



**GOULBURN
BROKEN**

CATCHMENT
MANAGEMENT
AUTHORITY



GOULBURN BROKEN CATCHMENT MANAGEMENT AUTHORITY

ANNUAL REPORT 2017-18



RATINGS LEGEND

| | | | | | | |
|-----------------------------------------------------------------------------|---------------|--------------------------------------|-----------------------------|---------------------------|-------------------------------------|-----------------------|
| 2017-18 performance | | Well below target (less than 50%) | Below target (50 to 80%) | On target (80 to 110%) | Exceeded target (more than 110%) | |
| Catchment condition and Critical attribute contribution to resilience | | Very poor | Poor | Satisfactory | Good to excellent | |
| Risk to system resilience | Trend 2015-18 | Increasing significantly | Increasing | Stable | Declining | |
| | Long-term | Very high | High | Medium | Low | |
| Long-term strategy implementation stage | | Early | Middle | Late | Watch and maintain | Escalated response |

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

Appendix 1 (page 128) 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 2017-18 to 2021-22 Corporate Plan targets.

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

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

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

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Front cover

Main photo:

Goulburn River near Nagambie.

Inset photos (from left to right):

Gone Fishing Day, Shepparton.

Linking the Lower Goulburn bush stone-curlew exhibition, Nathalia.

Dairy farmer Duncan Crawford has increased productivity thanks to the Farm Water Program.

Another 130 snags were placed in the Goulburn River near Seymour thanks to Recreational Fishing Licence funding.

Woka Walla's work crew, Barmah.



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Recognising major natural resource management contributions –
Lanie Pearce

Back cover

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Chair's review



I am pleased to present Goulburn Broken Catchment Management Authority's 2017-18 Annual Report.

The many challenges and opportunities faced by the Catchment's people and environment during the past 12 months have certainly highlighted the importance of

two of the key pillars of the 2013-19 Goulburn Broken Regional Catchment Strategy (RCS): building resilience and strengthening partnerships.

The RCS guides efforts to protect and improve the Catchment's natural resources so that the communities that rely on healthy rivers, landscapes and biodiversity can thrive. The mid-term review of the RCS and more recent workshops with resilience experts CSIRO's Dr Brian Walker, Australian Resilience Centre Director Paul Ryan and Emergency Victoria Commissioner Craig Lapsley reconfirmed the Board's commitment to the importance of continuing to promote the resilience thinking approach - the ability to adapt to change and reorganise while coping with the disturbance - with government and community. This approach involves identifying key thresholds or 'tipping points', monitoring them and using them for NRM planning.

An example of the effectiveness of this approach is how water for the environment is used to help waterways cope with a range of weather conditions: as well as improving vegetation along the lower Goulburn River to help stabilise banks during natural floods, the flows also provide much-needed shelter for native fish, water bugs and other wildlife during dry times. Our ongoing work with industry and government on understanding the impacts of floodplain sand and gravel mining on river health, communities and local, regional and national infrastructure is an example of how a threshold is being managed. Last year's VCAT finding ruling against expansion of a quarry at Seymour vindicated our pursuit of this issue, however, we know there is still much work to be done in building understanding – and preparing for – the consequences of this expanding activity if the risks are not accurately identified and monitored and regulation is not adequately resourced.

Another threshold identified by the community through our annual survey of the 90-plus community NRM groups in our catchment is the effect of pest plants and animals, particularly Paterson's curse and deer, on our biodiversity. Significant native grass and waterbird breeding outcomes in the Ramsar-listed Barmah National Park, largely due to environmental flows that mimic more natural wetting and drying patterns, and ongoing environmental activities undertaken by Yorta Yorta Nation Aboriginal Corporation's (YYNAC's) Woka Walla work crew, are also being compromised by pests, chiefly feral horses and pigs. We look forward to working with Victorian Government agencies on approaches to manage pests in response to recommendations from The Environment, Natural Resources and Regional Development Committee's Inquiry into the control of invasive animals on Crown land as well as various other state and federal land management strategy initiatives.

We also welcome the continued acknowledgment and emphasis by all levels of government on incorporating Traditional Owners' ecological knowledge and involvement in natural resource planning. The NRM work crew model we have developed with YYNAC is proving to be extremely effective, with the Woka Walla crew highly commended at the Victorian Landcare Awards in the Indigenous Land Management category. A similar model is being looked at by Taungurung Clans Aboriginal Corporation (TCAC), who identified this as a priority in the Taungurung Clans Country Plan that was launched in November 2017 and guides efforts to care for Country and to achieve economic independence.

Economic independence is an important step in Traditional Owners achieving self-determination. We were therefore proud, as a member of the Tri-State NRM Alliance (an alliance of the seven NRM agencies along the Murray Corridor), to be heavily involved in the Murray Corridor Indigenous Forums held at Moama and Mildura in June 2018 with Outback Academy Australia and Indigenous Business Australia. These forums highlighted a number of examples of Indigenous-led ethical, cooperative businesses. Participants committed to ongoing identification of collaborative business opportunities and information-sharing, with the goals of reduced reliance on government funding and increased self-determination, healthy Country and people.

Thank you

Thank you to my fellow Board members for their ongoing passion, dedication and support during 2017-18. I especially acknowledge the contribution of outgoing Board Chair Annie Volkering and outgoing Directors Adrian Appo, Murray Chapman, Ailsa Fox and Sandy MacKenzie and welcome new Directors Jenny Ford, Sam Lolicato and Ron Harris.

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. Partnerships continue to be essential to the 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 2018.

