four years' funding (rather than annual allocations) to each CMA to help them support community capacity building and coordinate and manage projects that deliver Regional Catchment Strategy (RCS) priorities. This funding will also help deliver the state-wide goals detailed in the Victorian Government's other key natural resource management (NRM) strategies, such as *Water for Victoria* and *Biodiversity 2037*.

Strengthening partnerships

Thanks to first-year funding of \$527,000 through Our Catchments Our Communities, two major projects identified and developed through our CMA Partnership Team (made up of key regional agencies and local government) are well and truly under way. The first, Linking the Lower Goulburn, builds on the many years of effort that has gone into embedding resilience thinking, building partnerships and using adaptive management approaches across the Shepparton Irrigation Region in the Agricultural Floodplains. Thanks to these well-established partnerships a number of onground activities have been delivered this year: Indigenous work crews completed 20 kilometres of revegetation, pest control and rubbish removal along roadsides across the Moira Shire; and under the management of Parks Victoria, carried out rubbish removal, weed management, fencing removal and repair, revegetation and watering in the Lower Goulburn National Park, Munroes Swamp and Loch Garry.

The second project, Bogies and Beyond, involves communities in the Upland Slopes identifying the environmental and social values they believe make the area (extending from near Euroa to around Mansfield), so special. The group has also considered how these values may be affected under a range of climate change scenarios. To date this community-led planning has identified protecting water resources through water bore monitoring and support for landholders to understand the productive and environmental benefits of the region's large paddock trees as priorities for future Our Catchments Our Communities funded onground works.

Both these projects align with the Our Catchments Our Communities' aim of community based, regionally focused and collaborative integrated catchment management. New partnerships have been formed or strengthened. As well as many 'new' faces getting involved in local NRM plans, RMIT's Climate Change and Resilience Research Program has provided valuable funding and input into the

adaptation pathways planning for the Bogies and Beyond project, while the Woka Walla and Acacia Indigenous work crews were instrumental in delivering Linking the Lower Goulburn activities.

Our commitment to these partnerships is one of the keys to delivering the Goulburn Broken RCS. Over the past 12 months we have made particular inroads in continuing to engage meaningfully with Traditional Owners. This includes participation opportunities through project steering groups and the Goulburn Broken Indigenous Consultation Group, developing MoUs with the region's two Registered Aboriginal Parties (Yorta Yorta Nation Aboriginal Corporation and Taungurung Clans Aboriginal Corporation) and via Whole of Country Plans developed by both organisations. The recently completed Goulburn Broken Indigenous Participation Plan details the guiding vision and principles of the cooperative relationship between the CMA and Traditional Owners and complements the Victorian Government's *Aboriginal Participation Guidelines for Victorian CMAs* as well as the goals and objectives for engaging with Traditional Owners outlined in *Our Catchments Our Communities*, *Water for Victoria* and *Biodiversity 2037*.

Traditional Owner involvement on Country either side of the Murray has also been instrumental in finalising three projects funded through the Australian Government's Biodiversity Fund. These projects have employed, part-time, eight Yorta Yorta people through the Woka Walla work crews. Members of these work crews achieved a Certificate III in Land and Conservation Management delivered through Swinburne University and others have gone on to develop Indigenous enterprises that are now providing land management services to a range of stakeholders. Individual crew members have been supported to undertake training in a range of land management and NRM practices including pest animal and weed control, native seed collection and propagation, GIS mapping and flora and fauna surveys. Other tangible outcomes from the investment by the Australian Government include more than 4,000 hectares of revegetation works and the establishment of 61 hectares of seed production areas to provide high-quality and sufficient quantity of indigenous seed for future landscape-scale projects.

Embedding resilience

Fortunately many of the great NRM outcomes achieved through the Biodiversity Fund are complemented by projects funded through the Australian Government's National Landcare Programme (NLP), such as Building the Resilience of EPBC Threatened Species and Improving Resilience of Nationally Significant Woodland and Wetland Ecosystems. We look forward to building on this legacy of work that creates resilient landscapes and builds community capacity, as part of the application for the next round of the NLP in 2018-19. Alignment of national priorities with those identified through local, regional and state landscape planning will be critical to ensuring the people, plants and animals that rely on healthy waterways and biodiversity can continue to adapt to changes in climate, land-use, productivity and NRM policy.

These drivers of change continue to provide challenges and

opportunities for our catchment community particularly as they relate to the Murray Darling Basin Plan. For example, we hope much of the information we collected through technical studies and from the community around removing constraints on the Goulburn River will be used to help inform a new Goulburn constraints project so if it goes ahead, it provides meaningful environmental, social and cultural outcomes.

A significant milestone in terms of protecting local, regional, state and national social and environmental assets was marked in April after VCAT ruled against expansion of a mine on the Goulburn River floodplain at Seymour. We had pursued this matter because of the potential serious consequences on the Goulburn River floodplain and associated major local, regional and national infrastructure if the expansion went ahead. There is still much work to do to ensure that future sand and gravel mining on the Goulburn River floodplain can be undertaken sustainably, but we cannot underestimate the importance of this milestone.

The findings of reports we and our partners have completed on changes to land and water use, and water security and supply in the Goulburn Murray Irrigation District will no doubt be reflected in the Murray Darling Basin Authority's evaluation of socio-economic and environmental impacts of Basin Plan implementation in the southern Basin, which is due to be released later this year. It's important to note that these reports found that despite the many challenges faced by the region, our farmers and communities remain resilient and resourceful. More than 70 per cent of the farmers surveyed remained optimistic, saying they believed they would still be farming their property in the next five to 10 years. With support through initiatives such as the Farm Water Program, farmers reported that they were upgrading their farm irrigation infrastructure to increase productivity and use water more efficiently.

We look forward, too, to continuing to work with the relevant stakeholders to manage pest animals and plants in Barmah National Park. Over the past few years, thanks largely to environmental water deliveries, we've seen bumper water bird-breeding and good vegetation growth. It's important therefore that these positive signs, as well as taxpayers' investment in protecting and improving the forest, Murray River, wetlands and cultural values are not compromised by feral horses, carp and other introduced species.

Thank you

Thank you to my fellow Board members for their ongoing passion, dedication and support during 2016-17. I especially acknowledge the contribution of outgoing Director Rowena Ellis and welcome new Directors Helen Reynolds, Kate Hawkins and Ailsa Fox.

Our Chief Executive Officer Chris Norman, the management team and staff continue to provide leadership and support at the local, regional, state and national level. I congratulate them on their input at various forums, including the 20 years of CMAs celebration and the Our Catchments Our Communities forums held in June. Partnerships continue to be the essential way we do business and I thank our loyal community, as well as industry, government, agencies, and

community NRM and Landcare groups for their ongoing efforts to achieve our vision of healthy, resilient, productive landscapes that support vibrant communities.

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 2017.



Murray Chapman

Chair

Goulburn Broken Catchment Management Authority

24 August 2017

Chief Executive Officer's report



The past 12 months have certainly thrown up their fair share of challenges. After a very dry 2015-16 the picture quite suddenly changed – it started raining in July and did not let up for the next few months. Minor and moderate flooding were experienced along some stretches of the Goulburn and Broken Rivers during this period but fortunately

infrastructure and landholders were spared from significant impact through some good inter-agency planning and community action. The heavy rain filled storages, providing certainty for the current irrigation season's water allocations and provided welcome relief to farmers who had become increasingly stressed by rising input costs and volatile local and overseas markets.

Observations of the rise and fall of rivers and the movement of water across floodplains after this heavy rain provided timely 'truth testing' of flood warning systems, overlay controls and protection infrastructure in the lead up to the 12 community information sessions that were held across the catchment early this year as part of the Goulburn Broken Regional Floodplain Management Strategy review. This review will help local councils prioritise funding for flood studies and flood mapping in areas where the community has identified flood knowledge needs to be improved.

Adapting to climate variability

Our communities continue to tell us they want to see action on climate change. Fortunately, each CMA has developed a Regional NRM Climate Change Adaptation Plan that identifies priority landscapes for climate change adaptation and carbon farming in the context of improving the resilience of natural resources and identifies management options for all groups involved in natural resource management to consider. Furthermore, this plan aligns with the goals and objectives of the Goulburn Broken RCS and state NRM strategies. Excitingly, we're leading the development of the Victorian Government's Catchment Carbon Offsets Trial. This will involve a CMA and its local water corporation putting up a 'virtual' case study that involves one or a small number of options for generating catchment carbon offsets and will lead to potential 'real' catchment carbon offset projects.

Adapting to water policy reform

The virtual fencing trial – a priority action in the Victorian Government's Regional Riparian Action Plan – is also closer to becoming a 'reality' through our partnership with private technology company Agersens, North East CMA and Murray Local Land Services in NSW. Given that this approach to using remote technology to manage stock movement and access has so many positive land, water and productivity management applications, it's not surprising that this innovative project continues to attract private and public investment and interest.

As the peri-urban towns in the Catchment's Commuting Hills continue to experience significant population growth, it is clear that innovative approaches need to be considered to help these towns meet the increased demand for water and manage the associated increase in the volume of sewage. In Kilmore the issue is pressing as the current water recycling method is becoming obsolete. Goulburn Valley Water, who provide the town's water and sewerage services, has developed the Kilmore Water Quality Offsets Pilot Project. This involves returning treated water to the local Kurkurac Creek. We have entered into a contract with Goulburn Valley Water to undertake works along the creek, which involves excluding stock, revegetation and erosion and weed management, to offset any related water quality issues.

A flexible and adaptive approach to delivering environmental water was certainly a necessity during 2016-17. Two environmental flows were cancelled in Spring due to heavy rain and the resulting natural flooding. As the temperature warmed up, another challenge was faced – a blackwater event in the Goulburn River. This was caused by heavy rain washing leaf litter and other organic debris into Goulburn River tributaries. When this organic matter reached the Goulburn River, and combined with warm air and water temperatures, there was a rapid drop in dissolved oxygen levels, which sadly caused significant native fish deaths. Thanks to quick action and good inter-agency relationships, we worked with Goulburn-Murray Water to deliver a flow from Goulburn Weir that helped dilute the blackwater, limiting the fish deaths to the stretch between Mooroopna and Undera.

To limit the impact of weather extremes it's important that activities to improve the health of our waterways continue. Since 2008, the Goulburn Broken CMA has worked with landholders to fence more than 1,100 kilometres of waterways and planted more than 2,000 hectares of riparian vegetation. Since 2011, we have placed more than 2,650 snags and other habitat structures in waterways in our region with funding from the Recreational Fishing Licence Grants Program and the Waterway and Catchment health initiative.

We were pleased therefore by the announcement in June of further Recreational Fishing Licence Grants Program funding for habitat improvement activities for the Goulburn, Howqua, Delatite and Jamieson Rivers and Hughes Creek. These projects were developed with local anglers, who will also help deliver them.

Adapting to land-use changes

The findings from the *Regional Irrigated Land and Water Use Mapping* and *The Challenges and Opportunities of Changes to Water Availability on the Food and Fibre Sector* reports noted that population growth and changes in land-use such as subdividing land previously used for agriculture for residential and 'hobby farm' use, were having an impact across the Goulburn Murray Irrigation District. Data from the reports will now be used to develop an action plan highlighting a range of opportunities for activities in the Goulburn Murray Irrigation District that will continue to

make it an attractive place to grow existing and new food and fibre-related businesses while protecting and improving the area's unique environmental and cultural values.

With the Australian Government-funded Creating Biodiverse Carbon Landscapes project wrapping up this year, it is clear the catchment's landholders recognise that productivity and a healthy environment go hand in hand – over the four years of this project, more than 150 farmers have protected more than 3,000 hectares of private land.

This, and other significant biodiversity efforts across the catchment, have been guided by the Goulburn Broken Biodiversity Strategy, which was reviewed and updated this year to ensure it continues to align with local, regional, Victorian and Australian strategies and plans such as the State's *Biodiversity 2037*. We are the only CMA to have its own biodiversity strategy but we think it's important to show our landholders, partners and investors that our decisions and priorities around what works are done, where they're done and why they're done, are based on years of best practice and good science, with strong input from our community. As we continue to build on past and current efforts, we look forward to achieving more biodiversity outcomes via projects funded through the Victorian Government's new Biodiversity On-ground Action Initiative and the next round of the Australian Government's National Landcare Programme.

Responding to increasing farm production

The Beyond SoilCare Program, funded through the Australian Government's National Landcare Programme, continues to kick goals. The SoilCare program promotes understanding and adoption of farming practices by farmers, community and industry groups that improve soil condition. An innovative and very successful initiative has been Healthy Hectares, designed to meet the needs of the hobby farmers in the catchment's southern Commuting Hills and Upland Slopes areas. The program involves a series of workshops, with supporting material, which provides practical information on managing small blocks productively and sustainably. Funding for the initiative has been extended for another year to meet the demand from this rapidly growing landholder sector.

Ongoing demand for support for works to improve on-farm irrigation infrastructure through the Farm Water Program also remains strong. More than 600 individual irrigator projects worth over \$160 million have now been funded since the program started in mid 2010. Innovative approaches to improve farm irrigation efficiency, including solar-powered pumps to reduce energy costs and sprinklers that can adjust the amount of water applied to suit the soil type, are among the 98 projects worth around \$35 million funded through the latest (fifth) round of the program.

The increased farm productivity, water saved and resulting benefits for the environment are invaluable to the region. The modernisation of our region's irrigation properties is creating jobs, providing food security and bolstering irrigator confidence. A review of the program is currently

underway to ensure it continues to innovate to support a sustainable irrigation sector and deliver regional net benefits.

The Farm Water Program is only one of a number of large projects that we're delivering with our partners. We're heading into the final year of the Northern Eco-Connections project and the second of the Plan2Farm initiative, both led by North Central CMA. We are also working closely with Goulburn-Murray Water to deliver a new 'hybrid' drainage model.

The Tri-State Murray NRM Regional Alliance, made up of the seven agencies in Victoria, New South Wales and South Australia responsible for NRM along the Murray River corridor, continues to demonstrate its value through sharing, coordinating and prioritising activities. In April, 40 fish specialists from these and partner organisations attended the Alliance Native Fish Forum in Mildura. As well as discussing the latest science, the group identified themes around the importance of Murray River flows and conditions to fish species' life cycles that will be used to develop shared delivery projects that are 'shovel ready' once funding is secured.

Acknowledgements

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 solid foundations for Goulburn Broken CMA's ongoing pursuit for increased catchment environmental, economic and social resilience. I want to particularly acknowledge the dedicated leadership and support provided by our Chair, Murray Chapman, and all board directors. I also wish to especially acknowledge the contribution of Kate Pendergast, who retired after 12 years in the demanding HR role, and Richard Warburton, Gillian Mason and Bianca Sulejman who have moved onto new careers.



Chris Norman

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 2016-17 reporting period 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 122 for names of all persons who were responsible during 2016-17)

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 79) for details.

Funding and staff

Goulburn Broken CMA's income for 2016-17 was \$41.9 million, derived from the Victorian and Australian Governments, regional sources and other government entities. As at 30 June 2017, 55.1 (full-time-equivalent) staff were directly employed. See the 'Human resources' section (page 72) 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

Healthy, resilient and increasingly productive landscapes supporting vibrant 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.

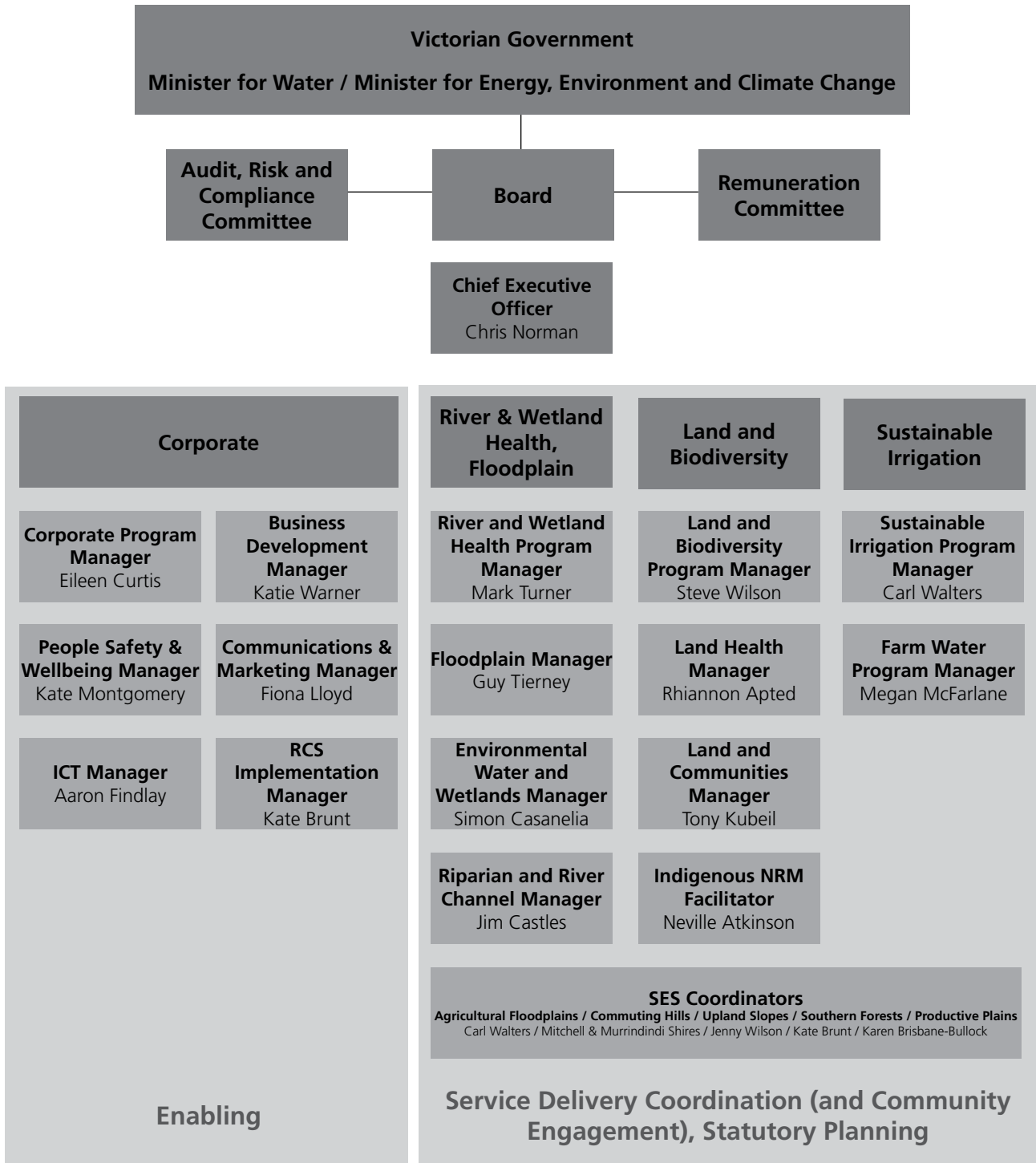
Leadership: we have the courage to lead change and accept the responsibility to inspire and deliver positive change.

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

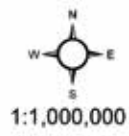
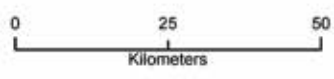
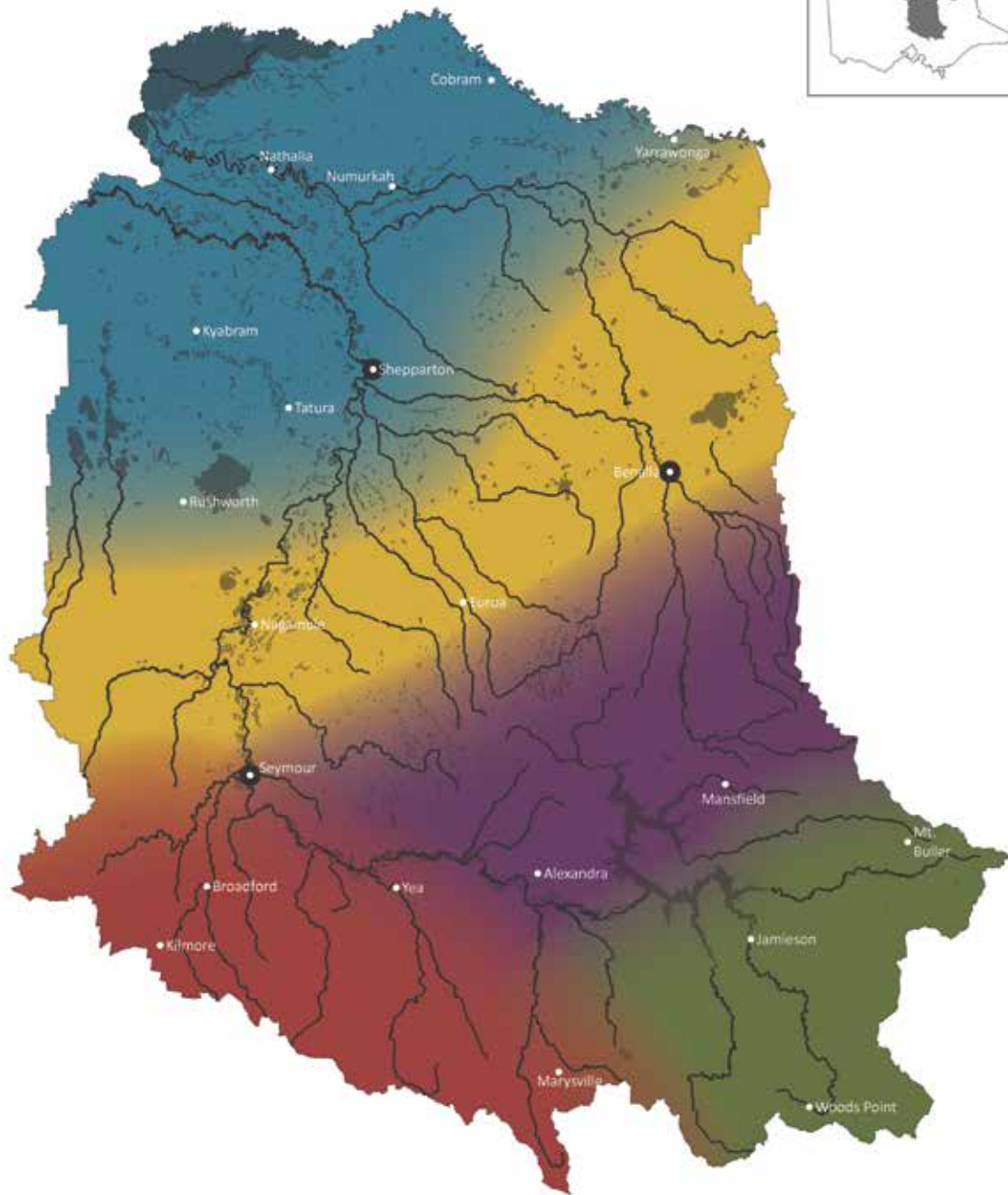
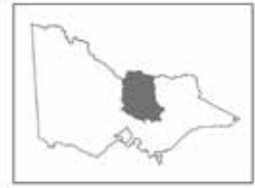
Achievement, excellence and accountability: we do what we say we will do, we do it well and we take responsibility and accountability for our actions.

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 4 (pages 129 and 132).

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 \$1.88 billion in 2015-16.

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, salinity, poor natural drainage, future farming options and floods continue to threaten production and channel form or stability.

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.

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.

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.

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.

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 on-going threat to properties and safety.

Key events 2016

July

Taungurung Whole of Country Plan completed with Elder approval. This was a two-year journey and a major output for the Building Traditional Owners Capacity and Participation Project funded by the Australian Government's National Landcare Programme.

Staff attended 8th Australian Stream Management Conference and Goulburn Broken CMA contributed to at least four sessions.

August

Widespread heavy rainfall led to some good stream flows including into storages. In Shepparton, Goulburn River flows peaked at 25,000ML/day. A range of useful data was captured around this Goulburn River flood event.

Contracts distributed for Round 5 of the Victorian Farm Modernisation Program across the Goulburn Murray Irrigation District.

An environmental water delivery down the Goulburn River cancelled due to the larger flows being provided through the recent wet weather. Extensive media accompanied this decision.

Goulburn Broken CMA staff member, Carla Miles, commenced a 12 month secondment to undertake the Industry Links Coordinator role with Shepparton's Lighthouse Project linking curriculum to local industry (initially in the NRM/agriculture sectors) to better connect students to the region's operating environment and potential career pathways.

Goulburn Broken CMA CEO signed the Algabonyah Employment Agreement on behalf of the Authority at an event attended by the Victorian Minister for Industry and Employment Wade Noonan.

September

Goulburn Broken CMA staff provided valuable floodplain intelligence to the Benalla and Shepparton Incident Control Centres for three weeks during the Murray River flood events.

The Rock Correa Interpretive Walk at Tallis Winery won the Cultural Heritage category at the State Tidy Towns Sustainable Community Awards for 2016. This was a partnership project between the Goulburn Broken CMA, Yorta Yorta Nation Aboriginal Corporation, Dookie Historical Society and the Tallis Family.

More than 70 people attended a community forum in Mansfield run by Upper Broken Landcare Group and Up2Us Landcare Network, on behalf of the Goulburn Broken CMA, addressing concerns about increasing populations of deer and some native animals. The audience heard from Vic Police, DELWP, Game Management Authority and the Deer Shooters Association about existing laws, Government programs and practical actions landholders could take to address their concerns.

October

Healthy Hectares booklet developed in partnership with the Euroa Arboretum to help small landholders to create productive and environmentally sustainable properties. This project was funded through the Australian Government's National Landcare Programme SoilCare project.

About 40 people attended a community event at Glenrowan to celebrate installation of 150 specially designed nest boxes, 80 hectares of revegetation and 4 kilometres of remnant vegetation fencing completed as part of the Turquoise Parrot project. A booklet Turquoise Country – Communities caring for the threatened Turquoise Parrot was also launched at the event.

More than 200 people attended The Gone Fishing Day at Victoria Park Lake in Shepparton. The event promoted recreational fishing and the importance of river health.

November

Goulburn Broken CMA staff member Jim Castles presented to over 200 trout anglers at the Wild Trout Conference in Mansfield where a strong focus on riparian and instream habitat was the key theme.

About 90 people attended the 30 Years of Landcare celebration held at Euroa. Guest speaker Peter Kenyon spoke about community leadership and the value of volunteerism.

Goulburn Broken CMA CEO opened the Soil Biology Forum hosted in Wangaratta with North East CMA. About 60 landholders and industry representatives attended the event.

Annual Goulburn Broken CMA staff workshop held at Marysville with a focus on fire recovery and mental health in the workplace.

Goulburn Broken CMA CEO met with Federal Minister for Environment and Energy Josh Frydenberg in Canberra to discuss progress with the Tri-State Murray Alliance.

A Pest Animal Forum (with a focus on deer management) organised through the Gecko CLaN Landcare Network and Mollyullah-Tatong Tree and Land Protection Group was attended by 50 landholders.

Goulburn Broken CMA presented 2017 Talent Opportunity Scholarship for Environmental Studies to Wilmot Rd Primary School student Marwan Ahmed.

December

Goulburn Broken CMA CEO spoke and presented at 2016 Vic Rural Water Awards. Goulburn Broken CMA sponsored the Community and Education Award that was won by Lockwood Primary School.

The Codference, a conference focusing on Murray cod and targeting recreational anglers, held in Shepparton. The event was hosted by Fisheries Victoria and supported by the Goulburn Broken CMA.

Key events 2017

January

A major blackwater event occurred on the Goulburn River between Shepparton and McCoys Bridge around New Year following significant summer rainfall in a number of small tributaries. The Goulburn Broken CMA provided information to the community, organised for extra water to be released behind and into the affected area and worked with locals to collect information on the event's impact on native fish.

Eco-Farming Workshop held with a range of partners at Dookie to discuss a possible new delivery model for integrating environmental conservation and productive agriculture.

Goulburn Broken CMA supported the Local Dairy Farmers Business Group Tour of the Northern Victoria and Southern NSW looking at new initiatives and development opportunity to increase productivity.

Information from the recently completed Goulburn Murray Irrigation District Land Use Mapping and the Water Availability reports shared with regional leaders at the Murray Dairy / Dairy Australia Industry Future Forum.

February

The iSpy Catchment Creatures app launched at Kinnairds Wetland.

Seventeen community information sessions held across the catchment as part of development of the Regional Floodplain Management Strategy.

Goulburn Broken CMA staff member Aaron Findlay elected as inaugural Chair of Statewide ICT Steering Committee.

Member for Northern Victoria Jaclyn Symes launched the Goulburn Broken Biodiversity Strategy at a Benalla stakeholder event attended by around 60 people.

More than 50 people attended community workshops in Benalla and Shepparton highlighting the importance of native bees in pollinating crops. Guest speakers were Karen Retra from Wild Pollinator Count and Mark Hall from LaTrobe University.

March

In a first for the Murray Darling Basin, flow releases in the Goulburn and Campaspe rivers were timed to coincide with an environmental flow in the Murray River, which was then followed up with a flow in the Loddon River. Co-ordinated flows aimed to encourage native fish (particularly silver and golden perch) to move between rivers.

Member for Euroa Steph Ryan and more than 60 people joined Whroo Goldfields Conservation Management Network near Heathcote to celebrate installation of the 1,000th nest box.

Landcare facilitators attended the Northern Rivers Roundup in Nagambie. This was a joint initiative between Goulburn Broken and North Central CMAs and provided an opportunity for facilitators to come together to share ideas, showcase the diversity of projects and networks, build skills and identify areas for collaboration.

Traditional Owner partners Yorta Yorta Nation Aboriginal Corporation and Taungurung Clans Aboriginal Corporation took part in NRM training at various sessions March-June.

April

In a Victorian first, all 10 CMAs made regional climate change adaptation planning information available through a one-stop online portal. See www.nrmclimate.vic.gov.au

The VCAT Tribunal handed down its finding regarding the proposed expansion of a sand/gravel quarry at Seymour in favour of the Goulburn Broken CMA.

The Rock Correa Interpretive Walking Track awarded the 'best additional experience' as part of the Gourmet Traveller WINE Awards 2017.

More than 70 people attended the Future Farming Expo run at Rochester as a joint initiative between Goulburn Broken and North Central CMAs.

May

Graduation of 23 people from the Community Landcare and Agriculture Leadership program, a joint initiative between Goulburn Broken and North East CMAs.

More than 70 key stakeholders and partners joined the Board for the launch of the *Goulburn Murray Irrigation District Land and Water Use* and *The Challenges and Opportunities of Changes to Water Availability on the Food and Fibre Sector* reports at Shepparton.

Goulburn Broken CMA staff presented to the Fairley and Alpine Valley leadership programs about the role of the CMA.

North Central, North East and Goulburn Broken CMA staff attended and presented at the second joint Knowledge Conference that aims to celebrate the three CMAs collaborative approach to integrated catchment management.

Goulburn Broken CMA staff member Carl Walters presented on key findings from the Goulburn Murray Irrigation District Land and Water Use Report at the Murray Region Dairy Summit.

June

Victorian Minister for Agriculture Jaala Pulford launched three Recreational Fishing Licence Grant Projects involving the Goulburn Broken CMA and recreational fishing clubs at Lake Victoria, Shepparton.



Goulburn Broken CMA presented on Effective Partnerships at the inaugural Our Catchment Our Communities Summit held in Melbourne.

First on-farm trial of virtual fencing conducted on a cattle farm near Tumburumba in NSW. Funding for this project was coordinated through the Goulburn Broken CMA, North East CMA, Murray Local Land Services and the Department of Environment, Land, Water and Planning.


Long-time community NRM contributor Terry Hubbard recognised at the 20 Years of Integrated Catchment Management celebrations held at Queen's Hall, Parliament House.


Summary catchment condition assessment (Statewide standard format)

In 2016, Victoria's CMAs, supported by DELWP, established a project to adopt a consistent approach to annual reporting on catchment condition, which resulted in a trial using a standard format, as shown in the table below and as per Action 5.1 of Our Catchment Our Communities - Integrated Catchment Management in Victoria 2016-19. Assessments are from the perspective of the catchment manager, based on available evidence. As per the trial, the Goulburn Broken CMA has also provided supplementary regionally-relevant evidence that is applicable to the Goulburn Broken Catchment.

Theme	Catchment condition assessment		Details
Land	Neutral 	<p>In 2016-17, less soil was exposed (more ground cover; graph page 55) due to above average rainfall (page 42), however this rainfall resulted in many reports of farmland erosion: soil erosion remains an issue in parts of the Catchment. Awareness of how soils can be improved has increased and is being applied on many farms. Soil acidity is generally high and soil carbon is low, while soil biology might not be fully functional (understanding is limited; page 55). While many farmers have adopted good practices and are rapidly adapting to changing climatic and economic conditions, the long-term capacity of soils is under threat at a time when they are required to produce more.</p> <p>Since 2003-04, 6,145 hectares of binding agreements have been made with private landholders to manage land for conservation outcomes, including 18 hectares in 2016-17 (page 53).</p> <p>The purpose and use of private and public land (especially grazing management in sensitive areas) have generally improved. The 800,000 hectares of public land is primarily reserved for passive uses, although active management is needed because of the large number of users, and there are several pockets of tension between personal and broader community purposes.</p> <p>Transitions in farming enterprise are impacting significantly on long-term needs for natural resources in parts of irrigated and dryland farming areas. Saline discharge sites remain present and active, although largely confined to individual farms and local sites. Elevated land values continue to drive farm subdivision and land turnover.</p> <p>The approach to pest plants and animals has shifted away from all pest species to those potentially invasive and new and emerging and which complement community activity. Levels of activity and related success are varied, with benefits of previous weed control efforts difficult to maintain, and there is significant community concern about kangaroos and deer. Rabbit numbers have been reduced in local areas, where there has been investment. Present arrangements mean a high long-term risk from existing and emerging threats like deer.</p>	pages 54 to 61
Biodiversity	Concerned 	<p>There has been significant progress in revegetating many sites on farms, with 10,672 hectares of terrestrial remnant vegetation fenced since 2003-04, including 696 hectares in 2016-17. Native vegetation, critical to biodiversity, covers about 30 per cent of the Catchment, mostly in the southern (upland) parts, and has been stable since 2000, although it is difficult to measure and then ascertain the net impact on biodiversity from gains of new and losses of old vegetation. Long-term targets are not being met (graphs page 48).</p> <p>Although some species, such as Grey-crowned Babbler, Diamond Firetail, Turquoise Parrot, and the EPBC-listed Regent Honeyeater are benefiting from targeted revegetation, historic clearing caused large-scale habitat loss. Ensuing practices and the millennium drought have placed many remaining species at heightened risk. Woodland birds, a good biodiversity indicator, are in decline. A repeat of the millennium drought would have grave consequences for many species.</p>	pages 47 to 53

Assessment criteria

Positive		An optimistic future with evidence that events during the year will have a positive impact on the longer term.
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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.
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Theme	Catchment condition assessment		Details
Waterways	Neutral →	<p>Since 2005-06, stock grazing has been removed or sensitively managed along 1,036 kilometres of streams through fencing, including 35 kilometres in 2016-17 (page 40). A total of 3,424,226 megalitres of water has been released for the environment since 2007-08, including 479,164 megalitres in 2016-17 (page 40). In 2016, river inflows were the second highest since 2000 (bar chart page 36), and 2016-17 rainfall was above average (page 42).</p> <p>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 36). The overall ratings had not changed significantly since 2004.</p> <p>However, the condition of waterways has improved significantly since 1990 because of onground works, environmentally sensitive changes in how public and private land is managed, the establishment of sustainable diversion limits, creation of reserves of water in storages for the environment, and a step-change increase of community involvement in raising awareness and onground management. Water quality, streamside vegetation, and fish passage and habitat have improved. Phosphorus loads are below the long-term target. Streamflows have reduced and wetlands are inundated less, but use of several new tools (especially water for the environment) is improving and positive impacts are emerging. Nevertheless, risks to waterways from climate change are now very high. 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.</p> <p>There have been significant floodplain management improvements in some geographic areas, while others are yet to be implemented, although are on schedule. Overall flood impacts have increased because there is now more infrastructure and assets on the floodplain, but improved management has significantly reduced what the annual average damages would have been.</p>	pages 33 to 46
Community	Neutral →	<p>Some aspects of community participation increased during 2016-17, while others decreased.</p> <p>Community participation was high (20.2 per cent of statewide participation figures in 2016) and has increased over three years. Funding available to community NRM groups (including industry) through the CMA was in excess of \$780,000 in 2016-17. Community NRM groups also secured over \$300,000 of funding from other sources, predominantly governments.</p> <p>Over 25,000 community members participated in activities to improve the environmental and productive resilience of the Catchment. 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): all considered a problem by respondents (Schirmer et al., 2016).</p> <p>Local communities, traditional owners, partner organisations, farmers and other individuals remain active in decisions and action, and generally have the capacity to be involved and make an impact.</p>	pages 28 to 32

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.
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Long-term scorecard: catchment condition & resilience (Goulburn Broken CMA format)

Ratings in the following table are explained in investment area reports as referenced in the right-hand column. Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.

Investment area ⁱ	Catchment condition summary			
	1990	2017	Long-term risk ⁱⁱ (given current support)	Snapshot
Land	Poor	Satisfactory	Medium	Awareness of how soils can be improved has increased and is being applied on many farms. The purpose and use of private and public land (especially grazing management in sensitive areas) have generally improved. Invasive plants and animals management is now focused mainly on new and emerging species and complementing community activity, but present arrangements mean a high long-term risk from existing and emerging threats like deer.
Waterways	Very poor	Satisfactory	Medium	Water quality, streamside vegetation, and fish passage and habitat have improved. Streamflows have reduced and wetlands are inundated less, but use of several new tools (especially water for the environment) is improving and positive impacts are emerging.
Floodplain management	Very poor	Satisfactory	Medium	Condition is highly variable now, with significant floodplain management improvements in some geographic areas and others yet to be implemented (although on schedule). Overall flood impacts have increased because there is now more infrastructure and assets on the floodplain, but improved management has significantly reduced what the annual average damages would have been.
Biodiversity	Very poor	Poor	Very high	Historic clearing caused large-scale habitat loss. Ensuing practices and the millennium drought have placed many remaining species at heightened risk. Woodland birds, a good biodiversity indicator, are in decline.
Community	Poor	Satisfactory	Medium	Communities, partner organisations, farmers and other individuals are active in decisions and action, and generally have the capacity to be involved and make an impact.
Sustainable irrigation	Poor	Poor	High	Despite big improvements in water quality and watertables, water availability for agriculture has emerged as a major risk and terrestrial biodiversity remains at very high risk.

i. Investment areas apply to the whole-of-catchment, apart from the Sustainable irrigation, which applies only to the Agricultural Floodplains social-ecological system.
 ii. Risk of systems not being in desired state of resilience in the long term. 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.

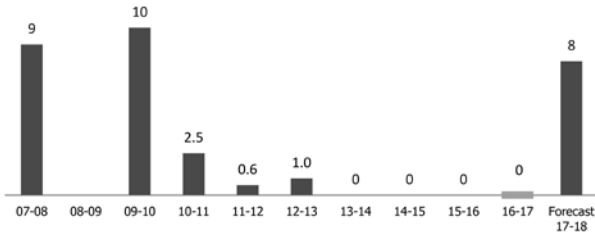
Resilience assessment						Long-term strategy implementation	Details page
Critical attribute affecting long-term resilience ⁱⁱⁱ	Contribution to system resilience		Risk to system resilience				
	1990	2017	Trend 2014-17	Long-term (10+ years) ⁱ			
				Current support	No support	Stage	
Soils for agriculture	Very poor	Satisfactory	Stable	Medium	High	Middle	55
Purpose and use of private land	Poor	Satisfactory	Stable	Medium	High	Watch & maintain	56
Purpose and use of public land	Poor	Satisfactory	Stable	Medium	High	Watch & maintain	56
Invasive plants and animals	Satisfactory	Poor	Stable	High	Very high	Middle	56
Streamflows and wetland inundation:							
- Dammed (regulated) streams	Very poor	Poor	Risk declining	Medium	Very high	Early	37
- Undammed (unregulated) streams	Very poor	Poor	Risk declining	High	Very high	Early	38
Streamside (riparian) vegetation	Very poor	Satisfactory	Risk declining	Low	High	Late	38
Water quality	Very poor	Satisfactory	Stable	Medium	High	Watch & maintain	38
Fish passage and habitat	Very poor	Satisfactory	Risk declining	Low	Medium	Late	38
Flood impact	Very poor	Satisfactory	Risk declining	Medium	Very high	Late	43
Native vegetation extent	Very poor	Poor	Risk increasing	Very high	Very high	Early	48
Native vegetation quality	Poor	Very poor	Risk increasing	Very high	Very high	Middle	48
Community capacity, engagement & involvement	Poor	Satisfactory	Risk declining	Medium	Very high	Watch & maintain	52
Water availability for:							
- The environment	Poor	Satisfactory	Risk declining	Medium	High	Early	63
- Agriculture	Good	Poor	Risk increasing	High	Very high	Early	63
Water quality	Very poor	Satisfactory	Stable	Medium	High	Watch & maintain	64
Watertables	Poor	Satisfactory	Stable	Medium	Very high	Late	64
Native vegetation extent	Very poor	Very poor	Risk declining	High	Very high	Early	64
Farm and food processor viability	Good	Satisfactory	Risk increasing	High	High	Watch & maintain	64

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).

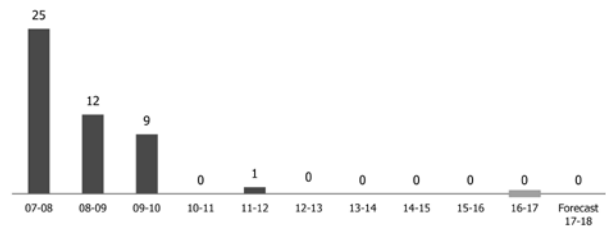
Outputs achieved 2007-08 to 2016-17 and forecast 2017-18

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

Irrigation drains built, km

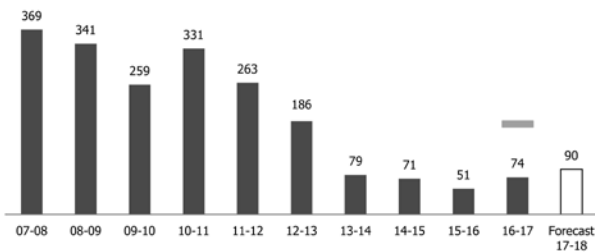


Groundwater pumps installed, no.

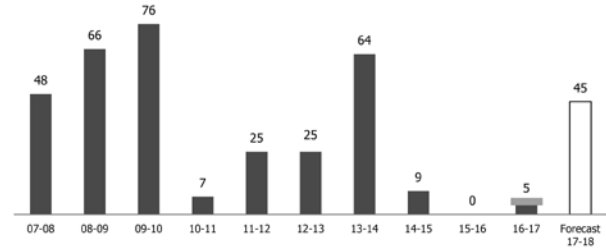


While core actions of the 1990 salinity plan continue to be implemented (page 62), renewed funding for these actions will see delivery in 2017-18.

Whole farm plans prepared, no.



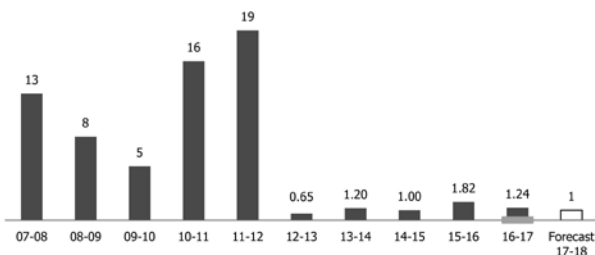
Reuse systems installed, no.



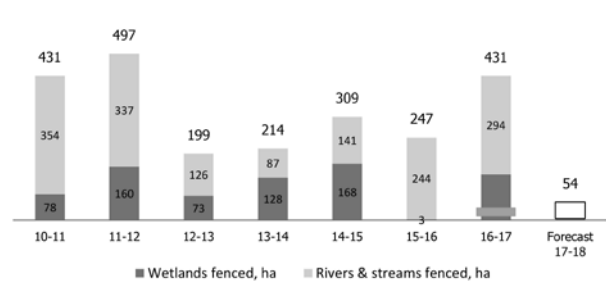
Whole farm plan commitment levels remain high and following changes in the irrigated landscapes, should see increased outputs continue in 2017-18.

Investment in reuse systems has been via the Farm Water Program since 2010-11.

River or stream bed & bank protection actions, km



Riparian land fenced, ha



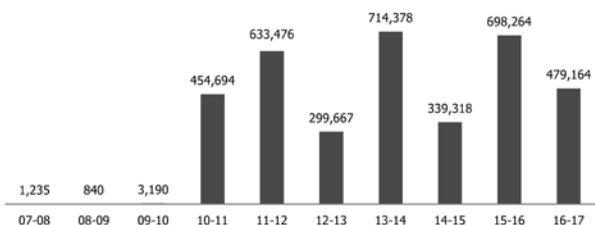
Hard engineering approaches are used less now, with a preference for vegetation. In the absence of significant floods, recent trends are expected to continue.

Two large sites fenced resulted in a good outcome for 2016-17.