Adrian Weston

Chair

Goulburn Broken Catchment Management Authority

23 August 2018

Chief Executive Officer's report



Major milestones and significant achievements have been a hallmark of the past 12 months.

Projects funded through the Australian Government's National Landcare Program wound up after four years with a number of targets well and truly exceeded. This included, but is not limited to, more than 7,300 volunteers

(target 5,000) taking part in efforts to improve habitat for the endangered Regent Honeyeater and over 860 hectares of endangered woodland and wetlands being put under agreement (target 765 hectares). The Beyond SoilCare project also kicked a number of goals with 700 farming entities implementing practices that improve soil condition across 50,006 hectares, and \$740,891 in grant funding devolved to 26 community and industry groups/networks for 50 farmer-led projects during this period.

At the half-way point of rolling out projects funded through the Victorian Government's Water for Victoria initiative we also continue to kick goals. We know that surveys show that more than one quarter of all recreational fishers say they prefer to fish in the Goulburn River and Lake Eildon than any other Victorian inland waterway, which is why we've had such success delivering works through the Angler Riparian Partnerships Program. This has included numerous tree planting days such as the event coordinated by the Goulburn Broken CMA, Up2Us Landcare Alliance and the Australian Trout Foundation where 53 representatives from six angling groups planted 350 trees and shrubs around the junction of the Goulburn and Jamieson Rivers in Jamieson. Six similar activities have been held across the Catchment this year with thousands of trees and shrubs planted by an enthusiastic band of volunteers to provide valuable habitat for fish and other aquatic species as well as improving water quality.

Anglers have also played a critical role in identifying the best locations for the 2,700 snags placed in our region's waterways over the past decade – including 90 placed in the Goulburn River between Seymour and Nagambie in May – to provide food and shelter for native fish. They are clearly having an effect, with reports of increased populations of golden perch and Murray cod in particular.

Community involvement will also be the key to the success of the Flagship Waterway Fluker Post citizen science project, which was launched by the post's inventor Dr Martin Fluker at Seven Creeks Euroa in March. The photos taken at each of the 40 sites across the State over time will help show how activities such as revegetation and resnagging are making a difference to waterway health.

We are also very excited that the potential virtual fencing has for managing stock access to creeks, rivers and wetlands is becoming closer to a reality. For more than four years we have been supporting work by Agersens to develop this technology that involves controlling stock wearing GPS collars that emit an audible warning when they approach a virtual fence, which is set up by a farmer on a smart device. The technology was officially launched at BeefWeek in Queensland this year, generating huge amounts of interest from the livestock industry as well as NRM practitioners.

These activities are only some of the ways we're working with the community and other agencies to improve waterway health. Timing, planning and delivery of environmental flows is another increasingly important way we're looking after this precious resource. This year we marked two exciting firsts: water for the environment was delivered along the Broken River below Nillahcootie to improve habitat for native fish, aquatic plants and water bugs; and about 500 megalitres of water was delivered to Gaynor Swamp near Corop, with a terrific response from frogs, birds, including broilga, as well as the local community.

Record high inter-valley transfers were delivered along the Goulburn River by Goulburn-Murray Water to meet increased Murray River irrigator, community and environmental demand between January and May. This had a negative impact on lower bank vegetation and condition. Subsequently, the winter 2018 Goulburn River flow was designed to recede at a slower rate than normal to deposit sediment and help restore bank condition and native vegetation.

Environmental outcomes often take time to become obvious, so it was exciting to hear monitoring of the benefits of the environmental flows showed significant increases in native fish numbers, including trout cod and silver perch, in the Goulburn River over the past five years.

While forecasts indicate 2018-19 could be drier than average, the extensive community consultation (including 15 drop-in sessions) to develop and complete the Regional Floodplain Management Strategy and associated investment and action plans, once funded and implemented, will ensure that if conditions do change our communities will be better prepared to respond and recover from flooding. Similarly, the 622 farm water efficiency projects, covering 70,000 hectares in the Goulburn Murray Irrigation District that have been completed through the Farm Water Program over the past eight years, will help these irrigators adapt to climate change as well as to changes in water and land-use policy and national and international market pressures.

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 Adrian Weston, immediate past Chair Annie Volkering and all board directors. I also wish to especially acknowledge the contribution of Carla Miles, Lisa Duncan, Melanie Haddow, Des Morgan, David Lawler, Jeff Parry and Katie Warner who have moved on to 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 2017-18 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 2017-18)

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 80) for details.

Funding and staff

Goulburn Broken CMA's income for 2017-18 was \$33.1 million, derived from the Victorian and Australian Governments, regional sources and other government entities. As at 30 June 2018, 50.1 (full-time-equivalent) staff were directly employed. See the 'Human resources' section (page 73) 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.