Note on forecast targets:

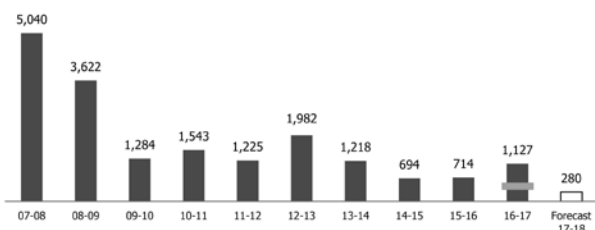
Forecast output targets are generally lower than what was achieved previously because they are based on indicative rather than actual funding received. Forecasts are based on outputs from project submissions for 2017-18 and funded projects as at June 2017. Forecasts may change as new funding opportunities arise and project submissions are negotiated.

Environmental water use, ML



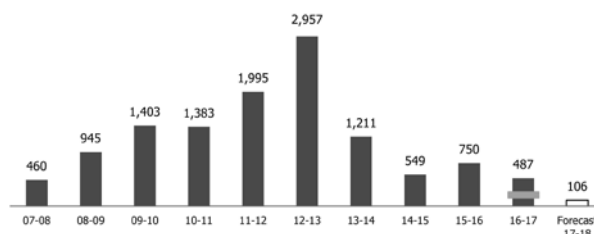
Annual environmental water use is influenced by seasonal conditions and environmental water availability (page 42).

Remnant vegetation fenced, ha



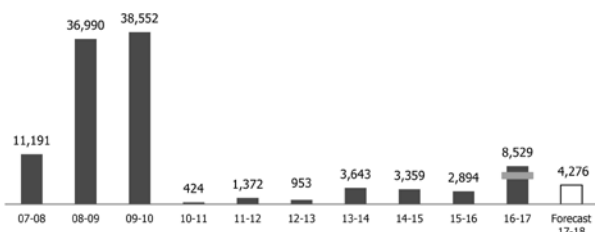
Increased achievements in 2007-08 and 2008-09 were largely due to Drought Employment Program funding.

Indigenous revegetation (planted), ha



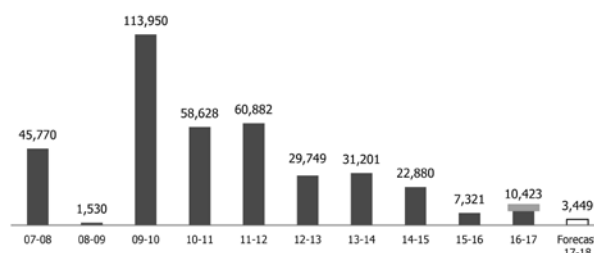
There is still significant community interest in revegetation. Direct seeding is currently the dominant method of revegetating, influenced by seasonal conditions.

Weeds treated, ha



DEDJTR's Biosecurity Victoria's Pest Plan and Animal Program was removed from the Goulburn Broken CMA's investment process from 2009-10.

Rabbits & foxes treated, ha



These activities are being increasingly driven by community groups, sometimes in partnership with local government.

Annual scorecards

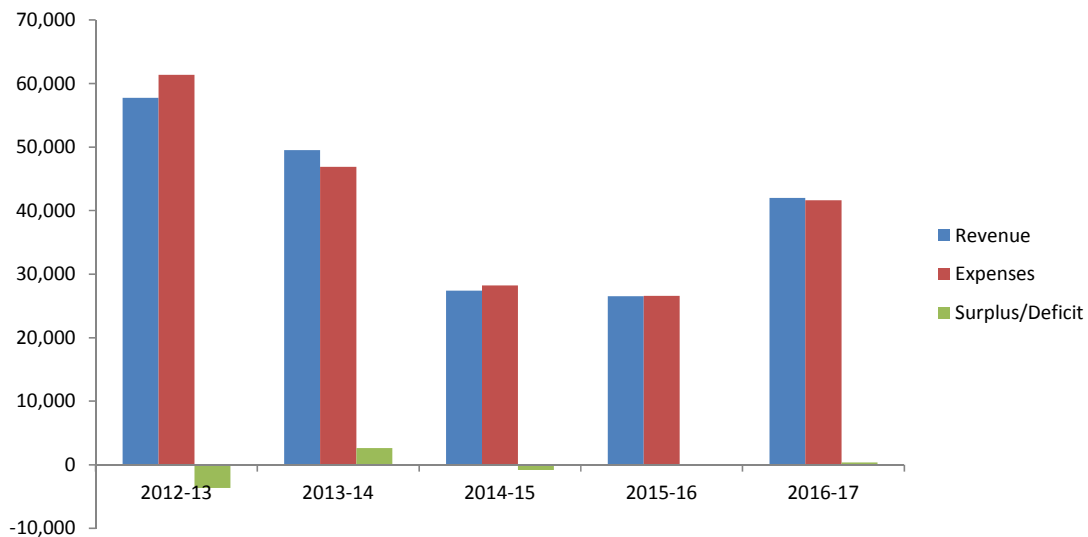
Indicative investment and gross output performances in investment areas

Investment area ⁱ	Investment ⁱⁱ (including partnership funds)				2016-17 performance ^{iv} (outputs)	Details page
	2014-15 \$000	2015-16 \$000	2016-17 \$000	Forecast ⁱⁱⁱ 2017-18 \$000		
Community and the Environment						
Community ^v	537	537	537	510	On target	28
Sustainable irrigation	14,713	13,645	24,365	37,060	On target	62
Waterways	3,940	5,626	4,224	4,046	Exceeded target	33
Floodplain management	458	894	861	806	On target	43
Biodiversity	5,166	3,517	3,358	2,264	On target	47
Land	990	766	762	808	On target	54
The Business (Corporate)						
Governance ^{vii}	1,758	1,694	1,564	1,583	On target	79
Human resources ^{vi}	5,466	5,840	6,234	6,421	On target	72

- 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 2017-18 as at April 2017.
- 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 only (government funds or funds from others sources arriving after the Corporate Plan was finalised are not considered within these targets). Outputs are described in Appendix 3 on page 130.
- 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.
- vii. The approach to calculating Governance was revised for the 2016-17 Annual Report to align with note 2.2.1 in the financial statements

Financial summary 2012-13 to 2016-17, \$000 ⁱ

i. See Financial results summary on page 94 for details.



Aggregate output performance across all investment areas in 2016-17

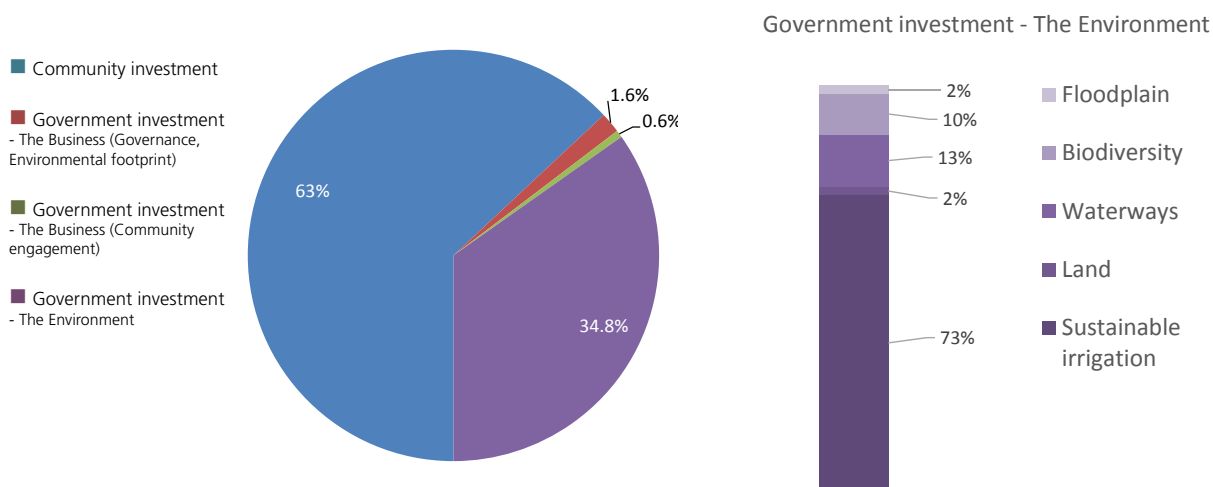
Output ⁱ	Achieved	Target ⁱⁱ	Performance	
			% achieved	Rating
Remnant vegetation fenced, hectares	1,127	451	250	Exceeded target
Wetlands fenced, hectares	137	25	548	Exceeded target
Rivers and streams fenced, hectares	294	-		Exceeded target
Riparian land fenced, hectares	431	25	1,723	Exceeded target
Long-term conservation agreements, hectares ⁱⁱⁱ	18	60	30	Well below target
Indigenous revegetation planted, hectares	487	196	249	Exceeded target
Irrigation drains built, kilometres	-	-		-
Reuse systems installed, numbers	5	5	100	On target
Laser levelling, hectares	4,460	9,972	45	Well below target
Groundwater pumps installed, numbers	-	-		-
Weeds treated, hectares	8,529	6,377	134	Exceeded target
Rabbits and foxes treated, hectares	10,423	10,398	100	On target
Environmental water use, megalitres	479,164	-		-
River or stream bed and bank protection actions, kilometres	1.24	-		Exceeded target
Fishway structures installed and barriers modified, numbers	-	-		-
Threatened species projects, numbers	-	-		-
Whole farm plans prepared, numbers	74	180	41	Well below target

- i. Outputs shown in this table are derived from the more detailed set in Appendix 3 on page 130, including the full list of footnotes. Appendix 1 describes the analytical framework, including terms used in this table. Ratings legend is inside front cover. 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 at 30 June 2016 and any subsequent adjustments over the financial year.
- iii. These are shown as 'Binding management agreements' in the detailed outputs on page 130. 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 20-71 describe actions undertaken in 2016-17 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 28 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 and Katie Warner

This section reports on the planning approach and implementation against the objectives of the Goulburn Broken Regional Catchment Strategy 2013-2019 (RCS), and 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 catchment management authorities) and revised in 2003 and 2013, building on more than 25 years of lessons and achievements in integrated catchment management.

The resilience approach

In recent years, bushfires, droughts, floods, the global financial crisis and other major events have severely tested the Catchment's communities and environment, catalysing a 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.

The resilience approach to catchment management focuses on the connections between people and nature, how these connections change and what can be done to achieve desired, balanced goals for resilience.

The resilience approach underpins the RCS and its implementation.

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 scorecards on pages 28, 33, 43, 47, 54 and 62).

The Goulburn Broken CMA has theme-based RCS sub-strategies that often 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 below that shows the relationship between the RCS sub-strategies.)

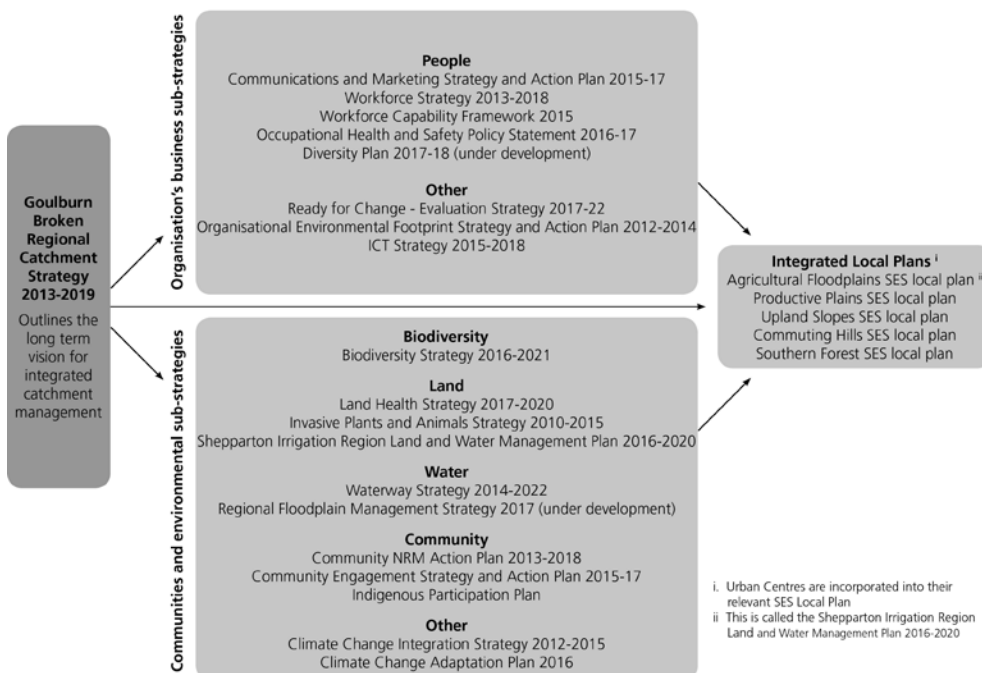
It is assumed that achieving these objectives will position the Catchment community on the path to achieving the vision.

Level 3 has six-year strategic objectives that help communicate the emphasis for management. It is assumed that achieving these 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.

Regional Catchment Strategy and sub-strategies structure ⁱ

i. see Appendix 9 for the evolutionary status of the sub-strategies



Regional Catchment Strategy sub-strategies

The Goulburn Broken CMA values its sub-strategies (see diagram on page 20) because they describe significant elements of the overarching RCS in detail, including context and strategic direction. These sub-strategies evolve in scope and time according to need. The diagram on page 20 shows the relationship between the RCS, sub-strategies and local plans, and Appendix 9 on page 142 summarises the evolutionary status of these sub-strategies.

Local (social-ecological system) plans

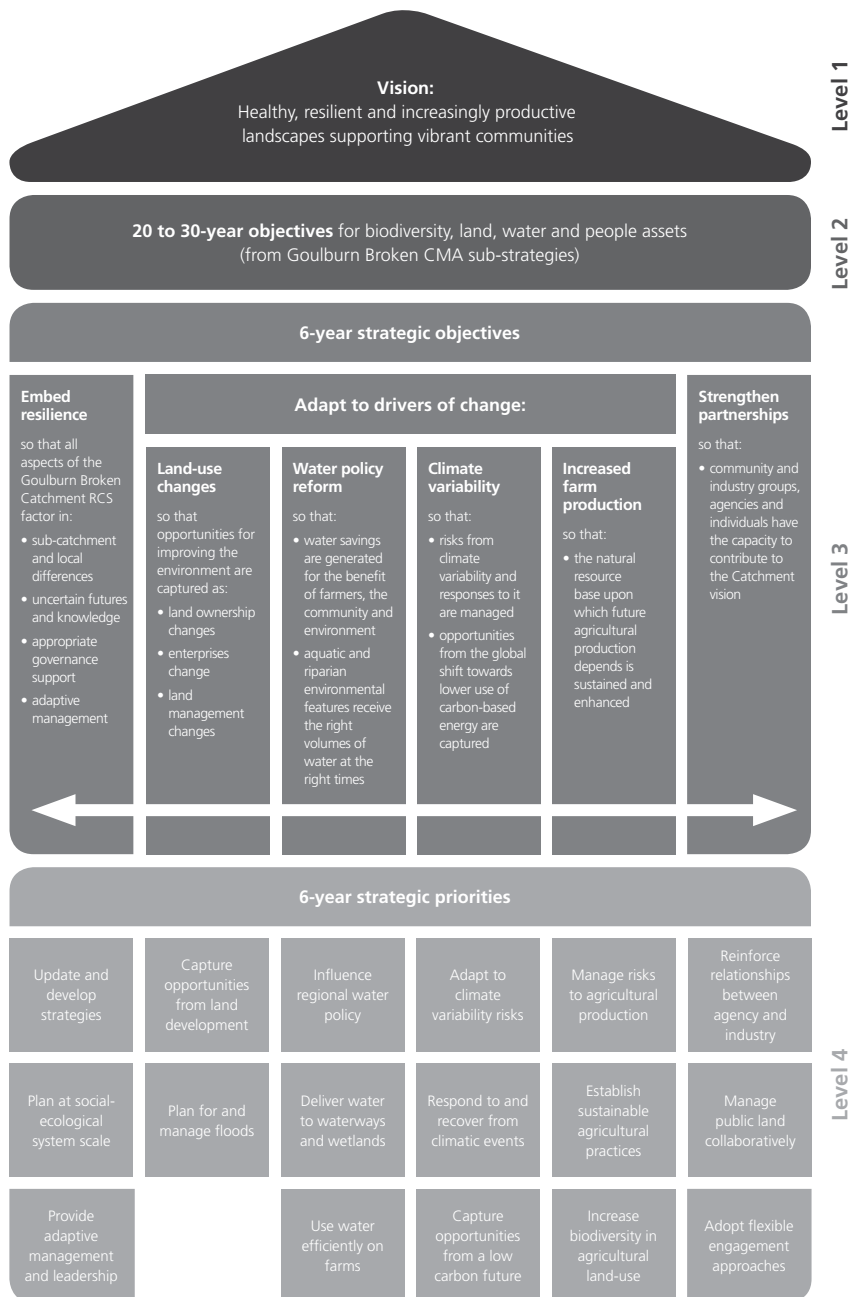
Areas with generally consistent elements of people and nature, including relationships between them, are called **social-ecological systems (SES)** (see map on page 8). Elements include landform, vegetation types, land uses, social structure and dynamics.

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 annually. The review and update is customised to community needs given available resources. An on-line expressions-of-interest project pool portal has been developed where the community and key partners can present novel project ideas to assist in implementation of local SES plans. Visit www.gbcma.vic.gov.au for further information.

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



Long-term strategy implementation progress and 2016-17 performance

Progress towards the RCS's 20-30 year objectives (level 2) are shown in the long-term scorecards (see pages 14 and 15) and are described in this section.

In 2016, a **mid-term review of the RCS** 2013-2019 found that 'significant progress' has been made towards achieving 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'.

Mid-term review details and a summary of progress for the

general community are available via www.gbcma.vic.gov.au

The table below summarises key achievements since 2013 and 2016-17 performance, as listed in the Corporate Plan.

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 beyond requirements of government funders. 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.

Long-term RCS implementation progress Key achievement from 2016 mid-term review	2016-17 performance Corporate plan priority	Details page
Strategic objective: Embed resilience		
<p>New and updated plans are explicitly including resilience approach, for example:</p> <ul style="list-style-type: none"> – involving the community and identifying key tipping points – local (SES) plans have been developed, are annually reviewed and updated (see page 9 for areas), are easily accessed via http://weconnect.gbcma.vic.gov.au and can be viewed in a web-based format or printed – progress at SES scale and case studies show contributions to local plan implementation (community can comment and add case studies) – 5th update of 30-year Shepparton Irrigation Region Land and Water Management Plan – partnerships with RMIT, CSIRO and other Victorian CMAs is helping develop adaptation planning to support local SES planning. <p>'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.</p> <p>See the approach to research and development and evaluation and adaptation on page 24 and a summary of the status of RCS sub-strategy updates in Appendix 9.</p>	<p>Continue to seek long term / ongoing funding for:</p> <ul style="list-style-type: none"> – SES-based projects – the development and retention of key technical skills and knowledge within the Catchment – funding of high priority projects currently unfunded for example, funding for surface drainage which is critical in supporting a resilient irrigation industry. <p>Identify and implement approaches to increase innovation and continuous improvement across the organisation.</p> <p>Development and implementation of business systems that support a resilient organisation.</p> <p>Undertake the mid-term review of the implementation of the Goulburn Broken Regional Catchment Strategy.</p>	<p>31</p> <p>73</p> <p>66</p> <p>80</p> <p>80</p> <p>22-23</p>
Strategic objective: Adapt to land-use change		
<p>The Goulburn Broken Greenhouse Alliance – Climate Smart Agriculture Project completed in December 2016.</p> <p>Input into flood studies and implementation plans is provided.</p> <p>Beyond SoilCare has supported more than 120 events over 3 years.</p>	<p>Continue to work to reduce the risks to the Goulburn floodplain and associated assets from the mining of sand and gravel, including the development of guidelines for its sustainable development.</p> <p>Continue to support Whole Farm Planning in the Agricultural Floodplains as a crucial regional planning tool applied at a farm scale.</p> <p>Development of the Goulburn Broken Floodplain Management Strategy post the release of the new Victorian Floodplain Management Strategy.</p> <p>Implementation of the Floodplain Management Program.</p>	<p>45</p> <p>65</p> <p>44</p> <p>44</p>

Long-term RCS implementation progress Key achievement from 2016 mid-term review	2016-17 performance Corporate plan priority	Details page
Strategic objective: Adapt to water policy reform		
Strategic Connection Project is creating a modernised irrigation system.	Develop and implement a comprehensive and targeted communications strategy to be delivered in 2016-17 to support the achievement of the above priority.	30
Priority environmental water flow targets are met annually.	Work within the region to ensure the irrigation footprint is appropriate and planned to reduce the further degradation of soil and water due to salinisation, and to reduce the impact of irrigation on the natural environment.	65-67
Wetland areas protected as part of whole farm planning approval processes.	Roll-out of Rounds 4 and 5 (\$50 million) Farm Water Program, including negotiations with State and Australian Governments on options to expand.	68
	Development and implementation of 2016-17 Seasonal Watering Plans including associated long-term monitoring programs to demonstrate the impact of environmental water.	37
	Selling the story of environmental water (including articulating multiple benefits) and the importance of healthy waterways.	39
	Implementation of the River Health program including delivering on the State Government's Regional Riparian Action Plan.	37-38
Strategic objective: Adapt to climate variability		
Climate Change Adaptation Plan for NRM in the Goulburn Broken Catchment has been completed.	Continue to integrate planning for climate change into program and project delivery and into the planning processes of partner organisations.	26
Strathbogie Community Bushfire Planning group was established.	Continue to undertake fire and flood recovery and seek opportunities to secure long-term funding for these increasingly frequent natural events.	38
Drought Recovery Program implemented.	Take a leadership role across the Victorian CMA's to support a collective approach to the implementation of the regional NRM Adapting to Climate Change plans.	26
	Review of the Goulburn Broken CMA's Climate Change Integration Strategy.	26-27
Strategic objective: Adapt to increase farm production		
Conservation Networks and Landcare Groups in the Goulburn Broken run hundreds of events each year.	Implement the Goulburn Broken Biodiversity Strategy 2016-2021 that seeks to improve ecosystem resilience including for the priority species that live within them.	49-52
Partnership projects such as woodlands and wetland protection, threatened species and various Conservation Management Network initiatives have been completed.	Continue to deliver the VEPP funded Northern Eco-Connections project in partnership with NE and NC CMA's.	49
Continued support of the Dookie Seedbank.	Contributed to development of State Biodiversity Strategy, and completed the revised Goulburn Broken Biodiversity Strategy.	49
	Ongoing delivery and communication of suite of projects with a productivity focus, e.g. Farm Water Program, Beyond SoilCare (dryland and irrigated), Woodlands and Wetlands and Regional Landcare Facilitator.	68, 49-52, 58-60
	Shallow watertable management adjustment and communication of salinity as an ongoing threat and roll out of the outputs from the Shepparton Irrigation Region Shallow Water Table Adaptive Management project.	66
	Completed the review of the Shepparton Irrigation Region Surface and Sub-surface Drainage Strategies as a single entity to reflect the current conditions.	65

Long-term RCS implementation progress Key achievement from 2016 mid-term review	2016-17 performance Corporate plan priority	Details page
Strategic objective: Strengthen Partnerships		
<p>The Goulburn Broken CMA continues to promote partnerships across the catchment through the Partnership Team, the Goulburn Broken Indigenous Consultation Group, Landcare Chairs Forum, Regional Landcare Facilitator Steering Committee and SIRPPIC. The SES local planning activities are identifying and building on partnerships across the catchment.</p> <p>Goulburn Broken Partnership and Senior Combined Partners Forum continues.</p> <p>The Yorta Yorta Nation and Taungurung Clan Country Plans have been developed.</p> <p>Farm Water Consortium and the Beyond SoilCare project.</p> <p>Training in social media, blogs and websites.</p>	Maintain the strong focus on partners and their role in RCS implementation across the Catchment.	2
	Identify and implement opportunities to engage with different stakeholders to increase their advocacy of, and to, the work of the Goulburn Broken CMA and its partners.	2-5
	Implement the Goulburn Broken CMA Community Engagement and Communication and Marketing Strategies.	30
	Continue to actively support the 'Tri-State Murray NRM Regional Alliance', which is a partnership of organisations including the Goulburn Broken CMA, North Central CMA, Mallee CMA, North East CMA, Natural Resources SA Murray-Darling Basin, Murray Local Land Services (NSW) and Western Local Land Services (NSW).	5
	Implementation of the strategy Our Catchments, Our Communities – Integrated Catchment Management in Victoria 2016-19 including integrated catchment management projects delivering Regional Catchment Strategy priorities.	31

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 Goulburn Broken CMA Monitoring Evaluation Reporting (MER) Strategy developed in 2004, and 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 developed of new strategies in response to emerging issues or critical drivers, within a resilience framework.

Local social-ecological system (SES) Planning is occurring across the Catchment. Through this process the Goulburn Broken CMA is gaining a better understanding of critical attributes and thresholds. This understanding allows for the implementation of local adaptive planning and implementation of programs and activities that help build the resilience of the SESs.

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 130) and to summarise progress via long-term scorecards since 2005-06 (see page 14) 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 trade-offs 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, $\text{Outputs} \times \text{Assumptions} = \text{Outcomes}$, 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.

During the mid-term review of the RCS, a snapshot of the recent research activities and priorities was undertaken to identify how these activities and priorities support the implementation of the RCS, and what gaps exist. This review documented the many research activities that support RCS strategic priorities, for example monitoring and research that improves our knowledge around the effective delivery of environmental water.

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 of the Authority. Efforts during 2016-17 are highlighted within each investment area section of this annual report.

What's next?

Responding to the findings of the RCS mid-term review, the continued implementation of the Goulburn Broken RCS 2013-2019 will continue to be the focus of the Goulburn Broken CMA over the next three years. This will include:

- the continued focus on the review and implementation of sub-strategies to ensure alignment with Regional Catchment Strategy objectives and the incorporation of the resilience approach, including social-ecological systems. The review and implementation of sub-strategies have been critical in Goulburn Broken Catchment decision-making for over two decades. Because the context behind each sub-strategy varies and is continuously changing, sub-strategies are

renewed according to their own context, 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.

- continued input into the implementation of Victorian Government strategies including Protecting Victoria's Environment – Biodiversity 2037, Climate Change Adaptation Plan and Water for Victoria.
- building on the success of the first years delivery of a \$2 million (over four years) project, funded by the State Government, to implement the Victorian Government's Our Catchments, Our Communities – Integrated Catchment Management in Victorian

2016-2019. In 2017-18, a key focus of this investment will be the implementation of the second of two integrated catchment management projects developed with partners and community that will support the implementation of the Goulburn Broken RCS 2013-2019. These projects focus on delivering targeted onground works in two priority landscapes (as identified by community and agency partners) to address the identified critical thresholds.

- continuing to build our knowledge of the critical thresholds within the Catchment, how to monitor them and use them in NRM planning, including discussions around transformation and implementation of an adaptive management framework.

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

Projections for the Murray Basin are for average temperatures continuing to increase in all seasons and by 2090, with high confidence, less rainfall during the cool season. There is medium confidence that rainfall will remain unchanged in the warm season.

For the near future, natural variability is projected to dominate.

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 generally have a negative effect on soils and production.

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 the distribution of pests and diseases.

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

Biodiversity

Reduced water availability and increased temperature will drive how biodiversity responds to climate change.

Climate change is anticipated to exacerbate existing pressures on biodiversity, primarily relating to habitat loss, resulting in flora and fauna being unable to move through fragmented landscapes, increasing the risk of extinction through elevated inbreeding and subsequent loss of sub-populations.

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 pressures on the condition of water.

Most water condition indicators were assessed to be following a negative or neutral trend (the latter reflecting NRM program outcomes and water policy reforms).

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

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 changes in rainfall and snow regime, reduced average runoff and increased air and water temperature, resulting in increased evaporation rates.

Recent climate events

- 2002-2009 extreme drought: exceptionally low stream flows and historically low water allocations. In combination with federal environmental policy and farm demographic structure, it led to unprecedented irrigated dairy industry restructure.
- 2009 bushfires: covering 185,000 hectares (seven per cent) of the Catchment, with 190 kilometres of vegetation along major rivers burnt. This has changed patterns of settlement in some areas.
- 2010, 2011 and 2012 floods: while improving the condition of floodplain systems, these floods may change patterns of settlement in some affected areas.
- 2014 bushfires: covering approximately 27,800 hectares in the Goulburn Broken catchment – approximately 9,700 hectares in the Wunghnu-Numurkah region, approximately 4,800 hectares in the Kilmore area (total area burnt was approximately 26,800 hectares), approximately 5,000 hectares at Creighton's Creek, approximately 2,600 hectares at Stewarton and approximately 5,700 hectares in the Boweya/Lake Rowan region.

Climate change planning in the Goulburn Broken Catchment

It is important to have strategies in place for responding to climate change and the Goulburn Broken CMA aims to be a leader in assisting the community and natural environment in adapting to it.

'Climate variability' is recognised as a 'driver of change' in the Goulburn Broken Regional Catchment Strategy 2013-2019 (see diagram on page 21).

It is difficult to communicate and respond to the complex and interconnected interactions between climate, natural resources, industries and communities.

All potential interactions between climate and natural resources need to be considered in climate change adaptation planning. This requires complex modelling, strategies and adaptive management to deal with uncertainty.

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 (eg. carbon brokering) will be engaged for the purpose of assisting adaptation responses; and mitigation initiatives led by local government will be actively supported.'

The Goulburn Broken CMA is implementing its 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 the table below for progress against these outcomes.)

Implementation of this Climate Change Integration Strategy 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 to implementation of Victoria's Climate Change Adaptation Plan.

Climate change implementation responses

In 2016-17, through Our Catchment Our Communities, the Victorian Government invested \$150,000 in a Victorian-wide Catchment Carbon Offsets project (managed by the Goulburn Broken CMA) and in local climate change adaptation planning in the Strathbogie Ranges.

The Goulburn Broken CMA is a member of the Victorian CMA NRM Planning for Climate Change Forum that began in 2013. The Forum is now supported by a part-time climate change coordinator, housed at the Goulburn Broken CMA.

The Forum, through its coordinator, is actively working with the Victorian Government to influence and embed the recently-developed regional climate change adaptation plans and strategies into State policy development.

The Forum also supports several projects, including Adaptation Pathways Planning and developing a Catchment Carbon Offsetting Model, in partnership with the Department of Environment, Land, Water and Planning and water authorities.

Long-term strategy implementation

Outcome: Integrate climate change into Goulburn Broken CMA programs

Climate change has been factored into the Community NRM Action Plan, the Goulburn Broken Regional Catchment Strategy 2013-2019, the Waterway Strategy 2014-2022, and the Biodiversity Strategy 2016-2021.

The Goulburn Broken CMA has developed the Climate Change Adaptation Plan for NRM in the Goulburn Broken Catchment, which aims to further incorporate climate change into NRM Planning.

Biophysical projects funded through the Australian and State Governments continue to contribute to this goal through the implementation of onground activities including, soil, biodiversity, riparian and wetland restoration projects.

Improve understanding of climate change

The Climate Change Adaptation Plan 2013-18 provides a strong basis for decision making, identifying priority areas for climate change adaptation activities based on the most recent science and climate change adaptation planning processes.

More than 70 engagement activities were undertaken in the development of the Climate Change Adaptation Plan, enabling a range of partners to increase their understanding of climate change adaptation planning.

The Goulburn Broken CMA remains a member of the Goulburn Broken Greenhouse Alliance which provides a forum to share information and increase the understanding of the effects of climate change.

This year, the Goulburn Broken CMA have partnered with the Department of Environment, Land, Water and Planning and other CMAs across Victoria in a project to increase the understanding of the carbon storage capacity of freshwater wetland systems and, in turn, the impact of wetland disturbance on carbon sequestration.

The Goulburn Broken CMA partnered with the Goulburn Broken Greenhouse Alliance in developing the Climate Smart Agricultural Tool.

Long-term strategy implementation

Pool and attract resources

\$7.2 million has been sourced through Australian Government funds. This includes the Biodiversity Fund and the Regional NRM Planning for Climate Change Fund.

Supported the Goulburn Broken Greenhouse Alliance in three projects (street lighting, Climate-smart Agriculture and climate change education program) and has also partnered with:

- RMIT to investigate Adaptation Pathway techniques
- Deakin University to understand carbon storage capacity in Victorian freshwater wetlands
- DELWP to investigate catchment carbon offsetting models.

Build catchment resilience into sequestration activities

All projects undertaken through the Biodiversity Fund align with the CMA's standards and promote resilience.

No further opportunities through the Australian Government's Emissions Reduction Fund have been identified as yet.

The Victorian CMAs Regional NRM Planning for Climate Change Forum, in partnership with the DELWP and water authorities, will be investigating opportunities for a model to achieve multiple outcomes from carbon offsetting.

The Victorian CMAs Regional NRM Planning for Climate Change Forum is lobbying the Emissions Reduction Fund developers to consider broader outcomes from the Fund.

Support community mitigation efforts

The Goulburn Broken CMA has partnered with the Goulburn Broken Greenhouse Alliance and community NRM groups on three projects.

Minimise the Goulburn Broken CMA footprint

See Environmental footprint section page 77.

2016-17 performance

Most climate change actions are integrated into investment area programs.

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

- Climate Change Adaptation Pathways Planning in the Strathbogie Ranges
- implementation of the Catchment Carbon Offsets Trial, investigating carbon offsetting opportunities for water corporations
- promotion of Blue Carbon opportunities in Victoria
- development of Story Maps for the Climate Smart Agriculture, Goulburn Broken Greenhouse Alliance Project
- initiation of the Goulburn Broken Adaptation Pathways Community of Practice.

What's next?

Continued implementation of 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 the use of regional climate change NRM plans in the development of Victorian and Australian government policy development.

The Climate Change Integration Strategy will be reviewed and updated, informed by the Climate Change Adaptation Plan.

The Goulburn Broken CMA will continue to support the Victorian CMAs Regional NRM Planning for Climate Change Forum, the Victorian CMA state-wide Climate Change Coordinator (currently hosted by Goulburn Broken CMA), the Goulburn Broken CMA Climate Change Coordinator, and associated projects.

Investment area - Community

Compiled by Chris Norman, Katie Warner, Fiona Lloyd, Rod McLennan, Darelle Siekman, Tony Kubeil, Gaye Sutherland and Neville Atkinson

Long-term and annual scorecard ⁱ

2016-17 performance		On target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Communities, partner organisations, farmers and other individuals are active in decisions and action, and generally have the capacity to be involved and make an impact.			
	Poor	Satisfactory	Medium				
Resilience assessment							
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}			Long-term strategy implementation ^v	
	1990	2017	Trend 2014-17	Long-term (10+ years)		Start	Stage
				Current support ^{vi}	No support ^{vi}		
Community capacity, engagement and involvement	Poor	Satisfactory	Risk declining	Medium	Very high	1990	Watch & maintain

- Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.
- 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.
- System is Community; benchmark for contribution is the desired level, as defined (formally or informally) in 2017.
- 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.
- Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
537	537	537	510

- Forecast based on the Corporate Plan 2017-18.

Strategic references

The Goulburn Broken Community Engagement Strategy and Action Plan 2015-2017 and the Goulburn Broken Community NRM Action Plan 2013-2018 factor in numerous national, state and local strategies and policies that aim to both engage community groups, partner agencies, and individuals, and often to support 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 6 for the list of strategic documents related to community engagement.

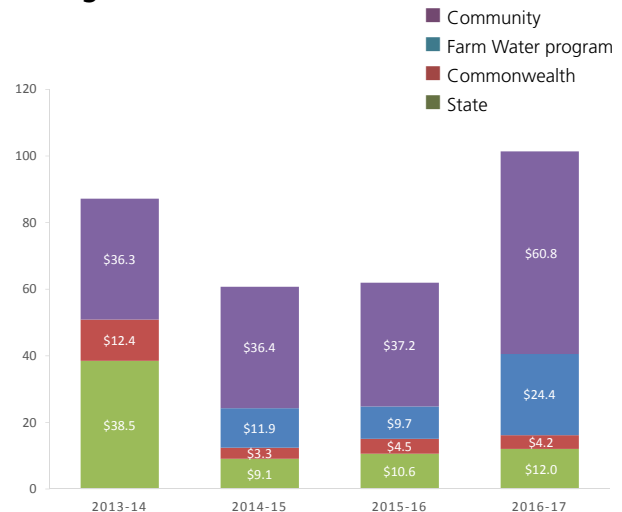
Background

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.

Major contributions to natural resources management, \$million



In 2014-15 the calculation of community contribution was revised to match the approach taken in the Victorian Catchment Management Authorities Actions and Achievements Report.

Catchment condition - Community (since 1990)

The resilience of Goulburn Broken communities 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 these threats, uncertainties about responding, and the need for a whole-of-Catchment response that integrated solutions across different disciplines and geographic areas.

From the start of this 'integrated catchment management', strong partnerships between different stakeholders, especially the communities and government were developed. These partnerships were at the core of the approach.

The many achievements in the Goulburn Broken Catchment indicate the 'we-can-do-it' culture and community resilience, including the agility to respond decisively to changing conditions collectively and differently, and the ability to collaboratively plan ahead.

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. Examples include: response to unprecedented drought, fires and floods; the \$1 billion Foodbowl Initiative in 2008; the Farm Water Program; and being able to operate in their own right in several cases (involving NRM).

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 management of the Catchment. The Goulburn Broken CMA has supported Traditional Owners to develop 'Whole of Country Plan' that reflect the values, actions and objectives of the Traditional Owners in relation to caring for country. Building the capacity of the Traditional Owners to be self determining has been a priority with the employment of an indigenous facilitator, establishment of a cadetship program, specific capability building events and ongoing support for natural resource management employment programs.

Long-term strategy implementation progress and 2016-17 performance

Each of the Goulburn Broken CMA strategic documents reflect the pivotal role that people play in achieving environmental outcomes.

The involvement of people at all geographic scales of decision-making helps ensure that actions chosen are agreed, relevant, and anticipate or adapt to change.

However, people need the required capacity to initiate, influence or undertake action. A major function of the Goulburn Broken CMA is to support community groups and individuals and government agency partners, so they can viably engage in decisions and undertake onground actions.

Community capacity, engagement and involvement are collectively considered to be the critical attribute for long-term community resilience.

The Goulburn Broken CMA relies on landholders, school children, community NRM groups (including Landcare groups, Conservation Management Networks, 'Friends of...' groups and others) and individuals to deliver programs across the Catchment that protect and improve streams and habitat for native animals and plants, recognise the region's cultural heritage, and bring about changes in practice.

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.

Evidence of community capacity, engagement and involvement:

- Performance of landholder (especially farmer) works consistent with RCS. Works on thousands of sites covering thousands of hectares with multiple benefits. Onground works generally were on target for 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 66 and 67.
- Community organisations: 96 active groups; 5,473 members plus 2,707 volunteers (2015-16 Landcare survey); see also Regional Landcare Facilitator and Landcare under the Land section on page 54.
- \$3.18 million for 121 State and Commonwealth grants to community and partner organisations (see table page 30 for details).
- Goal includes increasing stakeholder investment in, and support for, the Goulburn Broken RCS and associated programs. A 2017 community awareness survey found the Goulburn Broken CMA continues to perform as well or slightly better in promoting understanding of importance of land and water resources compared to previous years.
- Goulburn Broken CMA Indigenous Partnership Plan developed with Yorta Yorta Nation Aboriginal Corporation and Taungurung Clans Aboriginal Corporation. This plan defines the cooperative relationship between Traditional Owners and the Goulburn Broken CMA.

Awareness and information highlights 2016-17

- 55 media releases prepared with almost 100 per cent take up.
- Monthly column in the Country News (reaching more than 55,000 households).
- Monthly session on ABC Goulburn Murray's breakfast show discussing all thing flora and fauna.
- Monthly 'info-graphic' promoting the multiple/shared benefits of environmental flows along the lower Goulburn River continues to appear in Shepparton's free paper, targeting urban recreational users.
- A similar series of advertisements aimed at mid-Goulburn River communities about river operations and the need for environmental flows was trialled in the Yea and Alexandra newspapers during spring and autumn.
- Continued increase in social media followers, with Facebook 'page likes' reaching 1,313 (up from 718 in June 2016) and followers of our Twitter account increasing to 1,159 (up from 814 in June 2016).
- Quarterly Connecting Community and Catchment e-newsletter has more than 900 subscribers, the sustainable agriculture-focused Landcare Links produced by the Regional Landcare Facilitator continues to grow its base (1,200 subscribers) while Beyond SoilCare and the Hughes Creek newsletters are highly targeted project-based newsletters with 300 and 100 subscribers respectively.
- Continued to provide updated content to the most popular sections of the Goulburn Broken CMA website: floodplain management information and forms, jobs and tenders, news and events and during the EOI call, information about the Farm Water Program.

Grants to community organisations from State and Commonwealth Governments

State and Commonwealth Government grants to community organisations (see table below) 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 2016-17	No. of projects	Amount paid \$ (ex GST)
Australian Government - 20 Million Trees	1	\$28,070.67
Australian Government - Biodiversity Fund	11	\$480,393.86
Australian Government - National Landcare Programme	36	\$690,939.70
Victorian Government - Our Catchments Our Communities	3	\$21,623.08
Victorian Government - Regional Riparian Action Plan	7	\$57,009.09
Victorian Government - Sustainable Irrigation Program	2	\$1,621,344.40
Victorian Government - Victorian Landcare Grants	53	\$227,070.96
Victorian Government - Victorian Water Investment Program	4	\$21,706.95
Victorian Government - other	4	\$34,982.65
Total Grants paid	121	\$3,183,141.37

See Appendix 8 for full list of payments made during 2016-17

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 activities such as the Farm Water Program.

Traditional Owner engagement and involvement

The Goulburn Broken Indigenous Participation Plan (2017) guides the relationship between the Goulburn Broken CMA and Traditional Owners.

Victoria's *Aboriginal Heritage Act 2006* establishes Registered Aboriginal Parties, which have responsibilities for managing cultural heritage within their registered party area. The two parties within the Goulburn Broken Catchment are the Taungurung Clans Aboriginal Corporation (TCAC) and the Yorta Yorta Nation Aboriginal Corporation (YYNAC).

Direction is also provided through cooperative management and Traditional land management agreements (between the State Government of Victoria and YYNAC), Yorta Yorta Nation and Taungurung Country plans, a memorandum of understanding between the CMA and YYNAC, and a service level agreement between the CMA and TCAC (as part of the Australian Government's National Landcare Programme).

Country plans have been prepared by Traditional Owners and detail their aspirations for inclusion and holistic management of their Traditional lands. The plans give direction for all parties, including natural resource management, education and business sectors, to collaborate in generating a pathway for ongoing training of Indigenous people to continue building Traditional Owners' capacity and achieve parity, linking to the Australian Government Indigenous Advancement Strategy (2014) and Council of Australian Governments Closing the Gap policies.

YYNAC and TCAC, supported by Goulburn Broken CMA through the Australian Government's National Landcare Programme, construct fences, control pest plants and animals, and undertake other works on Country via their works teams, protecting culturally sensitive areas and environments as diverse as the Barmah Ramsar Wetland and Alpine bogs. Opportunities for NRM capacity building are provided through employment, training and cross-cultural participation in field days and workshops. The aim is for the works teams to become self-sufficient and able to compete in the broader market.

The Goulburn Broken CMA's Indigenous NRM staff nurture partnerships with Traditional Owners to develop innovative NRM approaches that achieve change and place-based parity between Aboriginal and non-Aboriginal people.

Goulburn Broken CMA's Goulburn Broken Indigenous Consultation Group engages Indigenous people in planning and delivery of NRM outcomes, with the Goulburn Broken Regional Catchment Strategy being a standing agenda item that helps align Traditional Owner and CMA efforts. Traditional ecological and cultural knowledge is extended to broad audiences, especially land managers, through interpretative signage, field days, outdoor classrooms, Indigenous gardens, and other awareness and educational activities. Young Indigenous people are supported to engage in traditional ecological knowledge with Elders in their community. See also Chair's review page 2.

Implementing Our Catchment Our Communities

In 2016 Victoria released Our Catchment Our Communities – Integrated Catchment Management in Victoria 2016-19. It is the first statewide strategy for integrated catchment management in Victoria. It focuses on how catchment management partners can work better and more effectively to manage the state's natural resources.

State Government investment was provided to implement the Strategy within the Regions. The Goulburn Broken CMA received \$2 million over four years to implement onground activities, supported by partnerships and strategic initiatives. Two icon projects were established in the Goulburn Broken to demonstrate the principles and positive outcomes of integrated catchment management, Linking Lower Goulburn and Bogies' and Beyond.

The Linking Lower Goulburn project was identified as a priority as a result of work undertaken to develop the Shepparton Irrigation Region Land and Water Management Plan. Within the first year of the project a dedicated project implementation team was established and met four times to plan and discuss implementation of the project. The team comprises of a range of partners, including, Landcare, Local Government, Department of Land, Water and Planning, Agriculture Victoria, Goulburn Murray Water, Trust for Nature, Parks Victoria, Yorta Yorta Nation Aboriginal Corporation. This approach to the project planning and implementation has resulted in a strong partnership and leveraging opportunities. To date, activities have included assessment of public reserves for onground works, engagement of Indigenous work crews to undertake works on priority sites, collaboration with local government on roadside weed control, works to enable environmental water to a priority wetland, a range of engagement activities and the identification of a site for covenanting through Trust for Nature.

The Bogies' and Beyond project has used the first year of the project to undertake extensive planning activities with the community. These planning activities focused on climate change adaptation and identify key onground activities that will support the community and the natural resources under climate change. Four facilitated 'Adaptation Pathway' planning workshops were undertaken, plus a bus tour of the region. This work has been supported by RMIT and has resulted in an empowered community group that has been involved in identifying priorities for onground action in the remaining three years of the project that are ready to implement.

The Goulburn Broken Partnership Team is the Steering Committee of the Goulburn Broken Our Catchments, Our Communities project and are provided monthly updates on progress. Other initiatives supported by Our Catchments Our Communities in the Goulburn Broken in 2016-17 include:

- a partnership with Mansfield and Murrindindi Shire Council to update the Commuting Hills Local Plan
- engagement of the Up2Us Landcare Network in the Mansfield area to undertake kitchen table discussions and workshops with the local community to gather information to further inform the Upland Slopes local plan and implementation
- development and roll-out of online expression of interest project pool.

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)
- implementation of the Goulburn Broken Indigenous Participation Plan
- increasing staff community engagement capability.

Investment patterns and maturity (stages) of implementation ⁱ

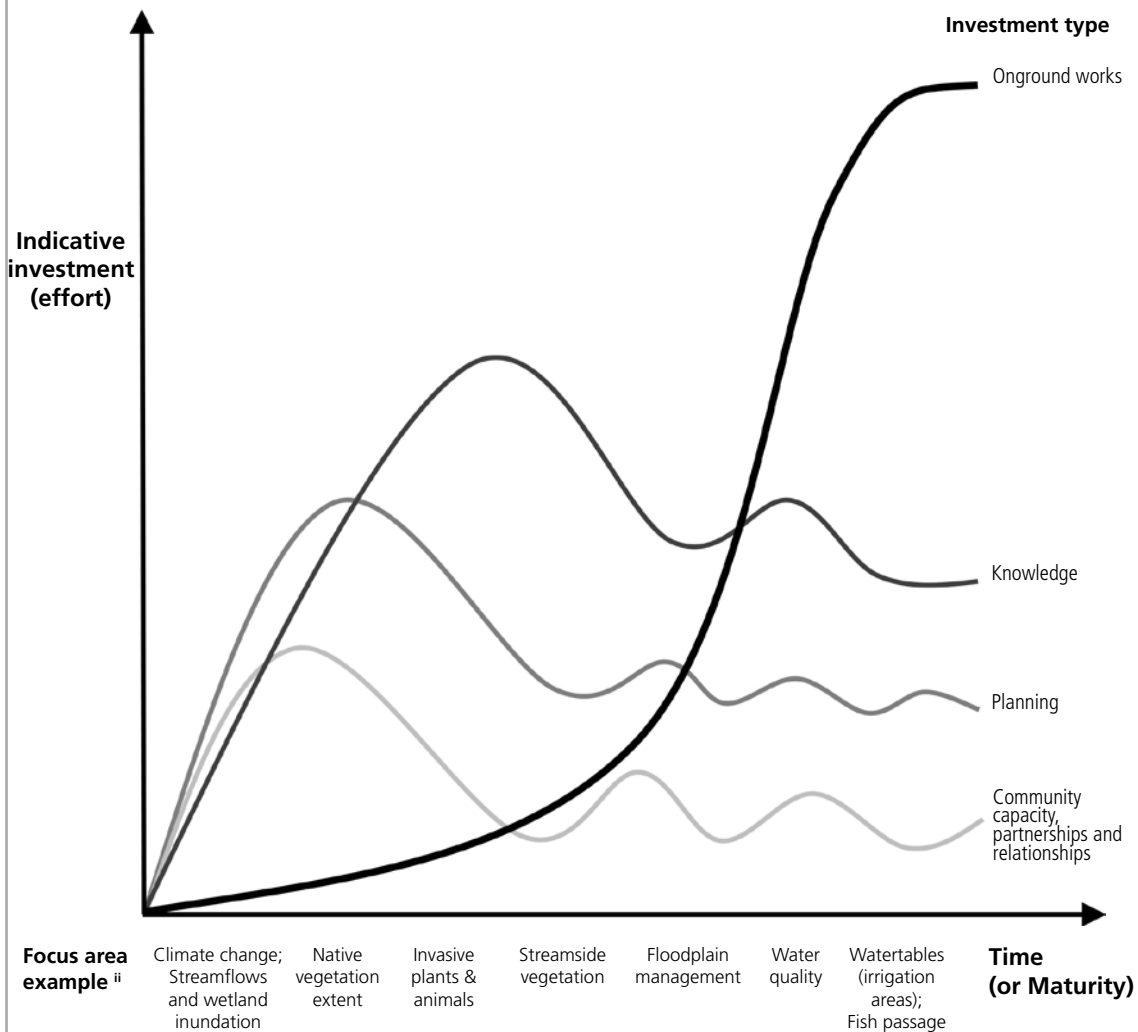
The stylised investment patterns in the graph show the Goulburn Broken CMA is at different stages of maturity of implementing approaches in various focus areas.

For example, more has been 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, Annie Squires, Keith Ward, Tim Barlow, Meegan Judd, Jim Castles, Jo Wood, Christine Glassford, Corey Wilson, Geoff Brennan, Sue Kosch, Kirsten Roszak, Collin Tate, Fiona Lloyd, Caroline Keenan and Lisa Duncan.

Long-term and annual scorecard ⁱ

2016-17 performance		Exceeded target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Water quality, streamside vegetation, and fish passage and habitat have improved. Streamflows have reduced and wetlands are inundated less, but use of several new tools (especially water for the environment) is improving and positive impacts are emerging.			
	Very poor	Satisfactory	Medium				
Resilience assessment							
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}		Long-term strategy implementation ^v		
	1990	2017	Trend 2014-17	Long-term (10+ years)		Start	Stage
				Current support ^{vi}	No support ^{vi}		
Stream flows and wetland inundation							
- Dammed (regulated) streams	Very poor	Poor	Risk declining	Medium	Very high	2014	Early
- Undammed (unregulated) streams	Very poor	Poor	Risk declining	High	Very high	2014	Early
Streamside (Riparian) vegetation	Very poor	Satisfactory	Risk declining	Low	High	2005	Late
Water quality	Very poor	Satisfactory	Stable	Medium	High	1996	Watch & maintain
Fish passage and habitat	Very poor	Satisfactory	Risk declining	Low	Medium	2005	Late

- i. Appendix 1 describes the analytical framework, including terms used in this scorecard. 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 2017.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
3,940	5,626	4,224	4,046

i. Forecast based on the Corporate Plan 2017-18.

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 21). The Murray-Darling Basin Authority and Victorian government water plans and strategies are pertinent references for waterways management. Appendix 9 includes a more complete list.

Background

Rivers, wetlands and floodplains that make up our waterways are vital to our existence and quality of life. They provide: water important for towns, industry and food

production; habitat for plants and animals; are highly valued for recreation and aesthetics; and are important for mental and physical health. Importantly, waterways are often central to the culture of the Goulburn Broken Catchment's Traditional Owners, the Yorta Yorta and the Taungurung peoples.

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

Waterway management in regional Victoria is the responsibility of catchment management authorities (*Water Act 1989*, part 10).

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

The Goulburn Broken Regional River Health Strategy 2005-15 focused on improving the condition of rivers, floodplains

and wetlands to help achieve the Healthy Rivers, Healthy Communities vision set in 2003.

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, including priority streams and wetlands and associated strategic works and activities being presented on a social-ecological system basis
- 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.

Streamflows and wetland inundation

Many of the Goulburn Broken Catchment's rivers and wetlands have been modified as the population has grown. In some rivers, up to half of the water that would have flowed is removed each year for towns, irrigation and industry.

As a result, these waterways are not able to function as they would naturally. This means it is necessary to actively manage how water flows through them. These flows are called 'water for the environment'. Water for the environment is set aside in storages and released into rivers and wetlands to support them and the plants and animals that live, feed and breed in them.

Structures often also need to be built or managed to ensure rivers, wetlands and floodplains receive the right amount of water at the right time.

Water for the environment provides community benefits:

- increases opportunities for recreational activities, such as fishing, boating and birdwatching
- sustains healthy Country for our Traditional Owners, the Yorta Yorta and Taungurung
- improves water quality which has economic benefits for householders, farmers and food processors.

Seasonal watering proposals for flows for environmental outcomes are developed by Catchment Management Authorities with the Victorian Environmental Water Holder (VEWH), an independent body, established by the Victorian Government in 2011, responsible for managing Victoria's water for the environment.

Sites targeted for water for the environment are prioritised based on water availability, seasonal conditions, scientific monitoring and community input.

Based on these local proposals, VEWH develops a state-wide annual seasonal watering plan. This sets out potential releases of water for the environment under a range of water availability and climate scenarios.

VEWH, the Commonwealth Environmental Water Holder and the Murray-Darling Basin Authority seek to coordinate delivery and management of environmental water with managers such as Goulburn-Murray Water.

Water for the environment has been a key part of water policy in Victoria since the 1980s.

Streamside (riparian) vegetation

Native vegetation on land that adjoins, regularly influences, or is influenced by a creek, river or wetland is considered streamside (or riparian) vegetation.

Streamside vegetation is vitally important to the health of waterways as it:

- provides organic matter, a major food source for instream plants and animals
- eventually provides essential instream habitat for many fish and invertebrates in the form of woody debris and roots
- provides stability to banks, minimising erosion
- provides shade, which protects instream plants and animals from temperature extremes and can also control the growth of nuisance aquatic plants and blue-green algae
- traps and filters sediments and nutrients from runoff, protecting and improving water quality.

Streamside vegetation is also critical habitat, often being the largest remnant of native vegetation in mostly cleared catchments. It is a wildlife corridor and a refuge for animals from the adjacent terrestrial landscape in dry times.

The capacity of streamside vegetation to perform these functions depends on its width, connectivity and condition.

The Goulburn Broken CMA, with individuals, communities and agencies, maintains and improves streamside vegetation through activities such as fencing, revegetation, and controlling pest plants and animals.

Engineering works were often used to control erosion and other natural processes in waterways prior to 2000, but waterways are now being 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 Victorian Waterway Management Strategy (2013).

Management of the river channel now focuses on maintaining and improving the bed, banks, instream habitat, riparian land and integrated catchment management, rather than 'hard' engineering solutions like rock beaching.

Water quality

Good quality water is important for the ecological health of waterways and complementary needs, including recreation, water consumption by humans and stock, provision of water for domestic uses, industry, aquaculture, and irrigated agriculture, and enhancement of cultural and spiritual values.

Water quality is mostly measured against the use or value it is intended for (State Environment Protection Policy Waters of Victoria). For example, the quality of water required for drinking is different from that of irrigated agriculture or non-contact recreation like boating.

Implementation of the Goulburn Broken Water Quality Strategy 1996–2016 ended and was reviewed during 2016–17 (see review outcomes under 'Water quality' on page 38). The review recommended that water quality issues be captured in the Regional Waterway Strategy in future.

Fish passage and habitat

Native freshwater fish require unimpeded passage along waterways in order to survive and reproduce. Native fish move within waterways at different times to access food and shelter, avoid predators, and seek out mates. There are 83 species of freshwater fish in south eastern Australia, and over half of these migrate at least once as part of their life cycle. Some species of fish can migrate thousands of kilometres, while others only move a short distance.

Barriers to fish passage prevent the migration of native fish species and can have severe implications for fish populations. In extreme cases, barriers can result in localised extinctions.

Weirs and other instream structures like vehicle crossings, which were built during the 1900s, 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 retro-fitting fish ladders or fishways) to allow passage for native fish commenced in the late 1990s. Most barriers to fish passage in Goulburn Broken Catchment streams have now been removed or modified, and planning is underway to modify or remove the remaining high priority barriers.

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. Native fish use them to shelter from predators, sunlight and fast currents. Native fish also use snags as feeding and spawning sites, and as nursery areas for juvenile fish.

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 flows would improve. Clearing and inappropriate management of native vegetation along rivers and 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 loss of in-stream habitat in waterways, resulting in a decline of native fish populations.

Current re-snagging is restoring native fish habitat: native fish populations are responding strongly. However, re-snagging on its own is unlikely to be the sole driver of native fish recovery. Better management of streamside zones by fencing to restrict stock access and protect native vegetation will result in a constant natural supply of snags in future.

Catchment condition – Waterways (since 1990)

The resilience of waterways has increased significantly since 1990 because of onground works, environmentally sensitive changes in how public and private land is managed, the establishment of sustainable diversion limits, creation of reserves of water in storages for the environment, and a step-change increase of community involvement in raising awareness and onground management.

However, risks to waterways from climate change are now very high. Since 2000, waterways have been impacted by prolonged drought, fires and to a lesser extent, floods.

Streamflows and wetland inundation

Although we are in the early stages of learning how to best use water set aside for the environment, native vegetation is improving, water birds and frogs are breeding and fish are migrating and spawning, indicating increased resilience of the waterways system.

In 1995 a cap on diversions of surface water from the Murray Darling Basin was established. The limit is set at the volume that was diverted under the 1993-94 levels of development. With the adoption of the Murray Darling Basin plan in 2012, the cap is being transitioned to Sustainable diversion limits (SDLs). These set how much water can be used in the Basin while leaving enough for the environment.

During the unprecedented millennium drought, water was provided to major wetlands and waterways such as Reedy Swamp, Goulburn River, Broken River, Broken Creek, and Barmah Forest, providing a bridge to the return of wetter times.

Several streams have experienced record or near-record floods since the millennium drought ended. This has helped the recovery of stream, floodplain and wetland plants and animals.

Undammed (unregulated) streams

The establishment of sustainable diversion limits and improved management of licensed water-use extraction through local management plans has improved flows in unregulated streams.

Dammed (regulated) streams

In addition to improvements described for undammed streams (above), water set aside for the environment has improved flows in regulated streams.

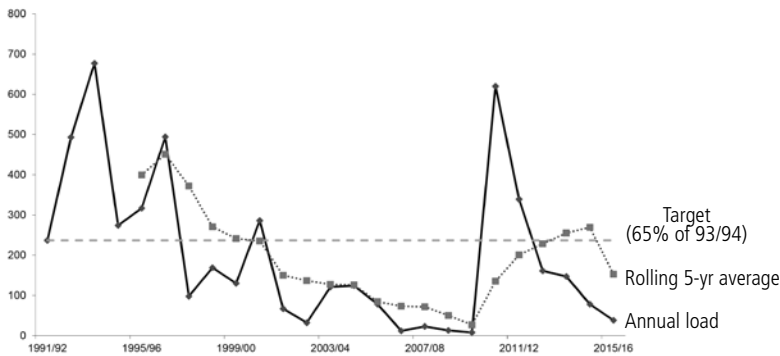
Streamside (riparian) vegetation

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 grazing pressure, and an overall improvement in the condition of streamside vegetation.

Significant onground works over the last 20 years has improved streamside vegetation on priority waterways, supported by improved:

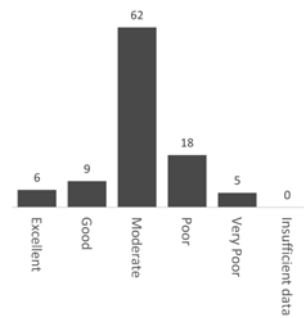
- private landholder, government and agency partnership arrangements
- administrative, institutional and legislative arrangements, including water for the environment and floodplain management
- community appreciation and support of waterway values
- onground management approaches informed by research and monitoring
- integration of activities delivered through other Goulburn Broken CMA investment areas (Sustainable Irrigation, Land, and Biodiversity)
- significant investment by regional stakeholders.

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



Index of stream condition 2010

Goulburn Broken Basin
Stream condition % length



Water quality

The catchment goal of a 65 per cent reduction in TP (Total phosphorus) export from the catchment 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.

Institutional arrangements to manage water quality threats continue through several regional participant forums. (See 'Water quality' under Long-term strategy implementation progress on page 38.)

There have been frequent low dissolved-oxygen and low oxygen (hypoxic) blackwater events in recent years, causing 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 difficult to predict and mitigate. The changing climate is likely to increase the risk of low dissolved-oxygen and hypoxic blackwater events.

Wildfires occur regularly in south eastern Australia and can instigate short to medium-term water quality issues. Again, as the climate changes, the impact of wildfires on water quality needs to be considered.

Fish passage and habitat

A total of 24 fish barriers have been removed or modified in Goulburn Broken Catchment waterways since 2004. Several other major barriers to fish passage on the Broken Creek (between Numurkah and Nathalia), Seven Creeks (at Euroa) and the Broken River (at Benalla and Casey's Weir) were also fitted with vertical slot fishways prior to 2004.

Fish passage is also now considered and must be addressed by Goulburn Murray Water when modifications to existing irrigation infrastructure, such as weirs, are planned.

Although most barriers to fish passage in streams in the Goulburn Broken Catchment have now been removed or modified, several weirs and crossings are still a high priority for removal or modification, and planning is underway to complete this work.

Several large projects funded through the Recreational Fishing Licence Grants Scheme and other recent projects have focused on re-snagging in the mid and lower Goulburn River and the Broken Creek: 2,180 large snags have been placed since 2011. A total of 3,140 snags have been reintroduced to priority waterways to improve habitat for native fish in the Catchment since 2004.

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 5 per cent are moderately depleted (with a 40 to 59 per cent decrease).

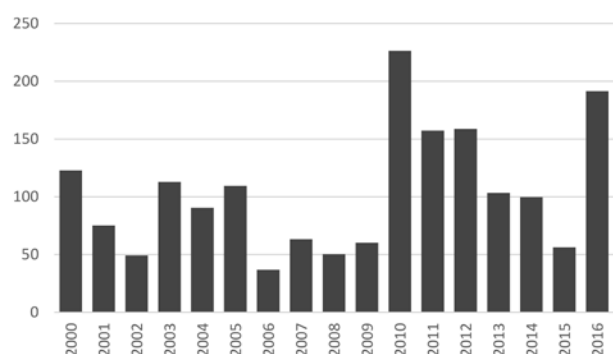
Index of stream condition

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 (9 and 6 per cent respectively; see bar chart above). 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 (6 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

Annual river inflow Goulburn Broken Catchment, mm ⁱ



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

Long-term strategy implementation progress and 2016-17 performance

Progress in implementing the Goulburn Broken Waterway Strategy 2014-2022 is shown against the critical attributes for long-term resilience. Implementation of many waterway strategy actions have been used to inform progress, although links with critical attributes have not been formalised.

Long-term strategy implementation progress	2016-17 performance
<p>Progress in building resilience via the five critical waterway attributes varies, largely reflecting the maturity of interventions.</p> <p>The 2013 review of the Goulburn Broken Regional River Health Strategy 2002-2012 indicated that a substantial program of works and complementary initiatives had been implemented. The Catchment experienced fires, floods and drought during the life of the strategy. The program responded by securing funding and implementing recovery programs and initiatives with the community.</p>	<p>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.</p> <p>Actions included fencing, revegetation, pest plant and animal control, improving instream woody habitat, water for the environment delivery, monitoring and employment.</p> <p>Funding sources included the Victorian Government's Onground Works Program, Regional Riparian Action Plan, Victorian Environmental Water Holder, Recreational Fishing Grants Program and the Australian Government's National Landcare Programme and The Living Murray Initiative.</p>
Streamflows and wetland inundation	
Dammed (regulated) streams	
<p>With the assistance of partner organisations and input from regional community, the Goulburn Broken CMA has played a key role in delivering and managing water for the environment since early 2000 to maintain and enhance ecological values of rivers, floodplains and wetlands.</p> <p>The table on page 42 shows the annual volume of environmental water delivered within the Goulburn Broken CMA in the past 10 years.</p> <p>In recent years, the Goulburn Broken CMA has managed the delivery of environmental water to the Goulburn River, Broken Creek, Barmah Forest and a number of priority wetlands. This has been done to improve water quality, promote the growth and establishment of native vegetation, promote and support waterbird and fish breeding, provide drought refuge for native fauna, provide habitat for native fish and water bugs and to reduce the growth of nuisance aquatic plants.</p> <p>The Victorian Government, with support from the Goulburn Broken CMA and its partners, is increasing water availability by saving water in supply and delivery for farming through projects such as the Commonwealth Government's On-farm Irrigation Efficiency Program and the GMW Connections Project.</p>	<p>479,164 megalitres of environmental water was delivered to support fish, macroinvertebrate, water bird and vegetation ecological objectives in the lower Goulburn River, lower Broken Creek and Barmah Forest (see tables on pages 41 & 42)</p> <p>Above average winter and spring rainfall filled many wetlands in the Catchment, including Doctors Swamp, Black Swamp, Kinnairds Wetland, Reedy Swamp and Moodie Swamp: these wetlands didn't require their scheduled environmental water deliveries.</p> <p>Significant ecological outcomes included:</p> <ul style="list-style-type: none"> — golden and silver perch migrated into in the lower Goulburn River from the Murray River — continued improvement in bank vegetation cover and abundance along the lower Goulburn River — thousands of waterbirds successfully bred in Barmah-Millewa Forest including ibis, royal spoonbills, cormorants, egrets and night-herons — water quality was maintained in the lower Broken Creek to support native fish communities. <p>Environmental water was delivered in accordance with VEVH processes, with assistance and cooperation of partners. Most priority watering actions were achieved at all sites.</p> <p>Over 199,546 ML of the environmental water used in the Goulburn River and lower Broken Creek, continued to the Murray River to benefit downstream water quality, recreation, wetlands and rivers.</p> <p>100,571 ML of consumptive water in transit provided environmental benefits in the lower Goulburn River and the lower Broken Creek.</p> <p>A multi-year watering plan for the Goulburn River was developed to establish principles and rules to guide annual environmental water deployment and reservation.</p> <p>Seasonal watering proposals were prepared for Lower Broken Creek, Upper Broken Creek, Broken River, Goulburn River, Barmah Forest and priority wetlands in consultation with key stakeholders and partners.</p> <p>A study to establish flow requirements was completed for the upper Broken Creek to set environmental objectives, identify associated flow recommendations and maximise environmental outcomes in the context of (out-of-season) irrigation flows in summer and autumn.</p> <p>In autumn, a fresh delivered down the lower Goulburn River was complemented by a pulse down the Murray River, which stimulated juvenile golden perch and silver perch to migrate up the Murray River and into lower Goulburn River. This was the first time environmental flows were coordinated between the two river systems to achieve a common outcome (assisted by GMW, CEWO, MDBA, ARI and VEVH)</p>

Long-term strategy implementation progress	2016-17 performance
Streamflows and wetland inundation (continued)	
Undammed (unregulated) streams	
<p>The Goulburn Broken CMA has completed a number of technical studies (environmental flow determinations and stream flow 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 the environment and consumptive demands. These studies are yet to be fully implemented.</p>	<p>The Goulburn Broken CMA has been working with GMW to implement Local management plans for ground water management areas including Eildon, Upper Goulburn and Strathbogie. GMW have recently developed these plans in consultation with the Goulburn Broken CMA and other key stakeholders.</p> <p>The activities described below (Streamside vegetation) contribute to the protection and enhancement of undammed streams.</p>
Streamside (Riparian) vegetation	
<p>The Goulburn Broken CMA, in partnership with land managers, continues to undertake activities to protect and improve the condition of rivers and wetlands across the catchment. Since 1997, over 1,000 kilometres of fencing has been erected, approximately 24,000 hectares has been treated for weeds along waterways. More recently, the Goulburn Broken CMA has focused on re-snagging waterways to improve instream habitat. Approximately 2,779 instream woody habitat pieces have been added to priority waterways, including the Goulburn River, Broken Creek, Hughes Creek, Holland Creek and Tahbilk Lagoon.</p>	<p>Significant onground works were undertaken on streams flowing from the Strathbogie Ranges, including Hughes Creek, Seven Creeks, Honeysuckle Creek and Pranjip Creek (funded through Victorian Government's Regional Riparian Action Plan). Community interest in the Strathbogie Streams project has been encouraging and the project will continue to gather momentum, leading to improvement in the health of target streams in coming years.</p> <p>In partnership with North East CMA, early stages of development of a virtual fencing system that could be used to better manage stock grazing in riparian areas progressed. Prototype collars were built and trialled in partnership with Murray Local Land Services (funded by Department of Environment, Land, Water and Planning).</p>
Water quality	
<p>The Goulburn Broken Water Quality Strategy 1996–2016 was reviewed with key contributing partner organisations. The review indicates good progress toward targets and that no major change in direction was needed. The strategic focus on water quality for the region will now be covered in the Regional Waterway Strategy as one of the key components of waterway health. One key point of note was that at the time of developing the original strategy, blue-green algal blooms were a key focus. As a result of successfully reducing nutrient loads in waterways, blue-green algae outbreaks have been substantially reduced in severity and extent across the region. Recently, water quality management has increasingly focused on hypoxic (low oxygen) conditions, which can result in the death of a range of aquatic biota.</p>	<p>The Water Quality Forum continued monitoring the significant high flow conditions.</p> <p>Around the new year period, high rainfall generated hypoxic blackwater in Seven Creeks and then the Lower Goulburn River. With the assistance of Goulburn Murray Water, flows were increased down the Goulburn river to dilute the blackwater and provide refuge for native fish. Unfortunately, the blackwater event resulted in fish deaths and impacted local drinking water supply treatment. Response to the event was reviewed with key stakeholders and partners to identify opportunities to improve prediction and management of future events.</p> <p>An animation was developed to help improve community understanding of blackwater and was screened at an open air movie night in Shepparton.</p>
Fish passage and habitat	
<p>See information under waterways condition (page 36)</p>	<p>Large scale instream habitat works continued along the Broken Creek in line with recommendations from Arthur Rylah Institute (funded through Recreational Fishing Licence grants). Instream habitat works were carried out in the lower Goulburn River, Hughes Creek and Seven Creeks. Arrowhead (an aquatic weed) control was completed on the Broken, Boosey and Nine Mile Creeks.</p>

Community capacity, engagement and involvement in 2016-17

The Broken and Goulburn Environmental Water Advisory Groups and the Goulburn Broken Wetland Management Group continued to meet and guide environmental water-planning, use, monitoring and complementary works. The groups are comprised of agency, stakeholder and community representatives. During the year a review of the groups was undertaken to inform their operation in coming years.

The Goulburn Broken Wetland Technical Reference Group was established to ensure environmental water management decisions are based on sound technical knowledge.

Activities to improve the health of Barmah-Millewa Forest including the coordination of an Icon Coordinating Committee, a Technical Advisory Committee, and an Indigenous Partnership Program (funded by The Living Murray program). These groups guide the implementation of monitoring, research, works, and environmental water management in the Forest. Cross-state water management continued between New South Wales and Victorian agencies and the Murray-Darling Basin Authority.

See the 'Community' section on page 30 for further information on Traditional Owner contributions.

The sixth Floodplain Ecology Course was successfully held at Barmah during October, managed by the Goulburn Murray Landcare Network, with 17 participants attending the 5-day course funded by Australian Government's National Landcare Programme.

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 1,328 community members and school students were involved in education programs and a key achievement this year was the update of the strategic plan.

Waterwatch continued as a highly successful community education and water quality data collection program. More than 7,000 students participated, including water week and water quality and catchment education.

Goulburn Broken CMA staff presented to a variety of forums on waterway management. These included the Australian Stream Management Conference, Australian Society for Limnology, Talk Wild Trout Conference, Gone Fishing Day, Numurkah Fishing Club, Rotary Shepparton, Goulburn Murray Fly Fishers, Shepparton High School, the Fairley Leadership program, Goulburn Broken Indigenous Consultation Group, Land and Biodiversity Implementation Forum and GMW Water Service Steering Committees. In total over 1,500 people were engaged through these presentations.

Re-engagement with past program participants continued, with 20 landholders interviewed to better understand their experience in riparian and instream projects and identify potential improvements. Results have largely been positive and have also guided program improvement. Most landholders surveyed were satisfied with the effectiveness of the works undertaken and the advice and technical support provided by the Goulburn Broken CMA. The condition of the areas where onground works had been carried out was assessed as part of the survey process, with 57.9 per cent of sites protected by fencing showing

an improvement in condition and the condition of the remaining 42.1 per cent being stable.

In October, over 200 people enjoyed the 'Gone Fishing Day' held at Victoria Park Lake in Shepparton. The event raised awareness of the importance of river health in protecting native fish and other aquatic animals. Arthur Rylah Institute, Waterwatch, Goulburn Valley Water, Trely's Shepparton and The Australian Platypus Conservancy assisted with presentations and displays on the day.

The project to build the resilience of the Barmah Forest to protect its ecological character, funded by the Australian Government's National Landcare Programme continued to be delivered in partnership with Yorta Yorta Nation Aboriginal Corporation and Parks Victoria. Targets were met or exceeded with approximately 846 hectares of pest plant populations treated and 52 feral pigs eradicated. Rabbits were present in low densities and continue to be controlled. Turtle-nest monitoring revealed a significant reduction in fox-predation due to baiting.

Three Environmental Water Advisory Groups (Wetlands, Broken and Goulburn) were reviewed in 2017 with most respondents to a survey indicating that they were satisfied with their ability to provide advice on proposed waterings and feedback on their impact.

Monitoring, research and development, and adapting management

Monitoring of threatened species continued and included recovery monitoring of Macquarie Perch in the Holland, King Parrot, Seven and Hughes Creeks.

Electrofishing surveys of fish populations along the lower Broken Creek were undertaken. The information collected will help inform water for the environment planning and river restoration works.

Implementation of the Barmah ecological character project (funded by the Australian Government's National Landcare Programme) continues to be informed by a range of monitoring activities that measure changes to the cover and abundance of pest plants in priority vegetation communities, the number of fox baits taken, the number of pigs trapped and the number of turtle nests raided by foxes and pigs. These monitoring activities are also supported by information collected through remote cameras.

Lake Benalla, Broken Creek, Broken River and upper Broken Creek were assessed for the presence of Cabomba, an aquatic 'Weed of National Significance (WoNS)'. After six years of absence, the weed has been detected once again in Lake Benalla, and thus remedial works are being planned for implementation in early 2018. The weed is also being controlled with excavation work in Casey's Weir and Broken Creek.

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.

The five-year Goulburn River Long-term Intervention Monitoring Program, funded by the Commonwealth Government, continued monitoring in the lower Goulburn River. Monitoring focuses on native fish, macroinvertebrates, vegetation, geomorphology and ecosystem metabolism

responses. Goulburn Broken CMA staff have assisted with fish, macroinvertebrates, vegetation and geomorphology monitoring activities. Goulburn Broken CMA staff have also assisted with project communication and promotion. This information is used to inform future planning and delivery of water for the environment.

Input was provided into the review and design of the new Victorian Environmental Flow Monitoring and Assessment Program and the Wetland Environmental Monitoring and Evaluation Program. The State funded programs aim to assess the ecological outcomes of environmental water management in rivers and wetlands across the state including a number of rivers and wetlands in the Goulburn Broken Catchment.

Vegetation, water quality, waterbird and frog responses to environmental water were assessed at Reedy Swamp, Moodie Swamp, Black Swamp, Doctors Swamp and Kinnairds Wetland. The project was funded by the Victorian Environmental Water Holder.

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 2014-15, 2015-16 and 2016-17

Action	From funds received through Corporate Plan					
	Achieved ⁱ			Target	% achieved	
	2014-15	2015-16	2016-17			
Stock grazing action						
Fence riparian land (= wetland + stream/river remnant below)	ha	309	247	431	25	1,723
Fence wetland remnant	ha	168	3	137	25	548
Fence stream/river remnant ⁱⁱ	ha	141	244	294	-	
Fence stream/river remnant	km	70	38	35	13	269
Off-stream watering	no.	15	19	25	8	313
Nutrient-rich and turbid water and suspended solids action						
Stormwater management projects ⁱⁱⁱ	no.	-	-	-	-	
In stream and near-stream erosion action						
Bank protection actions	km	0.40	0.91	0.62	-	
Instream & tributary erosion controlled	km	0.60	0.91	0.62	-	
Changed flow-pattern action						
Environmental water use ^{iv}	ML	339,318	698,264	479,164	-	
Weed invasion action						
Weeds – aquatic weeds controlled (managed)	km	97	14	9	-	
Habitat loss management						
Rock ramp fishway	no.	-	-	-	-	
Fish barrier removal	no.	-	-	-	-	
In-stream woody habitat - snags ^v	no.	357	334	363	65	558
Surface water action^{vi}						
Drain - primary built ^{vii}	km	-	-	-	-	
Drain - community built	km	-	-	-	-	
Farm reuse systems installed ^{viii}	no.	9	-	5	5	100
High flow drain diversion - high nutrient water removed ^{ix}	ML	-	-	-	-	
Irrigation systems - improved ^x	ha	4,745	3,553	4,460	-	

i. Achievements may include those from other complementary investment areas. Outputs delivered through each fund source are available from the Goulburn Broken CMA. For a full list of footnotes please see Appendix 3 on page 130.

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.

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. 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'.

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 + 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].

Environmental water used during 2016-17

Quantity, ML	Timing	Source
Water used WITHIN the Goulburn Broken Catchment		
Goulburn River		
145,771	July 2016 to August 2016, December 2016 to January 2017, March 2017 to June 2017	Commonwealth Environmental Water – Goulburn River System
20,000	November 2016 to December 2016	The Living Murray Water – Goulburn River System
27,500	November 2016 to December 2016 and March 2017	Victorian Environmental Water – Goulburn River System
Lower Broken Creek		
36,192	November 2016 to June 2017	Commonwealth Environmental Water – Goulburn River System
0	No water delivered	Goulburn River Water Quality Allowance – Goulburn River System
0	No water delivered	Commonwealth Environmental Water – Murray River System
0	No water delivered	Victorian Environmental Water – Murray River System
Barmah-Millewa Forest		
39,000	November 2016 to December 2016	Commonwealth Environmental Water – Victoria and NSW
30,700	August 2016 and November 2016	The Living Murray allocation – Victoria and NSW
168,000	December 2016	Barmah-Millewa Forest Environmental Water Allocation
12,000	November 2016 and January 2017 to February 2017	Victorian Environmental Water – Murray River System
4,488	November 2016 to January 2017	NSW Adaptive Environmental Allowance
Black Swamp (Lower Broken Creek)		
0	No water delivered	Victorian Environmental Water – Goulburn River System
Doctors Swamp (Lower Goulburn River)		
0	No water delivered	Victorian Environmental Water – Goulburn River System
Kinnairds Wetland (Lower Broken Creek)		
0	No water delivered	Victorian Environmental Water – Goulburn River System
Moodie Swamp (Upper Broken Creek)		
0	No water delivered	Victorian Environmental Water – Broken River System
Reedy Swamp (Lower Goulburn River)		
0	No water delivered	Victorian Environmental Water – Goulburn River System
Water used DOWNSTREAM that benefited waterways in the Goulburn Broken Catchment		
Murray River		
88,354	January 2017 to April 2017	Inter-Valley Transfers (Goulburn River) ⁱ
20,000	November 2016 to December 2016	The Living Murray allocation (Goulburn River)
12,217	October 2016 to April 2017	Inter-Valley Transfers (lower Broken Creek) ⁱ
1,325,212	July 2016 to June 2017	Goulburn River Unregulated Flows
251,806	July 2016 to June 2017	Murray Unregulated Flows (lower Broken Creek) ⁱⁱ
0	No water delivered	Murray consumptive water in transit (lower Broken Creek)

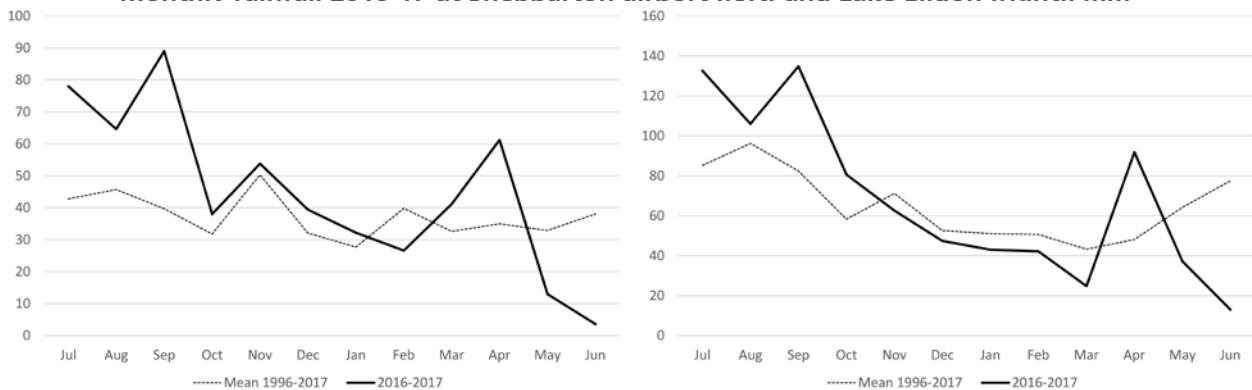
- i. Intervalley transfers are not considered to be environmental water but can provide environmental benefits. These volumes are not included in total environmental water use figures.
- ii. This figure includes operational losses, which only represent a small proportion of the total figure.

Environmental water use

Wetland or stream	Volume, ML											
	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	
Barmah-Millewa Forest (Vic) ⁱ	0	0	300	1,850	184,500	184,500	2,959	195,386	0	109,351	95,800	
Barmah-Millewa Forest (NSW) ⁱ	0	125	0	520	243,500	243,500	0	167,700	0	328,044	158,388	
Black Swamp	0	90	40	80	0	0	0	50	0	80	0	
Lower Broken Creek	Goulburn River Water Quality Allowance deployed ⁱⁱ						10,366	41,230	38,593	34,306	30,319	36,192
Upper Broken Creek	0	0	0	0	0	0	51	0	387	0	0	
Broken River	0	0	0	0	24.2	0	0	0	0	0	0	
Doctors Swamp	0	0	0	40 (trial)	0	0	0	0	0	594	0	
Goulburn River	0	0	0	0	26,670	195,110	255,427	312,349	304,125	228,252	193,272	
Kinnairds Wetland	0	426	0	400	0	0	0	179	0	696	0	
Moodie Swamp	0	50	0	0	0	0	0	121	500	500	0	
Reedy Swamp ⁱⁱⁱ	0	544	300	300	0	0	0	0	0	475	0	
TOTALS	0	1,235	640	3,190	454,694	633,476	299,667	714,378	339,318	698,264	479,164	

- The proportion of environmental water delivered to the Victorian and NSW sides of Barmah-Millewa Forest was not formally measured. The volumes represent an estimate based on water delivery plans.
- 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.
- A reconciliation of environmental water delivered to Reedy Swamp in 2008-09 has resulted in a revised water use figure for that year.

Monthly rainfall 2016-17 at Shepparton airport (left) and Lake Eildon (right), mm ⁱ



- Source: Australian Government Bureau of Meteorology.

What's next?

Implementation and review of the Goulburn Broken Waterway Strategy 2014-2022, in partnership with regional agencies and the community, will continue. Over the next 12 months the strategy will undergo a mid-term review.

The Strathbogie Streams Regional Riparian Action Plan project will continue to focus on streams flowing from the Strathbogie Ranges.

Opportunities for multiple uses of environmental water will continue to be explored with neighbouring catchment management authorities, the Victorian Environmental Water Holder, the Commonwealth Environmental Water Holder and the Murray-Darling Basin Authority. Further opportunities for shared benefits and cultural values of water for the environment will continue to be explored.

A FLOWS study will be prepared for the lower Broken Creek. The study will develop a set of environmental objectives for the management of water dependent values (e.g. native fish, aquatic plants and physical habitat) and identify flow recommendations to meet the environmental objectives. These objectives will inform lower Broken Creek environmental water planning and management.

2017-18 seasonal watering proposals aim to:

- provide flows in the lower Broken Creek to allow native fish passage, increase native fish habitat during the migration and breeding seasons and manage threats to native fish from low dissolved oxygen levels and/or excessive Azolla growth
- provide minimum flows and freshes in the lower Goulburn River to support native fish, macroinvertebrates and native vegetation habitat and recruitment
- promote the growth and establishment of Moira Grass and support colonial waterbird breeding in Barmah Forest
- promote the health of native vegetation communities and support waterbird breeding at Black Swamp, Kinnairds Wetland, Moodie Swamp, Reedy Swamp and Doctors Swamp.

The Goulburn Broken CMA will continue to support implementation of the Goulburn River long-term intervention monitoring program and the development and implementation of the Victorian wetland monitoring and assessment program.

Investment area – Floodplain management

Compiled by Guy Tierney and Dean Judd.

Long-term and annual scorecard ⁱ

2016-17 performance		On target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Condition is highly variable now, with significant floodplain management improvements in some geographic areas and others yet to be implemented (although on schedule). Overall flood impacts have increased because there is now more infrastructure and assets on the floodplain, but improved management has significantly reduced what the annual average damages would have been.			
	Very poor	Satisfactory	Medium				
Resilience assessment						Long-term strategy implementation ^v	
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}				
	1990	2017	Trend 2014-17	Long-term (10+ years)		Start	Stage
				Current support ^{vi}	No support ^{vi}		
Flood impact	Very poor	Satisfactory	Risk declining	Medium	Very high	2002	Late

- i. Appendix 1 describes the analytical framework, including terms used in this scorecard. 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 2017.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
458	894	861	806

i. Forecast based on the Corporate Plan 2017-18.

Strategic references

- Goulburn Broken Regional Floodplain Strategy 2002 and (Interim) 2014-2016
- *Planning and Environment Act 1987*
- *Subdivision Act 1988*
- *Building Regulations 2005*
- *Water Act 1989*
- *Minerals and Resources (Sustainable Development) Act 1990*
- *Environment Protection Act 1970*

Background

Floodplain management functions have been delegated to the Goulburn Broken CMA, and are described under Section 202 of the *Water Act 1989*. A specific function is to provide advice about flooding and controls on development to local councils, the Secretary of the Department of Environment, Land, Water and Planning and the community.

The use of 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) assists in understanding impacts of floods on urban and rural communities. In recent years, these techniques have been used to understand environmental flow regimes in river 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 underpins the investigation of mitigation and management options. Such options include structural solutions (levees, retardation basins, floodways) and non-structural solutions (flood warning and awareness, emergency management arrangements and land-use planning controls).

Catchment condition - Floodplain management (since 1990)

There have been significant floodplain management improvements in many geographic areas, with others yet to be implemented (although on schedule).

Overall flood impacts have increased because more infrastructure and assets are now on the floodplain, but improved management has significantly reduced what the annual average damages would have been through flood intelligence that supports total flood warning systems, flood mitigation infrastructure, land-use planning and emergency management arrangements.

Since 2009-10, there have been significant gains with the standard statewide format of Municipal Flood Emergency Plans, and continued gains in land-use plans (planning schemes) and flood intelligence systems (i.e. state wide FloodZoom system).

Technology improvements seek to connect community stakeholders to fit-for-purpose flood information to promote education and awareness, which, in turn, improves flood resilience. This dovetails with statewide data such as Bureau of Meteorology, and FloodZoom data.

Long-term strategy implementation

The Goulburn Broken CMA coordinates implementation of its Goulburn Broken Regional Floodplain Strategy, in partnership with agencies and communities.

The vision is: 'to achieve best practice floodplain management for the benefit of current and future generations'. This includes the building of community resilience by understanding the nature of flooding through flood studies, planning for floods through emergency response, education and awareness programs and land-use planning.

A total of 48 studies have been completed since 1997 and 7 studies are currently underway. Consistent with adaptive management, some of the studies undertaken differed from those listed in the original Goulburn Broken Regional Floodplain Management Strategy 2002. These studies are informing flood mitigation schemes, land-use planning, emergency management, and education and awareness activities.

Following the release of the new Victorian Floodplain Management Strategy in 2016, the Goulburn Broken CMA has embarked on coordinating the development of a new Regional Floodplain Management Strategy with its catchment partners. This strategy will focus on preparing both a long-term investment plan and a three-year rolling action plan for new initiatives centred around flood mitigation, total flood warning systems, land-use planning and emergency planning. The draft vision of this new strategy has been prepared to include the resilience approach, namely: 'through partnerships, improve the flood resilience of the catchment's people, infrastructure, land, water resources and biodiversity'.

A draft strategy will be prepared in mid-2017 for further stakeholder consultation.

Three long-term targets have been proposed to provide measurable reference points of progress in achieving the floodplain management vision:

- Reduce the impact of flooding on the built environment (and land-use planning to steer inappropriate developments and uses away from unacceptable flood hazards)

- Provide flood information material to the Catchment's stakeholders about flood hazard and associated risk to encourage flood resilience
- Provide ecosystems with natural flooding patterns where appropriate.

Implementation of the Goulburn Broken Regional Floodplain Management Strategy is opportunistic and is subject to funding under Australian and Victorian Government incentives through programs such as the Natural Disaster Resilience Grants Scheme.

It is assumed that tasks completed will result in reduced impact of flooding on the built environment and its peoples (when it floods). Following completion of a number of flood studies and floodplain management plans, responsible authorities are implementing recommendations, including structural and non-structural works using local, Victorian and Australian government grants.

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

2016-17 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 a number of government agencies. The Goulburn Broken CMA currently manages and hosts the Flood Victoria website on behalf of the Victorian Government, which is currently undergoing transformation.