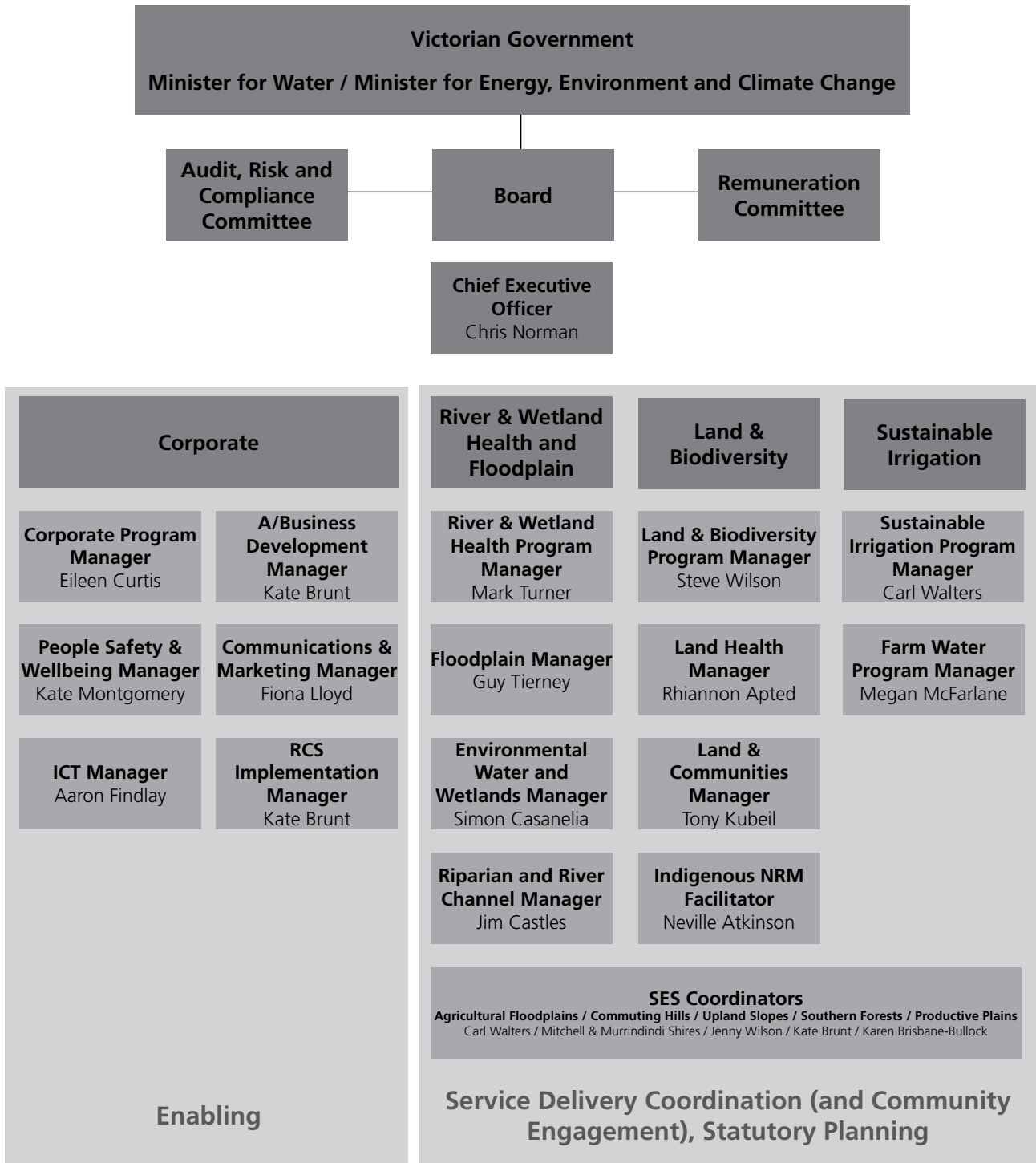
Leadership: we have the courage to lead change and accept the responsibility to inspire and deliver positive change.

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

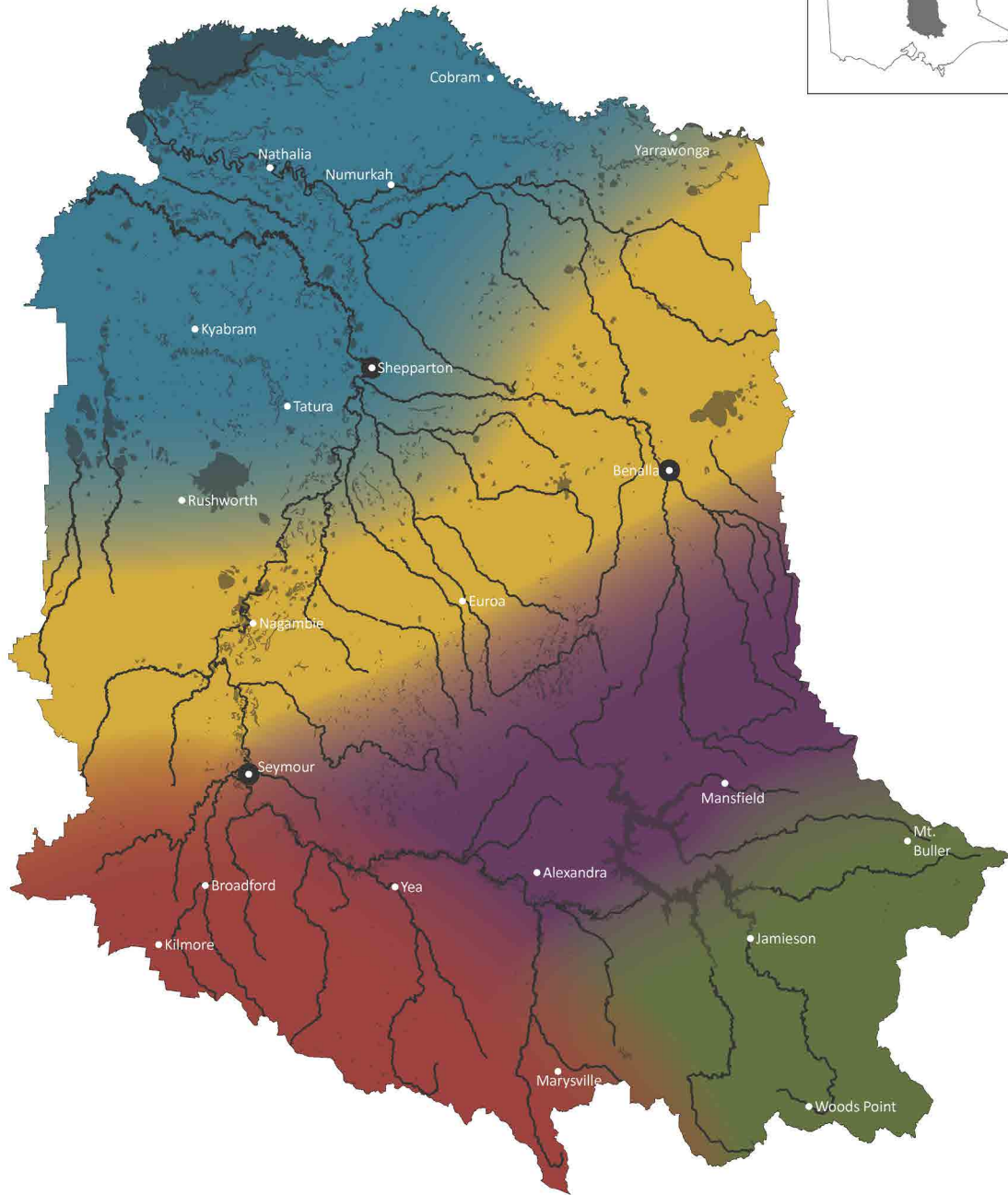
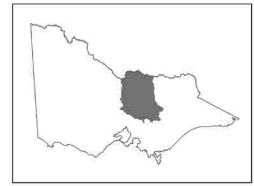
Achievement, excellence and accountability: we do what we say we will do, we do it well and we take responsibility and accountability for our actions.