The table below provides a summary of the studies and implementation plans progressed for 2016-17. All studies are carried out under a partnership approach with local government, State and Commonwealth 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 2016-17

Project Name	Lead Agency	Status
Seymour Town Levee Implementation Plan	Mitchell Shire Council	Civil design consultants have been engaged by Mitchell Shire to carry out the detailed design.
Granite Creeks Regional Flood Mapping Project (Hume Freeway to the Goulburn River)	DELWP	Further detailed ground data collected to extend the scope of flood mapping, which has been presented to community groups.
Numurkah Floodplain Management Study	Moira Shire Council	Public submissions in late 2015 indicated further options to be explored, which is progressing. Further detailed ground data was collected to extend the study area to allow for further mitigation assessment. A grant for initial funds has been prepared for Stage 1 Mitigation Infrastructure preliminary design. Moira Shire has been working on flood prediction services by the Bureau of Meteorology and has updated the Municipal Flood Emergency Plan.
Nagambie Flood Study	Goulburn Broken CMA	Draft final report received and forwarded to Strathbogie Shire Council. Some further mapping products are expected by mid-2017.

Project Name	Lead Agency	Status
Shepparton East Overland Flood Study	Goulburn Broken CMA	Final report delivered to DELWP and Greater Shepparton City Council. Some further mapping products are expected by the mid-2017.
Shepparton Mooroopna Flood Mapping and Intelligence Study	Greater Shepparton City Council	Final hydrology and hydraulic mapping report delivered in April 2017. Community information flood report has commenced and expected to be finalised by the end of 2017.
Planning Framework for Sand and Gravel Mining in the Goulburn Valley	Goulburn Broken CMA	Stage 1: Risk assessment of legacy quarries – completed. Stage 2: Preliminary risk treatment of legacy quarries – completed. Stage 3: Model planning scheme amendment – drafted and legal review completed. Briefings are ongoing with relevant departments as per statement of obligations.
Violet Town Flood Mitigation Detailed Design	Strathbogie Shire Council	Strathbogie Council has embarked on financial modelling to raise funds for flood mitigation works.
Rural flood mapping (Eildon & Nillahcootie catchments)	Goulburn Broken CMA	Revised report to be delivered March 2017.
Hydrology of the Acheron catchment	Goulburn Broken CMA	Continuing.
Kilmore Flood Mapping and Intelligence Study	Mitchell Shire Council	Flood mapping presented to Kilmore community early 2017. Further work on review rests with the consultants.
Flood warning improvements for Benalla	Benalla Rural City Council	FloodSafe Guide drafted. Site-specific flood-chart information has been prepared.

Input into finalisation of FloodSafe Guides was provided for Congupna, Katamatite, Katandra West, and Tungamah.

Input into the Floodplain Working Group continued throughout 2016-17 to prepare guidelines for the regional floodplain management strategies and to advance some of the actions of the Victorian Floodplain Management Strategy.

Significant preparation was put into a Victorian Civil Administrative Tribunal hearing relating to a high profile case of quarrying in the Goulburn River. The decision released in April 2017 upheld the decision not to grant an extension to an existing work authority.

Three new major initiatives are being considered for external funding: upper Broken Creek LiDAR capture,

Goulburn and Broken River, and Sunday and Dry Creeks flood mapping.

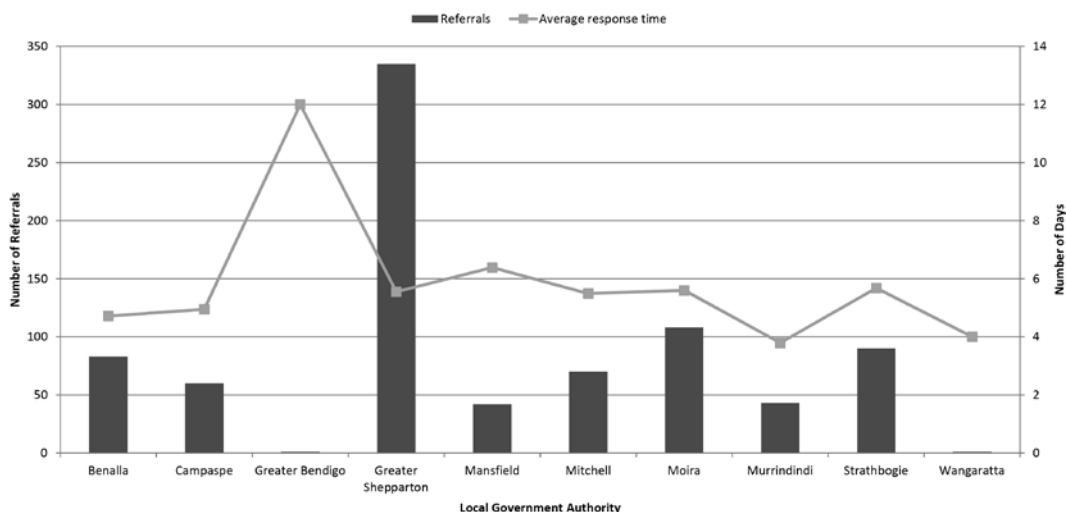
Works within or across a waterway require a licence from the Goulburn Broken CMA to ensure risks to river health and stability are not compromised.

A total of 906 applications and referrals were processed, which included 835 floodplain management and 71 works on waterways applications. The response time for floodplain applications was 5.4 days on average, with 99 per cent of all responses within the allowed timeframe of 28 days.

A breakdown of the number of floodplain applications and referrals received from each local government area and the average response time is shown in the figure below.

Number of referrals by local government authority and average response times for 2016-17

The average response time for the 730 statutory referrals and 103 direct enquiries was 5.3 days and 5.9 days respectively. Response time for works on waterways was 20 days.



Works and operations

Floodplain management actions 2016-17

Action		From funds received	
		Achieved	% of responses and comments
Integrating knowledge into planning			
Land Use Development Direct Applications (LUD)	no.	148	17.8
Planning Scheme Amendment	no.	4	0.5
Flood Information Request Direct Applications (FIR)	no.	42	5.0
Other Direct Applications (DAOTH)	no.	1	0.1
Land Use and Development [Formal] (S 55)	no.	450	54.0
Land Use and Development [Advice only] (S 52)	no.	53	6.4
Certification of Subdivision (S 8)	no.	71	8.5
Subdivision and Certification (S 55 & S 8)	no.	7	0.8
Notice of Planning Scheme Amendment (S 19)	no.	16	1.9
Victorian Building Regulations [VBRs] (R 802)	no.	32	3.8
Other LGA Applications (LGAOTH)	no.	7	0.8
Query & Notification of Unauthorised Work	no.	0	0
Work Plan [Minerals and Energy] (S 77)	no.	2	0.2
Total		833	100
Victorian Civil Administration Tribunal and Planning Panels Victoria hearings	days	80	
Floodplain implementation			
Gazettal of Flood Amendment	no.	0	
Urban flood studies and management plans	no.	3	Numurkah, East Shepparton and Shepparton-Mooroopna Flood Studies
Regional flood studies and management plans	no.	1	Draft Granite Creeks Flood Study
Creating awareness			
Flood education and awareness program	no.	6	Completion of FloodSafe Guides. Update of Murrindindi MEMP

i. Most actions are performed reactively so no targets are set annually, however there are KPIs relating to regulatory waterway/water functions (see page 91).

What's next?

- Flood report tool for Shepparton and Mooroopna.
- Local government planning scheme amendments to incorporate new mapping and performance based assessments will continue. Priorities include Benalla Rural City Council, Violet Town and Nagambie.
- Preparation of a new Goulburn Broken Regional Floodplain Management Strategy.
- Implementation of the Victorian and Regional Floodplain Management Strategies.

Investment area - Biodiversity

Long-term and annual scorecard ⁱ

2016-17 performance		On target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Historic clearing caused large-scale habitat loss. Ensuing practices and the millennium drought have placed many remaining species at heightened risk. Woodland birds, a good biodiversity indicator, are in decline.			
	Very poor	Poor	Very high				
Resilience assessment						Long-term strategy implementation ^v	
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}			Start	Stage
	1990	2017	Trend 2014-17	Long-term (10+ years)			
				Current support ^{vi}	No support ^{vi}		
Native vegetation extent	Very poor	Poor	Risk increasing	Very high	Very high	1997	Early
Native vegetation quality	Poor	Very poor	Risk increasing	Very high	Very high	2003	Middle

- i. Appendix 1 describes the analytical framework, including terms used in this scorecard. 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 2017.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
5,166	3,517	3,358	2,264

- i. Forecast based on the Corporate Plan 2017-18.

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 6).

Background

Biodiversity encompasses the variety of ecosystems, including native vegetation, wetlands and waterways, and the associated plants, fungi, animals, and the genetic diversity they contain.

Biodiversity provides habitat for native plants and animals and direct benefits for people, including natural water purification, agriculturally productive soils, and aesthetically pleasing landscapes in which to live and recreate.

Many ecosystems, plant and animal communities, and species are threatened with extinction.

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

Goulburn Broken CMA's biodiversity projects are delivered through funding from state and federal programs.

Integration of multiple needs of stakeholders is essential, so community engagement is a feature of project delivery.

It is important that we understand the condition of the catchment's biodiversity (from genes to ecosystems) to determine what policies, programs and projects are required to best conserve our natural environment. This understanding considers that the ecology of the Catchment has been transformed since European settlement, the transformation is irreversible, and hundreds of thousands of people will continue to live here and use the land for many purposes. Within this current environment, we can aim for and achieve more resilient ecosystems and more viable populations of native species by delivering strategic projects.

Catchment condition – Biodiversity (since 1990)

The extent of native vegetation has been identified as a critical attribute for long-term resilience and can be used as a measure to identify trends in biodiversity condition, because extent has been shown to be important for a range of biota (although there are many complexities and assumptions). Loss of habitat is one of the key drivers of extinctions, which drives the need for change in the Catchment.

The scale at which we measure change is also important. At the Goulburn Broken Catchment scale, more than 70 per cent of native vegetation has been cleared and modified for agriculture. However, this figure does not reflect the true effect that this has had on the various ecosystems across the Catchment. Changes in native vegetation extent vary between SESSs, which results in different 'conditions' across

the Catchment. For example, there is nearly 100 per cent native vegetation extent in the Southern Forests SES but less than 10 per cent in the Agricultural Floodplains SES. There is an obvious need therefore to have different goals and targets for revegetation in each SES. The use of SESs to measure change in condition may make measurements more meaningful as current condition for each SES can be considered in ways that reflect the quantity of change required for each SES. This could include identifying thresholds of change for each SES, such as 10-30 per cent in the Productive Plains SES, and no loss in the Southern Forest SES.

In measuring catchment condition, there is a need for targets so that we can measure attributes that are considered important in biodiversity conservation. A key guiding document for the Land and Biodiversity Program is the Biodiversity Strategy for the Goulburn Broken Catchment 2016-2021. Targets are:

1. Increase the extent of native vegetation in fragmented landscapes by 70,000 ha by 2030.
2. Improve the quality of 90 per cent of existing (2005) native vegetation by ten per cent by 2030.
3. Increase the population viability of 20 flagship species by 2030.

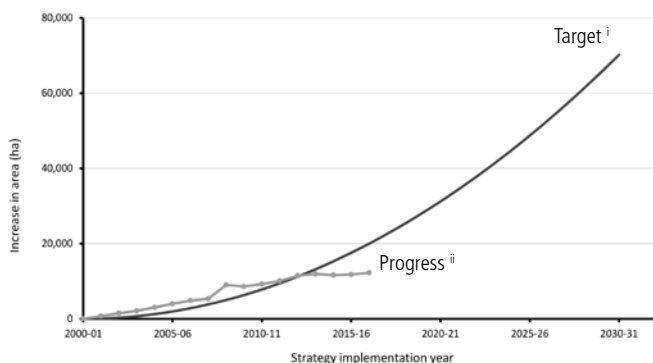
The 'increase extent' target is currently the only one that is measured annually. The quality target is difficult to measure but we are working with scientists to determine indicators of habitat quality. Measurements over time for changes in extent are shown in the graph below. It includes the changes in extent due to native vegetation management carried out by the Goulburn Broken CMA and partner organisations and considers assumptions about other factors that are likely to change vegetation extent, such as losses due to legal and illegal clearing and gains by landholders carrying out their own native vegetation management (see footnotes for details). However, there is still much uncertainty in actual losses and gains and the inability to measure changes in extent with certainty.

Poor recording of actual loss through permitted clearing and exemptions under the permitted clearing process remains a major impediment to tracking progress. The measurement of changes in native vegetation extent at the State level could be improved, particularly in measuring the goal of 'net gain' (although estimates are that 4,000 hectares of native vegetation are being lost each year in Victoria, based on a 2008 DSE report). A direct measure of native vegetation extent is critical in understanding native vegetation extent changes to inform policies and decision making.

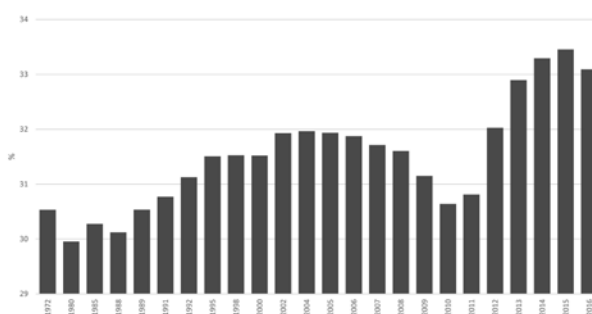
It is recognised that our understanding of whether we are creating resilient landscapes is complex and requires knowledge beyond just the extent of native vegetation. There are a range of incremental losses and changes that are difficult to track and measure. In particular, the increased likelihood and frequency of fire, together with the large-scale and frequent fuel reduction burning, is likely to create losses that are not easily measured or well known. Other factors to consider in changes to catchment condition 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 used for firewood and 'cleaning up' by landholders (removing important leaf litter and fallen logs); and the fragmentation effect of clearing, which results in the inability of flora and fauna to move through landscapes, increasing the risk of extinction through elevated inbreeding and subsequent loss of sub-populations.

While acknowledging uncertainty and recognising that our gains often offset losses, the graph below shows that we are trending away from the native vegetation extent target of 'increasing extent by 70,000 hectares by 2030'. Therefore there is a need for increased investment in native vegetation management, particularly funding for revegetation and improved policy to reduce clearing rates. The amount of revegetation possible is currently restricted by funding and not by the desire of communities or individual landholders to revegetate.

Progress towards native vegetation extent targetⁱ, increase in area, hectares



Goulburn Broken - Percentage tree coverⁱ



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

- i. Resource extent target (revised 2016): Increase the extent of native vegetation in fragmented landscapes by 70,000 hectares by 2030. Note that native vegetation extent is just one indicator of biodiversity. Other indicators such as native vegetation quality are more difficult to measure and it is probable that the trend may not be as positive as it is for native vegetation extent.
- 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.

Long-term strategy implementation progress and 2016-17 performance

The Biodiversity Strategy's initiatives and actions, which are aligned with Australian and Victorian government strategies and priorities, provide ways in which to increase biodiversity conservation and progress towards targets. Project funding results in implementation of the Biodiversity Strategy and funding continues to be diverse. Through its Biodiversity Strategy, the Goulburn Broken CMA has demonstrated to investors the links between project proposals and catchment-scale strategies in both biodiversity-focused and multiple-themed projects. While focused more on terrestrial biodiversity, waterways and wetlands are obviously a critical part of biodiversity, these are described in the 'Waterways' section (page 33).

Long-term strategy implementation progress	2016-17 performance
Biodiversity Program	
Strategic direction 1: Adapting to change	
<p>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, in particular the interactions and opportunities in agricultural landscapes; looking for opportunities for diversification of funding; supporting community engagement opportunities within a changing social and media environment; and working with researchers to improve practices.</p>	Goulburn Broken Biodiversity Strategy 2016-2021 released.
	Directly influenced the 'Protecting Victoria's Environment - Biodiversity 2037' State strategy through reference group meetings and secondment, including assisting in the development of the implementation plan.
	Contributing to DELWP's Monitoring Biodiversity Plan.
	Honours project through Latrobe University and CSIRO looking at genetic diversity of isolated populations of Sweet Quandong (<i>Santalum acuminatum</i>) to consider increasing genetic diversity for future plantings for adaptation to climate change.
	Honours project with Charles Sturt University and Australian Botanic Gardens (Canberra) looking at germination trials of five grassland species.
	Silver Banksia seed production with high genetic diversity being planted across the catchment.
	Working with researchers to determine indicators of vegetation quality.
	NRM Planning for Climate Change Strategy influences project planning and implementation.
	Delivered a project for the Upland Slopes SES that considered climate change, community involvement in planning and research to implement RCS (funded through Our Catchments Our Communities).
	Co-author on CSIRO 'Climate Ready Restoration: Some practical guidelines to plan for restoration in an uncertain future'. Third author on 'Climate Ready Restoration: Guidelines for identifying restoration priorities to support biodiversity conservation under a changing climate.'
	Initial meetings held with Monash University, Dookie College (University of Melbourne) and Latrobe University to discuss gaining a better understanding of ways to increase production and biodiversity.
	Integrated catchment management is occurring through: working with Goulburn Broken CMAs Waterways and Sustainable Irrigation programs in delivery of grants to landholders. The Operating Guidelines are being used for delivery ensuring consistency. Biodiversity team is providing the expertise in managing facilitators and site selection: participating in Steering Committee meetings for working groups for Sustainable Irrigation Our Catchments Our Communities project and Strathbogie Streams Project.
	Two projects presented at Ecological Society of Australasia conference: 1. Direct seeding project and 2. Prioritising landscapes in woodlands.
	Presented at NRM knowledge conference on 'Bogies and Beyond'.
	Biodiversity strategic direction 2: Nurturing partnerships
<p>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.</p>	Facilitated four Land and Biodiversity Implementation Forums (LaBIF), now in its seventh year, to ensure catchment-wide networking and planning to implement strategies.
	Completed two projects with NSW Murray Local Land Services and Yorta Yorta Nation funded by Australian Government's Biodiversity Fund.
	Continued to deliver one project with North East CMA and North Central CMA (Victorian Government funded VEPP project Northern EcoConnections).

Long-term strategy implementation progress	2016-17 performance
Biodiversity strategic direction 2: Nurturing partnerships (Cont'd)	
	Participated in community reference groups: Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC), DELWP 'Safer Together' Fire forums and oversaw Community Network Committees (Landcare, Conservation Management and Chairs' Forum).
	Four meetings held of the Goulburn Broken Local Government Biodiversity Reference Group, convened by Moira Shire Council and funded by the Australian Government's National Landcare Programme. This initiative builds capacity of local government to play an active role in natural resource management by developing skills, knowledge and most importantly, strong and collaborative partnerships.
	Developed one feasibility study of native vegetation offset management with options for a volunteer scheme being explored.
	Indigenous partnerships continued to grow through engagement, training and employment opportunities.
	Interpretive signage project developed in partnership with Yorta Yorta Nation Aboriginal Corporation, Moira Shire Council, Federation Council, Alexander Park Trust and Yarrawonga Mulwala Tourism. Interpretive signage of both local and indigenous heritage, and environment were positioned at 16 points around Lake Mulwala (NSW and Victoria).
	Interpretive Indigenous Taungurung Garden developed at Yea at the Y Water Discovery Centre in partnership with Taungurung Clans Aboriginal Corporation, Murrindindi Shire Council, and Y Water Discovery Centre.
	Participated in the Goulburn Broken Indigenous Consultation Group.
	Five Conservation Management Networks (CMN) supported in community engagement in biodiversity conservation through events, media, newsletters, calendars, signage and working partnerships, including: Heathcote Community House, Heathcote CWA, Katamatite Lions Club, Wodonga and Dookie, Men's Sheds, CHEP Pallets, Birdlife Australia; Broken Creek Field Naturalists, Mandalay Resources; Southern Cross University (NSW), Tooborac, Glenrowan and Currawa Primary Schools, Rushworth and Benalla P12 Colleges, Shepparton U3A and Euroa Environment Group.
	Since 2009, 1550 nest boxes have been built and installed across the Broken Boosey and Whroo Goldfields CMNs for a variety of native fauna that depend on nesting hollows to survive.
	Supporting individual landholders: Numerous property visits were made under the range of biodiversity programs, offering landholder extension and incentives. Limited resources are a barrier to undertaking routine revisits to ensure compliance and discuss ongoing site management.
	Fourteen community networks engaged as delivery partners: building capacity and delivering incentives and community engagement projects: Longwood Plains, Broken Boosey, Whroo Goldfields, Lower Goulburn, and Strathbogie Ranges Conservation Management Networks (CMNs); Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray and Gecko Clan Landcare Networks; Granite Creeks Project, Warrenbayne Boho Landcare Group and Euroa Arboretum.
	Twenty flagship species identified (for strategy target) through a working group of DELWP (regional) and Community Network representatives.
	Biodiversity On-ground Action (community funding) applications developed together to ensure alignment with priorities and identifying where we can work together (as part of LaBIF).
	The Annual Landcare Community Network Report card completed with 66 per cent response rate.

Long-term strategy implementation progress	2016-17 performance
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Biodiversity strategic direction 3: Investing more wisely	
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<p>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.</p> <p>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' process, which identifies project priorities of community and other partners.</p>	<p>The updated Operating Guidelines are ensuring good governance of projects.</p> <p>Delivered Bogies and Beyond project (funded through Our Catchments Our Communities) within a resilience framework that considered climate change scenarios to develop Upland Slopes SES local Plan.</p> <p>Priority actions for the Bogies and Beyond project consider systems and knowledge required to adapt to climate change.</p> <p>Priority landscapes (developed in 2015) in the Agricultural Floodplains SES are influencing delivery of Linking Landscapes in the Lower Goulburn project (funded through Our Catchments Our Communities).</p> <p>The Biodiversity Monitoring Action Plan continued to guide research priorities and help us understand progress towards catchment targets.</p> <p>Results of Bird Surveys from the Threatened Species Protection Initiative project (DELWP funded) provided new insights into the spatial and temporal distribution of three species, which will inform future projects.</p> <p>Results from Bird Surveys (Biodiversity Fund project) that was aiming to determine indicators of habitat quality found that Noisy Miners are the main driver of bird species distributions. Future funding opportunities will aim to control this species where appropriate.</p> <p>An EOI call for Community Networks to deliver Australian Government's National Landcare Programme funded project Woodlands and Wetland was developed so that the groups can determine the funding required for what they want to deliver to support the project.</p> <p>Several research projects we are carrying out, and associated with, are showing that revegetation and remnant enhancement is effective in increasing species numbers and distribution.</p>
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Biodiversity strategic direction 4: Building on our ecological infrastructure	
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<p>Identifying priority landscapes ensures that areas that have a good ecological infrastructure to build on are targeted for incentives to increase landscape connectivity and function and climate change adaptation opportunities for wildlife.</p> <p>Continued support of seed production areas and the Dookie Seedbank ensure seed supply for future landscape-scale revegetation projects.</p> <p>Projects consider protecting our natural and cultural heritage.</p> <p>The importance of wetlands and riparian zones for biodiversity, resilience and adaptability to climate change keeps a focus on investment in these ecosystems.</p>	<p>Received \$3,081,044 (p.a.) from the Australian Government's National Landcare Programme for seven projects over three years (2015 – 2018). The status of six projects is listed below, the remaining project 'Building the resilience of the Barmah Forest Ramsar Site to protect its ecological character' is covered in the Waterways section (page 33).</p> <p>1. Building Traditional Owner Capacity and Participation: Goulburn Broken Indigenous Participation Group formed and active; Taungurung Whole of Country NRM plan completed, and 46 indigenous people attended training.</p> <p>2: Building NRM Community, Skills, Knowledge and Engagement project received funding of \$140,024. Box-Ironbark course held with 22 attendees including four indigenous people. Floodplain Ecology Course held with 21 attendees including four indigenous people.</p> <p>3: Improving the resilience of Nationally Significant Woodland and Wetland Ecosystems in the Goulburn Broken project received funding of \$942,652 with 337 hectares of box woodlands secured under 10-year management agreements across 18 sites.</p> <p>4: Building the resilience of EPBC threatened species in the Goulburn Broken Catchment project received funding of \$373,333. Total outputs achieved: 45.62 hectares of remnant woodlands protected, five community groups supported and 119.5 hectares revegetated. The Superb Parrot Project achieved 15 hectares of revegetation. The Regent Honeyeater Project achieved 40.62 hectares of protection and 104.5 hectares of revegetation across 12 sites.</p> <p>5: Community Directed Action Learning to Enhance Soil Ecosystem Services project funding received \$762,244. Outputs achieved: 39 SoilCare workshops/field days, 1,696 participants, 2,144 hectares practice change, funding supplied to 19 community and industry projects, 45 community and producer groups supported.</p> <p>6: Regional Landcare Facilitator Goulburn Broken project funding received \$150,000. Outputs achieved: 104 participants at field days, 78 at training events and 319 participants at workshop events.</p>
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Long-term strategy implementation progress	2016-17 performance
Biodiversity strategic direction 4: Building on our ecological infrastructure (Cont'd)	
	Received \$1,053,000 from the Australian Government's Biodiversity Fund for three projects:
	1: Biodiverse Carbon Landscapes outputs achieved: 423 hectares over 26 sites under 10-year management agreements. This project is now completed and in total this project achieved over 3,000 ha under agreement.
	2: Sand Ridge Woodlands (including 20 Million trees funding from the Australian Government's National Landcare Programme). Achievements: 664 hectares of revegetation (includes 640 hectares in NSW); with 150 kilograms of native seed sown and 7,775 plants planted, 76 hectares remnant protection; 473 hectares of pest plant and animal control (includes 409 hectares in NSW). Note: as a multi-regional, cross-border project outputs include those achieved through NSW National Parks and Wildlife Service and Murray Local Land Services in NSW.
	3: Providing indigenous seed for revegetation in the Goulburn Broken Catchment: 15.5 hectares revegetation and 22,325 plants planted.
	Victorian Government's Landcare Grants funding received \$245,000: 16 community lead projects: pest plant and animal control, land manager and community education, vegetation protection and enhancement, sustainable farming practices and waterway protection.
	Threatened Species Protection Initiative Community Volunteer Action Grants Round 2 funded Broken Boosey CMN \$16,000 for 'A Turquoise Landscape'.
	Successful in receiving \$300,000 from DELWP Biodiversity On-ground Action grants to assist in delivery of the State Biodiversity Plan. Project developed with NECMA, DELWP, Parks Victoria and Trust for Nature. Four reserves in the Longwood Violet Town plains will be targeted for management.
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.	Biodiversity Spring coordinated events continue to be carried out by many community groups, with 74 events delivered, and approximately 1,500 people involved.
Ongoing efforts are required to promote synergies between biodiversity conservation and land management at the farm and landscapes scales.	Development of one booklet: 'Grassy Woodlands of the Goulburn Broken Catchment. Identification and management handbook.'
Conservation Management Networks continue to play a valuable role in promoting the importance of biodiversity conservation across land tenures.	63 media releases. 30 facebook posts.
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.	Continued support to the Local Government Biodiversity Reference Group has provided opportunities to collaborate and improve the development and application of appropriate planning tools for native vegetation protection. Completed Online Goulburn Broken Revegetation Guide to help landholders find where they are in the landscape and match revegetation species lists to their property. A practical guide for species selection. Implemented workshop on ways to integrate biodiversity and farm production with various universities and community groups represented. This Nature@Work project to be developed further in 2017-18. Regular spot on local ABC radio to discuss the catchment's flora and fauna (monthly spot). Presentations to U3A on biodiversity conservation. Participated in, and presented at, several partner events such as New Landholders Day (Strathbogie Ranges CMN), Who's who in the agency Zoo; Gone Fishing Day (Goulburn Broken CMA); Floodplain Ecology Course; Farm and Environment Working Group; Assessment Panel for BOGA community grants; Probus and U3A talks by Land and Biodiversity staff.

Community capacity, engagement and involvement

Long-term strategy implementation and 2016-17 performance related to the community are included throughout the above table.

Actions 2014-15, 2015-16 and 2016-17

Action		From funds received				
		Achieved ⁱ			Target	% achieved
		2014-15	2015-16	2016-17		
Stock grazing management action						
Fence terrestrial remnant vegetation	ha	385	468	696	426	163
Fence wetland remnant	ha	168	3	137	25	548
Fence stream/river remnant ⁱⁱ	ha	141	244	294	-	
Binding management agreement (licence, Section 173, covenant)	ha	112	70	18	60	30
Grazing regime change	ha	-	-	-	-	
Habitat loss management						
Revegetation – plant natives	ha	549	750	487	196	249

i. Achievements may include those from complementary investment areas. Outputs delivered through each fund source are available from the Goulburn Broken CMA. For a full list of footnotes please see Appendix 3 on page 130.

ii. Area figure supplied by River and Wetland Health Program Manager.

What's next?

- Implementing the Biodiversity Strategy for the Goulburn Broken Catchment 2016-2021
- Contribute to SES local planning, through expert advice.
- Making use of new planning tools such as the Spatial Assessment Tool developed under the Goulburn Broken CMA's NRM Planning for Climate Change project.
- Continuing to seek funding for incentives to landholders to increase resilience of landscapes.
- Legitimising biodiversity conservation through community engagement and support to landholders, delivered by community groups.
- Strengthening of Conservation Management Networks, Landcare networks and other groups to play a major role in delivering effective partnerships and onground works across private and public land.
- Review of the Biodiversity Monitoring Action Plan.
- Developing projects for the Australian Government's National Landcare Programme 2. This potentially includes integrated projects such as Nature@Work, EPBC threatened species and Communities, and cross-CMA-border projects.
- Finalising Australian Government's National Landcare Programme 1 projects.
- Improved monitoring and measuring of biodiversity outcomes, through working with research partners.
- Continue to promote systems-based approaches to land management to achieve whole-of-farm and catchment outcomes for both biodiversity and agricultural productivity through 'Nature@Work' project.
- Continue to build indigenous skills, knowledge and capacity to deliver works, contribute to natural resource management planning, traditional ecological knowledge and undertake indigenous projects on country.
- Continue involvement in facilitating improved native vegetation retention outcomes in the catchment
- Continue to integrate climate change into project design.

Investment area - Land

Compiled by Ashley Rogers, Rhiannon Apted, Tony Kubeil, Karen Brisbane, Steve Wilson, Jaye Caldwell (DEDJTR) and Brad Costin (DEDJTR).

Long-term and annual scorecard ⁱ

2016-17 performance		On target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Awareness of how soils can be improved has increased and is being applied on many farms. The purpose and use of private and public land (especially grazing management in sensitive areas) have generally improved. Invasive plants and animals management is now focused mainly on new and emerging species and complementing community activity, but present arrangements mean a high long-term risk from existing and emerging threats like deer.			
	Poor	Satisfactory	Medium				
Resilience assessment						Long-term strategy implementation ^v	
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}			Start	Stage
	1990	2017	Trend 2014-17	Long-term (10+ years)			
				Current support ^{vi}	No support ^{vi}		
Soils for agriculture	Very poor	Satisfactory	Stable	Medium	High	2006	Middle
Purpose and use of private land	Poor	Satisfactory	Stable	Medium	High	2006	Watch & maintain
Purpose and use of public land	Poor	Satisfactory	Stable	Medium	High	2006	Watch & maintain
Invasive plants and animals	Satisfactory	Poor	Stable	High	Very high	2001	Middle

- Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.
- 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.
- System is Land; benchmark for contribution is the desired level, as defined (formally or informally) in 2017.
- 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.
- Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
990	766	762	808

- Forecast based on the Corporate Plan 2017-18.

The Australian Government invests in the Goulburn Broken Catchment's 'land' via the Beyond SoilCare project and Regional Landcare Facilitator project, funded through the National Landcare Programme. Although there is no dedicated funding for many aspects of land, such as soil conservation works (like 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: whole farm planning, 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 Programme and the Victorian Landcare Program.

Strategic references

The Goulburn Broken Land Health Strategy 2017-2020 updates the Goulburn Broken Land Health Statement 2014 and guides investment of public funds in improving the Catchment's land resources, with a significant focus on soil health. The Goulburn Broken Invasive Plants and Animals Strategy 2010-2015 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 support. The Murray-Darling Basin Authority and Victorian Government's land, salinity and agricultural strategies are also pertinent references for land management. Appendix 6 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. What 'land' includes and the parameters that define 'land condition' are often prone to widely different interpretations. However, where the purpose of land is well defined, such as soils for specific types of agriculture, interpretations are easily shared, which makes for more straightforward decisions.

Much of this section is a step in better defining land, which 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 productive soils, and aesthetically pleasing landscapes in which to live and recreate. Furthermore, many communities depend on resilient and agile agricultural and nature-based tourism sectors to support local employment and businesses.

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 have to respond to fast and slow changes affecting their operating environment such as: world markets, changing technologies, climate change and variability, and water availability. Consequently, supporting farmers to manage their land sustainably benefits farm profitability, ecosystem health, social wellbeing, and increases the communities' capacity to prepare for and respond to change.

Soils for agriculture

Australia's ancient soils require particular care to have sufficient structure and fertility to be used for agriculture. The capacity of soils to support agriculture in the long term 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 the long-term capacity of soils so that existing enterprises can be sustained, or alternatives can be pursued.

Agricultural soils include those cleared and cultivated for dryland and irrigated cropping, dryland and irrigated pastures, horticulture and viticulture, and those areas cleared for grazing.

Catchment condition (since 1990)

Working with partners, the Goulburn Broken CMA supports farmers across the Catchment to adopt best practice and meet long-term goals for the soil's capacity to store carbon, hold water, and support soil biodiversity. These long-term goals for soils will largely be addressed by reducing the impacts of soil acidity, water erosion, soil organic-matter decline, and soil salinity.

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.

Since 1990, significant advances in understanding of soil hydrological, carbon and nutrient cycles, and in food and fibre technologies, has led to vast improvements in land management practices. Projects have included

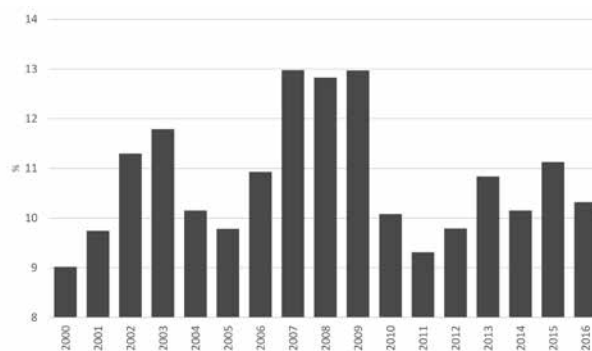
returning perennial grasses to steep hills, education about the importance of ground cover, revegetation of eroding gullies, and education around soil acidity and its management. Practice changes have included land class fencing and grazing management, minimum tillage and stubble retention, and soil test interpretation. However, regional-scale soil repair remains incomplete due to various reasons, including some farmers not adopting management practices and the lag-time between practice change and soil health improvement. Added to this, current best practices, such as minimum tillage, are not always complete farming solutions because other issues often arise, such as residue management and slugs. Other more chronic soil problems, such as compaction, acidification, erosion, and soil carbon loss, are not immediately obvious in the landscape, and these threats require soil assessments to determine potential solutions.

Soil testing through the Beyond SoilCare project found that soil acidity is generally high across the Catchment and soil organic carbon is low. Soil structure continues to limit ecosystem services, and our limited understanding of soil biology suggests it is not fully functional. So, while production has increased and farmers are rapidly adapting to changing climatic and economic conditions, the long-term capacity of soils is under threat at a time when we require them to be producing more.

Soil erosion continues to be an issue. The average to above-average rainfall in 2016-17 resulted in a significant number of reports of erosion on farmland. Gully, tunnel and sheet erosion still feature throughout the Productive Plains, Upland Slopes, Commuting Hills and to a lesser extent the Southern Forests. Biodiversity plantings have had multiple benefits where landholders have fenced off and revegetated erosion gullies or steep slopes for soil protection and vegetation connectivity across their farms. While the local benefits of these works are clear, for the most part landholders can only undertake works with grant support. The wetter year did however also result in less soil exposure through better ground cover (see Goulburn Broken exposed soil graph below). This is likely to have reduced incidences of smaller scale soil loss events, such as hillslope and rill erosion, and wind erosion.

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.

Goulburn Broken - Percentage of exposed soilⁱ



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

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 native biodiversity. 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). For example, dryland cropping has become a significant land use in the plains, having evolved from grazing or mixed farming in response to low stock water availability and good grain prices. In many circumstances livestock infrastructure like fences and watering points has been removed to make way for new and more efficient cropping technologies. These transitions can have significant implications for the support required to service farmers' and communities' short-term needs, while ensuring the health of natural resources in the longer term.

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 and 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, as they provide greater soil protection. Many farmers are treating large areas of their farms differently and, often with support, have been fencing and revegetating, usually in alignment with cross-property area landscape plans.

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 62).

Elevated land values continue to drive farm subdivision and land turnover. Commodity prices have also driven significant changes in land use: for example, the move from sheep to cattle, the shift in dairying to opportunistic irrigation like 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 and multi-species cover cropping.

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 Owner's 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 (Victorian Fisheries Authority, accessed 2017). The close proximity of the Catchment's Alps to Melbourne make them a prime destination for visitors.

The Goulburn Broken CMA helps partner agencies managing public land and other stakeholders identify actions needed to meet short-term community expectations, while managing 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

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, while 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 equivalent to 2.5 DSE (Dry Sheep Equivalent) and their grazing presence puts substantial pressure on many agricultural industries and enterprises. Kangaroos can significantly decrease a farm's stock carrying capacity.

Pest plants outcompete native species, reducing diversity, and provide harbour for pest 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 Invasive Plants and Animals Strategy 2010-2015 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, the Department of Economic Development, Jobs, Transport and Resources endeavours to provide support through targeted compliance programs.

Municipal roadside pest management plans were developed for each municipality in 2015, and were approved by the Department of Economic Development, Jobs, Transport and Resources to ensure statewide and Catchment issues are addressed.

The Goulburn Broken CMA participates in the North-East Deer Round Table forum, which is linked with the parliamentary enquiry into pest plant and animal management on public land.

The Goulburn Broken CMA and the Department of Economic Development, Jobs, Transport and Resources support landholder groups like Landcare and Conservation Management Networks in managing invasive plants and animals, through grants, expert advice and compliance programs.

Catchment condition (since 1990)

Since 1990, the goals for investment in pest plants and animals have shifted away from all pest species to those that are potentially invasive and which are new and emerging. Given a substantial reduction in resources, efforts are confined to priority weeds (e.g. Gorse, Blackberry and Serrated Tussock) and the benefits of previous investment in other species are challenging to maintain.

The Department of Economic Development, Jobs, Transport and Resources controls weeds in-line with legislation to address infestations of State prohibited weeds and, where aligned with State priorities, address regionally controlled weeds that are listed as Weeds of National Significance. Activities to control pest animals are extremely varied, and there is a corresponding level of success.

Rabbits: a long history of investment, and currently investing at a maintenance scale; strong control impacts where there has been investment. Coordinated release of the Rabbit Haemorrhagic Calicivirus RHDV1-K5 at 30 different points across the Catchment was undertaken, with strong community support and is reducing local rabbit numbers.

Foxes: understanding of the current population is poor, with no investment in a control program for several years. With reduced sheep grazing in many areas of the Catchment, fox control is a reduced priority.

Deer: substantial rise in community concern in recent years about increasing deer populations (predominately Sambar and Fallow deer).

Kangaroos: Eastern Grey Kangaroos remain a major community concern, with mobs of 100 to 200 plus not uncommon.

Long-term strategy implementation progress and 2016-17 performance

The Goulburn Broken CMA continues to work closely with the Department of Economic Development, Jobs, Transport and Resources, Landcare networks and groups, and industry groups for strategic implementation of Land outcomes.

Community capacity, engagement and involvement

See also 'Community' section (page 28).

Integrated delivery via Land & Biodiversity Team

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

Land and Biodiversity Team members work closely with relevant agencies like Parks Victoria, Department of Environment, Land, Water and Planning, Department of Economic Development, Jobs, Transport and Resources, local government, water authorities, the Country Fire Authority, and with 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 Programme Regional Allocation.

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 and conserving biodiversity.

Community engagement in land remains strong, with over 2,528 participants in activities during 2016-17. Activities were delivered by Goulburn Broken CMA staff and project partners, including Department of Economic Development, Jobs, Transport and Resources, Landcare and producer groups. In 2016-17 the Australian Government's National Landcare Programme funded Beyond SoilCare project funded 19 grants to 16 community groups to the value of \$436,926.

Invasive plants and animals

As in previous years, the control of Pest Plants and Animals across the catchment comes from various sources with specific targets and objectives. Victorian Landcare and Good Neighbour programs, Local Government Roadside Weeds and Goulburn Broken CMA Waterways program have all contributed to the control of specific pest plants or animals. Community groups used local connections to encourage high levels of landholder participation in coordinated pest control programs, where neighbours are working together to manage pests. All of the above programs foster community support and ensure that we gain the best outcomes for the small investment available.

In consultation with community groups, targeted compliance 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 RHDV1-K5 in the Gooram and Ruffy area has supported the large investment over the past 20 years to control the impact of rabbits.

The treatment of invasive plants and animals on roadsides through the local government Roadside Pest Program again complemented the Department of Economic Development, Jobs, Transport and Resources and community group invasive plant and animal programs.

To support pest management works by private landholders, \$150,301 from Department Environment, Land, Water and Planning's Good Neighbour Program was invested to complement treatment works on public land in community control program and targeted compliance areas.

There is a rise in community concern surrounding the boom in population growth of deer in our region. Landcare networks of the Goulburn Broken CMA have delivered four separate community information events with over 300 people attending.

Landcare and the Department of Environment, Land, Water and Planning have partnered to assist the community to access permits for the control of over abundant wildlife and to be included in the kangaroo pet meat trial.

Investment in community-driven blackberry control works continued, in parallel with the Department of Economic Development, Jobs, Transport and Resources and existing Blackberry Action Groups. The Victorian Blackberry Taskforce has invested in our region through the establishment of groups in the Creightons Creek and Tallarook areas.

Management of all known sites of State Prohibited Weeds and Regionally Prohibited Weeds remained a high priority and a control activity delivered by the Department of Economic Development, Jobs, Transport and Resources.

A total of 192 infestations of high-risk invasive plants were treated, including all known infestations of the State Prohibited Weeds: Camel Thorn, Horsetail, Knotweed, Mexican Feather Grass and Water Hyacinth and the Regionally Prohibited Weeds: Artichoke Thistle, Serrated

Tussock, Cape Tulip and Ragwort.

As a principal investor in pest plants and animals, the Victorian Landcare Grants have provided \$72,615 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 Gorse, Blackberry and rabbits.

Regional Landcare Facilitator and Landcare

The Regional Landcare Facilitator sits within the Land and Biodiversity Team. Funded by the Australian Government's National Landcare Programme, the Facilitator works to support farmers and land managers in the Goulburn Broken Catchment to trial innovative farm practices and adopt sustainable 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 private land used for agriculture. Project activities include workshops, short courses, field days, and publications, and are delivered in partnership with community and industry groups and government such as the Department of Economic Development, Jobs, Transport and Resources.

There are over 90 Landcare and community-based natural resource management groups in the Goulburn Broken Catchment, involving more than 5,000 volunteers. Groups include Landcare, Friends of, Sustainable Farming and Environment groups. Some of these local groups have formed alliances and networks. The facilitator, and more broadly the CMA, works with six Landcare Networks, five Conservation Management Networks and industry-based networks, including the Riverine Plains farming systems group, Victorian No-Till Farmers Association, and Murray Dairy.

Project activities are developed with guidance from an independent steering committee (membership includes farmers, Landcare members and industry representatives), feedback from past participants and results from the annual community group survey.