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.

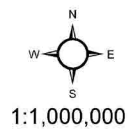
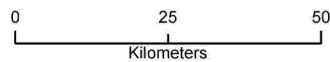
Goulburn Broken CMA business structure



Goulburn Broken Catchment i,ii



- Agricultural Floodplains
- Productive Plains
- Commuting Hills
- Upland Slopes
- Southern Forests
- Urban Centres



- i. The Goulburn Broken CMA Sustainable Irrigation Program oversees delivery in part of the North Central Catchment as well as the Goulburn Broken Catchment.
- ii. Maps of the Catchment showing onground works sites and whole farm plans achieved are included as Appendix 2 and 3 (pages 130 and 131).

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 ongoing threat to properties and safety.

Key events 2017

July

Young farmers, agricultural advisors and agriculture students attended two Fundamentals of Farm Management workshops held in Benalla and Numurkah. Workshops were held in partnership with Murray Dairy and Agriculture Victoria.

Barmah regulators opened in late July allowing winter flows into Barmah Forest to support native fish movement and reduce likelihood of future blackwater events.

Successful nest box building day held at Bailey's Winery with strong turnout from the Conservation Management Network members.

Winter/spring revegetation program in full swing including planting days with Lima East Primary School, Strath Creek/King Parrot Creek Landcare, Tatong Angling Club at Upper Ryans Creek, and the Victorian Flyfishers on Little River at Taggerty.

Results of the Goulburn River Long Term Intervention Monitoring project presented and discussed at a community forum in Shepparton. The forum was attended by 46 people including local MPs, representatives from recreational groups, local landholders, and State and Commonwealth agency staff.

August

Two workshops held in Euroa and Mooroopna through the Beyond SoilCare project highlighted the importance of fungi in soils.

In a move welcomed by anglers, for the first time water for the environment was used to increase base flows from 120 megalitres per day to 400 megalitres per day in the Goulburn River below Eildon to benefit waterway health and trout populations.

Worked with Murray Darling Wetlands Working Group, GMW and VEWH to plan and gain the necessary approvals to deliver water to a private wetland part of the Yambuna Wetland Complex on the lower Goulburn River floodplain – the first Victorian wetland to receive environmental water through the Murray Darling Wetlands Working Group.

September

Long-time Landcare advocate Terry Hubbard won the Joan Kirner Landcare Award and the Yorta Yorta Nation Aboriginal Corporation's Woka Walla Crew was highly commended in the Indigenous Land Management category at the Victorian Landcare awards.

More than 50 anglers representing seven angling clubs planted around 350 trees on the Jamieson River as part of the Angler Riparian Partnership Program.

October

Fifty-five participants attended the well-respected and long-running Floodplain Ecology (Nagambie) and Box Ironbark (Barmah) courses, delivered by the Goulburn Murray Landcare Network, Lower Goulburn CMN and Euroa Arboretum.

The Farm Water Program received international recognition when awarded the International Commission in Irrigation and Drainage Innovation & Technology WatSave Award in Mexico City. This was the first time the award had gone to an Australian project.

An event co-hosted with North Central CMA, Holistic Management International, Inside Outside Management and Sidonia Beef Naturally saw 53 farmers take part in an on-farm field day at Sidonia, showcasing holistic management to plan rotational grazing, improve soil health and increase profits.

The Goulburn Broken CMA worked with the Taungurung Clans Aboriginal Corporation to conduct a trial of the Aboriginal Waterway Assessment focused on the mid-Goulburn River.

Presented to Victorian Parliament's Environment, Natural Resources and Regional Development Committee's Environmental Water Management Inquiry hearing in Shepparton.

The Goulburn Broken CMA supported and attended the Murray Dairy Business Forum.

Another successful Gone Fishing Day event was hosted by Goulburn Broken CMA at Victoria Park Lake, Shepparton, with hundreds of anglers turning up.

November

The Goulburn Broken CMA supported two Taungurung and six Yorta Yorta Woka Walla works crew staff to attend DELWP Project Firefighting training.

More than 60 people attended the launch of the Taungurung Clans Country Plan and opening of the Indigenous Garden at the Yea Y Water Discovery Centre.

The Draft Victorian Rural Drainage Strategy (for non-irrigated landscapes) released for public comment and engagement, with a consultation forum hosted by Goulburn Broken CMA and held with DELWP in Echuca.

The Goulburn Broken CMA adopted its first Workplace Health Achievement Team action plan following consultation with employees and a review of employee health and wellbeing data.

December

Yorta Yorta's Woka Walla works crews continued to deliver onground works for the City of Greater Shepparton and Moira Shire Council on roadside weed control and revegetation projects.

Goulburn Broken CMA's first Diversity and Inclusion Plan approved by the Minister for Water, recognising the success and future opportunities for the organisation to embrace and engage the strength of our diverse community.

Key events 2018

January

Yorta Yorta's Woka Walla works crews continued to deliver onground works through the Goulburn Broken CMA's state-funded Our Catchments Our Community project in Parks Victoria reserves in the Kotupna area, including weed control, rubbish removal and revegetation works.

February

Goulburn Broken CMA successfully applied for two projects 'Swift Parrot Revegetation' (\$100,000) and 'Superb Parrot revegetation' (\$100,000) in the Australian Government's 20 million trees program.

Hosted a visit from the new DELWP Executive Director of Catchments, Waterways, Cities & Towns Karen Lau, with Landcare and recreational fishing a focus.

Community consultation on the Goulburn and Broken Rivers' rural flood studies initiated with drop-in sessions coordinated with local councils.

Thanks to National Landcare Program funding, Goulburn Broken CMA offered funding to women working in agriculture in the Catchment to attend the 'Thriving Women 2018' Conference in the Adelaide Hills, South Australia or the 'Women On Farms Gathering 2018' in Rosebud, Victoria.

March

Two-day alumni workshop held in Beechworth brought together past participants of the Community Landcare and Agriculture Leadership Program.

Fluker post launch at Seven Creeks attended by post creator Martin Fluker. The Flagship waterway citizen science project was funded through the Regional Riparian Action Plan.

April

The Broken Boosey Conservation Management Network, in partnership with Moira Shire, installed 40 significant roadside vegetation signs across the Moira region.

For the first time Gaynor Swamp (as part of the Corop Lakes system) received 500 megalitres of water for the environment to maintain the health of the wetland's vegetation and provide habitat for a variety of frogs and waterbirds, including broilga.

Goulburn Broken CMA supported GoFish Nagambie to launch Australia's largest fishing competition and extravaganza to be held in April 2019.

'I Love The Valleys' campaign launched on Triple M with Mark Turner talking about the role of the Goulburn Broken CMA in protecting our waterways.

Water for the environment was delivered down the Broken River to improve habitat for native fish, aquatic plants, water bugs and platypus. This was the first time flows have been delivered down the Broken River for environmental purposes.

May

Federal Agriculture Minister David Littleproud opened the Beyond SoilCare showcase at Dookie College, with 89 local community members sharing their experiences of being involved in the National Landcare Program-funded project.

More than 60 keen volunteers from fishing clubs right across Victoria turned out to plant around 600 trees and shrubs on the Steavenson River near Marysville.

Agersens launched the virtual fencing product 'eShepherd' at Beef Australia in Rockhampton. The Goulburn Broken CMA and North East CMA, have supported the development of this product for over four years.

The Goulburn Broken CMA and Goulburn Valley Health signed a Memorandum of Understanding, bringing shared benefits linking health to the environment.

Management and partners took the South Australian MDBA Royal Commission on a field tour of Barmah Choke and the local irrigation network.

90 snags were placed in the Goulburn River to provide habitat for native fish as part of the Recreational Fishing Licence initiative.

The Goulburn Broken CMA's Jo Wood presented at the 2018 Society for Freshwater Sciences Annual Meeting in Detroit. Jo presented on how ecoacoustics can detect responses to environmental water deliveries, drawing on data collected at Reedy Swamp in Shepparton.

A research paper written by Goulburn Broken CMA staff titled 'Farm Water Program: Using the Water Savings Calculator' was published in Irrigation and Drainage (May 2018). The paper was based on the WatSave Best Technology Award received at the ICID Conference in Mexico City last October.

June

The Goulburn Broken CMA featured on a dedicated episode of Merv Hughes Fishing Australia, filmed on Lake Eildon last October, highlighting benefits of Water for Victoria funded initiatives and environmental flows.



About 100 Traditional Owners attended the Business Development workshops organised by the Tri-State Alliance in Moama and Mildura. These workshops were conducted in conjunction with Outback Academy Australia and Indigenous Business Australia.

Nine presentations relating to the Goulburn Broken Catchment (CMA and partners) occupied 4 (more than one quarter) of the sessions held at the Our Catchments Our Communities Summit in Geelong.

Water for the environment was delivered down the lower Goulburn River to improve water quality and support the growth and establishment of bank vegetation.