Land Health Strategy strategic implementation

Long-term strategy implementation progress	2016-17 performance
Strategic objective: Practice adaptive management	
<p>Activities have focused on meeting landholder needs, expressed in participant surveys. The surveys provide evidence that landholders do make changes as a result of participating in program activities.</p> <p>Furthermore, the Beyond SoilCare and Regional Landcare Facilitator projects have invested in activities to build the resilience and adaptive capacity of farmers, Landcare volunteers and agricultural advisers such as agronomists and rural bankers. These activities help participants improve their communication, leadership and change management skills. These skills are vital if rural communities and industries are to adapt to changing weather, climate and markets.</p>	<p>46 farmers attended the Sustainable Farming Forum held in Yea in September 2016 in partnership with the Upper Goulburn Landcare Network. Topics included climate forecasts, succession planning and managing stress and adversity.</p> <p>11 young people completed the 'Kickstart your future in agriculture' business development and leadership course in October 2016.</p> <p>23 local Landcare Facilitators attended the Northern Rivers Roundup professional development training in March 2017, held in partnership with North Central CMA.</p> <p>70 farmers and community members attended the 2017 Future Farming Expo in April 2017, held in partnership with North Central CMA. The event focused on building the resilience of farm businesses. Topics included: succession planning, using new technology efficiently, successful employment arrangements and effective decision making.</p> <p>23 community members graduated from the Community Landcare and Agriculture Leadership Program in May 2017.</p>

Long-term strategy implementation progress	2016-17 performance
Strategic objective: Strengthen partnerships	
<p>We continue to foster and grow partnerships with industry groups, community networks and groups, indigenous groups and individuals. Partnerships with industry and community Landcare groups are strengthening as reflected in the development and delivery of partnership projects, and industry and community representation on the Regional Landcare Facilitator Steering Committee.</p>	<p>Continued to work with DEDJTR to plan, coordinate and deliver the Beyond SoilCare project, funded by the Australian Government's National Landcare Programme.</p> <p>Two additional industry representatives joined the Regional Landcare Facilitator Steering Committee. Making a total of 14 members comprising 7 community members representing horticulture, sheep meat and wool, beef, dryland cropping, chicken meat/mixed farming, as well DEDJTR and Bestwool Bestlamb.</p> <p>Facilitated two Land Health Forum meetings, with community Landcare, DEDJTR and Bestwool Bestlamb participation.</p> <p>14 project agreements were signed, groups included: Creightons Creek Landcare, Euroa Arboretum, Gecko CLaN, GV Food Co-Op, Hughes Creek Catchment Collaborative, Longwood East Landcare, Riverine Plains Inc., South West Goulburn Landcare, Upper Goulburn Landcare, Vic No-Till, Up2Us, Warrenbayne Boho Landcare, and Warby Ranges Landcare. These were funded by the Victorian Landcare Grants.</p> <p>Delivered the Community Landcare and Agriculture Leadership program in partnership with the North East Catchment Management Authority, Alpine Valleys Community Leadership Program, and Fairley Leadership Program.</p> <p>Participated in the Indigenous Consultation Working Group.</p> <p>Participated in the statewide Dryland Managers Forum.</p>
Strategic objective: Support the development of resilient farming systems	
<p>We continue to work with Landcare, producers, SoilCare groups and DEDJTR 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.</p> <p>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 Management, grazing management and perennial pasture renovation with annual fodder crops.</p> <p>Interest from cropping farmers remains strong in finding efficiencies through technologies like deep soil testing and soil moisture probes. 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 subsoil manuring.</p>	<p>Staff delivered 47 activities around resilient farming to 930 participants, 150 of whom were new this year. 25 industry and community partners were involved in delivery. Topics included soil biology, acid-tolerant pasture species, physical soil assessment, holistic management, soil test interpretation, erosion management, feed and water budgeting, native pollinators.</p> <p>Assisted DEDJTR with the administration of the Stock Containment Area Grants, handling farmer enquiries, expressions of interest and developing funding agreements for successful projects.</p> <p>Partnered with Murray Dairy NRM Committee to address the detrimental soil conditions (pugging, compaction, waterlogging) created by the extremely wet winter/spring in 2016.</p> <p>After several attempts, an erosion site on a property in Nagambie has been successfully rehabilitated through the combined efforts of the Gecko CLaN and DEDJTR staff with funding from the Beyond SoilCare project, funded by the Australian Government's National Landcare Programme.</p> <p>Strathbogie Tableland Landcare Group sowed down the Strathbogie Acid Tolerant Pasture Species demonstration site, funded through Beyond SoilCare grants, funded by the Australian Government's National Landcare Programme.</p> <p>39 farmers and land managers attended a field day on Paterson's Curse control in June 2017. The field day included integrated weed management strategies of biological control, grazing management and aerial spraying. The day was hosted by the Balmattum-Sheans Creek Landcare Group.</p> <p>2,000 extra copies of 'Understanding your soil test – step by step' printed. This was funded by the Australian Government's National Landcare Programme.</p>

Long-term strategy implementation progress	2016-17 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 this change so natural resources, such as soils, can continue to provide services of high value to people and nature.	<p>Euroa Arboretum developed and delivered the Healthy Hectares – information, training and services for small landholders booklet, website and workshop series. 1,000 copies of the booklet were printed, 65 participants have attended 4 workshops to date.</p> <p>In response to drought, four dryland property water management trials have been established through the Gecko CLaN.</p> <p>20 farmers and agricultural service providers completed an eight-day Holistic Management Short Course in Tatura in January 2017. The course was held in partnership with the Goulburn Murray Landcare Network.</p> <p>25 farmers and 19 farming entities are completing a Cover Cropping Short Course during the 2017 growing season. Two of the three course days have been completed during 2016-17. The course is a partnership with Goulburn Murray Landcare Network.</p> <p>140 new and small scale landholders attended workshops hosted by the Upper Goulburn Landcare Network on topics of: new landholder forum, property planning, soil assessment, pest animals and weed identification.</p>

Works and operations

Soils for agriculture, purpose and use of private land - Actions 2014-15, 2015-16 and 2016-17

Action		From funds received				
		Achieved ⁱ			Target	% achieved
		2014-15	2015-16	2016-17		
Fence remnant vegetation	ha	524	468	696	426	163
Irrigation drainage environment plans	no.	-	-	-	-	
New irrigation referrals dryland zone	no.	-	2	5	-	
Improved irrigation dryland zone ⁱⁱ	no.	17	18	16	-	
Sub-surface water action						
Revegetation – plant natives	ha	508	683	396	150	264
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.	-	1	-	-	

i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes please see Appendix 3 on page 130.

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.

Invasive plants and animals - Actions 2014-15, 2015-16 and 2016-17

Action	From funds received					
	Achieved ⁱ			Target	% achieved	
	2014-15	2015-16	2016-17			

Weed invasion						
Weeds – aquatic weeds controlled/eradicated	km	97	14	9	-	
Targeted infestations of weeds in high priority areas covered by control programs ⁱⁱ	ha	3,359	2,894	8,529	6,377	134
DEDJTR Biosecurity Victoria works - Targeted infestations of weeds in high priority areas covered by control programs ⁱⁱⁱ	ha	10,060	11,820	7,781	12,550	62
Pest animals						
Area of high priority rabbit infested land covered by control programs	ha	1,496	722	10,163	10,248	99
DEDJTR Biosecurity Victoria works - Area of high priority rabbit infested land covered by control programs ⁱⁱⁱ	ha	6,850	7,480	2,911	8,820	33
Area of high priority fox infested land covered by control programs	ha	21,384	6,599	260	150	173

- i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes see Appendix 3 on page 130.
- ii. This includes 'Weeds - woody weed management' (Appendix 3).
- iii. Works completed by DEDJTR Biosecurity Victoria (outside of the Corporate Plan).

What's next?

- Implement findings of the Beyond SoilCare Qualitative Evaluation Report 2016.
- Complete 2017-18 assessment of soil condition through soil testing project.
- Continue to support community-initiated projects through the Goulburn Broken Land Health Forum, Regional Landcare Facilitator Steering Committee and Landcare Facilitators and Coordinators group.
- Continue to coordinate community education opportunities across agencies and build the 'soil health' community network.
- Maintain investment in Landcare and community groups to deliver soil health and sustainable farming projects.
- Link training packages to promotion of improved management practices and soil test interpretation.
- Work on the identification of improved management practices.
- Report on progress towards soil health targets (pH, soil organic carbon, ground cover) across Goulburn Broken social-ecological systems.
- Coordinate peer supported learning opportunities, focused on management solutions and building the soil health community network.
- Showcase and connect farmers implementing improved management practices.
- 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 demonstration trials.
- All State and Regionally Prohibited weed sites will continue to be surveyed and treated where necessary.
- Funding needs to be sourced to review the pest plant and animal strategy to recognise current issues such as deer. In the interim, the Department of Economic Development, Jobs, Transport and Resources will continue to work with community-based natural resource management groups and the Goulburn Broken CMA to identify priority areas for managing established invasive plants and animals.

Investment area – Sustainable Irrigation

Compiled by: Carl Walters, Helen Murdoch, Rebecca Caldwell, Rebecca Pike (DEDJTR), Terry Hunter (GMW), Mark Potter (GMW), Megan McFarlane, Simon Casanella, Jenny Wilson.

Long-term and annual scorecard ⁱ

2016-17 performance		On target					
Catchment condition ⁱⁱ	1990	2017	Long-term risk	Despite big improvements in water quality and watertables, water availability for agriculture has emerged as a major risk and terrestrial biodiversity remains at very high risk.			
	Poor	Poor	High				
Resilience assessment						Long-term strategy implementation ^v	
Critical attribute affecting long-term resilience	Contribution to system resilience ⁱⁱⁱ		Risk to system resilience ^{iv}			Start	Stage
	1990	2017	Trend 2014-17	Long-term (10+ years)			
				Current support ^{vi}	No support ^{vi}		
Water availability for							
- the environment	Poor	Satisfactory	Risk declining	Medium	High	2012	Early
- Agriculture	Good	Poor	Risk increasing	High	Very high	2015	Early
Water quality	Very poor	Satisfactory	Stable	Medium	High	1995	Watch & maintain
Watertables	Poor	Satisfactory	Stable	Medium	Very high	1983	Late
Native vegetation extent	Very poor	Very poor	Risk declining	High	Very high	1997	Early
Farm and food processor viability	Good	Satisfactory	Risk increasing	High	High	2015	Watch & maintain

- i. Appendix 1 describes the analytical framework, including terms used in this scorecard. 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 2017.
- 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

2014-15	2015-16	2016-17	2017-18 ⁱ
14,713	13,645	24,365	37,060

i. Forecast based on the Corporate Plan 2017-18.

Strategic references

Strategies for many themes like biodiversity and river management that have been prepared by the Goulburn Broken CMA and state and national organisations are integrated in the Shepparton Irrigation Region Land and Water Management Plan 1990-2020 (the Plan). Murray-Darling Basin Authority and Victorian government water and agricultural strategies are pertinent references.

Background

The Sustainable Irrigation Program delivers onground works, mostly in the Shepparton Irrigation Region (SIR) of the Goulburn Broken Catchment. Implementation is supported by the community-based Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC).

Salinity has remained a significant natural resource challenge in the region over the last three decades. Over time, the Plan focus evolved from salinity alone to managing all attributes critical to the functioning of the

region as a system of people and nature (a 'social-ecological system'): water availability (for the environment and for agriculture), water quality, watertables, native vegetation extent, and farm and food processor viability. The latest Plan is consistent with Goulburn Broken CMA's move to local area planning as part of its resilience approach.

Although the region's five 'critical attributes' were considered previously, the updated Plan further emphasises efforts when planning and implementing works. Long-term targets for the region's five critical attributes have been compiled (and set where there were gaps) as part of updating the Plan.

Reporting on salinity, including land salinisation within the region and Murray River salinity, is now included under 'watertables'. Further salinity management in the Goulburn Broken Catchment is reported under the investment area of Land (page 54).

The Plan's programs were adjusted in 2016 to implement integrated priorities identified in the updated Plan, with the aim of achieving increased multiple benefits from actions. The five programs are farm, environment, drainage, people, and governance and partnerships.

Catchment condition - Sustainable irrigation (since 1990)

References cited below are listed in the Shepparton Irrigation Region Land and Water Management Plan 2016-2020 (draft 2017).

Long-term goals for critical attributes

Long-term goals for critical attributes have two parts: the general direction (shown below) and detailed quantitative targets (which consider threshold (tipping point) levels and are listed in the Plan). Goals and targets are subject to change as new knowledge emerges.

Water availability: Ensure that water is available to match the needs of the environmental, agricultural, social and cultural use, including being available when required.

Water quality: Maintain and improve water quality for the range of beneficial uses.

Watertables: Manage shallow watertables so that soils at risk are not salinised or waterlogged.

Native vegetation extent: Increase the extent of native vegetation within focus landscapes (native vegetation quality is included as a 5-year target under the priority 'Reconnect large areas of nature').

Farm and processor viability: 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 demands and pressures.

Water availability

The Goulburn Broken CMA recognises the Murray, Goulburn and Campaspe rivers as 'working rivers', aiming to sustain environmental values while meeting economic and social needs.

River flows have changed markedly since previous generations dammed the rivers. Through collaborations

over many years, a balanced approach to share water has been developed by consumptive, environmental and recreational users.

Increased environmental needs, population growth, changing markets and agricultural demands drive the need to better understand how to optimise the use of available water, especially when conditions are dry, as they often have been since 2000. Trading rule changes in recent years are resulting in more irrigation-water transfers between regions.

a Water availability for the environment

Environmental water is delivered to key wetlands and sections (reaches) of rivers as per environmental water management plans and Victorian and Commonwealth Environmental Water Holder seasonal watering plans. The Farm Water Program has supported the acquisition of environmental water.

b Water availability for agriculture

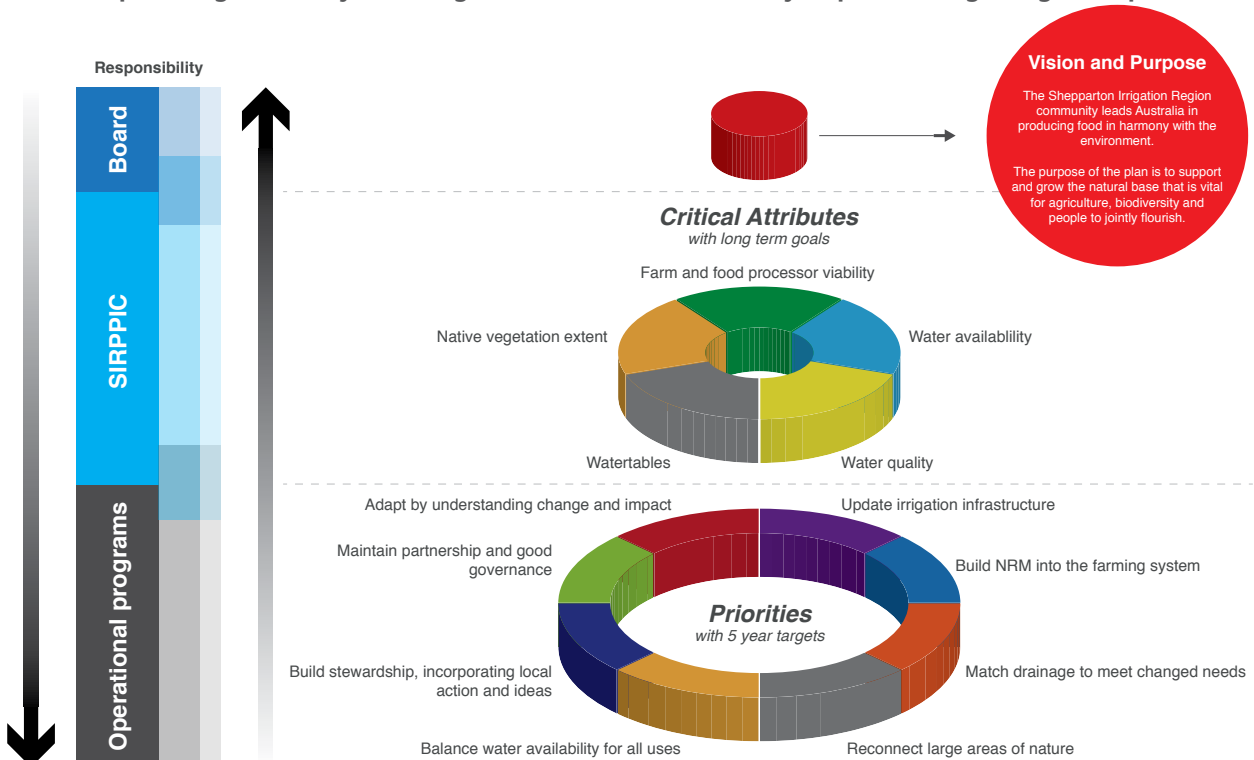
A strong water allocation framework secures the supply of good quality water for irrigated food production and food-processing industries, creating advantages for the region.

However, irrigation deliveries in the region reduced from more than 1200+ gigalitres in the 1990s to about 800 gigalitres now. Water availability could be further reduced due to changing climate, water trade, industry changes and other uses.

The Understanding Water Availability / Farm Viability Project has increased understanding in this area and will guide future decision making.

The Farm Water Program has been supporting irrigators to improve efficiency and increase productivity per megalitre of water used.

SIRLWMP planning hierarchy showing how vision is achieved by implementing integrated priorities



Water quality

Significant changes in the region that impact on Murray River salinity need to be accounted for, despite uncertainties in measurement.

Improving water-use efficiency by reducing the tail-water fraction when irrigating reduces overall salt loads from the region into the Murray River. However, according to Murray-Darling Basin Authority (MDBA) modelling (somewhat counter-intuitively), this increases salinity at Morgan (the measuring point in South Australia). The region's drainage and channel-outfall water flows (and associated salt loads) into the Murray River will have been reduced, but because they are relatively fresh (less salty than the lower reaches of the Murray River generally), the dilution effect on salinity levels at Morgan is also reduced.

While groundwater salinity was one of the initial (1990) Plan's key risks to farm production, assets and environmental features, salinity levels are generally below threshold levels of concern now. Salinity contributions from the region comply with targets managed under MDBA processes.

Targeted programs have significantly reduced nutrient loads in waterways and therefore improved water quality. The five-year rolling average phosphorus load from the Goulburn Broken Catchment is below the long-term target set in 1996, equating to a reduction of 80 per cent from the benchmark year of 1993-94. The completion of the 20-year Water Quality Strategy is an exceptional example of long-term collaborative effort and achievement by community and government. Monitoring and responses are supported by well established inter-agency agreements and shared strategies.

Blackwater events in the Goulburn River as a result of rain-events further upstream from the irrigated landscape are reported elsewhere (pages 36 and 38). Similarly, the source of blue-green algal blooms within the Murray River and elsewhere is further upstream, outside the influence of the irrigated landscape.

Watertables

The risks of salinisation and waterlogging have increased in recent years due to the return of wetter conditions. Watertables dropped about three metres during the millennium drought but quickly bounced back, with 170,000 hectares having a watertable within three metres of the surface in 2016.

The trend of the shallow watertable rise is concerning given how long it took for watertables to drop during the drought. The increased risk is clearly linked to rainfall on a wet (irrigated) catchment. Limited funding over the last decade, particularly towards surface and sub-surface drainage works, has not helped mitigate this risk.

A much better understanding of watertable and salinity risk has been gained through the sub-surface drainage program's salt water balance project: the area at risk of salinity from high watertables is much less than during the mid-1990s due to a combination of program implementation and drought. Annual August watertable maps provide a high level of confidence in information about this critical attribute.

The salinity risk management website has been developed and will be launched with the 2017 watertable maps. This website will allow farmers to understand changes to watertables and the threat to their properties.

Native vegetation extent

The regional landscape has been transformed since the 1880s, with more than 97 per cent of native vegetation on private land cleared for settlement and agriculture in the Shepparton Irrigation Region.

Most remaining native vegetation is in public land reserves (such as the river red gum-dominated 28,500 hectare Barmah National Park) and corridors along waterways and roadsides. Areas of native vegetation away from these reserves and corridors are mainly isolated fragments and generally lack the shrubs, ground layers, fallen logs and other habitat elements needed to host a diversity of flora and fauna. Many local species have become extinct and others are under threat.

Native vegetation regulations have changed, and we continue to see the reduction of remnant native vegetation, particularly paddock trees. The increased focus again on native vegetation protection and restoration in the irrigated landscape has been reflected by increased focus on connectivity, supported through funding.

Farm and food-processor viability

The region as a system is dominated by irrigated agriculture, with food production and processing large contributors to the economy. Farmers face challenges to remain profitable in the face of a changing climate, variable domestic and world markets, and increasingly expensive inputs, such as land, water, nutrients, oil and technology.

Industry diversification has helped improve the region's resilience to changing domestic and world markets, but this varies depending on enterprise type and size, with lower value enterprises under significant pressure. Larger-scale farm enterprises have emerged in an attempt to increase production and profitability. The shift in farm type, size and mix has been accompanied by a change in the region's food processing industries. Several long-established companies have either closed or been amalgamated over the last two decades, although smaller niche industries have emerged.

Projects completed in 2016-17 for the Goulburn-Murray Irrigation District, including land-use mapping and understanding water availability/farm viability, and Farm Water Program case studies have increased the level of understanding of the irrigation industry. This improved knowledge will help future planning and works programs.

Long-term strategy implementation progress and 2016-17 performance

Progress towards long-term strategy implementation is satisfactory in some areas, but falling behind in others (see the bar chart on page 71). The ratings table at the beginning of this sustainable irrigation report (page 62) indicates annual performance within the five Shepparton Irrigation Region Land and Water Management Plan (the Plan) programs. All programs delivered as expected, however whole farm planning is operating below targets. Further details are provided below.

Long-term strategy implementation progress	2016-17 performance
Farm Program	
Priority: Update irrigation infrastructure, including the irrigation delivery system and farm design	
<p>The Shepparton Irrigation Region community's irrigation modernisation project, which began implementation in 2008 through the GMW Connections project and the on-farm programs from 2009, are helping to reduce salinity threats. These works are also aimed at achieving water savings for the benefit of the environment and irrigators.</p> <p>Water-use licensing is managed as a GB CMA, GMW, DEDJTR and DELWP partnership, ensuring that new developments meet requirements.</p>	<p>Sixty per cent of committed whole farm plan funds awaiting public system modernisation, which will allow final decisions on farm layout to be made by irrigators and plans to be completed.</p> <p>Goulburn Broken CMA (via Sustainable Irrigation Program) is part of various GMW Connections Project technical groups to align future irrigation needs with project design; also represented on GMW stakeholder reference group.</p> <p>See Farm Water Program achievement table and further details on pages 68 and 69.</p> <p>Five water-use licences issued for new irrigation developments, and the program also contributed to water plan development relating to water use licence reviews.</p> <p>Review and improvement of whole farm plan delivery continues, considering issues such as energy use, automation, reuse system size and farm business alignment: stage 1 review completed and stage 2 underway.</p>
Priority: Build natural resource management into the farming system	
<p>Whole farm planning and extension programs, along with investment in on-farm irrigation efficiency works by the Australian and Victorian governments and irrigators is resulting in improved land management practices on irrigation properties, which will help manage natural resources on-farm.</p>	<p>Whole farm plans on 4,365 properties covering 317,049 hectares completed in the Shepparton Irrigation Region, including 401 'revised modernised' plans (see separate table for cumulative figures).</p> <p>939 people involved in the region's Beyond Soilcare project funded by the Australian Government's National Landcare Programme: 579 landholders attended field days, workshops, forums and bus trips; 109 landholders involved in discussions, training and meetings to support practice change; 31 landholders reported changing practices (over 1,735 hectares); five trials implemented with maize, tomato, cropping and fruit industry bodies and the Goulburn Murray Landcare Network; eight groups supported involving 251 people. See page 69 for more details on Beyond SoilCare.</p> <p>Goulburn Broken CMA liaised with regional stakeholders to:</p> <ul style="list-style-type: none"> — provide responses at each stage of the ongoing DELWP-led review of native vegetation regulations — contribute to the DELWP-led development of the Victorian Government's strategy Protecting Victoria's Environment - Biodiversity 2037 and its subsequent implementation — formulate local solutions to timber management after fires, particularly on roadsides.
People Program	
Priority: Build stewardship, incorporating local action and ideas	
<p>People and their relationship with the region's natural resources is critical to the success of the Plan 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.</p>	<p>Updated Plan has a new style: Part A is for a broad audience, and Part B provides details; Part A provides the basis for a regional prospectus and marketing efforts.</p> <p>Water stewardship project involved continuing discussion to align water management improvements. Planning initiated for water stewardship event in 2018.</p> <p>SIRPPIC members part of regional water discussions, including linking to the Victorian Water Plan. SIRPPIC seen as a significant group for irrigation issues; several community members supported through formal training and to provide input at forums and represent the region on other committees.</p> <p>Stakeholders involved with various working groups and workshops in responding to Victoria's Water Plan; Senior Combined Partners Forum well attended and now includes local government and integrated water management efforts with DELWP; regular meetings held with CEOs and senior members of partner organisations to enhance common understanding.</p>

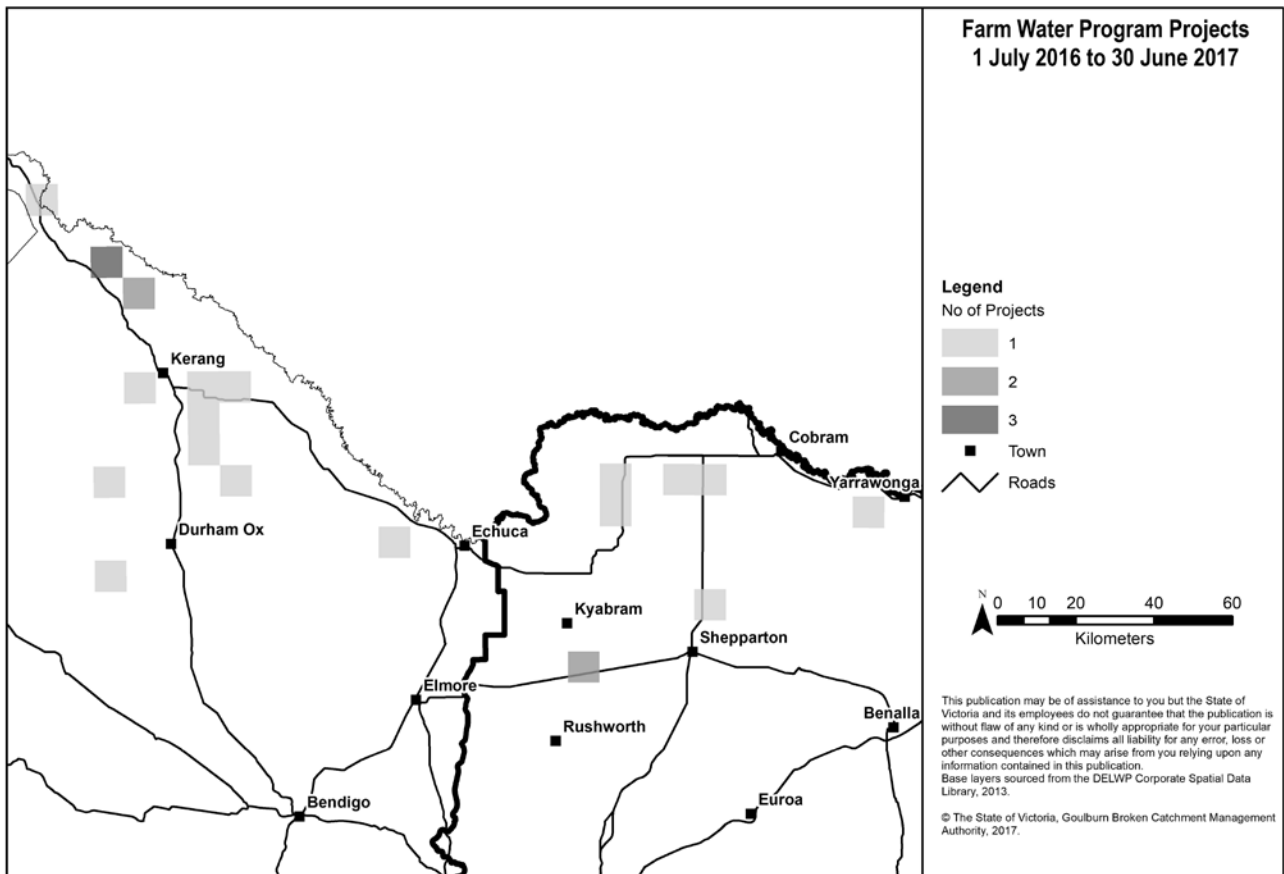
Long-term strategy implementation progress	2016-17 performance
Drainage Program	
Priority: Match drainage to meet changed needs, aligning it with modernised irrigation delivery	
<p>Regional infrastructure works (public drains and public groundwater pumps) continue to fall behind schedule, but increased investment from the Victorian Government has led to renewal of the Surface Water Management program.</p> <p>The Shepparton Irrigation Region Drainage Strategy identifies drainage needs in intensively irrigated areas that have poor natural drainage and are within the region's long-term irrigation footprint.</p>	<p>Priority primary and community surface water management systems are being constructed under the renewed surface water management program, which will enable existing public systems to be completed and provide an improved drainage service.</p> <p>Hybrid surface water management systems: significant progress in developing schemes, with five priority undrained catchments identified for investigation and 'proof of concept' development. Work to survey catchments, define natural drainage courses, identify obstructions and engage with stakeholders is well advanced.</p> <p>Options to improve drainage management on farms in irrigated areas without access to public drainage is a focus of 'on-farm' part of renewed surface water management program, aiming to reduce requirements for disposing drainage water to channels.</p> <p>Project to relocate disposal of water via public groundwater pumps from channels to drains and funded by GMW Connections approved, with implementation expected in 2017-18.</p> <p>A draft report was submitted by Goulburn Broken CMA as part of 5-year review of Shepparton Irrigation Region Salinity Management Plan BSMS register entry.</p>
<p>Groundwater resources in the Goulburn Broken Catchment are managed by Goulburn-Murray Water, supported by partner agencies.</p> <p>More than 1,000 observation bores in the SIR are monitored annually by Goulburn-Murray Water, 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.</p>	<p>The 2016 August Watertable Study Map once again showed a rise in shallow groundwater levels across parts of the region. Between 2015 and 2016, the 0-1 metre contour increased by 8,983 hectares, the 0-2 metre by 28,164 hectares and the 0-3 metre by 16,094 hectares.</p> <p>Although groundwater levels have risen in parts of the region, installation of new public groundwater pumping sites is not justified because sites already exist or groundwater has not reached levels requiring investigation.</p> <p>Collaborative work with researchers from Macquarie University continued, re-examining and optimising operational triggers for public groundwater pumps: aims to ensure triggers for operation of these pumps appropriately manage the network and mitigate water quality impacts on receiving waterways.</p> <p>Shepparton Irrigation Region bore monitoring network asset upgrade and improvement program continued, with additional protective covers installed to aid bore visibility and data collection.</p> <p>Salt and water balance project developed a web-based tool for landholders to access information about salinity risks and potential impact of salinity to irrigation production on their properties.</p>
Environment Program	
Priority: Balance water availability for all uses	
<p>The 2016 Plan review connected stakeholders, establishing a common vision and approach. The irrigated landscape's five critical attributes and associated threats direct efforts. Understanding water availability and how it aligns with farm and food processor viability and the environment is a key construct and change in emphasis from this review, informing efforts involving MDBA's Basin Plan and water-sharing in Victoria's north.</p> <p>A continued emphasis on understanding the regional environment's water needs creates the appropriate balance and integration with irrigation and other needs.</p>	<p>Understanding thresholds or tipping points with irrigated water supply for agricultural production was gained through the Goulburn-Murray Irrigation District water availability and farm viability project, and the land-use mapping study.</p> <p>Integrated landscape planning and management of the Corop wetlands remains a priority, while connectivity of other Shepparton Irrigation Region wetlands is pursued via joint efforts through GMW Connections.</p> <p>Goulburn Broken Water Quality Strategy review is informing broader statewide water quality reviews related to the Victorian Environment Planning Policy.</p> <p>Blackwater and other low dissolved oxygen events continue to be a key management consideration into the future.</p>

Long-term strategy implementation progress	2016-17 performance
Environment Program (Cont'd)	
Priority: Reconnect large areas of enhanced nature	
<p>Much of the region's remaining native vegetation is found along waterways, roadsides and in and around wetlands, providing some continuous habitat that act as key thoroughfares for wildlife to move through the landscape. Important objectives of environmental flows include provision of water to protect and enhance this native vegetation. Delivering outcomes in focus landscapes is a priority.</p>	<p>Priority focus landscape planning was used in developing the Shepparton Irrigation Region onground project of 'Our Catchments Our Communities' project delivery. See detail on 'Linking the Lower Goulburn' on page 2.</p> <p>A study into the feasibility of a regional native vegetation offset scheme, including potential income opportunities for landholders, and/or a voluntary contributions scheme, was completed and endorsed by the Goulburn Broken CMA Board. Funding is being sought for implementation of the voluntary scheme.</p> <p>Riparian and wetland works are undertaken through the Waterways program. See Waterways report on page 33.</p>
Governance and Partnerships Program	
Priority: Maintain partnerships and good governance	
<p>The community-based SIRPPIC includes skills, geographic and industry-based representatives from the local community, GB CMA, GMW, DEDJTR, DELWP and Murray Dairy.</p> <p>The Local Government Agricultural Floodplains Reference Group is in its 25th 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 GMW Connections, led by Goulburn Broken CMA.</p>	<p>Greater than 80 per cent attendance at SIRPPIC meetings, with working groups realigned to new strategic directions; greater than 90 per cent attendance at the four local government reference group meetings.</p> <p>Annual work plan prepared and supported by SIRPPIC and investors. Additional support gained for understanding and responding to land-use changes and water availability transition projects.</p> <p>Co-funded projects remain a strength, such as: RiverConnect; groundwater management and monitoring; water quality partnerships; GMID land-use survey; Municipal Catchment Coordinator (with Moira, Campaspe and Greater Shepparton municipalities).</p> <p>MDB Salinity Management Strategy compliance needs met and Shepparton Irrigation Region register entry review almost completed, Dryland entry also being reviewed with North Central CMA.</p> <p>Case studies completed on best practice and returning water to the environment through on-farm modernisation.</p> <p>Goulburn Broken CMA continues to work with DELWP to resolve tree cover data issues.</p>
Priority: Adapt by understanding change and impact	
<p>Information from a range of 2014-15 reviews was used to prepare the fifth iteration of the Plan. The adaptive process that has been in place since the Plan was developed in the late 1980s was strengthened by more explicitly adopting resilience principles in the update.</p>	<p>Critical attributes, their thresholds, and the changing context and risks annually reviewed, to contribute to annual priority action setting with stakeholders.</p>

Farm Water Program achievements, whole-of-life to date (July 2010 to June 2017) ⁱ

Action		Whole of Farm Water Program ⁱⁱ			Shepparton Irrigation Region ⁱⁱⁱ		
		Achieved	Target	Achieved %	Achieved	Target	Achieved ^{viii} %
Laser levelling ^{iv}	ha	15,237	17,726	86	9,753	11,678	84
Farm reuse systems ^v	no.	259	304	85	177	214	83
Farm reuse systems	ha	12,614	15,003	84	7,545	9,350	81
Gravity channel surface irrigation	ha	13,016	14,742	88	9,924	11,377	87
Pipe and riser irrigation	ha	14,445	15,641	92	7,332	7,979	92
Farm delivery channel upgrade ^{vi}	km	10	11	91	8	8	100
Irrigation scheduling systems	ha	1,383	1,469	94	1,003	1,089	92
Pressurised irrigation systems - micro or drip ^{vii}	ha	373	937		44	182	24
Pressurised irrigation systems - sprinkler	ha	2,054	3,457	59	1,545	2,602	59

- i. Annual achievement records are held by Goulburn Broken CMA's Farm Water Program section.
- ii. The Farm Water Program covers parts of the Goulburn Broken, North East and North Central CMA areas.
- iii. The Shepparton Irrigation Region is a subset of the Farm Water Program area and covers parts of the Goulburn Broken and North Central CMA areas.
- iv. Until 2014-15, named 'Laser grading'
- v. Until 2014-15, named 'Drainage reuse systems'. From 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. Until 2014-15, two categories named 'Plastic lined channel' and 'Farm channel upgrade'.
- vii. Until 2014-15, combined with 'Pressurised irrigation systems - sprinkler' in one category.
- viii. All on target as Round 5 projects are contracted to be completed over two years (to April 2018).



Farm Water Program

The Farm Water Program successfully completed Round 4 in 2016-17 with seven of seven projects delivering around 750 hectares of water savings works on farms. The works generated an estimated 0.9 gigalitres of water savings; 0.5 gigalitres was transferred to the Commonwealth Government for environmental purposes and 0.4 gigalitres was retained on farms to increase productivity.

Overall the Farm Water Program has delivered more than 540 projects that have generated more than 70 gigalitres of water savings and over 60,000 hectares of works for funding of almost \$140 million. Feedback from irrigators continues to be very positive despite (or perhaps because of) concerns around water availability in the future.

Round 5 projects are underway now, funding \$35 million (of the \$44 million available) of works. The undersubscription this round was due to many dairy farmers not being in a position to undertake water efficiency works because of the recent dairy crisis. There is now almost \$30 million funding remaining from the Victorian Farm Modernisation Project (VFMP) and the use of these funds is currently under review by the Victorian Government. The Victorian Government is considering information from socio-economic reviews of the implementation of the Murray Darling Basin (MDB) Plan, including concerns around further water being transferred out of the region through projects, including the Farm Water Program.

In response to these concerns, the Farm Water Program consortium partners are developing a new modified program that does not require a transfer of water share. This program will need co-investment by the governments to secure environmental and socio-economic outcomes, and to enable the regional community to build resilience and adaptation strategies to counter future shocks such as climate change and MDB Plan impacts. It is critical that, if the remaining \$30 million of VFMP funds are not rolled out in the GMID for farm modernisation works in 2017-18, a replacement program (that does not require a transfer of water from the region) is secured as soon as possible.

Annual achievements are recorded by Goulburn Broken CMA's Farm Water Program section.

Beyond SoilCare

In 2016-17, more than 900 people were involved in the SIR Beyond SoilCare project, funded by the Australian Government's National Landcare Programme. There were 579 landholders involved in field days, workshops, forums and bus trips, including 375 people who attended events delivered by the Goulburn Murray Landcare Network; the Network's efforts in running events (with relevant topics presented in formats suited to landholders) was outstanding and they have become an integral part of project delivery.

In addition to the 27 events delivered by the Goulburn Murray Landcare Network, 45 activities were delivered by DEDJTR and Goulburn Broken CMA staff and through the Australian Processing Tomato Research Council, Goulburn Valley Food Cooperative and the Irrigated Cropping Council. Topics included composting, cover cropping, soil pugging, drainage, pasture grasses, compaction, soil biology, data and decision-making, budgeting, herbicide resistance in soil, irrigation management, pasture cropping, water quality, maize residue management, sodic soils, soil moisture monitoring, weed control, soil testing, holistic farming and soil health.

A total of 109 landholders were involved in discussions, training and meetings to support practice change and 31 landholders reported changing practices (over 1,735 hectares). Eight groups were supported through the SIR Beyond SoilCare project, involving more than 250 people. The number and range of Beyond SoilCare activities showed how effective community and industry groups can be in engaging farmers and the broader community in soil management.

Demonstration trials continued to be an important part of SoilCare delivery. There were five trials implemented with maize, tomato, cropping and fruit industry bodies and the Goulburn Murray Landcare Network. Four demonstration trials continued from 2016 investigating maize yield variability, compost banding, the effect of compaction and amelioration in irrigated soils, and management of climate change impacts on perennial horticulture. One new trial was set up to look at multi species cover cropping.

Renewed Surface Water Management Program

A significant achievement for the Sustainable Irrigation Program in 2016-17 was to secure Victorian Government funding to renew the Surface Water Management Program (SWMP) in the Shepparton Irrigation Region (SIR). This funding is the result of continued community support for drainage works and recognises the continued risk to agricultural land, environmental values, and infrastructure from inadequate drainage.

The updated SIR Drainage Strategy (2015) proposed a new approach to surface drainage, with a focus on on-farm management of irrigation run-off and managing rainfall-driven waterlogging and drainage issues in priority sub-catchments.

The renewed SWMP uses a prioritisation process to identify where the limited funding for new Surface Water Management Schemes can provide the best outcomes.

The renewed SWMP is being delivered in three complementary sub-programs:

1. Priority Construction Projects - Four projects have been identified to complete works that were planned or partially delivered prior to funding cut backs.
2. Hybrid SWMSs - A new type of system using natural drainage lines to link fragmented drainage networks across the SIR is being designed and proposed to communities in three priority sub-catchments.
3. On-Farm Package - For sub-catchments where SWMSs will not be built, work is being undertaken to provide landholders with an improved suite of drainage management options on-farm.

Actions 2014-15, 2015-16 and 2016-17

Action ⁱ	From funds received					
	Achieved			Target ⁱⁱ	% achieved	
	2014-15	2015-16	2016-17			
Surface water action ⁱⁱⁱ						
Laser levelling ^{iv}	ha	4,220	3,553	4,460	9,972	45
Drain – primary built ^v	km	-	-	-	-	
Drain – community built	km	-	-	-	-	
Area protected by surface drains	ha	-	-	-	-	
Farm reuse systems installed ^{vi}	no.	9	51	5	5	100
Farm reuse systems installed ^{vi}	ha	344	1,742	187	187	100
Gravity channel surface irrigation	ha	537	1,858	334	334	100
High flow drain diversion - dams built ^{vii}	no.	-	-	-	-	
High flow drain diversion - dams built ^{vii}	ML	-	-	-	-	
High flow drain diversion - high nutrient water removed ^{vii}	ML	-	-	-	-	
Pipe and riser irrigation	ha	448	732	191	191	100
Irrigation scheduling systems	ha	196	269	-	-	
Farm delivery channel upgrade ^{viii}	km	0.7	-	-	-	
Pressurised irrigation systems - micro or drip	ha	9	-	-	-	
Pressurised irrigation systems - sprinkler	ha	516	160	-	-	
Irrigation systems - improved ^{ix}	ha	4,745	3,553	4,460	-	

Sub-surface water action

Groundwater pumps – public installed (new)	no.	-	-	-	-	
Groundwater pumps – public installed (new)	ha	-	-	-	-	
Groundwater pumps – private installed (new)	no.	-	-	-	-	
Groundwater pumps – private installed (new)	ha	-	-	-	-	
Volume of water pumped - increase	ML	-	-	-	-	
Area protected by groundwater pumps	ha	-	-	-	-	
Tile drains - installed	ha	-	-	-	-	
Salt disposal entitlements used (SDE)	EC	3.2	3.2	1.4	-	

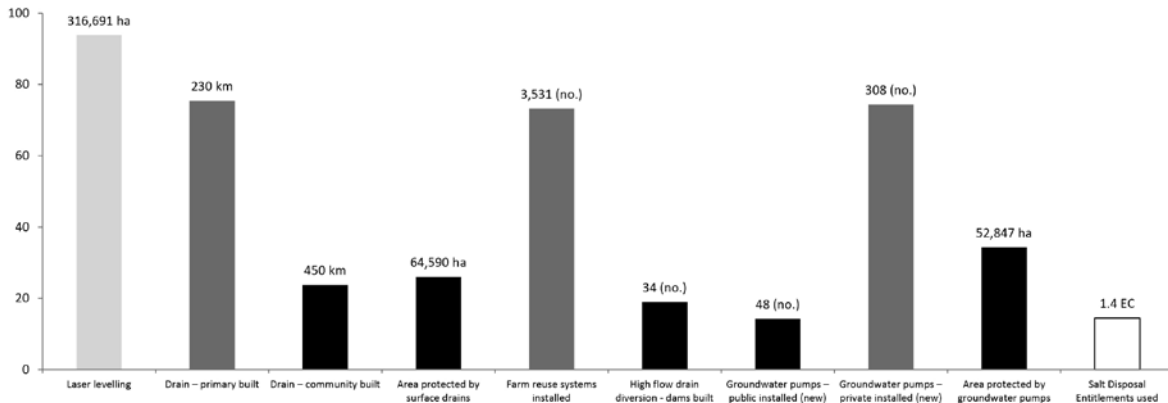
Planning for works action

Whole farm plans - new	no.	49	35	34	180 ^x	41
Whole farm plans - modernised	no.	22	16	40		
Whole farm plans - new	ha	4,143	2,576	3,289	-	
Whole farm plans - modernised	ha	2,572	2,037	3,905		

- '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 waterways and biodiversity. Fencing remnant vegetation and revegetation achievements are shown in the table on page 60.
- Targets are adjusted as funding is confirmed. Figures do not include the part of the Farm Water Program that is outside the Shepparton Irrigation Region. 2016-17 targets have been calculated using the achieved figures as Round 5 of the Farm Water Program runs over two years to April 2018.
- 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.
- Assumptions: 2014-15, 2015-16 & 2016-17 = Farm Water Program's Shepparton Irrigation Region onground achievements (478, 1,963 & 360) + 60 per cent of area put under Whole Farm Plans [new (4,143, 2,576 & 3,289) + modernised (2,572, 2,037 & 3,905) - Farm Water Program's Shepparton Irrigation Region onground achievements (478, 1,963 & 360)]. Target = Farm Water Program's SIR target (360, see note ii) + 60 per cent of area to be put under Whole Farm Plans [number of Whole Farm Plans (180) x average area of Whole Farm Plans (91) - Farm Water Program's Shepparton Irrigation Region target (360)].
- 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.
- Reuse dams allow for the collection of high nutrient run-off and re-irrigation, reducing the water and nutrient loads leaving the farm. 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'.)
- High flow diversion. None completed because of no demand and previous dry conditions.
- Measured directly from whole farm plans. This refers to the on-farm delivery system (to get water to the irrigation bays) rather than the area serviced. Includes earthen channels that have been rock or plastic lined or replaced with pipe, with each means assumed to achieve the same water savings.
- 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).
- Combined target for the number of new and modernised whole farm plans was 180 in 2016-17.

Shepparton Irrigation Region Catchment Implementation Strategy's 1990-2017 target achieved, %ⁱ

(achievements listed on top of each bar)



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

What's next?

Relationships and partnerships with stakeholders, including local community NRM groups, industry groups and local, state and national government agencies will remain critical to implementing the Plan. Program priorities for 2017-18 include:

Drainage

- Make information on salinity risk easily accessible to farmers through the salinity website.
- Progress the relocation of drainage water disposal via public groundwater pumps from channels to surface drains.
- Review triggers for operating public groundwater pumps in terms of water quality impacts of receiving waters and risks from rising groundwater levels.
- Deliver the priority construction projects in Mosquito, Stanhope and Muckatah catchments.
- Develop and implement the Hybrid Drainage system model, using the natural flow-paths and removing obstructions to restore natural flows while allowing connection of farmland to these systems; five priority catchments are under development: Upper Deakin, Corop Lakes, Guilfus-Congupna, Murray Valley Drain 11 and Mosquito.
- Establish on-farm solutions or options for properties that will not be serviced by formal drainage connections.

Environment

- Improve integration of native vegetation, including paddock trees, into whole farm plans and deliver priority landscape targeted approach through the Linking the Lower Goulburn project.
- Pilot implementation of the Goulburn Broken Native Vegetation Offset and Management Scheme.
- Manage the Corop Lakes system in an integrated way.

Farm

- Secure funding of \$80 million for Farm Water Program efficiency works for a modified program that does not

include a water transfer from the region.

- Continue implementing the large-scale Farm Water Program.
- Implement a targeted approach through a greater understanding of the many pressures and changes that agricultural industries are experiencing.
- Respond to major water plan changes, such as the Water for Victoria plan, considering issues such as water leaving the Goulburn-Murray Irrigation District.
- Implement findings of Stage 2 review of whole farm planning products and processes at a statewide level to reflect the changing irrigation industry.
- Work with service providers and industry to investigate management options and extend information to farmers, such as soil-health farm trials.
- Support delivery of the Plan2Farm initiative through onground support directly and indirectly.

People

- Develop a clear, factual description of key water projects (the water literacy project).
- Establish a regional voice and link with decision-makers at state and federal levels.
- Engage the irrigation community in the broader irrigation and environmental water delivery process.
- Develop the next generation of regional leaders via mentoring and other means.

Governance and partnerships

- Contribute to the Murray-Darling Basin Authority's Basin Salinity Management Strategy.
- Respond to the Water for Victoria plan actions.
- Respond to the Victorian Environment Protection Policy (Waters of Victoria) Review.
- Align with delivery of GMW's Connections Project.
- Pursue improved planning through joint efforts with Stage 2 of Goulburn-Murray Irrigation District projects on land-use mapping and the challenges and opportunities of changes to water availability on the food and fibre sector.

Human resources (including occupational health and safety)

Compiled by: Kate Montgomery, Caitlin Baker and Shannon Crawford.

Long-term and annual scorecard

2016-17 performance	On target			
Organisation condition ⁱ	1990	2017	Long-term risk	Long-term strategy implementation stage
	n.a.	Good	Low	Late

i. Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.

Government investment ⁱ, \$000

2014-15	2015-16	2016-17	2017-18 ⁱ
5,466	5,840	6,234	6,421

i. Excludes board and support committees.

ii. Forecast based on the Corporate Plan 2017-18.

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 6 includes a more complete list.

Background

The Goulburn Broken CMA continues to empower a workplace culture based on strong leadership, resilient partnerships and agility through continuous improvement.

This culture is supported by contemporary practises that support our employee base to make great achievements in their area of expertise and place the Goulburn Broken CMA as an attractive employer in the potential labour market.

The Goulburn Broken CMA continues to emphasise a safe work environment for its employees and partner organisations with a focus on both their physical and mental wellbeing. We value our employees and the contribution they make to our communities through both their work and participation in community life.

We have continued to develop and embrace our workforce's diversity, culture and business acumen to achieve the Regional Catchment Strategy's vision and implement government policy.

Organisation condition

The People Matters Survey 2016 benchmarked results continue to indicate that the Goulburn Broken CMA remains a leader in the sector in respect to how our employees view the organisation. Indicators such as the implementation of the Public Sector Values, Employment Principles and Job Satisfaction all ranked highly and above that of our comparison organisations. 96 per cent of employees report being satisfied or very satisfied with the organisation as an employer, exceeding our comparators by 15 per cent.

Workforce data for the current and previous financial years is contained in the tables on pages 73,74 and 75.

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. As we enter the later stages of this strategy, the initiatives are taking shape and establishing the basis for the development of the next strategy in 2017-18.

The results of the People Matters Survey 2016 informed the development of an action plan responding to opportunities identified by staff and will be implemented throughout 2017-18.

Occupational Health and Safety

2016-17 has seen Occupational Health and Safety further enhanced in the organisation with the review of the functions, consolidating these into the Human Resource area. This collaboration has seen full time resourcing available via the People, Safety and Wellbeing Manager and further part time support in the People Safety and Wellbeing Officer role.

The Goulburn Broken CMA's Occupational Health and Safety procedures and practices are based on the model of continuous improvement. During 2016-2017 the CMA State-wide Forum engaged a consultant to undertake a review of each CMA's OHS Management Systems, overall the Goulburn Broken CMA's policy and procedures were seen to be a leader within the CMAs with many areas identified as highly developed or best practise. All actions from this review have been developed into an action plan to support their implementation within the organisation.

2016-17 Human Resources performance

The 2016-17 year has seen a continued focus on delivery and improvement to existing processes and operations reflective of the funding environment.

Other key activities undertaken to deliver against the core strategic Workforce Strategy objectives are described below.

Governance

The Human Resource roles and functions were reviewed in 2016-17. This resulted in the redesign of the role to encompass OHS and a change of name to People, Safety and Wellbeing Manager. The redesigned role draws on the efficiencies of integrated knowledge in these areas and full time support.

The implementation of ConnX is now underway with all training requests and records now managed electronically. ConnX allows employees the ability to use the self service interface to track and apply for leave and review pay advices and details online.

Attraction and recruitment and labour supply and agility

Five new staff were recruited to the Goulburn Broken CMA during 2016-17. The field of applicants for positions were strong reinforcing the reputation of the Goulburn Broken CMA as an attractive employer and career proposition. Recruitment was across the program areas and reflects confidence in current delivery budgets.

Capability building

The Goulburn Broken CMA has further enhanced the provision of learning and development within the organisation as highlighted in the People Matters Survey. Goulburn Broken CMA achieved the highest average satisfactions score for access to learning and development across our comparator organisations.

We have continued to utilise the strong and diverse knowledge and skills of our own employees in developing

in-house knowledge sharing opportunities. 46 staff have attended sessions facilitated by their colleagues on topics such as ConnX, SharePoint, enquire and Skype for Business.

Participation and Motivation

Access to workplace flexibility continued to be a cornerstone of the Enterprise Agreement approved in 2016. 28 per cent of staff accessed long service, unpaid leave and parental leave over the period.

Supporting our community

The Goulburn Broken CMA has continued to support the Greater Shepparton Lighthouse Project, the Learning Club at a local primary school and the organisation raises and donates 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.

Our staff

A list of all Goulburn Broken CMA staff employed for all or part of 2016-17 is on page 148.

Other workforce data 2014-15, 2015-16 and 2016-17

	2014-15		2015-16		2016-17		Comments
	no.	%	no.	%	no.	%	
Years of serviceⁱ							
12 months or less	4	7	3	5	5	8	A steady workforce has been maintained with a strong representation of the workforce exceeding 5+years' service accompanied by a healthy 8 per cent injection of new staff.
1-3 years	4	7	7	11	6	10	
3-5 years	13	22	5	8	3	5	
5+ years	39	65	46	75	47	77	
Average length of service, years	7.7		8		8.3		
Salary distribution^{i & ii}							
<\$40,000	0	0	0	0	0	0	The apparent increase in numbers at higher salary grouping is reflective of the application of the EBA increase pushing salaries into higher salary categories
\$40,000 - 59,999	4	7	4	7	1	2	
\$60,000 - 79,999	30	50	30	49	25	41	
\$80,000 - 99,999	13	22	10	16	18	30	
\$100,000+	13	21	17	28	17	27	
Average Salary ⁱⁱⁱ	\$75,428		\$80,269		\$81,524		
Qualificationsⁱ							
Year 12 or less	6	10	6	10	4	7	No significant change, however demonstrates the high level of competency of our staff and demonstrates the commitment of staff and the organisation to continued learning.
Certificate	2	3	2	3	1	2	
Advanced Diploma / Diploma	10	17	11	18	12	20	
Degree	36	60	35	57	35	57	
Postgraduate Degree / Graduate Diploma	6	10	7	11	9	14	
Turnover (total)	5	8	2	3	5	8	Turnover has allowed new staff to join the organisation and is at a healthy rate.
Turnover (ongoing staff only, % of total turnover)	2	40	1	50	3	60	
Exit interviews completed	4	80	1	50	2	40	All staff were offered the opportunity to complete an exit interview – those that took up the offer were moving on to other employment.
Absenteeism		2.3		2.1		2.2	No material change
Training expenditure (% of employee related expenditure)	\$120,645	2.2	\$114,745	2.0	\$149,541	2.5	Strong commitment to skill and knowledge development has continued with 93 per cent of staff reporting these opportunities have helped them do their job better.

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

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 and in the last full pay period in June (2017) of the previous reporting period (2016).

	June 2017						June 2016											
	All employees			Ongoing ⁱⁱⁱ			Fixed term ^{iv} and casual			All employees			Ongoing ⁱⁱⁱ			Fixed term ^{iv} and casual		
	No. (headcount)	FTE	No. (headcount)	No. (headcount)	FTE	No. (headcount)	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	FTE	No. (headcount)	FTE
Demographic data																		
Gender																		
Male	25	24.0	12	2	13.6	11	10.4	26	25.0	13	3	15.4	10	9.6				
Female	36	31.1	11	13	20.0	12	11.1	35	29.6	10	14	19.7	11	9.9				
Age																		
15-24	0	0.0	0	0	0.0	0	0.0	1	0.4	0	0	0.0	1	0.4				
25-34	5	4.6	2	1	2.6	2	2.0	7	6.6	4	2	5.6	1	1.0				
35-44	23	19.7	8	10	14.8	5	4.9	19	15.7	6	7	10.0	6	5.7				
45-54	22	20.9	8	3	10.4	11	10.5	22	20.7	8	7	13.7	7	7.0				
55-64	11	9.9	5	1	5.8	5	4.1	12	11.2	5	1	5.8	6	5.4				
65+	0	0.0	0	0	0.0	0	0.0	0	0.0	0	0	0.0	0	0.0				
Classification data																		
Bands																		
Band 5	3	2.5	2	1	2.5	0	0.0	4	2.7	1	2	2.3	1	0.4				
Band 6	9	8.0	3	4	6.0	2	2.0	8	7.4	3	3	5.4	2	2.0				
Band 7	14	12.7	5	4	7.9	5	4.8	12	11.1	6	3	8.1	3	3.0				
Band 8	16	13.2	5	5	8.4	6	4.8	19	15.9	5	7	9.7	7	6.2				
SEO	12	11.8	8	1	8.8	3	3.0	12	11.6	8	2	9.6	2	2.0				
Senior managers	7	6.9	0	0	0.0	7	6.9	6	5.9	0	0	0.0	6	5.9				

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.

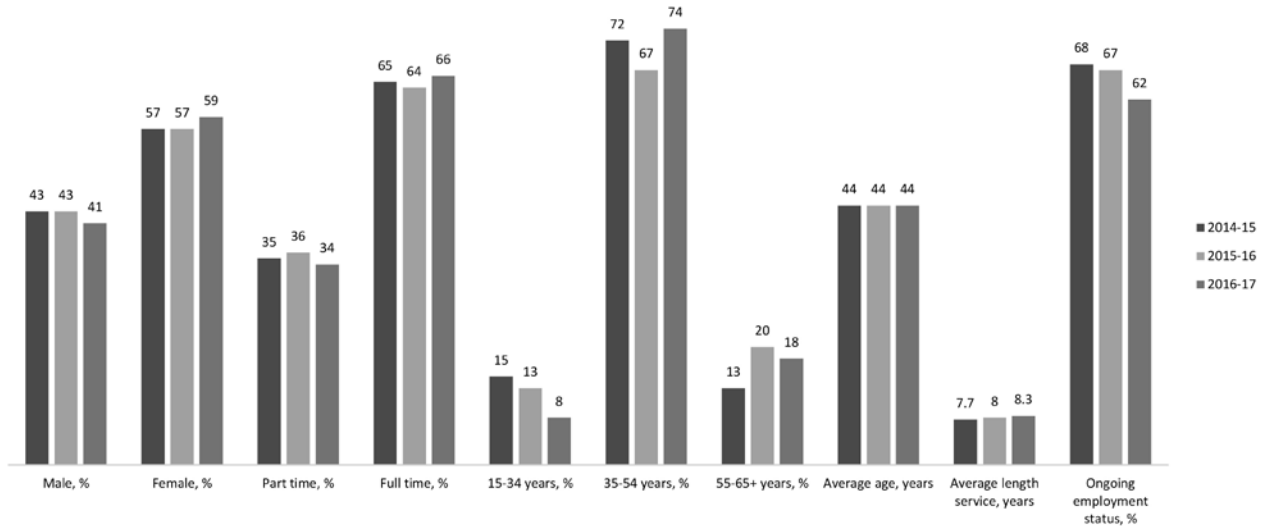
iv. Fixed term employees includes people engaged on a fixed term contract of employment who were active in the last full pay period of June.

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

Income band (salary) ⁱ	No. (headcount) ⁱⁱ
< \$160,000	6
\$160,000 - \$179,999	0
\$180,000 - \$199,999	1

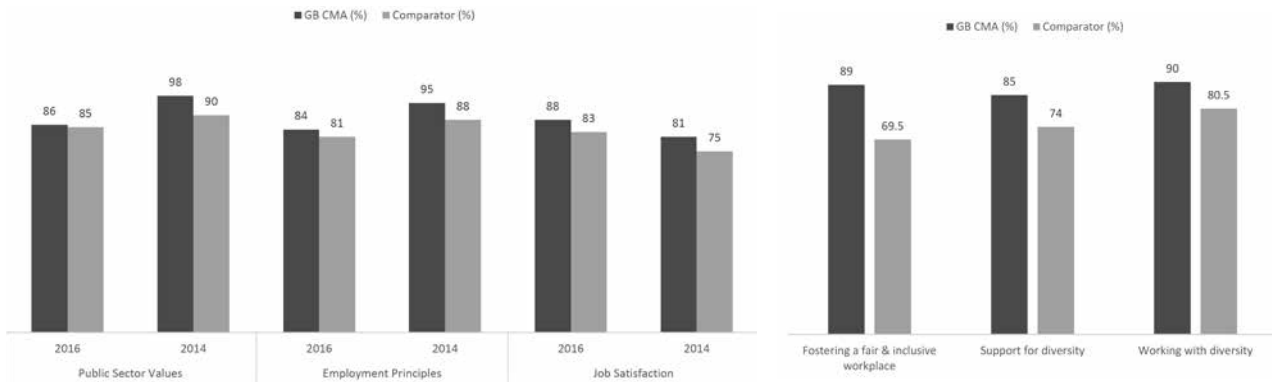
- i. Income bands in this table differ from Note 8.4 in the Financial Statements as \$ values are based on salary only, not TRP.
- ii. No. of staff in this table differs from Note 8.5 in the Financial Statements as this table includes CEO.

Goulburn Broken CMA people profile



People Matter survey results 2016 – core survey & diversity survey key areas

% of staff responded with positive agreement



2016-17 Occupational Health and Safety performance

A key Occupational Health and Safety outcome in 2016-17 has been the new OHS Management structure, the implementation of a new technology called iAuditor and the State-wide review.

iAuditor, a cloud based management system, has enabled the real-time completion of inspection and risk assessment templates by Goulburn Broken CMA employees. This technology has seen a greater than 90 per cent success rate for the submission of Safe Work Method Statements within a week of works commencing with most on the same day as the works commencing. The feedback from field officers has been overwhelmingly supportive of the technology.

The State-wide OHS Management Systems review has provided the basis for the collaborative development of further enhancements to the OHS governance supporting CMA's. Goulburn Broken CMA's current positioning in

regards to OHS Management Systems is strong and will be further enhanced by the collaborative actions in response to the state-wide review. In addition the CMA has undertaken a review of all OHS training needs to develop a training matrix to inform the finalisation of the training and development procedure.

The offer of free flu immunisations was taken up by 50 per cent of staff. Employees also participated in the Greater Shepparton City Council pedometer challenge and an introduction to mental health session provided by Beyond Blue at the staff workshop.

Refer also to the 2016-17 Occupational Health and Safety performance table on page 76.

Occupational health and safety statistics summary

		2014-15	2015-16	2016-17
Hazards	Hazards reported, no.	0	0	4
	Rate per 100 FTE	0	0	7
Incidents	Total incidents, no.	14	11	4
	Rate per 100 FTE	26.4	20.1	7
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
Fatalities	Fatality claims	0	0	0
Claim costs	Average cost per Standard claim	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
Risk management	Percentage of internal audits/inspections conducted as planned.	92	100	75
	Percentage of issues identified actioned arising from:			
	- internal audits	100	100	77
	- HSR provisional improvement notices (PINs)	n.a.	n.a.	n.a.
- WorkSafe notices	n.a.	n.a.	n.a.	
Training	Percentage of managers and staff that have received OHS training:			
	- induction	100	0	100
	- management training	0	0	67
	- contractors, temps, and visitors	n.a.	n.a.	67
	Percentage of HSRs trained:			
	- acceptance of role	100	100	100
- re-training (refresher)	66	66	33	
- reporting of incidents and injuries	100	100	100	

What's next?

Human Resources

- The roll out of the Vic Health, Workplace Achievement Health and Wellbeing Program will be a priority initiative.
- Offering a training and development approach that enhances staff capability and is achievable within resources and budget continues to be a challenge and as such is an ongoing priority.
- Development of a Diversity Strategy in collaboration with other CMA's and DELWP.

Occupational Health and Safety

- Goulburn Broken CMA will continue to achieve its occupational health and safety objectives by developing and implementing appropriate policies and procedures that reflect the changing needs of the organisation's operations, documenting standards and guiding managers, supervisors and employees in carrying out their responsibilities.
- Implementation of the findings of the Goulburn Broken CMA safety management systems review.
- Collaboration on the State-wide strategy development.

Environmental footprint

Compiled by: Annie Squires

Long-term and annual scorecard

2016-17 performance	On target			
Organisation condition ⁱ	1990	2017	Long-term risk	Long-term strategy implementation stage
	Very poor	Poor	Medium	Early

i. Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.

Government investment, \$000

2014-15	2015-16	2016-17	2017-18 ⁱ
10	0	0	0

i. Forecast is based on the Corporate Plan 2017-18.

Major strategic references

The Goulburn Broken CMA Organisational Environmental Footprint Policy 2011 and Organisational Environmental Footprint Strategy and Action Plan 2012-2014 set principles, priorities and targets for minimising the Goulburn Broken CMA's environmental footprint for business activities. Appendix 6 includes a more complete list of relevant state, national and international strategies.

Background

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, our base year for reporting and comparisons.

All Goulburn Broken CMA environmental footprint initiatives and activities are guided by the Organisational Environmental Footprint Policy 2011 and Organisational Environmental Footprint Strategy and Action Plan 2012-14, which were both revised in 2011. Reporting is guided by the Victorian Government's Financial Reporting Directions 24C and in line with current carbon accounting practices.

Implementation of the action plan was guided by a working group that was supported by the sustainability coordinator. This position is currently vacant and the action plan has not yet been reviewed.

Internally, the program is promoted as 'Reducing our Footprint'.

Organisation condition

The table on page 78 summarises our 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 downwards trend with continued improvements in energy use and vehicle emissions (our biggest greenhouse gas emissions sources), waste management and paper use.

Some actions to achieve reductions in energy use were implemented in 2015-16 and have had a significant impact on emissions from this source in 2016-17.

2016-17 performance

Total emissions were reduced again during 2016-17, primarily due to reductions in electricity use. Total greenhouse gas emissions have reduced to 22 per cent below 2006-07 levels. Emissions per FTE have dropped further to 8.5 t CO₂e, a 33 per cent reduction on 2006-07 levels.

Electricity emissions are now more than 33 per cent below 2006-07 levels. New low energy LED lights were installed in the Shepparton office in April 2016, replacing the fluorescent tubes. This has resulted in significant savings in electricity use in 2016-17.

Vehicle fleet emissions continued the downward trend with an 11 per cent fall in total kilometres travelled for the year. This combined with ongoing improvements in the vehicle fleet with fuel efficient, lower emission vehicles resulted in reduced emissions for the year. Total emissions from vehicles are now 19.5 per cent below 2006-07 levels.

Paper use rose slightly to 12.5 A4 equivalent reams per FTE which remains below the target 2006-07 level of 14.2 reams per FTE.

Flight emissions were similar to previous years, however the number of flights offset increased to 11 per cent.

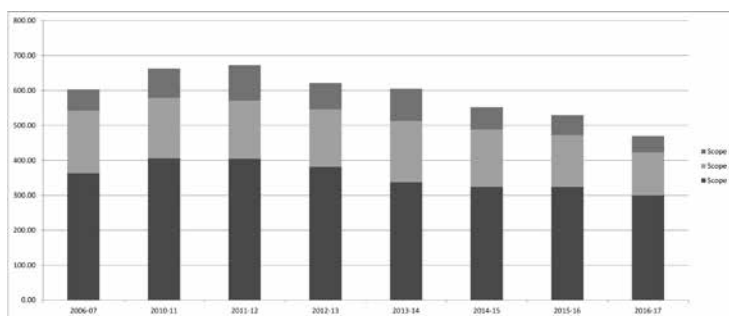
Waste emissions are not a significant component of our total emissions. Waste to landfill rose from 4.1 kg per FTE to 5.5 kg, which is still well below the target of less than 10 kg per FTE. Recycling rates remained steady at 78 per cent of total waste, falling short of the 90 per cent target.

Office-based environmental impacts reporting

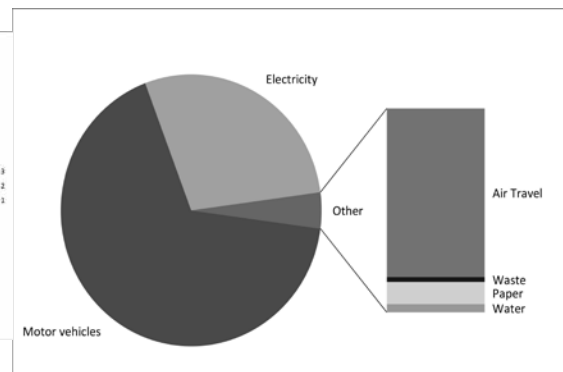
Sustainability report	2006-07 (base year)		2015-16		2016-17	
	Consumption	GHG emissions (t CO ₂ -e)	Consumption	GHG emissions (t CO ₂ -e)	Consumption	GHG emissions (t CO ₂ -e)
Direct emissions (Scope 1)						
Petrol for vehicles (L)	74,711	171	16,552	38	12,061	29
Diesel for vehicles (L)	66,127	178	104,935	286	99,662	271
LPG for vehicles (L)	8,936	14	-	-	-	-
Distance travelled by fleet vehicles (km)	Not avail.		1,685,741		1,490,252	
Total Scope 1		363		324		300
Indirect emissions (Scope 2)						
Electricity (kilowatt hour)	147,930	179	131,270	148	112,843	123
Total Scope 2		179		148		123
Optional emissions (Scope 3) ⁱ						
Electricity (transmission & distribution losses) (kWh)	147,930	22	131,270	17	112,843	11
Flights (km)	Not avail.		68,585	19	66,288	17
Waste - landfill (kg)	8,680	9	200	0	267	0
Water consumption (kL)	Not avail.		997	2	350	1
Paper consumption (reams)	514	2	534	2	571	2
Petrol (extraction, production, etc.) (L)	74,711	14	16,552	2	12,061	2
Diesel (extraction, production, etc.) (L)	66,127	13	104,935	15	99,662	14
LPG (extraction, production, etc.) (L)	8,936	1	-	0	-	0
Total Scope 3		61		57		47
Total Scope 1 + 2		542		472		423
Total Scope 1 + 2 + 3		603		529		470
Offsets purchased (% air travel)		-	5		11	

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.

Goulburn Broken CMA emissions - t CO₂-e



2016-17 Emissions by source activity



Governance

Compiled by Eileen Curtis, Shannon Crawford and Katie Warner

Long-term and annual scorecard

2016-17 performance	On target			
Organisation condition ⁱⁱ	1990	2017	Long-term risk	Long-term strategy implementation stage
	n.a.	Good	Medium	Watch & maintain

i. Appendix 1 describes the analytical framework, including terms used in this scorecard. Ratings legend is inside front cover.

Government investment, \$000

2014-15	2015-16	2016-17	2017-18 ⁱ
1,758	1,694	1,564	1,583

i. Forecast is based on the Corporate Plan 2017-18.

Major strategic references

The Goulburn Broken Corporate Plan 2016-17 to 2020-21 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 6 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.
- Risk Management Attestation.
- 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.

2016-17 performance

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

Organisational Performance Excellence Review

The Goulburn Broken CMA has undertaken two independent Organisational Performance Excellence (OPE) reviews, the first in 2011 and a follow-up in 2015. These reviews provide opportunities for the Goulburn Broken CMA to identify opportunities to improve performance and capability across the organisation.

Further to the OPE, the Australian Government expects regional NRM organisations to monitor their performance and capacity, be accountable for and transparent in decision making, and identify measures to achieve continuous improvement in both the delivery of regional funding and organisational performance. In 2014, the Australian Government introduced a performance framework as a key quality assurance and risk management tool for the delivery of the National Landcare Programme. In October 2016, the Goulburn Broken CMA were the first regional NRM body in Australia to undergo a desktop audit by representatives of the Department, against ten selected framework components. Pleasingly, the audit found that the Goulburn Broken CMA meet all expected practices against the framework. This was a fantastic achievement for the CMA.

Both the OPE and the audit against the Australian Government's performance framework has identified opportunities and advice on how the CMA could strengthen our performance. These are captured and tracked within in a single business improvement register. A summary of business improvement initiatives undertaken since 2011 was undertaken in this financial year to gain a better understanding of progress and effectiveness of reviews. Projects reviewed included external and internal initiatives. Key findings were that 95 per cent of priority actions and more than 70 per cent all actions have been completed demonstrating the ongoing commitment of the CMA to improving the business.

What's next?

The Goulburn Broken CMA is a mature organisation with an optimum corporate structure managing a revenue base of \$41.9 million in 2016-17.

The key challenges in the short term continue to be:

- Maintaining a high level of corporate services and skills whilst minimising the cost of the corporate function.
- Ensuring the return on systems development is a benefit to the business and stakeholders.
- Keeping abreast of constantly changing governance and investor requirements.
- Monitoring project funding to support an engaged and agile workforce.

Other general priorities include:

- Identifying new and maintaining existing, funding streams to enable investments to be made within the Catchment aligned to what is required to meet the strategic objectives under the Goulburn Broken Regional Catchment Strategy.

- Having the ability to demonstrate to government and the catchment community the return on taxpayers' investment in natural resource management and sustainable agriculture in a timeframe and language that fits within the political reality.
- The ability to retain people with specialist skill sets required to support our Statutory Obligations, in the area of Environmental Water management, Floodplain management and Financial management.
- Balancing the need to actively support partnerships in service delivery while promoting the Goulburn Broken CMA brand for local and national recognition.

The focus of business improvement in 2017-18 will be based on outcomes of the OPE, the Australian Government's performance framework and the support required by the business to implement the Regional Catchment Strategy. Key areas of focus will be:

- Identify and implement approaches to increase innovation and continuous improvement across the organisation including the implementation of the CMA's revised Monitoring, Evaluation, Review and Improvement Strategy 2017-2021.
- Continued development and implementation of business systems (in consultation with other CMAs) that support a resilient organisation.
- Ongoing investigation of opportunities to respond efficiently and effectively to increasing governance requirements with limited resources.
- Review and implementation of the Goulburn Broken CMA Community Engagement and Communication and Marketing Strategies.

Goulburn Broken CMA's legislative and funding context

Refer to 'Powers and duties' on page 6 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 \$40.55 million was sourced from Regional, State and Commonwealth Government sources in 2016-17. 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 *CaLP Act* (for obligations under that Act) and another under the *Water Act* (for obligations under that Act).

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 April each year.
- Comply with the Statement of Obligations.

In performing its functions and providing its services an authority shall, in a manner consistent with relevant government policies, frameworks, strategies, plans and guidelines:

- a. Facilitate and coordinate the management of catchments in an integrated and sustainable manner, including as it relates to land, biodiversity and water resources.
- b. Take a sustainable approach by balancing social, economic and environmental outcomes.
- c. Plan and make decisions within an integrated catchment management context:
 - Recognising the integral relationship between rivers, their catchments, coastal systems and estuary and marine environments.
 - Recognising the integral relationship between the land (its soil, water, vegetation and fauna) and associated natural ecosystems.
 - Recognising the need to foster the resilience of natural assets, including land, biodiversity and water resources, to climate change.
 - Using the best available scientific information.
 - Targeting investment to address priorities and deliver maximum improvement in resource condition of catchments, land, biodiversity and water resources.
- d. Provide opportunities for community engagement in the integrated management of catchments and natural assets, including land, biodiversity and water resources.
- e. Develop strategic partnerships with relevant stakeholders including public authorities and government agencies.
- f. Promote and apply a risk management approach that seeks to protect, enhance and restore natural assets and reduce the impact of climate change.
- g. Promote and adopt an adaptive approach to integrated catchment management, including continuous review, innovation and improvement.
- h. Manage business operations in a prudent, efficient and responsible manner.

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 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.

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.

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 Audit, Risk and Compliance Committee consists of the following members:

1 July 2016 – 27 September 2016

- Adrian Weston, Chair (independent)
- Alexander (Sandy) MacKenzie (independent)
- Kate Stothers (independent)
- Murray Chapman as Ex Officio
- Ross Runnalls (external appointee)

27 October 2016 to 30 June 2017

- Kate Stothers, Chair (independent)
- Adrian Weston (independent)
- Alexander (Sandy) MacKenzie (independent)
- Kate Hawkins (independent)
- Murray Chapman as Ex Officio
- Ross Runnalls (external appointee)
- Crag Marshall (CPA external appointee)

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 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.
- 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 2016-17, the committee met five times. Attendance of committee members is detailed in the table on page 84, together with attendance of members of other board committees.

Remuneration Committee

1 July 2016 – 27 September 2016

- Rowena Ellis (Chair) ⁱ
- Alexander (Sandy) MacKenzie
- Adrian Appo
- Murray Chapman as Ex Officio

27 October 2016 to 30 June 2017

- Adrian Appo (chair)
- Helen Reynolds
- Ailsa Fox
- Murray Chapman as Ex Officio

i. Resigned from board effective 31 August 2016

Planning Framework

The Goulburn Broken CMA's planning framework is described within the 'Regional Catchment Strategy, resilience and climate change' section on page 20.

Risk Management

The Goulburn Broken CMA reviewed its risk profile during the year and it was considered by the Audit, Risk and Compliance Committee.

Attestation for compliance with Ministerial Standing Direction 3.7.1

I, Murray Chapman, certify that the Goulburn Broken CMA has complied with the Ministerial Standing Direction 3.7.1 - Risk Management Framework and Processes. The Goulburn Broken CMA's Audit, Risk and Compliance Committee has verified this.



Murray Chapman

Chair

27 July 2017

Board directors and officers

For the financial year ended 30 June 2017.



Board Directors (Back L-R): Chris Norman (CEO), Helen Reynolds, Murray Chapman, Kate Stothers, Alexander (Sandy) MacKenzie. (Front L-R) Ailsa Fox, Adrian Appo, Kate Hawkins, Adrian Weston.

Murray Chapman - Chair (Productive Plains SES)

Murray is the owner of a farm at Goomalibee and a current member of several local community organisations including the CFA, the VFF and Landcare and a past board member of the Benalla and District Memorial Hospital. He is a member of The Earth Resources Ministerial Advisory Council and is a director of a tourism business on the mid-north NSW coast which incorporates the harmonisation of natural features. Murray has specialised in providing technical support and facilitation services to the NRM industry, particularly in water and on-farm efficiency. Murray is a past director of a natural resource management company specialising in advisory services as well as land and water project management both in Australia and China. He has many years' experience in assisting governments and industry to achieve change-based programs.

Alexander 'Sandy' MacKenzie (Productive Plains SES)

Sandy has a Masters in Rural Science (UNE) and is currently the Landcare coordinator for the Burnt Creek Landcare Group. He holds executive positions with the Landcare Victoria Inc and National Landcare Network Members Council. Sandy is also a Community Assessor for the Federal Government NRM program's Caring for our Country and Carbon Farming Initiative. Sandy has experience in governance, natural resource Management and community education/engagement and was the founding principal of Orange Agricultural College (Charles Sturt University).

Adrian Weston (Productive Plains SES)

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.

Adrian Appo, OAM (Agricultural Floodplains SES)

Adrian has extensive experience in strategy development and governance, particularly in the fields of attracting funding and indigenous affairs. He is the principal consultant at Litehouse Business Solutions, treasurer of the Indigenous Leadership Network Victoria, chair of First Australians Capital and is a director on the Social Venture Australia and Children's Ground boards. Adrian is also on advisory committees for Impact Investing Australia, University of Melbourne's Business School and Melbourne Grammar School. Adrian believes the greatest challenge facing the Catchment is the increasing competition for water from various interest groups while its biggest opportunity is to lead the way in demonstrating best environmental practice to improve and protect the health of our waterways. He lives with his family in Merrigum.

Ailsa Fox (Upland Slopes SES)

Ailsa is a primary producer of many years with strong past involvement in the VFF and is currently a partner in a farm at Merton focusing on beef cattle, wool and prime lamb production. Ailsa is a director of Rural Skills Australia. Ailsa was also the Chair of Administrators for the Rural City of Wangaratta. Ailsa believes there is an opportunity in natural resource management to balance agriculture (both financial and social issues) with the expectations of the environment.

Rowena Ellis (Upland Slopes SES)

Rowena is a partner in Highview Partners, a management consulting firm that specialises in helping small organisations with corporate governance. Highview Partners also operates/owns a farm near Mansfield producing beef and capers. She has been a Winton Wetlands Committee of Management member since 2012; is a member of the Upper Broken Landcare group and founding member of the Mansfield Producer Alliance; and was previously deputy chair of the Mansfield and District Community Bank. Rowena is interested in promoting profitable productive farming practices and good natural resource management and believes one of the Catchment's greatest opportunities (and challenges) is people's capacity to adapt, innovate and thrive in response to climate change.

Kate Stothers (Productive Plains SES)

Kate lives in Uptopotpon 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 Kate 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.

Helen Reynolds (Agricultural Floodplains SES)

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.

Kate Hawkins (Upland Slopes SES)

Kate has owned a consulting business in scientific and corporate writing and editing, process improvement and community environmental education with her partner Ron for 13 years. She serves on the Upper Goulburn Landcare Network executive and is a member of the CFA, local Landcare and community arts organisations. Kate has interests and experience in science communication (particularly about natural resources), small business, community engagement and governance. Kate lives in Yea.

Board members attendance record at meetings

July 2016 – September 2016			
Board member	Board meetings (3 held)	Audit, Risk and Compliance Committee (2 held)	Remuneration Committee (1 held)
Murray Chapman (Chair)	2	1	-
Alexander (Sandy) MacKenzie	3	2	1
Adrian Weston (Deputy chair)	3	2	-
Adrian Appo	2	-	1
Rowena Ellis	-	-	-
Kate Stothers	3	2	-

Adrian Weston was Acting chair from 8 August 2016 till 6 September 2016 while the Chair Murray Chapman was on leave. Rowena Ellis retired as a Board Director, effective from 31 August 2016.

October 2016 – June 2017			
Board member	Board meetings (7 held)	Audit, Risk and Compliance Committee (3 held)	Remuneration Committee (2 held)
Murray Chapman (Chair)	7	-	2
Alexander (Sandy) MacKenzie	7	3	-
Adrian Weston (Deputy chair)	5	3	-
Adrian Appo	5	-	2
Kate Stothers	7	3	-
Helen Reynolds	7	-	1
Ailsa Fox	7	-	2
Kate Hawkins	5	3	-

Adrian Weston was Acting chair from 5 June 2017 to 14 July 2017 while Chair Murray Chapman was on leave.

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	2016-17 issues and status
<i>Catchment and Land Protection Act 1994</i>	Prepare, coordinate, monitor and review of Regional Catchment Strategy.	Regional Catchment Strategy for 2013-2019 was approved on 16 May 2013.
	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.'	2015-16 Annual Report submitted on time and 2016-17 on schedule.
	Corporate Plan to be submitted to the Minister under the <i>Catchment and Land Protection Act 1994</i> by 30 April annually.	Submitted to Minister by 30 April 2017.
	Members declare new interests at each (monthly) board meeting and document it in Pecuniary Interests Register. Members must submit a primary return and an annual return.	Declarations of Pecuniary Interests have been duly completed by relevant directors and officers of the Goulburn Broken CMA and are available for inspection.
<i>Water Act 1989</i>	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 <i>Trustee Act 1958</i> .	Goulburn Broken CMA continued to invest funds with TCV at call and on term deposits in excess of working capital requirements in line with DTF's policy on Centralisation of Borrowing and Investment Activities. DTF's policy only permits Goulburn Broken CMA to invest a maximum of \$2 million with Authorised Deposit-Taking Institutions.
	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. Code of conduct for public sector employees adopted.
	Waterway management responsibilities.	Goulburn Broken CMA was established as a body corporate under the <i>Catchment and Land Protection Act 1994</i> and then established as an Authority under the <i>Water Act</i> with delegated waterway management, floodplain management and drainage functions under Part 10 of the <i>Water Act 1989</i> .
<i>Environmental Protection and Biodiversity Conservation Act 1999</i>	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.

Act or policy	Board's major tasks	2016-17 issues and status
<i>Public Administration Act 2004</i>	Ensure operations of Board comply with Part 5.	<p>Policy and Procedures ensure that obligations and best practice approaches are built into current operations and practices.</p> <p>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.</p>
<i>Freedom of Information Act 1982</i>	<p>Report requests for access to documents in Annual Report. Report requests at each (monthly) board meeting. The Act gives persons the right to request certain types of information (which are not exempt documents) held by the Authority. The Authority's Freedom of Information Officer is authorised to make decisions about access to documents under the Freedom of Information Act. The officer has 45 days from the date of receiving a valid request to accede to or reject the applicant's request. There are two costs associated with making a Freedom of Information request being an application fee of \$28.40 (from 1 July 2017) which is non-refundable and an access cost which covers the cost to Authority for providing the information.</p>	<p>The <i>Freedom of Information Act 1982</i> allows the public a right of access to documents held by the Goulburn Broken CMA.</p> <p>For the 12 months ending 30 June 2017, Goulburn Broken CMA received 7 applications. All of these requests were from the general public, none were from Members of Parliament. Of the total requests received by Goulburn Broken CMA, two were acceded to, but one went to internal review by the Freedom of Information Commissioner with none progressing to the appeal stage. Two were closed as the documents did not exist and three remain in progress.</p> <p>Making a request:</p> <p>Access to documents may be obtained through written request to the Freedom of Information Manager, as detailed in s17 of the <i>Freedom of Information Act 1982</i>. In summary, the requirements for making a request are:</p> <ul style="list-style-type: none"> • it should be in writing; • it should identify as clearly as possible which document is being requested; and • it should be accompanied by the appropriate application fee of \$28.40 (the fee may be waived in certain circumstances). <p>Requests for documents in the possession of the Goulburn Broken CMA should be addressed to:</p> <p>Freedom of Information Officer PO Box 1752, Shepparton, Vic 3632.</p> <p>Requests can also be lodged online at www.foi.vic.gov.au</p> <p>Access charges may also apply once documents have been processed and a decision on access is made for example, photocopying and search and retrieval charges.</p> <p>Further information regarding freedom of information (FOI) can be found at www.foi.vic.gov.au</p>
<i>Protected Disclosure Act 2012</i>	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 137 for policy).
<i>Financial Management Act 1994</i>	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 <i>Freedom of Information Act 1982</i> .

Act or policy	Board's major tasks	2016-17 issues and status
<i>Environmental Protection Act 1970</i>	<p>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.</p> <p>Outlines CMAs roles with respect to set goals, priorities and targets.</p> <p>Refers to water allocations and environmental flows.</p> <p>Relates to responsibilities of various agencies for ensuring sustainable agricultural activities with the catchment.</p> <p>Relates to the management of irrigation channels and drains.</p> <p>Refers to vegetation protection and rehabilitation.</p>	<p>The Goulburn Broken CMA continued to support the implementation of the Partnership Agreement for the Preparedness and Response to Waterway Incidents in the Goulburn Broken Catchment (2007).</p>
<i>Flora and Fauna Guarantee Act 1988</i>	<p>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.</p>	<p>The Goulburn Broken CMA continues to support the implementation of action statements and recovery plans for threatened flora and fauna by DELWP.</p>
<i>Statutory Referral and Advice (Planning and Environment) Act 1987, Subdivision Act 1988, Building Regulations 2004, Water Act 1989, Mineral Resources (Sustainable Development) Act 1990</i>	<p>Goulburn Broken CMA has delegated floodplain management functions and is the floodplain management authority under the <i>Planning and Environment Act 1987</i>, <i>Subdivision Act 1988</i> and Building Regulations where various types of application for development are referred. Furthermore, functions require direct advice to be provided to anybody or person under the <i>Water Act 1989</i>.</p> <p>Goulburn Broken CMA is a referral authority for applications from Department of Economic Development, Jobs, Transport and Resources (<i>Mineral Resource Act, 1990</i>) for work plans on floodplain areas.</p> <p>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.</p> <p>Board is advised of application refusals at each (monthly) meeting.</p> <p>Local government can request advice but are not required to implement it.</p>	<p>The Goulburn Broken CMA processed 835 referral and advice applications relating to floodplain management and 71 applications for works on waterways for 2016-17.</p> <p>Decisions are made in accordance with the Victorian Floodplain Management Strategy, the Goulburn Broken Regional Floodplain Management Strategy, the Victorian Planning Provisions Practice Notes and Authority Policy, all of which have largely been incorporated into respective municipal planning schemes as performance based criteria.</p> <p>Advice has been provided where appropriate.</p>
<i>Privacy and Data Protection Act 2014</i>	<p>Ensure details of individuals are protected.</p>	<p>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.</p>

Act or policy	Board's major tasks	2016-17 issues and status
<i>Forest Act 1958</i>	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.
<i>Aboriginal Heritage Act 2006</i>	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.
<i>Building Act 1993</i>	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 <i>Building Act 1993</i> .
National Competition Policy	Under the National Competition Policy (NCP), the guiding legislative principle is that legislation, including future legislative proposals, should not restrict competition unless it can be demonstrated that: <ul style="list-style-type: none"> the benefits of the restriction to the community as a whole outweigh the costs; and the objectives of the legislation can only be achieved by restricting competition. 	Goulburn Broken CMA continues to comply with the requirements of the NCP. 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 competition 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 is working to ensure that Victoria fulfils its requirements on competitive neutrality reporting for technological based businesses against the enhanced principles as required under the Competition and Infrastructure Reform Agreement.
<i>Country Fire Authority Act 1958</i>	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.
<i>Victorian Industry Participation Policy Act 2003</i>	Local Jobs First – Victorian Industry Participation Policy 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 2016-17, Goulburn Broken CMA commenced one contract with a total of 100 per cent estimated to be of local content to which a VIPP Plan or LIDP was not required as the procurement activity was local by nature.

Act or policy	Board's major tasks	2016-17 issues and status
<i>Equal Opportunity Act 2010</i>	Annual data return reporting gender, diversity and complaints lodged and investigated.	The Goulburn Broken CMA is an equal opportunity employer. Kate Montgomery is the sexual harassment contact officer. No complaints were received in the reporting period. Of the Goulburn Broken CMA staff, 59 per cent are female and 41 per cent male (see page 74). Of the Goulburn Broken CMA Board members, as at 30 June 2017, 50 per cent are female and 50 per cent male (see page 83).
<i>Occupational Health and Safety Act 2004</i>	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. All staff and contractors are inducted in the procedures that reflect their work function. OHS Procedures are in place and made available for contractors when applicable. Employee Health and Safety Representatives and Designated Work Groups are part of the consultative processes under sections 35 and 36 of the <i>OHS Act 2004</i> . 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.
<i>Fair Work (Registered Organisations) Act 2009</i>	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 renewal of the enterprise agreement is in progress.
Government Advertising Expenditure	Relates to the disclosure of government advertising expenditure under FRD 22H	Nil issues to report.
<i>Victorian Government Risk Management Framework</i>	The Victorian Government Risk Management Framework provides for a minimum risk management standard across Public Sector entities.	The attestation that the Goulburn Broken CMA has complied with Ministerial Standing Direction 4.5.5 Risk Management Framework and Processes.
<i>Victorian Managed Insurance Authority Act 1996</i>	Attestation by accountable officer in annual report which ensures that requirement is built into corporate planning and reporting processes.	
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 has not supplied any data sets to DataVic during 2016-17.
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.
<i>Charter of Human Rights and Responsibilities Act 2006</i>	Requires public authorities to act consistently with charter rights when making decisions, developing policies and providing services	Goulburn Broken CMA continued to provide information regarding rights and responsibilities to all new staff as part of the induction process. It was noted as an area for further development in the People Matter survey results and training will be developed in 2017-18.

Statement of availability of other information

The Goulburn Broken CMA 2016-17 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 Minister for Finance, 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:

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 75).
- 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 82); and
- a statement of completion of declarations of pecuniary interests by relevant officers (on page 85).