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 Catchments 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 |
|-------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------|
| | Previous 3 years | 2017-18 | |
| Land | Neutral  | Neutral  | pages 55 to 62 |

In 2017-18, 3300 people were involved in the region's Beyond SoilCare project funded by the Australian Government's National Landcare Program: 2445 people attended field days, workshops, forums and bus trips or accessed web-based information developed through the project; 255 landholders were involved in discussions, training and meetings to support practice change; 67 landholders reported changing practices over 6710 hectares; six trials completed with maize, tomato, cropping and fruit industry bodies and the Goulburn Murray Landcare Network; nine groups supported involving 449 people. See page 70 for more details on Beyond SoilCare.

Since 2013-14, 304 hectares of binding agreements have been made with private landholders to manage land for conservation outcomes, including 104 hectares in 2017-18 (pages 54 and 132).

Recent increases in summer thunderstorm intensity, such as in December 2017, is causing significant gully, tunnel and sheet erosion on farmland, impacting on biodiversity, water quality and farm production. The first half of 2018 was drier than normal (graphs page 47). Livestock have not been in good condition and pastures are under a lot of pressure, increasing the risk of poor groundcover and soil exposure (graph page 56). Saline discharge sites remain present and active, with most sites able to be managed, confining impact to the local site or farm. 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. Transitions in farming enterprise are impacting significantly on long-term needs for natural resources.

The purpose and use of the Catchment's 800,000 hectares of public land have generally improved (especially grazing in sensitive areas). However, visitor numbers are rapidly increasing over large areas of public land that are now reserved for more passive use and, along with invasive plant and animal pressures, is impacting on environmental and cultural heritage. Elevated land values continue to drive farm subdivision and land turnover.

Catchment-wide, invasive plant and animal management is now mainly focused on new and emerging species and complementing community activity. Under present arrangements, there are high and increasing long-term risks in hot-spot areas from existing and emerging threats like deer in the foothills and feral horses in Barmah National Park.

| | | | |
|--------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------|
| Biodiversity | Concerned  | Concerned  | pages 48 to 54 |
|--------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------|

In 2017-18, 17 community groups and networks were engaged as delivery partners - building capacity and delivering incentives and community engagement projects, which are: five Conservation Management Networks (Longwood Plains, Broken Boosey, Whroo Goldfields, Lower Goulburn, and Strathbogie Ranges); five Landcare Networks (Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray and Gecko Clan); two Landcare Groups (Granite Creeks Project and Warrenbayne Boho Landcare Groups) and three friends groups (Regent Honeyeater Project, Superb Parrot Project and Euroa Arboretum).



A total of 3,285 hectares of remnant vegetation has been fenced since 2013-14, including 750 hectares in 2017-18. The Linking Lower Goulburn project funded through Our Catchments Our Communities increased vegetation extent by 160 hectares in 2017-18 (page 53).

Through the Goulburn Broken CMA seven major projects were delivered through the Australian Government's National Landcare Program from 2015 to 2018 (page 52).

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 49). While onground native vegetation improvements have made positive changes on about 0.6 per cent of the Catchment's private land in the past 10 years, the scale is not sufficient to support all current species of flora and fauna. Ongoing clearing, new and existing invasive pest plants and animals, and other threats continue to add to large-scale habitat loss and degradation caused by historic clearing. Some species, such as Grey-crowned Babbler, Turquoise Parrot, and the EPBC-listed Regent Honeyeater are benefiting from targeted revegetation. A repeat of the millennium drought would have grave consequences for many species.

Assessment criteria

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

| Theme | Catchment condition assessment | | Details |
|-----------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|----------------|
| | Previous 3 years | 2017-18 | |
| Waterways | Neutral  | Neutral  | pages 31 to 42 |

Stock grazing has been removed or sensitively managed along 169 kilometres of streams through fencing since 2013-14, including 26 kilometres in 2017-18 (page 40 and 132). A total of 4,436,266 megalitres of water has been released for the environment since 2007-08, including 2,328,986 megalitres since 2013-14 and 812,240 megalitres in 2017-18 (pages 40 and 41). River inflows were generally low to average in 2017-18.

Local and regional agency and broader community partnerships associated with waterway management are strengthening. There has been a step-change in the past few years of increased community involvement in raising awareness and onground management (page 38).

Water quality and fish populations have improved significantly through changes such as stock-grazing removal from stream frontages on public and private land, fish-barrier removal, resnagging of streams, tree planting, and the creation of reserves of water in storages for the environment. Phosphorus loads are better and below the long-term target (graph page 34).

However, streambank vegetation and critical habitat in the lower Goulburn River is at increased risk from high unseasonal flows, as managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected MDB. Waterways are also subject to increasing recreation pressure. Despite increasing waterbird habitat in the Goulburn Broken Catchment through delivery of water for the environment, populations of many species across the MDB seem to be declining.

Waterways are at high risk from climate change. Since 2000, waterways have been impacted by prolonged drought, fires and to a lesser extent, floods. Water availability for agriculture has emerged as a major risk for the Catchment's social-ecological systems.

In 2010, 15 per cent of stream length in the Goulburn and Broken basins were in good or excellent condition (9 and 6 per cent respectively, using the index of stream condition (bar chart page 34). The overall ratings had not changed significantly since 2004.

There have been significant floodplain management improvements in many geographic areas, with others yet to be implemented (although on schedule). As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management, annual average damages and social trauma have significantly decreased.

| | | | |
|-----------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------|
| Community | Neutral  | Concerned  | pages 26 to 30 |
|-----------|---------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|----------------|

In 2017-18, there were over 25,000 community participants 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) (Schirmer et al., 2016).