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 2016-17).

Additional information available on request

In compliance with the requirements of Financial Reporting Direction 22G, 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*.

The information is available on request from:

Goulburn Broken CMA
PO Box 1752
Shepparton VIC 3630

Details of compliance with *Protected Disclosure Act 2012*

Refer to Appendix 7, page 137, for compliance with the *Protected Disclosure Act 2012*.

Corporate Plan key performance indicators*

* KPIs derived from current Corporate Plan as per the 2016 Ministerial Form guidelines.

Performance area	Performance target	Progress 2016-17
Business management and governance	Submit annually, a board performance assessment report according to any guidelines issued.	Report submitted and complied with guidelines issued.
	A risk management strategy / plan approved by the board and being implemented	Strategy is approved by the board and being implemented.
	One hundred per cent of the CMA's policies and procedures reviewed every three financial years.	90 per cent of policies and procedures updated within the 3 year target.
	Full compliance with all applicable Standing Directions under the Financial Management Compliance Framework checklist.	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 and is now being implemented.
	A stakeholder and community engagement framework / plan approved by the board.	Goulburn Broken Community Engagement and Action Plan 2015-17 was approved by the board and is being implemented.
	A regional Landcare support plan approved by the board.	Goulburn Broken Community NRM Action Plan 2013-2018 approved by the board and is being implemented.
	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 Floodplain Management Strategy (interim) 2014-2016 approved by the board and is being implemented. Strategy is under review following release of the Victorian Floodplain Management Strategy.
	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 annual contribution to the State report to meet the requirements of the Murray-Darling Basin Salinity Management Strategy was submitted in November 2015 as requested and subsequently presented to the Independent Audit Group of 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 Regional Catchment Strategy was reviewed by the board in February 2016.
	Projects / activities to implement the RCS are delivered and reported according to associated funding agreements.	Planned projects for 2016-17 were delivered and reported according to associated funding agreements.
	Projects / activities to implement the regional waterways strategy and the regional floodplain management strategy delivered and reported according to associated funding agreements.	Planned projects for 2016-17 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 2016-17 were delivered and reported according to associated funding agreements.
Statutory functions under Part 10 of the Water Act	Ninety per cent of statutory requirements (permits, referrals, advice and licences) associated with waterway and floodplain management are responded to within the prescribed period.	99 per cent of responses were within the prescribed period

Performance area	Performance target	Progress 2016-17
Statutory functions under Part 11 of the Water Act	Ninety per cent of statutory requirements (permits, referrals, advice and licences) associated with irrigation management are responded to within the prescribed period.	100 per cent of responses were within the prescribed period

Strategic organisational measures

Performance area	Performance indicators	Targets	Progress 2016-17
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 14-15 and 22-24 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. Awareness of the Goulburn Broken CMA as a land, water and biodiversity management body.	The 2017 Wallis Community Awareness survey found: <ul style="list-style-type: none"> • 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.
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. Performance against Annual Internal Audit Plan. % projects finished on time and on budget (trend over time, and by service provider).	On track. On track. In 2016-17, standard output targets for program areas have been met for 80 per cent of funding lines during the financial year (44 from 55 funding lines). This compares to 84 per cent in 2015-16.
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). Growth in income (incl. proportion of Govt. to Non-Govt.).	Ratio of 1.4 FTE staff for every \$1 million of onground works. The total government funded revenue increased by 63 per cent from prior year at \$40.5 million and accounts for 97 per cent of total revenue. The majority of the increase was for Australian Government funded Farm Water 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). Overall job satisfaction (% of staff).	7.5/10 recognised at best practice level from Organisational Performance Excellence Review 2015. As at 2016, 88 per cent of staff were satisfied with their job. An increase of 7 per cent on the 2014 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). Compliance and Reporting (Aggregated results from Board Performance Assessment).	On track.

Financial Report

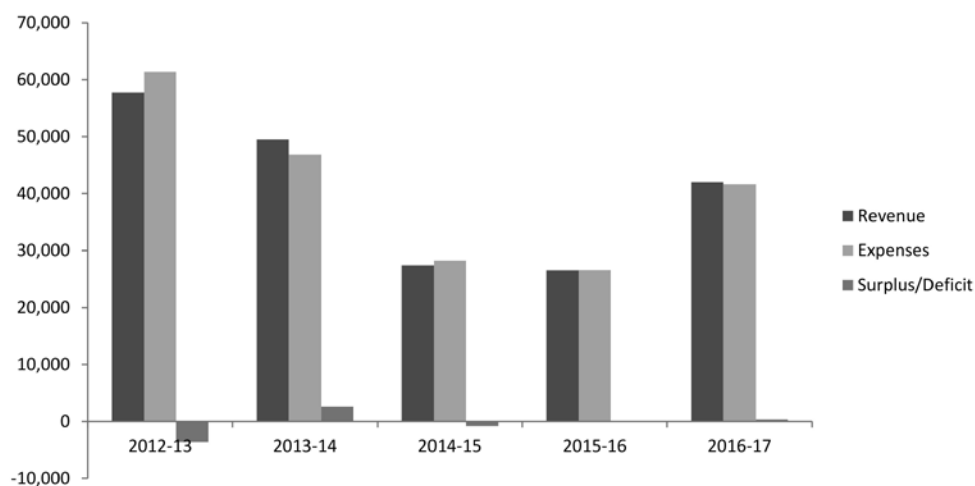
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Financial results summary: current plus past four years

	2012-13 \$000	2013-14 \$000	2014-15 \$000	2015-16 \$000	2016-17 \$000
Income and expenditure					
State Government	34,764	34,753	9,921	10,808	12,033
Australian Government	19,765	12,430	14,371	13,962	28,516
Government contributions	54,529	47,183	24,292	24,770	40,549
Revenue from government entities	1,682	260	1,213	728	781
Other revenues	1,524	2,081	1,911	1,041	654
Total income	57,735	49,524	27,416	26,539	41,984
Expense					
Interest	6	10	54	5	2
Total expenses	61,383	46,898	28,226	26,561	41,629
NET RESULT	(3,648)	2,626	(810)	(22)	355
Balance sheet items					
Current assets					
Cash	23,146	13,266	12,489	13,708	23,733
Receivables	1,471	3,142	1,100	673	555
Inventories	-	-	-	-	-
Prepayments	27	173	70	209	158
Total current assets	24,644	16,581	13,659	14,590	24,446
Fixed assets	1,330	1,492	1,257	1,247	1,120
Total assets	25,974	18,073	14,916	15,837	25,566
Current liabilities					
Trade creditors	2,010	1,956	849	804	1,340
Unearned revenue	14,220	3,682	3,003	3,771	12,269
Borrowings	31	39	35	26	14
Accruals	760	770	304	450	720
Provisions	1,739	1,742	1,582	1,735	1,904
Total current liabilities	18,760	8,189	5,773	6,786	16,247
Non-current liabilities					
Borrowings	20	32	43	15	-
Other	64	96	154	112	40
Total non-current liabilities	84	128	197	127	40
NET ASSETS	7,130	9,756	8,946	8,924	9,279
Equity items					
Contributed capital	4,209	4,209	4,209	4,209	4,209
Reserves	2,921	5,547	4,737	4,715	5,070
TOTAL EQUITY	7,130	9,756	8,946	8,924	9,279
Cash flow items					
Net operating activities	(11,448)	(9,253)	(608)	1,635	10,269
Net investing activities	(297)	(579)	(132)	(380)	(218)
Net financing activities	(45)	(48)	(37)	(36)	(27)
Net cash movement	(11,790)	(9,880)	(777)	1,219	10,024

Financial results summary: current plus past four years (Cont'd)

Financial summary 2012-13 to 2016-17, \$000



Significant changes in financial results for 2016-17

	Original Corporate Plan April 2016	Corporate Plan ⁱ December 2016 \$000	Actual \$000
Comprehensive Operating Statement			
Total revenue	31,675	38,136	41,984
Total expenditure	34,168	40,525	41,629
Net result	(2,493)	(2,389)	355
Statement of financial position			
Cash and receivables	11,241	13,063	24,288
Other	70	150	158
Non-current assets	1,242	1,193	1,120
Total assets	12,553	14,406	25,566
Liabilities			
Current	10,140	7,756	16,247
Non-current	210	115	40
Total liabilities	10,350	7,871	16,287
Net assets	2,203	6,535	9,279

i. In December 2016 the Goulburn Broken CMA submitted to the Minister a major deviation to its Corporate Plan based on funding changes since the initial plan was prepared.

The variance in the actual result to end June 2017 of \$355 thousand surplus compared to the Corporate Plan deviation of \$2.4 million deficit related to additional unbudgeted funds of approximately \$1 million and delays in commencement of Service Level Agreements resulted in approximately \$1.8 million lower expenditure.

Due to a significantly larger milestone payment received for Farm Water Program Round 5, the carry forward and unearned revenue balance at 30 June 2017 was approximately \$9.3 million higher than budgeted in the Corporate Plan. This also accounts for the cash and current liabilities variance against the Corporate Plan.

Significant changes or factors affecting performance

Other than as detailed above, there were no significant changes or factors which affected our performance.

Consultancy expenditure

The definition of consultancy was updated effective from 1 July 2013. Consequently, disclosures on consultancy expenditure prior to that date cannot be compared with current year disclosures.

	2013-14		2014-15		2015-16		2016-17	
	No.	\$ (excl. GST)	No.	\$ (excl. GST)	No.	\$ (excl. GST)	No.	\$ (excl. GST)
Consultancies valued at \$10,000 or greater	58	1,908,607	42	1,034,105	44	1,045,043	43	1,185,788
Consultancies valued at less than \$10,000	96	268,240	32	101,822	51	131,139	32	111,794

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 2016-17 reporting period, Goulburn Broken CMA had a total ICT expenditure of \$674,747 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		\$	\$
614,751	59,996		24,585	35,411

- 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.

Other financial disclosures

Local Jobs First - Victorian Industry Participation Policy

During 2016-17, Goulburn Broken CMA commenced one contract with a total of 100 per cent estimated to be of local content to which a VIPP Plan or LIDP was not required as the procurement activity was local by nature.

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 2016-17.

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 Minister for Finance 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 2017 and financial position of the Goulburn Broken CMA at 30 June 2017.

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 24 August 2017.



M Chapman
Chair



C P Norman
Chief Executive Officer



E Curtis
Chief Finance Officer

24 August 2017

Independent Auditor's Report

To the Board of the Goulburn Broken Catchment Management Authority

Opinion	<p>I have audited the financial report of the Goulburn Broken Catchment Management Authority (the authority) which comprises the:</p> <ul style="list-style-type: none"> • balance sheet as at 30 June 2017 • 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 • accountable officers' and chief finance and accounting officer's declaration. <p>In my opinion the financial report presents fairly, in all material respects, the financial position of the authority as at 30 June 2017 and their financial performance and cash flows for the year then ended in accordance with the financial reporting requirements of Part 7 of the <i>Financial Management Act 1994</i> and applicable Australian Accounting Standards.</p>
Basis for Opinion	<p>I have conducted my audit in accordance with the <i>Audit Act 1994</i> which incorporates the Australian Auditing Standards. My responsibilities under the Act are further described in the <i>Auditor's Responsibilities for the Audit of the Financial Report</i> section of my report.</p> <p>My independence is established by the <i>Constitution Act 1975</i>. 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 <i>Code of Ethics for Professional Accountants</i> (the Code) that are relevant to my audit of the financial report in Australia. My staff and I have also fulfilled our other ethical responsibilities in accordance with the Code.</p> <p>I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my opinion.</p>
Board's responsibilities for the financial report	<p>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 <i>Financial Management Act 1994</i>, 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.</p> <p>In preparing the financial report, the Board is responsible for assessing the authority's ability to continue as a going concern, and using the going concern basis of accounting unless it is inappropriate to do so.</p>

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 our 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
25 August 2017



Roberta Skliros
as delegate for the Auditor-General of Victoria

Comprehensive Operating Statement for the financial year ended 30 June 2017

	Note	2017 \$'000	2016 \$'000
Revenue from operating activities			
Government contributions	2.2.1	40,549	24,770
Interest	2.2.2	323	332
Other revenue	2.2.3	1,058	1,394
TOTAL REVENUE		41,930	26,496
Expenses from operating activities			
Employee expenses	3.2	(6,234)	(6,076)
Depreciation & amortisation	4.1.1	(398)	(432)
Materials, grants, contracts and consultancies	3.3	(33,243)	(18,500)
Operating lease expenses	3.4	(336)	(333)
Other operating expenses	3.5	(1,418)	(1,220)
TOTAL EXPENSES		(41,629)	(26,561)
NET RESULT FROM TRANSACTIONS (net operating balance)		301	(65)
Other economic flows included in net result			
Net gain/(loss) on non-financial assets ⁱ	8.2	54	43
NET RESULT FOR THE PERIOD		355	(22)
Comprehensive result		355	(22)

The accompanying notes form part of these financial statements.

- 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.

Balance Sheet as at 30 June 2017

	Note	2017 \$'000	2016 \$'000
Assets			
Financial assets			
Cash and deposits	6.1	23,733	13,708
Receivables	5.1	555	673
Total financial assets		24,288	14,381
Non-Financial assets			
Property, plant and equipment	4.1	1,109	1,229
Intangible assets	4.2	11	18
Other non-financial assets	5.3	158	209
Total non-financial assets		1,278	1,456
Total assets		25,566	15,837
Liabilities			
Payables	5.2	2,060	1,254
Unearned revenue	5.4	12,269	3,771
Interest bearing liabilities	6.2.2	14	41
Employee benefits	3.2.2	1,944	1,847
Total liabilities		16,287	6,913
Net assets		9,279	8,924
Equity			
Contributed equity		4,209	4,209
Accumulated funds		-	-
Reserves	8.3	5,070	4,715
Total equity		9,279	8,924

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 2017

	Contribution by owners \$000	Reserves \$000	Accumulated funds \$000	Total \$000
Balance at 1 July 2015	4,209	4,737	-	8,946
Net result for the period	-	-	(22)	(22)
Transfer to / (from) Reserve	-	(22)	22	-
Balance at 30 June 2016	4,209	4,715	-	8,924
Total Comprehensive Income / (Deficit) for the year	-		355	355
Transfer to / (from) Reserves	-	355	(355)	-
Balance at 30 June 2017	4,209	5,070	-	9,279

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 2017

	Note	2017 \$000	2016 \$000
Cash flow from operating activities			
Receipts			
Government contributions		40,862	25,204
Revenue from other Government Entities		930	1,002
GST (remitted to) received from Australian Tax Office		2,493	1,871
Interest received		319	326
Other revenue		283	664
Total Receipts		44,887	29,067
Payments			
Payments to suppliers and employees		(34,616)	(27,427)
Interest paid		(2)	(5)
Total Payments		(34,618)	(27,432)
Net cash from/(used in) operating activities	6.1.1	10,269	1,635
Cash flow from investing activities			
Proceeds from sale of property, plant and equipment		271	381
Payment for property, plant and equipment		(488)	(761)
Net cash flows from/(used in) investing activities		(217)	(380)
Cash flow from financing activities			
Repayment of finance lease liabilities		(27)	(36)
Net cash from/(used in) financing activities		(27)	(36)
Net (decrease) / increase in cash held		10,025	1,219
Cash and cash equivalents at beginning of year		13,708	12,489
Cash and cash equivalents at end of year	6.1	23,733	13,708

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 2017

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.

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);
- unearned revenue (5.4); and
- estimation of useful lives (4.1.1).

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.

Notes to the financial statements for the year ended 30 June 2017

2. Funding delivery of our services

Introduction

The Authority's overall objective is for the co-ordinated 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	2017 \$000	2016 \$000
Government contributions	2.2.1	40,549	24,770
Interest	2.2.2	323	332
Other revenue	2.2.3	1,058	1,394
Total revenue from transactions		41,930	26,496

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.

2.2 Revenue from transactions

2.2.1 Government contributions

	2017 \$000	2016 \$000
State Government		
Corporate	1,564	1,137
Sustainable Irrigation	5,641	2,805
River Health	3,381	5,929
Floodplain Management	861	300
Land and Biodiversity	586	637
	12,033	10,808
Commonwealth Government		
National Landcare Programme	3,081	3,081
Other Commonwealth Funding	1,070	1,149
	4,151	4,230
Farm Water Programⁱ	24,365	9,732
	24,365	9,732
Total Government contributions	40,549	24,770

- i. During the financial year Goulburn Broken CMA continued as the 'delivery partner' for the Victorian Farm Modernisation Program – Tranche 2. In its role as the 'delivery partner', Goulburn Broken CMA receives funding via the State Government to make payments to approved irrigators under an Infrastructure Works Deed whereby irrigators undertake works on their land to generate permanent water savings half of which are transferred to the Australian Government. Funding which have outstanding performance or return conditions are recognised in accordance with *AASB 118 Revenue* with reference to the percentage of completion method. The stage of completion is measured by assessing the total expenditure incurred to date compared with the funding provided. Goulburn Broken CMA regards the receipt of such revenue as a reciprocal transfer as Goulburn Broken CMA is required to provide the necessary services in return for funding. A liability is recognised in the Balance Sheet in respect of grant revenue which is unearned at balance date. *AASB 118* requires revenue to be recognised in the reporting period in which the services are rendered.

Government grants and contributions are recognised as revenue from transactions on receipt or when the Authority obtains control of the contribution and meets certain other criteria as outlined in *AASB 1004 Contributions*, whichever is the sooner, and disclosed in the comprehensive operating statement as government contributions.

Notes to the financial statements for the year ended 30 June 2017

2.2.2 Interest

	2017 \$000	2016 \$000
Interest on bank deposits	323	332
	323	332

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

	2017 \$000	2016 \$000
Partnership Contributions - Government entities	781	728
Partnership Contributions – non-Government entities	81	528
Recoverable costs	170	111
Application fees	26	27
Total other revenue	1,058	1,394

Partnership contributions consists of funds received from organisations as partners in projects, and are recognised as revenue from transactions when an entitlement is established or on receipt, whichever is the sooner, and disclosed in the comprehensive operating statement as other revenue.

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	2017 \$000	2016 \$000
Employee expenses	3.2	6,234	6,076
Materials, maintenance, grants, contracts and consultancies	3.3	33,243	18,500
Operating lease expenses	3.4	336	333
Other operating expenses	3.5	1,418	1,220
Total expenses from transactions		41,231	26,129

Notes to the financial statements for the year ended 30 June 2017

3.2 Employee expenses

3.2.1 Employee expenses in the comprehensive operating statement

	2017 \$000	2016 \$000
Salaries & wages	4,669	4,582
Annual leave	384	387
Long service leave	183	164
Superannuation	456	452
FBT	244	236
Other	298	255
Total employee expenses	6,234	6,076

Employee expenses include all costs related to employment including wages and salaries, payroll tax, fringe benefits tax, leave entitlements, termination payments and WorkCover premiums.

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.

	2017 \$000	2016 \$000
Current provisions for employee benefits		
Time in lieu		
Unconditional and expected to be settled within 12 months	34	34
Annual leave		
Unconditional and expected to settle within 12 months	298	296
Unconditional and expected to settle after 12 months	33	27
Long service leave		
Unconditional and expected to settle within 12 months	69	69
Unconditional and expected to settle after 12 months	1,223	1,084
On-costsⁱ		
Unconditional and expected to settle within 12 months	56	55
Unconditional and expected to settle after 12 months	191	170
Total current provisions	1,904	1,735
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	35	97
On-costs		
Conditional and expected to be settled after 12 months	5	15
Total non-current provisions	40	112
Total provisions for employee benefits and on-costs	1,944	1,847

Reconciliation of movement in on-cost provision

	2017 \$000	2016 \$000
Opening balance	240	232
Additional provisions recognised	83	78
Reductions arising from payments/other sacrifices of future economic benefits	(71)	(70)
Unwind of discount and effect of changes in the discount rate	-	-
Closing balance	252	240

Notes to the financial statements for the year ended 30 June 2017

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.

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.

The name, details and amounts expensed in relation to the major employee superannuation funds and contributions made by the Authority are as follows:

	2017 Rate %	2017 \$000	2016 \$000
Defined benefit plans: ⁱ			
Vision super defined benefits scheme	9.5	6	6
Emergency Services Superannuation Scheme	various	51	49
Defined contribution plans			
Vision super defined contribution scheme	9.5	108	98
Vic super	9.5	145	149
Other private schemes	9.5	146	150
		456	452

i. The bases for determining the level of contributions is determined by the various actuaries of the defined benefit superannuation plans.

There was \$18,299 in contributions outstanding to the above schemes as at 30 June 2017 (2016: \$33,232)

The expected contributions to be paid to the Defined Benefit category of Vision Super for the year ending 30 June 2018 is \$5,806.

Notes to the financial statements for the year ended 30 June 2017

3.3 Materials, grants, contracts and consultancies

	2017 \$000	2016 \$000
Grants paid	25,642	12,370
Consultants	1,781	2,298
Contractors	5,569	3,601
Materials	251	231
Total materials, grants, contracts and consultancies	33,243	18,500

Materials, grants, contracts and consultancies are recognised as an expense in the reporting period in which they are payable.

3.4 Operating lease expenses

	2017 \$000	2016 \$000
Operating property lease rental expenses	336	333
Operating lease expenses	336	333

Operating lease payments are recognised as an expense in the comprehensive operating statement on a straight-line basis over the lease term. Leased property is not recognised in the balance sheet.

3.5 Other operating expenses

	2017 \$000	2016 \$000
Victorian Auditor-General's Office for audit of financial statements	22	12
Internal audit expenses	20	27
Information Technology and Communication expenses	410	339
Events and Publicity	297	185
Other expenses	669	657
	1,418	1,220

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.

4. Key assets available to support output delivery

Introduction

The Authority controls plant and equipment, computer equipment and motor vehicles 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

Notes to the financial statements for the year ended 30 June 2017

4.1 Total property, plant and equipment

	Gross carrying amount		Accumulated Depreciation		Net carrying amount	
	2017 \$000	2016 \$000	2017 \$000	2016 \$000	2017 \$000	2016 \$000
Buildings at fair value	38	38	(38)	(38)	-	-
Plant and equipment at fair value	1,118	1,094	(1,000)	(922)	118	172
Computer equipment under finance lease	172	205	(165)	(168)	7	37
Motor vehicles at fair value	1,366	1,428	(382)	(408)	984	1,020
	2,694	2,765	(1,585)	(1,536)	1,109	1,229

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.

The initial cost for non-financial physical assets under a finance lease is measured at amounts equal to the fair value of the leased asset or, if lower, the present value of the minimum lease payments, each determined at the inception of the lease.

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.

4.1.1 Depreciation and amortisation

Charge for the period	2017 \$000	2016 \$000
Buildings	-	-
Plant & equipment	92	98
Motor vehicles	269	285
Computer equipment leases	30	41
Intangible assets	7	8
Total depreciation and amortisation	398	432

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	40 years
Plant and equipment	2.5 - 10 years
Motor vehicles	5 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.

Notes to the financial statements for the year ended 30 June 2017

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	Equipment under finance lease \$000	Total \$000
2017					
Opening balance	-	172	1,020	37	1,229
Additions	-	38	450	-	488
Disposals	-	-	(217)	-	(217)
Depreciation expense	-	(92)	(269)	-	(361)
Amortisation	-	-	-	(30)	(30)
Closing balance	-	118	984	7	1,109
2016					
Opening balance	-	211	942	78	1,231
Additions	-	59	702	-	761
Disposals	-	-	(339)	-	(339)
Depreciation expense	-	(98)	(285)	-	(383)
Amortisation	-	-	-	(41)	(41)
Closing balance	-	172	1,020	37	1,229

4.2 Intangible assets

Computer software	2017 \$000	2016 \$000
Gross carrying amount		
Opening Balance	36	36
Additions	-	-
Disposals	-	-
Closing balance	36	36
Accumulated Amortisation		
Opening Balance	(18)	(10)
Amortisation	(7)	(8)
Closing balance	(25)	(18)
Net book value at end of financial year	11	18

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.

Notes to the financial statements for the year ended 30 June 2017

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 Unearned revenue

5.1 Receivables

	2017 \$000	2016 \$000
Contractual		
Government grants receivables	44	353
Trade receivables	116	165
Less provision for bad debt	(1)	(1)
Accrued interest	32	28
Total contractual	191	545
Statutory		
GST input tax credits recoverable	364	128
Total current receivables	555	673

Contractual receivables are classified as financial instruments and categorised as 'loans and receivables'. 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.

	2017 \$000	2016 \$000
Movement in the provision for doubtful debts		
Increase in provision recognised in the net result	-	1
Reversal of provision of receivables written off during the year as uncollectable	-	-
Net movement in the provision for doubtful debts	-	1

Receivables are assessed for bad and doubtful debts on a regular basis. A provision for doubtful debts is recognised when there is objective evidence that the debts may not be collected and bad debts are written off when identified.

Notes to the financial statements for the year ended 30 June 2017

5.1.1 Ageing analysis of contractual receivables

	Carrying amount	Not past due and not impaired	Past due not impaired – 1 to 3 months	Past due not impaired – 3 to 6 months	Past due not impaired – over 6 months
2017					
Contractual					
Government grants receivables	44	44	-	-	-
Trade receivables	116	84	15	-	17
Accrued interest	32	32	-	-	-
Total Contractual	192	160	15	-	17
2016					
Contractual					
Government grants receivables	353	353	-	-	-
Trade receivables	165	151	1	-	13
Accrued interest	28	28	-	-	-
Total Contractual	546	532	1	-	13

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.

5.2 Payables

	2017 \$000	2016 \$000
Contractual		
Trade payables	1,258	722
Accrued expenses	720	450
	1,978	1,172
Statutory		
FBT payable	59	62
Payroll tax	23	20
	82	82
Total current payables	2,060	1,254

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.

Notes to the financial statements for the year ended 30 June 2017

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
2017 Payables				
Trade payables	1,258	1,258	-	-
Accrued expenses	720	720	-	-
	1,978	1,978		
2016 Payables				
Trade payables	722	722	-	-
Accrued expenses	450	450	-	-
	1,172	1,172	-	-

Payables for supplies and services have an average credit period is 30 days.

5.3 Other non-financial assets

	2017 \$000	2016 \$000
Current other assets		
Prepayments	158	209
Total current other assets	158	209

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 Current other liabilities - unearned revenue

	2017 \$000	2016 \$000
Victorian On-Farm State Project	178	178
Victorian On-Farm State Project - Interest	-	41
Victorian Farm Modernisation Project	11,100	2,619
Victorian Farm Modernisation Project Interest	196	93
Other	795	840
Total	12,269	3,771

Funding received by Goulburn Broken CMA to pay Farm Water Program proponents is taken to unearned revenue and released to the revenue and expenditure account to match Goulburn Broken CMA expenditure under the Program. For further detail on recognition of revenue for Farm Water Program refer to 2.2.1(i).

Funding which have outstanding performance or return conditions are recognised in accordance with *AASB 118 Revenue* with reference to the percentage of completion method. The stage of completion is measured by assessing the total expenditure incurred to date compared with the funding provided. Goulburn Broken CMA regards the receipt of such revenue as a reciprocal transfer as Goulburn Broken CMA is required to provide the necessary services in return for funding. A liability is recognised in the Balance Sheet in respect of grant revenue which is unearned at balance date. *AASB 118* requires revenue to be recognised in the reporting period in which the services are rendered.

Notes to the financial statements for the year ended 30 June 2017

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 Commitments for expenditure
- 6.3 Carry forward project funding

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	2017 \$000	2016 \$000
Cash on hand	2	2
Cash at bank	13,031	5,206
Deposits at call	8,700	6,500
Term deposits (less than 3 months)	2,000	2,000
Balance as per cash flow statement	23,733	13,708

6.1.1 Reconciliation of net result to cash flow from operating activities

	2017 \$000	2016 \$000
Net result for the period	355	(22)
Non-cash movements		
(Gain) / loss on disposal of non-current assets	(54)	(43)
Depreciation and amortisation of non-current assets	398	432
Movements in assets and liabilities		
Decrease/(increase) in receivables	118	427
Decrease/(increase) in prepayments	51	(139)
(Decrease)/increase in unearned revenue	8,498	768
(Decrease)/increase in payables	806	101
(Decrease)/increase in employee benefits	97	111
Net cash flows from/(used in) operating activities	10,269	1,635

Notes to the financial statements for the year ended 30 June 2017

6.2 Commitments for expenditure

Commitments for future expenditure include operating and external program commitments arising from contracts. These commitments are recorded below at their nominal value and inclusive of GST. These future expenditures cease to be disclosed as commitments once the related liabilities are recognised in the balance sheet.

6.2.1 Total Operating lease commitments

Operating lease commitments payable	2017 \$000	2016 \$000
Less than 1 year	326	320
1 to 5 years	572	758
Total commitments (inclusive of GST)	898	1,078

Operating lease commitments relate to office, depot and car parking facilities with lease terms between one and five years. These contracts do not allow the Authority to purchase the facilities after the lease ends, but the Authority has the option to renew each of the leases at the end of the lease term.

As at 30 June 2017 the Authority had Nil in capital commitments (2016: \$Nil).

6.2.2 Total finance lease liabilities payable

Other finance lease liabilities payable	Minimum future lease payments ⁱ	
	2017 \$000	2016 \$000
Not longer than 1 year	15	28
Longer than 1 year but not longer than 5 years	-	15
Minimum future lease payments	15	43
Less future finance charges	(1)	(2)
Present value of minimum lease payments	14	41
Included in the financial statements as:		
Current interest bearing liabilities	14	26
Non-current interest bearing liabilities	-	15
Total	14	41

i. Minimum future lease payments include the aggregate of all base payments and any guaranteed residual.

Finance lease liabilities relate to computer equipment with original lease terms of 3 years. At the commencement of the lease term, finance leases are initially recognised as assets and liabilities at amounts equal to the fair value of the leased asset 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 are 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.

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.

The projects funded by the State and Commonwealth Governments can be undertaken over multiple financial years and 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. At balance date the Authority has cash and cash equivalents that will be utilised to complete these projects in future financial years.

Notes to the financial statements for the year ended 30 June 2017

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

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.

Categories of financial instruments

Loans and receivables are financial instrument assets with fixed and determinable payments that are not quoted in an active market. These assets are initially recognised at fair value plus any directly attributable transaction costs. Subsequent to initial measurement, loans and receivables are measured at amortised cost less any impairment. Loans and receivables category includes cash and deposits, trade and other receivables, but exclude 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. Financial instrument liabilities measured at amortised cost include all of the Authority's contractual payables.

A financial liability is derecognised when the obligation under the liability is discharged, cancelled or expires.

7.1.1 Financial instruments: Categorisation

2017	Contractual financial assets - loans and receivables and cash \$000	Contractual financial liabilities at amortised cost \$000	Total \$000
Contractual financial assets			
Cash and deposits	23,733		23,733
Receivables ⁱ			
Trade and government grant receivables	159		159
Accrued interest	32		32
Total contractual financial assets	23,924		23,924
Contractual financial liabilities			
Payables ⁱ			
Trade payables		1,258	1,258
Accrued expenses		720	720
Finance leases		14	14
Unearned Revenue		12,269	12,269
Total contractual financial liabilities		14,261	14,261

i. The total amounts disclosed here exclude statutory amounts.

Notes to the financial statements for the year ended 30 June 2017

2016	Contractual financial assets - loans and receivables and cash \$'000	Contractual financial liabilities at amortised cost \$'000	Total \$'000
Contractual financial assets			
Cash and deposits	13,708		13,708
Receivables ⁱ			
Trade and government grant receivables	517		517
Accrued interest	28		28
Total contractual financial assets	14,253		14,253
Contractual financial liabilities			
Payables			
Trade payables		722	722
Accrued expenses		450	450
Finance leases		41	41
Unearned Revenue		3,771	3,771
Total contractual financial liabilities		4,984	4,984

i. The total amounts disclosed here exclude statutory amounts.

7.1.2 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 financial risk management 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 the Treasury Corporation of Victoria and Authorised Deposit Taking Institute(ADI) 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 term deposits and deposits at a call. 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 manages its cash flow interest rate risks by investing surplus funds into fixed rate financial instruments. Management has concluded for cash at bank and deposits at call as financial assets that can be left at floating rate without necessarily exposing the Authority to significant risk. Management monitors movements in interest rates on a daily 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.

Notes to the financial statements for the year ended 30 June 2017

Interest rate exposure of financial instruments

2017	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	1.4	23,733	2,000	21,731	2
Contractual receivables		191	-	-	191
Total financial assets		23,924	2,000	21,731	193
Financial liabilities					
Finance lease liabilities	3.6	(14)	(14)	-	-
Contractual payables		(1,978)	-	-	(1,978)
Unearned revenue		(12,269)	-	-	(12,269)
Total financial liabilities		(14,261)	(14)	-	(14,247)

2016	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	1.9	13,708	2,000	11,706	2
Contractual receivables		545	-	-	545
Total financial assets		14,253	2,000	11,706	547
Financial liabilities					
Finance lease liabilities	3.6	(41)	(41)	-	-
Contractual payables		(1,172)	-	-	(1,172)
Unearned revenue		(3,771)	-	-	(3,771)
Total financial liabilities		(4,984)	(41)	-	(4,943)

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.

	Carrying amount \$000	Interest rate			
		-1 per cent Net result \$000	Equity \$000	+1 per cent Net result \$000	Equity \$000
2017					
Cash and deposits ⁱ	23,733	(237)	(237)	237	237
2016					
Cash and deposits ⁱ	13,708	(137)	(137)	137	137

i. Cash and deposits includes \$ 21,731,000 (2016: \$11,706,000) that is exposed to floating rates movements. Sensitivities to these movements are calculated as follows:

2017: $\$21,731,000 \times 0.01 = \$217,310$
 2016: $\$11,706,000 \times 0.01 = \$117,000$

Notes to the financial statements for the year ended 30 June 2017

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.

	2017 \$000	2016 \$000
Contingent assets		
As at 30 June 2017, the Authority has no known contingent assets.	-	-
Contingent liabilities		
As at 30 June 2017, 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 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 2016-17 reporting period.

These financial instruments include:

Financial assets	Financial liabilities
Cash and deposits	
Receivables:	Payables:
• Trade receivables	• Trade payables
• Accrued revenue	• Accrued expenses
	• Finance leases

Notes to the financial statements for the year ended 30 June 2017

7.3.1 Fair value determination: non-financial physical assets

Fair value measurement hierarchy

2017	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	7	-	-	7
Total equipment under finance lease at fair value	7	-	-	7
Motor vehicles at fair value				
Motor vehicles	984	-	984	-
Total motor vehicles at fair value	984	-	984	-

i. Classified in accordance with the fair value hierarchy, see Note 7.3.

2016	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	172	-	-	172
Total plant and equipment at fair value	172	-	-	172
Equipment under finance lease at fair value				
Computer equipment leased	37	-	-	37
Total equipment under finance lease at fair value	37	-	-	37
Motor vehicles at fair value				
Motor vehicles	1,020	-	1,020	-
Total motor vehicles at fair value	1,020	-	1,020	-

i. Classified in accordance with the fair value hierarchy, see Note 7.3.

Motor vehicles

Motor vehicles are valued using the depreciated replacement cost method. The Authority 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 fleet managers in the Authority who set 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 2017.

For all assets measured at fair value, the current use is considered the highest and best use.

Notes to the financial statements for the year ended 30 June 2017

Reconciliation of Level 3 fair value movements

	Plant and equipment \$000	Office furniture and equipment \$000	Total \$000
2016-17			
Opening Balance	172	37	209
Purchases (sales)	39	-	39
Transfers in (out) of Level 3			
Depreciation	(93)	(30)	(123)
Gains or losses recognised in net result			
Closing balance	118	7	125

	Plant and equipment \$000	Office furniture and equipment \$000	Total \$000
2015-16			
Opening Balance	-	-	-
Purchases (sales)	-	-	-
Transfers in (out) of Level 3	172	37	209
Depreciation	-	-	-
Gains or losses recognised in net result	-	-	-
Closing balance	172	37	209

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

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 Australian Accounting Standards issued that are not yet effective

Notes to the financial statements for the year ended 30 June 2017

8.1 Ex-gratia expenses

The Authority had no Ex-gratia expenses for the year ending 30 June 2017 (2016 Nil).

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.

	2017 \$000	2016 \$000
Net gain/(loss) on non-financial assets		
Net gain/(loss) on disposal of property, plant and equipment		
Proceeds from sale of non-financial assets	271	381
Less written down value	(217)	(338)
Net gain/(loss) on non-financial assets	54	43

8.3 Reserves

	2017 \$000	2016 \$000
Committed funds reserveⁱ		
Balance at the beginning of the reporting period	4,715	4,737
Net transfers (to) / from accumulated funds	355	(22)
Balance at the end of the reporting period	5,070	4,715

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.

8.4 Responsible persons

In accordance with the Ministerial Directions issued by the Minister for Finance 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	1 July 2016 to 30 June 2017
Minister for Energy, Environment and Climate Change	Lily D'Ambrosio MP	1 July 2016 to 30 June 2017

Position		Period
Chair	M Chapman	1 July 2016 to 30 June 2017
Board Member	A Weston	1 July 2016 to 30 June 2017
Board Member	A MacKenzie	1 July 2016 to 30 June 2017
Board Member	K Stothers	1 July 2016 to 30 June 2017
Board Member	A Appo	1 July 2016 to 30 June 2017
Board Member	A Fox	27 September 2016 to 30 June 2017
Board Member	H Reynolds	27 September 2016 to 30 June 2017
Board Member	K Hawkins	27 September 2016 to 30 June 2017
Board Member	R Ellis	1 July 2016 to 31 August 2016
CEO	C P Norman	1 July 2016 to 30 June 2017
Acting CEO	K Warner	27 December 2016 to 20 January 2017 ⁱ

i. Acting CEO in place while CEO on leave from 27 December 2016 to 20 January 2017.

Notes to the financial statements for the year ended 30 June 2017

Remuneration

Remuneration received or receivable from the Authority in connection with the management of the Authority during the reporting period was:

Income bands	2017	2016
\$1-\$9,999	4	6
\$10,000-\$19,999	4	3
\$20,000-\$29,999	1	1
\$80,000-\$89,999	-	-
\$90,000-\$99,999	-	-
\$210,00-\$219,999	-	-
\$220,000-\$229,999	1	1
Total number of responsible persons	10	11
Total remuneration \$	\$332,241	\$318,771

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 on a discrete basis when employment has ceased.

Other long-term benefits include long service leave, other long-service benefit or deferred compensation.

Termination benefits include termination of employment payments, such as severance packages.

Income bands ⁱⁱⁱ	2017
Short-term employee benefits	\$839,866
Post-employment benefits	\$67,332
Other long-term benefits	\$33,542
Termination benefits	-
Total remuneration	\$940,740
Total number of executives ⁱ	6
Total annualised employee equivalents ⁱⁱ	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 8.6)

ii. Annualised employee equivalent is based on the time fraction worked over the reporting period.

iii. No comparatives have been reported because remuneration in the prior year was determined in line with the basis and definition under FRD21B.

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.

Notes to the financial statements for the year ended 30 June 2017

Significant transactions with government-related entities

During the year, revenue received from government-related entities for grants to fund programs that enable the Goulburn Broken CMA to deliver on the Regional Catchment Strategy, statutory obligations and the Victorian Farm Modernisation Program. The Authority received funding from the following government-related entities under normal commercial terms and conditions:

Entity	Funding received (\$'000)
Department of Environment, Land, Water and Planning	48,743
Department of Economic Development, Jobs, Transport and Resources	120
North Central Catchment Management Authority	56
Goulburn Murray Water	34

Receivables outstanding at 30 June 2017: \$43,684.

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	Payments made (\$'000)
Goulburn Murray Water	1,637
Department of Environment, Land, Water and Planning	948
Department of Economic Development, Jobs, Transport and Resources	409
North Central Catchment Management Authority	154
Trust for Nature (Victoria)	63
West Gippsland Catchment Management Authority	61
East Gippsland Catchment Management Authority	35

Payables outstanding at 30 June 2017: \$1,147,328.

Key management personnel of the Authority 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	2017
Short-term employee benefits	\$308,655
Post-employment benefits	\$23,586
Other long-term benefits	\$7,558
Termination benefits	-
Total	\$339,799

Transaction with Key Management Personnel and other related parties

During the year \$186,713 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.

The spouse of Director H Reynolds was a recipient of a grant made through the Farm Water Program delivered by Goulburn Broken CMA. Grants are awarded under this program through a tender process governed by a steering committee made up of independent members and Goulburn Broken CMA employees. No directors are members of the committee. Board approval of final list of grant recipients occurred prior to Director H Reynolds joining the Board. The first payment for the grant of \$191,660 was made through the year.

All other transactions that occurred with KMP and their related parties have not 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.

Notes to the financial statements for the year ended 30 June 2017

8.7 Remuneration of auditors

	2017 \$000	2016 \$000
Victorian Auditor-General's Office for audit of financial statements	22	12
Internal audit costs	20	27
Total auditors' remuneration	42	39

8.8 Subsequent events

No matters or circumstances have arisen since the end of the reporting period which significantly affected or may significantly affect the operations of the authority, the results of those operations, or the state of affairs of the authority in future financial years.

8.9 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 2017 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 2016-17 reporting period.

Topic	Key requirements	Applicable for annual reporting periods beginning on or after	Estimated impact on Financial Statements
AASB 9 Financial Instruments	The key changes include the simplified requirements for the classification and measurement of financial assets, a new hedging accounting model and a revised impairment loss model to recognise impairment losses earlier, as opposed to the current approach that recognises impairment only when incurred.	1 Jan 2018	The assessment has identified that the financial impact of available for sale (AFS) assets will now be reported through other comprehensive revenue and no longer recycled to the profit and loss. While the preliminary assessment has not identified any material impact arising from AASB 9, it will continue to be monitored and assessed.
AASB 15 Revenue from Contracts with Customers	The core principle of AASB 15 requires an entity to recognise revenue when the entity satisfies a performance obligation by transferring a promised good or service to a customer.	1 Jan 2018	The changes in revenue recognition requirements in AASB 15 may result in changes to the timing and amount of revenue recorded in the financial statements. The Standard will also require additional disclosures on service revenue and contract modifications. A potential impact will be the upfront recognition of revenue from licenses that cover multiple reporting periods. Revenue that was deferred and amortised over a period may now need to be recognised immediately as a transitional adjustment against the opening returned earnings if there are no former performance obligations outstanding.

Notes to the financial statements for the year ended 30 June 2017

Topic	Key requirements	Applicable for annual reporting periods beginning on or after	Estimated impact on Financial Statements
AASB 2016-7 Amendments to Australian Accounting Standards – Deferral of AASB 15 for Not-for-Profit Entities	This Standard defers the mandatory effective date of AASB 15 for not-for-profit entities from 1 January 2018 to 1 January 2019.	1 Jan 2019	This amending standard will defer the application period of AASB 15 for not-for-profit entities to the 2019-20 reporting period.
AASB 16 Leases	The key changes introduced by AASB 16 include the recognition of most operating leases (which are currently not recognised) on balance sheet.	1 Jan 2019	The assessment has indicated that as most operating leases will come on balance sheet, recognition of the right-of-use assets and lease liabilities will cause net debt to increase. Rather than expensing the lease payments, depreciation of right-of-use assets and interest on lease liabilities will be recognised in the income statement with marginal impact on the operating surplus. No change for lessors.
AASB 2016-4 Amendments to Australian Accounting Standards – Recoverable Amount of Non-Cash-Generating Specialised Assets of Not-for-Profit Entities	The standard amends AASB 136 Impairment of Assets to remove references to using depreciated replacement cost (DRC) as a measure of value in use for not-for-profit entities.	1 Jan 2017	The assessment has indicated that there is minimal impact. Given the specialised nature and restrictions of public sector assets, the existing use is presumed to be the highest and best use (HBU), hence current replacement cost under AASB 13 Fair Value Measurement is the same as the depreciated replacement cost concept under AASB 136.
AASB 1058 Income of Not-for-Profit Entities	This standard replaces AASB 1004 Contributions and establishes revenue recognition principles for transactions where the consideration to acquire an asset is significantly less than fair value to enable the not-for-profit entity to further its objectives.	1 Jan 2019	The assessment has indicated that revenue from capital grants that are provided under an enforceable agreement that have sufficiently specific obligations, will now be deferred and recognised as performance obligations are satisfied. As a result, the timing recognition of revenue will change.

Appendix 1: Understanding progress and ratings

Compiled by Rod McLennan.

NRM decision-makers have major challenges in evaluating progress and making and responding to change, caused by the complex system of people and nature (with its countless relationships), a highly integrated and changing operating environment, and uncertainties in measuring natural resources and 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.

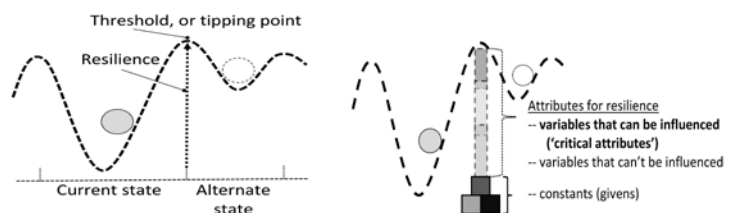
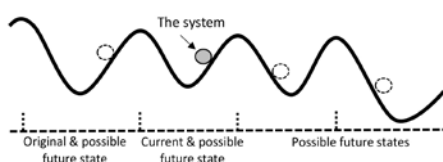
Solution: The Goulburn Broken CMA uses a resilience model to describe the current state, identify desired long-term future states, and determine required actions.