There is a continued increase in social media followers, with June 2018 figures for Facebook 'page likes' reaching 1646 (up from 1313 in June 2017) and Twitter account followers at 1401 (up from 1159 in June 2017). The monthly column in the Country News continues to reach more than 50,000 households (page 29).

Community participation is high (20.2 per cent of statewide participation figures in 2016) and increased over three years. Funding available to community NRM groups (including industry) through the CMA was in excess of \$1.6 million in 2017-18.

Diverse stakeholders are now represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked. In 1990, government devolved significant responsibilities and decision-making to regional and local communities to determine their own futures in the face of emerging salinity problems, but trends since are towards less devolution. Traditional Owners are participating more in high-level decisions and there is significant scope for greater involvement if more funding becomes available.

Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support. For example, since 2010, the Farm Water Program resulted in 618 irrigation farm modernisation projects, but this has now finished. Funding for agencies to provide coordinated support for local community groups and individuals is uncertain and volunteer participation in government programs is dropping off in some locations. The 2018 change in the Australian Government's investment model (including the National Landcare Program) to pay for projects in arrears will impact on volunteer community NRM groups ability to participate in CMA-led projects.

Assessment criteria

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

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

Ratings in the following table are explained in investment area reports as referenced in the right-hand column. Appendix 1

| Catchment condition summary | | | |
|-------------------------------|--------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1990 | 2018 | Long-term risk ⁱ | Snapshot |
| Investment area ⁱⁱ | | | |
| Land | | | The increased awareness of how soils can be improved is being applied on many farms. The purpose and use of private and public land have generally improved (especially grazing in sensitive areas). Catchment-wide invasive plant and animal management is now mainly focused on new and emerging species and complementing community activity. Under present arrangements, there are high and increasing long-term risks in hot-spot areas from existing and emerging threats like deer in the foothills and feral horses in Barmah National Park. |
| Poor | Satisfactory | Medium | |
| Waterways | | | Water quality and fish populations have improved significantly from changes such as stock-grazing and fish-barrier removal, resnagging of streams, tree planting, and the delivery of water for the environment. Despite increasing waterbird habitat in the Goulburn Broken Catchment through environmental flows, populations of many species across the MDB seem to be declining. Streambank vegetation and critical habitat in the lower Goulburn River is at increased risk from high unseasonal flows. Managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected MDB. Waterways are also subject to increasing recreation pressure. Local and regional agency and broader community partnerships associated with waterway management are strengthening. |
| Very poor | Satisfactory | Medium | |
| Floodplain management | | | Condition is highly variable now, with significant floodplain management improvements in some geographic areas and others yet to be implemented (although on schedule). As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management, annual average damages and social trauma have significantly decreased. |
| Very poor | Satisfactory | Medium | |
| Biodiversity | | | While onground native vegetation improvements have made positive changes on about 0.6 per cent of the Catchment's private land in the past 10 years, the scale is not sufficient to support all current species of flora and fauna. Ongoing clearing, new and existing invasive pest plants and animals, and other threats continue to add to the large-scale habitat loss and degradation caused by historic clearing. |
| Very poor | Poor | Very high | |
| Community | | | Diverse stakeholders are now represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked. In 1990, government devolved significant responsibilities and decision-making to regional and local communities to determine their own futures, but trends since are towards less devolution. Traditional Owners are participating more in high-level decisions and there is significant scope for greater involvement if more funding becomes available. Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support. Funding for agencies to provide coordinated support for local community groups and individuals is uncertain and volunteer participation in government programs is dropping off in some locations. |
| Satisfactory | Satisfactory | Medium | |
| Sustainable irrigation | | | The socio-economic condition of the Shepparton Irrigation Region has depended on highly productive and efficient irrigated agriculture, underpinned by available water. Risks to water availability for agriculture are now very high, threatening farm and regional viability. While many localities are feeling the brunt of declining water availability, others are adapting to a future with less water. As the social-ecological system transforms, risks and opportunities for managing natural resources are emerging, such as volume and timing of streamflows. Downstream water demand is creating risks from high unseasonal flows. While some riverine ecosystems and pockets of the remaining three per cent of native vegetation on farmland are improving through intervention, the most threatened ecosystems and species associated with private land continue to be at high risk, exacerbated by incremental clearing in recent years. Water quality has improved significantly, and onground works and long-term dry conditions have stabilised watertables, at least for now. |
| Poor | Poor | High | |

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

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

describes the analytical framework. Ratings legend is inside front cover.