Many of the most important elements underpinning resilience, 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 of State government and regional and local communities.

The trend towards further integrated and holistic management continues, while communication links and relationships between stakeholders have increased in number but have often been diluted in strength (through technology, societal, and organisational business-management changes). This has driven the Goulburn Broken CMA to formalise the resilience model, which emerged from the Goulburn Broken CMA's sustainability and ecosystem services thinking, and which is central to the Regional Catchment Strategy 2013-2019.

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, prevent, maintain, drive transformation, or accept change and adapt.

In NRM, **system examples** include biodiversity (page 47), community (page 28), and social-ecological (page 9). 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 20 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 give a system resilience are constants that cannot be changed, such as location downstream or upstream of a significant tributary. Other attributes are variable, 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
- is 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)
- can have easily defined actions that influence it
- is 'concrete' enough to readily convey an image or concept that is readily understood (and not prone to misinterpretation)
- is measurable over the medium term (about 5 years), or at least able to convey a strong sense of progress.

Evaluation, planning levels and decision-making cycles

Decisions in catchment management 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: $\text{Outputs} \times \text{Assumptions} = \text{Outcomes}$, 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 (and 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 3 on page 130 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 32.

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. For the first time in 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 that is meaningful for NRM, system state and critical attributes are rated for 1990 as well as the current year.

No explicit quantitative weightings have been applied when 'rolling-up' the critical attributes to arrive at the overall catchment condition for an investment area. Assessment by individual social-ecological system areas (see page 9) and subsequent rolling-up has also not been done yet.

The structuring and communicating of long-term progress is itself a work-in-progress that attempts to retain the integrity of the Goulburn Broken CMA's evaluation efforts over almost 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 72 and 79).

Appendix 2: Works

1 July 2016 to 30 June 2017

This map shows onground works completed in 2016-17 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. Ongoing 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: 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) ⁱⁱ	426	696	163
	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)	60	18	30
Induced Threat				
Saline water & high watertables				
	Laser levelling (ha) ⁱⁱⁱ			
	Drain – primary built (km) ^v			
	Drain – community built (km)			
Surface water ^{iv}	Weir – replace (no.)			
	Farm reuse systems installed (no.) ^{vi}			
	Drain – additional water diverted from regional drains (ML)			
	Irrigation systems – improved (ha) ^{vii}			
	Pasture – plant (ha)			
	Groundwater pumps - public installed (new; no.)			
	Groundwater pumps - private installed (new; no.)			
Sub-surface water	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.) ^{viii}			
In-stream and near-stream erosion	Bed and bank protection actions (km)			
	In-stream & tributary erosion controlled (km)			
Changed flow pattern	Environmental water use (ML) ^{ix}			
	Weeds – woody weed management (ha)	5,450	6,550	120
Weed invasion	Weeds – aquatic weeds controlled/eradicated (km)			
	Targeted infestations of weeds in high priority areas covered by control programs (ha) ^x	6,211	7,440	120
Pest animals	Area of high priority rabbit infested land covered by control programs (ha)	10,248	10,163	99
	Area of high priority fox infested land covered by control programs (ha)			
Impact				
Habitat loss - terrestrial	Revegetation - plant natives within or next to remnants (ha) ^{xi}	150	396	264
	Revegetation - plant natives away from remnants (ha)			
	Fish release (no.)			
Habitat loss – in-stream	Vertical slot fishway (no.)			
	Rock ramp fishway (no.)			
	Fish barrier removal (no.)			
	In-stream woody habitat - snags (no.) ^{xii}			
Habitat loss – wetlands	Reinstate flood regime (ML)			
	Construct new wetland (ha)			
Habitat loss – threatened species	Threatened Species Recovery Plan and Action Statements (no. projects)			
Planning	Whole farm plans (no.) ^{xiii}			

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. Includes 360 hectares of remnant protection in Bushfire Recovery Program in 2009-10.

iii. Assumptions: 2010-11 = area put under Whole Farm Plans, including modernised + Farm Water Program onground achievements (226 hectares); 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's 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 = Farm Water Program's SIR onground achievements (478, 1,963 & 360) + 60 per cent of area put under Whole Farm Plans [new (4,143, 2,576 & 3,289) + modernised (2,572, 2,037 & 3,905)] – Farm Water Program's SIR onground achievements (478, 1,963 & 360)]. Target = Farm Water Program's SIR target (360, see note ii) + 60 per cent of area to be put under Whole Farm Plans [number of Whole Farm Plans (180) x average area of Whole Farm Plans (91) - Farm Water Program's SIR target (360)].

iv. 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.

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. 6 kilometres were constructed during 2009-10 and 3 kilometres were prepared for handover to Goulburn-Murray Water for it to manage. Handover drains not accounted for in 2005-06 and 2006-07 were recorded in 2007-08.

vi. 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'.

vii. Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area see footnote iii) + 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].

viii. Stormwater management projects are undertaken on a one-to-one funding basis with local government.

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 & 2017 and some figures were adjusted. The NSW component of water delivered to Barmah Forest is included in these figures.

2016-17									Total achieved								
Sustainable Irrigation			Waterways & Floodplain			Total Catchment			2015-16	2014-15	2013-14	2012-13	2011-12	2010-11	2009-10	2008-09	
Target ¹	Achieved	% Achieved	Target ¹	Achieved	% Achieved	Target ¹	Achieved	% Achieved									
							426	696	163	468	385	1,004	1,783	728	1,112	1,276	451
			25	137	548	25	137	548	3	168	128	73	160	78	8	609	
			-	294		-	294		244	141	87	126	337	354	n.a.	2,563	
			13	35	269	13	35	269	38	70	42	6.8	26	93	63	185	
			8	25	313	8	25	313	19	15	3	1	17	21	48	122	
						60	18	30	70	112	0	329	360	434	906	363	
	9,972	4,460	45				9,972	4,460	45	3,553	4,220	6,671	12,662	24,505	19,546	14,170	20,476
												1	0	1.1	6	6	
												1	1.4	4	5		
	5	5	100				5	5	100	0	9	64	25	25	7	76	66
																	0
	-	4,460					-	4,460		3,553	4,745	7,330		24,145	20,050	14,217	23,059
																152	75
																	1
													1	0	9	11	
													75	0	1,827	1,794	
														2		1	1
				-	0.62		-	0.62		0.91	0.40	0.20	0.65	19	5	8	
				-	0.62		-	0.62		0.91	0.60	1.00			131	207	102
				-	479,164		-	479,164		698,264	339,318	714,378	299,667	633,476	454,694	3,190	640
				132	932	706	5,582	7,481	134	1,363	2,317	210					
				-	9		-	9		14	97	3	77	76	418	27	26
				166	1,089	658	6,377	8,529	134	2,894	3,359	3,643	953	1,372	424	38,525	36,964
							10,248	10,163	99	722	1,496	4,699	2,749	882	1,121	5,700	1,530
				150	260	173	150	260	173	6,599	21,384	26,502	27,000	60,000	57,507	108,250	0
	20	1.5	8	26	90	352	196	487	249	750	549	1,211	2,957	1,995	1,383	1,403	945
													517				
												2				1	
																	1
	180	74	41				180	74	41	51	71	79	186	263	331	259	341

- x. This includes 'Weeds woody weed management'. 2008-09 achievements include Department of Primary Industries, river health and Drought Employment Program works. Department of Primary Industries Biosecurity Victoria works were completed outside of the Corporate Plan from 2009-10. From 2010-11 achievements include Department of Primary Industries Farm Services Victoria, River health investment area and Fire Recovery Program works only. 2010-11 figures do not include achievement of 55,000 hectares for weeds in high priority areas and achievement of 12,200 hectares for high priority rabbit control (refer to investment table Invasive Plants and Animals). 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 (refer to investment table Invasive plants and animals). 2012-13 figures do not include 9,315 hectares for weeds and 10,500 hectares for rabbit control (refer to investment table Invasive plants and animals). 2013-14 figures do not include 12,880 hectares for weeds and 6,175 hectares for rabbit control (refer to investment table Invasive plants and animals). 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 (see page 61).
- xi. Natural regeneration achievements from Bush Returns are included in this: 0 hectares for 2007-08 and 324 hectares for 2008-09. Natural regeneration from the Caring for Our Country Woodlands project and the E=I=3C3 project are also included: 705 hectares and 10 hectares respectively for 2009-10. The Green Graze program contributed 1,189 ha to the grazing regime change works output in 2006-07, which is not included in the revegetation figures. Natural regeneration from the Caring for Our Country, Sustainable Farming

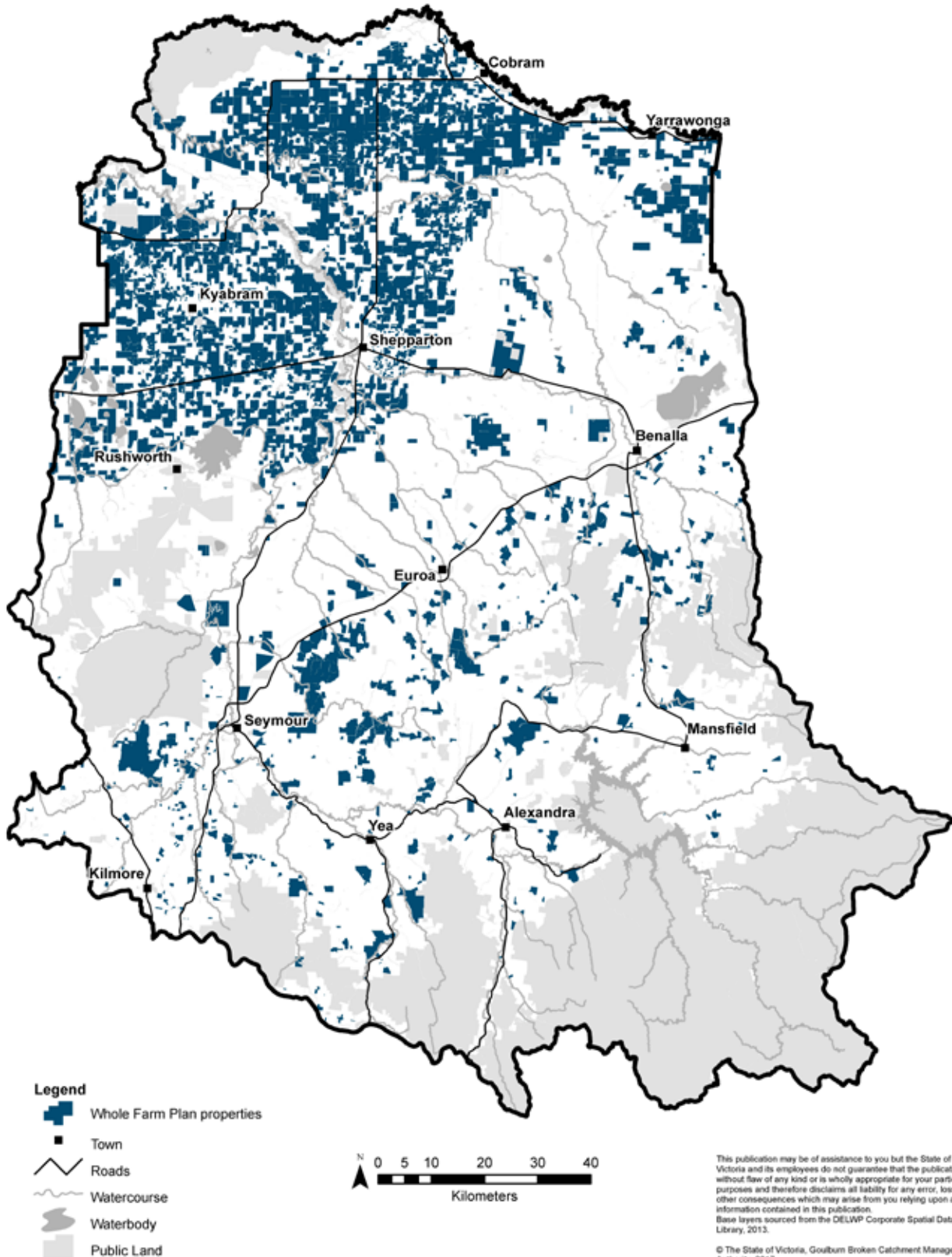
Practices project are also included: 386 hectares for 2010-11, and 515.8 hectares for 2011-12. Natural regeneration from the Caring for Our Country, Targeting Landscape Scale Biodiversity project are included: 712 hectares for 2011-12 and 1,676.38 hectares for 2012-13. 2013-14 achievements do not include 1,080 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivers in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service. 2014-15 achievements do not include 175 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivers in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service. 2015-16 achievements do not include 186.8 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivers in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service. 2016-17 achievements do not include 624.6 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivers in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service.

- xii. Output included for the first time in 2015-16.
- xiii. 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 4: Properties covered by a whole farm plan

to 30 June 2017

This map shows the properties covered by a whole farm plan or modernised whole farm plan completed since the start of the Program.



Appendix 5: 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 <i>Alpine Resorts Management Act 1997</i> .
Australian Government - Department of Agriculture and Water Resources	The Australian Government Department of Agriculture and Water Resources develops and implements policies and programmes 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.
Australian Government – Department of the Environment and Energy	<p>The Department of the Environment designs and implements the Australian Government's policies and programmes to protect and conserve the environment, water and heritage and promote climate action.</p> <p>The Department administers the <i>Environment Protection and Biodiversity Conservation Act 1999</i>. Regionally, the Department plays an important role in the implementation of the RCS by funding projects across the Catchment.</p>
Community groups (e.g. CMNs, Landcare and environmental groups)	The Goulburn Broken Catchment's 96 natural resource management groups, 12 networks and three 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 Economic Development, Jobs, Transport and Resources	The purpose of the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) is to create the conditions to sustainably develop the Victorian economy and grow employment.
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 (EPA) sole role is to regulate pollution and has independent authority to make regulatory decisions under the <i>Environment Protection Act 1970</i> .
Goulburn Valley Water	Goulburn Valley Water's (GVW) 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 / GMW Connections Project	<p>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.</p> <p>The GMW Connections Project is investing more than \$2 billion to develop a water delivery network to match these changing needs and to support the many, varied and exciting opportunities for irrigated agriculture across Northern Victoria.</p>
Individuals / land Managers	<p>Under the <i>Catchment and Land Protection Act 1994</i> 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.</p> <p>Regionally, landholders across the Catchment invest significant resources (time, money and land) into activities that contribute to meeting the objectives of the RCS.</p>
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 <i>Planning and Environment Act 1987</i> .

Agency / Authority / Organisation / Individual	Role relative to the development and implementation of the RCS
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 <i>Parks Victoria Act 1998</i> , 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 <i>Aboriginal Heritage Act 2006</i> . 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 <i>Catchment and Land Protection Act 1994</i> .

Appendix 6: 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

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

Planning and Environment Act 1987

Public Administration Act 2004

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

Yorta Yorta Cooperative Management Agreement 2004

Wildlife Act 1975

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 (EA 2001)

A Framework for Determining Commonwealth Environmental Watering Actions 2009

Australia's Biodiversity Conservation Strategy 2010–2030

Australian Government Indigenous Advancement Strategy 2014

Australian Pest Animal Strategy 2007

Barmah-Millewa Environmental Management Plan (MDBA) 2005

Basin Salinity Management Strategy 2030 (MDBA 2001-2015)

COAG Closing the Gap initiative 2008

Empowered Communities: Empowered Peoples – Design report (2015)

Living Murray First Step Decision (MDBC 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)

Reconciliation Australia – Economic Benefits of closing the gap in Indigenous employment outcomes (2014)

Strategy for Australia's National Reserve System 2009–2030

The Australian Weeds Strategy (revised 2007)

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

Appendix 6: Major Strategic References (Cont'd)

Relevant Policies, Strategies and Agreements (Cont'd)

State

Aboriginal Participation Guidelines for Victorian Catchment Management Authorities 2015 and Implementation Plan 2016

Advisory lists of rare and threatened species in Victoria (DELWP)

Agriculture Victoria Strategy: Supporting Victoria's Agriculture 2017 (DEDJTR)

Alpine Resorts Strategic Plan 2012

Biosecurity Victoria Strategic Plan for Victoria 2009

Community Engagement and Partnerships Framework for Victoria's Catchment Management Authorities 2013

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 DELWP)

Regional Riparian Action Plan (DELWP 2015)

Soil Health Strategy 2012 (DEPI)

Sustainability Charter for Victoria's State Forests 2006

Threatened Species Recovery Plans (DELWP)

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 (DEPI)

Victorian Planning Provisions 1998-1999

Victorian Waterway Management Strategy 2013 (DEPI)

Water for Victoria – Water Plan (2016 DELWP)

Regional

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 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 2015-2017

Goulburn Broken Community Engagement Strategy and Action Plan 2015-2017

Goulburn Broken Community NRM Action Plan 2013-2018

Goulburn Broken Corporate Plan 2016-17 to 2020-21

Goulburn Broken Dryland Salinity Management Plan 1990 (and reviews 1995, 2001, 2008)

Goulburn Broken Floodplain Management Strategy 2002-2012 (GB CMA 2002)

Goulburn Broken Invasive Plants and Animals Strategy 2010

Goulburn Broken Hand Health Statement 2014

Goulburn Broken Land Health Strategy 2016 (Draft)

Goulburn Broken Native Vegetation Plan 2003

Goulburn Broken Regional Catchment Strategy 2013-2019 (GB CMA 2014)

Goulburn Broken Regional Floodplain Management Strategy (Interim) 2014-2016

Goulburn Broken Water Quality Strategy 1996-2016 (GB CMA 1996)

Review of Goulburn Broken Water Quality Strategy 1996-2016 (Brian Garrett and Associates 2001)

Goulburn Broken Waterway Strategy 2014-2022 (GB CMA 2014)

Goulburn Broken Workforce Strategy 2013-2018

Hume Regional Growth Plan (2014)

Hume Strategy for Sustainable Communities (Hume Strategy 2010-2020)

Monitoring Evaluation and Reporting Strategy for the Goulburn Broken Catchment 2004

Municipal Planning Schemes

Northern Region Sustainable Water Strategy 2009

Shepparton Irrigation Region Catchment Implementation Strategy 1990-2020

Shepparton Irrigation Region Land and Water Management Plan Update 2016-2020

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

Various Memoranda of Understanding

Appendix 7: Compliance with the *Protected Disclosures Act 2012*

The *Protected Disclosure Act 2012* enables people to make disclosures about improper conduct by public officers and public bodies. The Act aims to ensure openness and accountability by encouraging people to make disclosures and protecting them when they do.

What is a 'protected disclosure'?

A protected disclosure is a complaint of 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 'improper or corrupt conduct'?

Improper or corrupt conduct involves substantial:

- mismanagement of public resources; or
- risk to public health or safety or the environment; or
- corruption.

The conduct must be criminal in nature or a matter for which an officer could be dismissed.

How do I make a 'Protected Disclosure'?

You can make a protected disclosure about the Goulburn Broken Catchment Management Authority or its board members, officers or employees by contacting the Independent Broad-Based Anti-Corruption Commission on the contact details provided below.

Please note that the Goulburn Broken Catchment Management Authority is not able to receive protected 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.

Appendix 8: Community Grants

Below is a list of grants paid to community groups and organisations for projects during the 2016-17 financial year. Payments made to indigenous 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 2016-17	Amount paid \$ (ex GST)
Australian Government - 20 Million Trees	
The Australian Government will work with the community to plant 20 million trees by 2020, to re-establish green corridors and urban forests. The 20 Million Trees Programme is part of the national stream of the Australian's Government's National Landcare Programme	
Yorta Yorta Nation Aboriginal Corporation	
Provision of land management and conservation services on Country	\$28,070.67
Australian Government - Biodiversity Fund	
The overall objectives of the Biodiversity Fund are to help land managers establish, manage and enhance native vegetation on their land, increase our stores of carbon in the landscape and, in so doing, maintain ecosystem function and improve the resilience of our ecosystems to the impacts of climate change.	
Euroa Arboretum	
Direct seeding forum	\$5,000.00
Direct seeding monitoring	\$2,310.00
Promotion of Biodiversity Spring and Funding Opportunities	\$5,000.00
Seed production project	\$12,654.55
Goulburn Valley Community Energy	
Seed production project	\$42,994.50
Murray Local Land Services	
Revegetation of Sand Ridge Woodlands: key biodiversity and cultural assets of the Murray Region	\$149,333.00
NSW Parks	
Revegetation of Sand Ridge Woodlands: key biodiversity and cultural assets of the Murray Region	\$149,333.00
South West Goulburn Landcare Network	
Remnant Protection & Revegetation	\$10,000.00
Strathbogie Ranges Conservation Management Network	
Remnant Protection & Revegetation	\$25,000.00
Upper Goulburn Landcare Network	
Remnant Protection & Revegetation	\$10,000.00
Yorta Yorta Nation Aboriginal Corporation	
Provision of land management and conservation services on Country	\$68,768.82
Australian Government - National Landcare Programme	
The National Landcare Programme is part of the Australian Government's Plan for a Cleaner Environment. The Programme brings together previous programmes to create a single national programme that will invest to protect and improve our nationally and internationally important natural assets and values through action at the local level.	
Alpine Valleys Community Leadership Program (AVCLP)	
Community Landcare and Agriculture Leadership Program Project	\$15,000.00
Euroa Arboretum	
Box Ironbark Course	\$10,000.00
Building resilience in the restoration and revegetation industry of the Goulburn Broken Catchment	\$30,000.00
Healthy Hectares - information, training and services for small landholders	\$14,037.50
Healthy Hectares for small landholders	\$31,620.50
Gecko Clan	
Resilient sustainable agriculture - strategic farming practices for soil, catchments, water and climate resilience	\$42,000.00
Goulburn Murray Landcare Network	
Annual Farm Forum	\$5,000.00
Continuing to improve the uptake of sustainable farming practices in the GMLN	\$34,950.00
Floodplain Ecology Course	\$10,000.00
Ground truthing - baseline data to measure soil condition changes through regenerative farming techniques.	\$7,000.00
Growing positive farming futures	\$5,031.00
Goulburn Valley Community Energy	
GV Community Energy Indigenous Seedbank	\$20,000.00
GV Food Co-operative	
A review of soil care practices or agricultural land use	\$12,000.00
Saving our soil E book	\$7,887.50
Hughes Creek Catchment Collaborative	
A Dungless Decade	\$10,000.00
Longwood East Landcare Group	
Managing our farms better in Longwood East	\$4,545.45
Longwood Plains Conservation Management Network	
Promotion of Nationally Significant Eco-Systems	\$13,636.36
Maize Association of Australia	
Understanding soil properties and the relationship to maize yield variability	\$11,420.00
Moira Shire Council	
Goulburn Broken Local Government Biodiversity Reference Group	\$20,000.00

Total Grants paid to community groups and other organisations 2016-17	Amount paid \$ (ex GST)
Regent Honeyeater Project	
Lurg Hills Regent Honeyeater Project - Ecological restoration on a landscape scale	\$50,000.00
Riverine Plains Inc	
Improving fertiliser and chemical use through local, real time weather and soil information for farmers of the productive plains	\$14,520.00
SESL Australia	
Managing climate change impacts on perennial horticulture	\$16,268.00
South West Goulburn Landcare	
Demonstrating innovative soil health methods	\$9,565.45
Strategic livestock husbandry to address tunnel erosion	\$4,040.00
Superb Parrot Project	
Superb Parrot Project	\$30,000.00
Taungurung Clans Aboriginal Corporation	
Provision of cultural heritage advice	\$1,053.82
Provision of land management and conservation services on Country	\$96,734.59
Training - Traditional Burning	\$3,090.91
Trust for Nature	
Improving the resilience of nationally significant woodland and wetland ecosystems	\$52,000.00
Up2Us Landcare Alliance	
Remnant Protection & Revegetation	\$15,000.00
Upper Goulburn Landcare Network	
Small landholder introductory forum	\$3,425.45
Warrenbayne Boho Land Protection Group	
Understanding microbial / plant symbiosis to double pasture production	\$7,100.00
Yorta Yorta Nation Aboriginal Corporation	
Provision of cultural heritage advice	\$826.62
Provision of land management and conservation services on Country	\$79,256.41
Training and development	\$3,930.13
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.	
Birds, Bush and Beyond	
Threatened woodland birds of the Goulburn Murray Irrigation District: Are we prioritising works in the right landscapes?	\$21,000.00
Trust for Nature	
Support for 2016 Private Land Conservation Conference	\$5,000.00
Yorta Yorta Nation Aboriginal Corporation	
Provision of cultural heritage advice / transfer of traditional ecological knowledge	\$6,657.35
Provision of land management and conservation services on Country	\$2,325.30
Victorian Government - Our Catchments Our Communities The Victorian Government provided \$22 million over the next four years to implement Our Catchments, Our Communities, ensuring our approach to catchment management is ready for future environmental and economic challenges and opportunities. State and regional partners and community networks will be involved in its implementation, along with DELWP and CMAs. Through this partner approach, the strategy will strengthen partnerships through co-ordinated planning, investment, and onground activities.	
Murrindindi Shire Council	
Supporting Local Social Ecological Planning in the Commuting Hills	\$5,000.00
Up2Us Landcare Alliance	
Upland Slopes Local Planning – Mansfield area	\$10,000.00
Yorta Yorta Nation Aboriginal Corporation	
Provision of land management and conservation services on Country	\$6,623.08
Victorian 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.	
Broadford Land Management Group	
Broadford Riparian Reserves Project	\$4,545.45
Euroa Arboretum	
Restoring the Seven Creeks in Euroa township	\$5,000.00
Hughes Creek Catchment Collaborative	
County Creek Rescue	\$9,200.00
Longwood Plains Conservation Management Network	
Creek Connections across Longwood Plains	\$16,363.64

Total Grants paid to community groups and other organisations 2016-17	Amount paid \$ (ex GST)
Up2Us Landcare Alliance	
Collective Impact Riparian Revegetation	\$8,500.00
Shades of Grey for the Delatite River	\$8,400.00
Upper Goulburn Landcare Network	
Lorax Project	\$5,000.00
Victorian Government - Sustainable Irrigation Program The Sustainable Irrigation Program has a strong history of reducing adverse impacts of irrigation on the environment and third parties, whilst improving water use efficiency and best practice land management for environmental and productive outcomes.	
Goulburn-Murray Water	
Reinstatement of the Surface Water Management Program in the Agricultural Floodplain SES (Shepparton Irrigation Region) within priority areas	\$1,618,024.00
Yorta Yorta Nation Aboriginal Corporation	
Provision of cultural heritage advice	\$3,320.40
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.	
Ancona Valley Landcare Group	
Ancona Regroups	\$454.55
Balmattum Sheans Creek Landcare	
Spray and wipe	\$9,272.73
Broadford Land Management Group Inc	
Maintenance grants	\$307.69
Broken River Environment Group	
Maintenance grants	\$307.69
Bunbartha Kaarimba Landcare Group	
Maintenance grants	\$307.69
Congupna Tallygaroopna Landcare Group	
Maintenance grants	\$307.69
Creightons Creek Landcare Group	
Creightons Creek Blackberry Control and new and emerging weeds	\$12,000.00
Delatite Landcare Group	
Maintenance grants	\$307.69
Euroa Arboretum	
Environmental education for kinder, schools and teaching staff	\$12,550.00
Gardens for Wildlife	\$11,830.00
Flowerdale Landcare Inc	
Maintenance grants	\$307.69
Friends of the Marysville Walks	
Maintenance grants	\$307.69
Gecko Clan	
Ahead of the curve - Embracing innovative technologies and programs to encourage new ideas and members to Landcare	\$25,000.00
Goulburn Murray Landcare Network	
Biodiversity, Environment, Aquatic Discovery Program (BEAD)	\$25,100.00
Goulburn Murray Landcare Website	\$4,180.00
Living the Good Life - tips for small landholders	\$12,200.00
Maintenance grants	\$307.69
Granite Creeks Project	
Maintenance grants	\$307.69
The Granite Creeks On-going Integrated Pest Plant and Animal Control	\$14,545.00
Harston Landcare Group	
Maintenance grants	\$307.69
Highlands Landcare Group	
Maintenance grants	\$307.69
Home Creek/ Spring Creek Landcare Group	
Maintenance grants	\$307.69
Hughes Creek Catchment Collaborative	
Maintenance grants	\$307.69
Rabbit Buster Plus	\$20,830.00
Hughes Creek Landcare	
Maintenance grants	\$307.69
Kinglake Scouts Junior Landcare	
Maintenance grants	\$307.69

Total Grants paid to community groups and other organisations 2016-17	Amount paid \$ (ex GST)
Kyabram Urban Landcare Group	
Maintenance grants	\$307.69
Longwood East Landcare Group	
Maintenance grants	\$307.69
Lower Goulburn Conservation Management Network	
Maintenance grants	\$307.69
Mitchell and Surrounds Equine Landcare Group	
Maintenance grants	\$307.69
Molyullah/Tatong Landcare Group	
Ongoing Blackberry Control Program	\$14,081.82
Muckatah Landcare	
Maintenance grants	\$307.69
Nulla Vale Pyalong West Landcare Group Inc	
Maintenance grants	\$307.69
Shepparton Mooroopna Urban Landcare Group	
Maintenance grants	\$307.69
Strath Creek Landcare Group	
Maintenance grants	\$307.69
Strathbogie Ranges Conservation Management Network	
Engaging Absentee and New Landowners	\$12,550.00
Maintenance grants	\$307.69
Sunday Creek Dry Creek Landcare Group	
Maintenance grants	\$307.69
Swanpool Landcare	
Maintenance grants	\$307.69
Rabbit and Rabbit Harbour Control	\$8,370.00
The Friends of the Marysville Walks Inc	
Maintenance grants	\$307.69
Undera Landcare Group	
Maintenance grants	\$307.69
Up2Us Landcare Alliance	
Landcare Learning	\$7,100.00
Maintenance grants	\$307.69
Upper Broken River Landcare Group	
Maintenance grants	\$307.69
Upper Goulburn Landcare Network	
Environmental education for schools	\$12,550.00
Priority Weed Rebate and Pest Animal Control	\$13,380.00
Upper Hughes Creek Landcare Group	
Maintenance grants	\$307.69
UT Creek Maintongoon Landcare Group	
Maintenance grants	\$307.69
Warrenbayne Boho Land Protection Group	
Maintenance grants	\$307.69
Whiteheads Creek Landcare Group	
Maintenance grants	\$307.69
Wyuna Landcare Group	
Maintenance grants	\$307.69
Yea River Catchment Landcare Inc	
Maintenance grants	\$307.69
Victorian Government - Victorian Water Investment Program 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.	
Goulburn Valley Water	
Waterwatch	\$16,079.00
Taungurung Clans Aboriginal Corporation	
Provision of cultural heritage advice	\$2,864.95
Yorta Yorta Nation Aboriginal Corporation	
Provision of cultural heritage advice	\$2,121.75
Provision of cultural heritage advice / transfer of traditional ecological knowledge	\$641.24
Total Grants paid	\$3,183,141.37

Appendix 9: RCS Sub strategies progress

Plan or strategy Summary of plan development and implementation in 2016-17	Further details
<p>Corporate plan</p> <p>Corporate Plan key performance indicators were satisfied appropriately.</p>	<p>See Key performance indicator progress report page 91.</p>
<p>Biophysically focused sub strategies</p>	
<p>Biodiversity Strategy for the Goulburn Broken Catchment 2016-2020</p> <p>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.</p> <p>The strategy identifies initiatives under five-year strategic directions for achieving a 15-year vision. The strategy informs the Goulburn Broken CMA's and partners' annual investment plans, and is a reference point for adapting management to changed circumstances.</p>	<p>See Biodiversity page 47.</p>
<p>Land Health Strategy 2017-2020</p> <p>The Land Health Strategy 2017-2020 (under development) follows on from the Goulburn Broken Dryland Landscape Strategy (2009-11), the draft Goulburn Broken Soil Health Strategy (2002) and Soil Health Action Plan (2006, updated 2012) with a focus on the land and people systems of the catchment (i.e. social-ecological systems), as underpinned by soil and its condition.</p>	<p>See Land page 54.</p>
<p>Goulburn Broken Invasive Plants and Animals Strategy 2010-2015</p> <p>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.</p>	<p>See Invasive plants and animals page 61.</p>
<p>Shepparton Irrigation Region Land and Water Management Plan 2016-2020</p> <p>A land and water management plan is required for all designated irrigation areas of Victoria to protect land and water resources that underpin irrigated agriculture and regional growth. The plan includes priorities for agencies, community and individual landholders to see the region grow in a sustainable way.</p> <p>Vision and purpose: The Shepparton Irrigation Region community leads Australia in producing food in harmony with the environment.</p> <p>The purpose of the plan is to support and grow the natural base that enables agriculture, biodiversity and people to jointly flourish.</p> <p>The purpose will be achieved by committing to long-term goals for five critical regional attributes: water availability, water quality, watertables, native vegetation extent and farm and food processor viability. This plan was endorsed by the Board in August 2016.</p>	<p>See Sustainable irrigation page 62.</p>
<p>Goulburn Broken Waterway Strategy 2014-2022</p> <p>The development of this strategy is a statutory requirement under the <i>Water Act 1989</i> (Section 190) and also fulfils the statutory requirement for developing management plans for Heritage Rivers in accordance with the <i>Heritage Rivers Act 1992</i>.</p> <p>The Goulburn Broken Waterway Strategy 2014-2022 identifies key threats to community values and provides recommendations to influence the future management of waterways in the catchment.</p>	<p>See Waterways page 33.</p>
<p>Goulburn Broken Catchment Water Quality Strategy 1996-2016</p> <p>The Goulburn Broken Catchment Water Quality Strategy focuses on managing the nutrients Phosphorus (P) and Nitrogen (N) to reduce the incidence of blue green algal blooms. This strategy was reviewed in 2016-17 with achievements to date summarised. The Water Quality Strategy objectives are to be incorporated into other strategies as appropriate such as the Regional Waterway Strategy when it undergoes its midterm review. This is appropriate given good water quality is one component of a healthy waterway and healthy waterways underpin many of the Catchment's environmental, social and economic values.</p>	<p>See Waterways page 33.</p>
<p>The Regional Floodplain Strategy (interim) 2014-2016</p> <p>The Regional Floodplain Strategy (Interim) provides the strategic focus for the management of flooding risks across the Goulburn Broken catchment. This interim strategy was primarily prepared to provide the basis for a 3 year rolling plan of priority flood investigations to undertake in the catchment.</p> <p>The Regional Floodplain Management Strategy 2017 is currently being developed in line with the Statewide Floodplain Management Strategy.</p>	<p>See Floodplain page 43.</p>

Plan or strategy Summary of plan development and implementation in 2016-17	Further details
Supporting sub strategies	
<p>Community NRM Action Plan 2013-2018</p> <p>Aligned to the Community articulated Vision and Goals, the Plan outlines the actions that the Goulburn Broken CMA will undertake and support to deliver on two of the key strategic priorities of the Goulburn Broken RCS, that is 'Strengthening Partnerships' and 'Embedding Resilience'. Embedding resilience is a significant step in helping individuals, communities and organisations achieve their goals in the face of ongoing change.</p>	See Community page 28.
<p>Communication and Marketing Strategy 2015-17 & Community Engagement Strategy and Action Plan 2015-17</p> <p>The strategies were reviewed and updated to reflect development of the Goulburn Broken Regional Catchment Strategy 2013-2019; findings from the 2012 Wallis CMA Awareness Survey and subsequent Action Plan (developed late 2012); changes in Victorian and Commonwealth government natural resource management funding and priorities. The results of the 2017 Wallis CMA Awareness Survey and Action Plan will feed into the next review.</p>	See Community page 28.
<p>Workforce Strategy and Action Plan 2013-2018 & Workforce Capability Framework 2015</p> <p>Internal strategy and action plan to guide development and delivery of the range of human resources and workplace objectives to ensure the right capability, culture and workplace to enable the operations of the Goulburn Broken CMA. Priorities identified in the strategy is annual workforce planning built into the broader business planning cycle and a focus on leadership development.</p>	See Human resources page 72.
<p>Occupational Health and Safety Policy Statement 2016-2017</p> <p>Annually reaffirms management commitment to Occupational Health, Safety and Wellbeing through adoption of a planned and systematic approach.</p>	See Occupational health and safety page 75.
<p>Goulburn Broken CMA Climate Change Integration Strategy 2012-2015 & Climate Change Adaption Plan 2016</p> <p>The Climate change integration strategy was finalised in 2012 and implementation is underway. A review is scheduled for 2017-18.</p> <p>The Goulburn Broken CMA undertook major climate change planning activities funded through the Australian Government. The work resulted in a Climate Change Adaption Plan to better integrate climate change adaptation and support the implementation of the RCS.</p>	See Climate change page 25.
<p>Organisational Environmental Footprint Strategy and Action Plan 2012-2014</p> <p>The Organisational Environmental Footprint Strategy and Action Plan has not yet been reviewed.</p>	See Environmental footprint page 77.
<p>Goulburn Broken Information and Communication Technology Strategy 2015-2017</p> <p>The Information and Communication Technology Strategy outlines how the Authority will continue to use ICT to enable, support and service community, partners and staff to deliver our roles and responsibilities to achieve both the Authority's operational obligations and our strategic objectives efficiently and effectively. The strategy is being implemented.</p>	See Governance page 79.
<p>Goulburn Broken Indigenous Participation Plan 2017</p> <p>The Goulburn Broken Indigenous Partnership Plan 2017 guides the relationship between the Goulburn Broken CMA and Traditional Owners.</p>	See Community page 28.
<p>Goulburn Broken Diversity Plan 2017-18</p> <p>Currently under development, the Diversity Plan will detail the CMAs commitment to diversity and inclusion, including actions to be undertaken to achieve the agreed objectives of the CMA.</p>	See Human resources page 72.
Integration planning	
<p>SES Local Plans (Commuting Hills, Upland Slopes, Southern Forests and Productive Plains)</p> <p>Local Plans have been developed to communicate the priorities and actions supporting the local community as it responds to changes in land-use, water policy reform, climate and farm production. Local Plans have been developed to recognise the people living and working in each part of the Catchment are best placed to prioritise the activities needed to build the resilience of the region's critical ecosystem services.</p> <p>These plans are available on WeConnect (http://weconnect.gbcbma.vic.gov.au).</p>	These plans will be updated annually.

Appendix 10: 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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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 127.

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.

GMW Connections is a \$2 billion project funded by the Victorian Government, Commonwealth 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 127.

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 127.

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 127.

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 127.

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
AQF	Australian Qualifications Framework
ARI	Arthur Rylah Institute
CaLP	<i>Catchment and Land Protection Act 1994</i>
CEO	Chief Executive Officer
CEWH	Commonwealth Environmental Water Holder
CMA	Catchment Management Authority
CMN	Conservation Management Network
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEDJTR	Department of Economic Development, Jobs, Transport and Resources
DELWP	Department of Environment, Land, Water and Planning
DTF	Department of Treasury and Finance
EC	Electrical Conductivity unit
EPBC	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
EVC	Ecological Vegetation Class
EWAG	Environmental Water Advisory Group
FTE	Full-time Equivalent
FWP	Farm Water Program
GHG	Greenhouse Gas
GL	Gigalitre
GMW	Goulburn-Murray Water
GST	Goods and Services Tax
ha	Hectare
IT / ICT	Information Technology / Information and Communications Technology
km	Kilometre
KPI	Key Performance Indicator
L	Litre
LaBIF	Land and Biodiversity Implementation Forum
LWMP	Land and Water Management Plan
MDBA	Murray-Darling Basin Authority
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 Programme
NRM	Natural Resource Management
NRIP	Natural Resources Investment Program
OCOC	Our Catchment Our Communities - Integrated Catchment Management in Victoria 2016-19
PV	Parks Victoria
RCS	(Goulburn Broken) Regional Catchment Strategy
RSMP	Regional Salinity Management Plan
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
tCO ₂ e	Tonnes of carbon dioxide (CO ₂) emitted
TfN	Trust for Nature
TCAC	Taungurung Clans Aboriginal Corporation
VCAT	Victorian Civil Administrative Tribunal
VEWH	Victorian Environmental Water Holder
VFMP	Victorian Farm Modernisation Program
YYNAC	Yorta Yorta Nation Aboriginal Corporation

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Staff list 2016-17

Aaron Findlay	Chris Norman	Gillian Mason	Bullock	Meegan Judd	Simon Casanelia
Annette Neessen	Christine Glassford	Guy Tierney	Kate Brunt	Megan McFarlane	Steve Wilson
Annie Squires	Collin Tate	Helen Murdoch	Kate Pendergast	Melanie Haddow	Sue Kosch
Ashley Rogers	Corey Wilson	Janice Mentiplay-	Kate Montgomery	Neville Atkinson	Tim Barlow
Belinda Senini	Daniel Lovell	Smith	Katie Warner	Peter Geddes	Tom O'Dwyer
Bianca Sulejman	Darelle Siekman	Jeff Parry	Keith Ward	Rachael Spokes	Tony Kubeil
Caitlin Baker	David Lawler	Jenny Wilson	Kerry McFarlane	Rebecca Caldwell	Vicki Mackenzie
Carl Walters	Dean Judd	Jim Begley	Kiera Hole *	Rhiannon Apted	Zuzanna Lelito
Carla Miles	Eileen Curtis	Jim Castles	Kirsten Roszak	Richard Warburton	
Caroline Keenan	Fiona Lloyd	Jo Wood	Lisa Duncan	Russel Haque	* YES Trainee
Chris Burnett	Gaye Sutherland	Karan Balfour	Mark Turner	Samantha Moreno	
Chris Nicholson	Geoff Brennan	Karen Brisbane-	Mary Dimit	Shannon Crawford	

RECOGNISING MAJOR NRM CONTRIBUTIONS



ORLANDO TALAMO

Unlike many migrants, Orlando Talamo has made it clear his final resting place will be in the Australian bush, not his native Argentina. "I want my ashes scattered here with my furry, little critters," Orlando said, as he strode through the bush to check on his beloved nest boxes. "This is my home and this is where I am happiest." Orlando is president of the Whroo Goldfields Conservation Management Network and manages the Goulburn Broken CMA's hugely successful Nest Box Program.

The electrician and his family moved to Heathcote almost a decade ago where he and wife Desma bought a 15 acre property. Orlando always had a passion for animals, especially birds and wanted to live in an area where he was surrounded by his feathered companions. "As a small boy growing up in Argentina, my father owned fighting roosters. My father and I loved those roosters. They had strict training regimes - just like prize boxers. Of course now I know better than to keep birds in cages, but that's where my passion for animals comes from. I believe very strongly in not interfering with nature."

The move from Melbourne to the country also allowed Orlando to pursue his passion for the environment. It was at a meeting called by Goulburn Broken CMA's Janice Mentiplay-Smith that he stumbled across what he now describes as his 'life's work'. "Janice said they were looking for someone to monitor the nest boxes and I thought to myself 'I could do that'. So I went to see my neighbour and he showed me how to use the GPS and I went to see my other neighbour and he showed me how to use the camera and off I went, trampling through the forest."

Since Orlando took over the program, the number of nest boxes has grown from 300 to over 1000. He relies on his instincts to tell him where to place the boxes in the forest to enhance the prospects of attracting desirable tenants – sugar gliders and phascogales. "I am not scientific but I'm very good at observing, so I looked at the boxes that were occupied and I tried to replicate the environment. I thought: Where's the water? Where's the food? What trees are around?"

The process has been so successful that the boxes are at a record-high 60 per cent occupancy. Goulburn Broken CMA conservation management network coordinator Janice Mentiplay-Smith said Orlando had the ability to 'think' like the critters he was hoping to coax into his boxes. "We call him the 'Marsupial Whisperer'. He's developed a sixth sense about where to position the boxes," Janice said. "This comes from years of watching where the animals travel and what type of habitat they prefer. Orlando is a one-in-a-million find for the Goulburn Broken CMA. The work he's done is so important. I'm now searching for a university to do some research based on Orlando's findings."

While flattered by the compliments, Orlando said there was no mystery about the program's success. "It is about love and passion. I put every single ounce of my body into the job. And I don't take shortcuts. I think that's why I get results. I cry when I see a family of sugar gliders cuddled together in a box. I'm crying now just talking about it. It's an emotional thing for me and the first time I don't feel that emotional reaction is the last time I'll check a box. I will finish then."

Orlando has used his community connections to his advantage in getting the program off the ground. He even convinced the local gold mine, Mandalay Resources, to sponsor the program. "Instead of being paid for electrical jobs, I ask people to Adopt-A-Box or build a box - I just feel so grateful to be involved. What people say about me is not important. That there are animals in the boxes is my seal of approval. That's the only approval I'm looking for."

He said he and Janice made a good team due to the implicit trust between them. "She knows she can rely on me and I know she appreciates my work. She relies on me to spread the word about the program and I do." He describes himself as a natural salesman. "I was a door-to-door salesman as a young man in Argentina and I was very good at it. I knew if the lady opened the door to me, I could most often get a sale. But I didn't enjoy it because I didn't believe in what I was selling. Now because I am so passionate about the nest box program, I am sell, sell, selling the message all the time. Because I love it. Simple."



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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