| Resilience assessment | | | | | | Long-term strategy implementation | Details page |
|------------------------------------------------------------------|-----------------------------------|--------------|---------------------------|------------------------------------|------------|-----------------------------------|--------------|
| Critical attribute affecting long-term resilience ⁱⁱⁱ | Contribution to system resilience | | Risk to system resilience | | | | |
| | 1990 | 2018 | Trend 2015-18 | Long-term (10+ years) ⁱ | | | |
| | | | | Current support | No support | Stage | |
| Soils for agriculture | Very poor | Satisfactory | Stable | Medium | High | Middle | 56 |
| Purpose and use of private land | Poor | Satisfactory | Stable | Medium | High | Watch & maintain | 57 |
| Purpose and use of public land | Poor | Satisfactory | Stable | Medium | High | Watch & maintain | 57 |
| Invasive plants and animals | Satisfactory | Poor | Risk increasing | High | Very high | Middle | 57 |
| Streamflows and wetland inundation: | | | | | | | |
| - Dammed (regulated) streams | Very poor | Poor | Risk increasing | Medium | Very high | Early | 33 |
| - Undammed (unregulated) streams | Very poor | Poor | Stable | High | Very high | Middle | 33 |
| Streamside (riparian) vegetation | Very poor | Satisfactory | Risk declining | Low | High | Late | 33 |
| Water quality | Very poor | Satisfactory | Stable | Medium | High | Watch & maintain | 34 |
| Fish passage and habitat | Very poor | Satisfactory | Risk declining | Low | Medium | Late | 34 |
| 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 to influence and lead | Good | Satisfactory | Risk increasing | High | Very high | Escalated response ^{iv} | 27 |
| Community capacity to be involved and act onground | Poor | Satisfactory | Risk increasing | Medium | High | Watch & maintain | 27 |
| Water availability for: | | | | | | | |
| - The environment | Poor | Satisfactory | Risk increasing | Medium | High | Early | 64 |
| - Agriculture | Good | Poor | Risk increasing | Very high | Very high | Escalated response ^{iv} | 65 |
| Water quality | Very poor | Satisfactory | Stable | Medium | High | Watch & maintain | 65 |
| Watertables | Poor | Satisfactory | Stable | Medium | High | Late | 65 |
| Native vegetation extent | Very poor | Very poor | Risk increasing | High | Very high | Early | 65 |
| Farm and regional viability | Good | Satisfactory | Risk increasing | High | Very high | Escalated response ^{iv} | 66 |

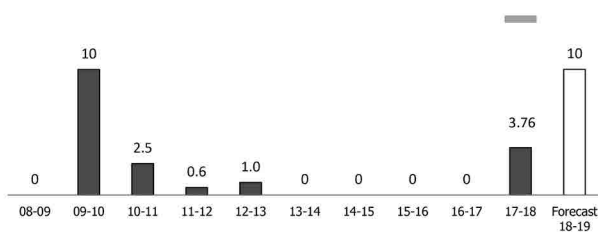
iii. Many critical attributes relate to the 20 to 30-year objectives listed in Goulburn Broken CMA sub-strategies (Level 2 of Regional Catchment Strategy objectives hierarchy; see pages 19 and 20).

iv. Category of 'escalated response' recognises a significant shift in the situation and is included for the first time in this annual report.

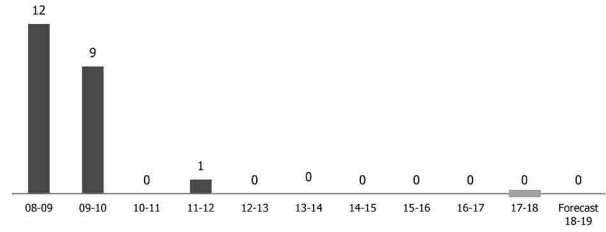
Outputs achieved 2008-09 to 2017-18 and forecast 2018-19

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

Irrigation drains built, km

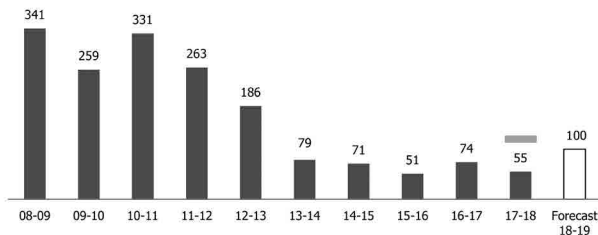


Groundwater pumps installed, no.

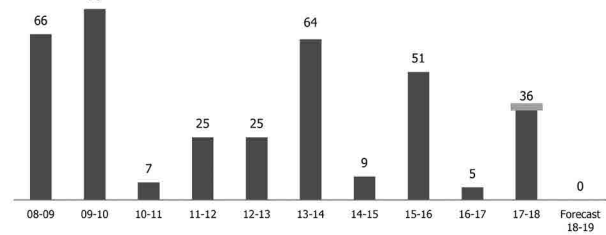


While core actions of the 1990 salinity plan continue to be implemented (page 63), renewed funding for these actions will see delivery on irrigation drains over the next two years.

Whole farm plans prepared, no.



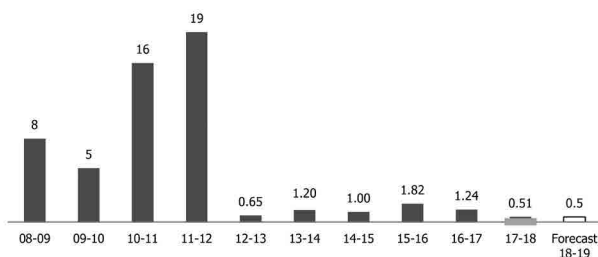
Reuse systems installed, no.



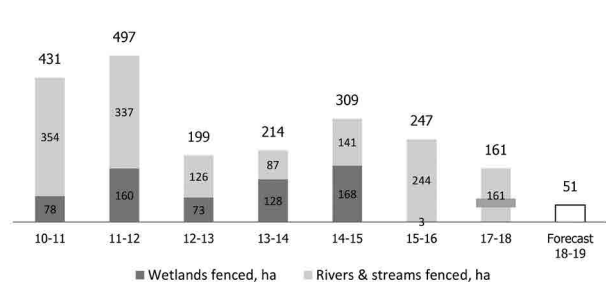
Whole farm plan commitment levels remain high and following changes in the irrigated landscapes, should see increased outputs continue in 2018-19.

There is no direct investment in reuse systems for 2018-19.

River or stream bed & bank protection actions, km



Riparian land fenced, ha



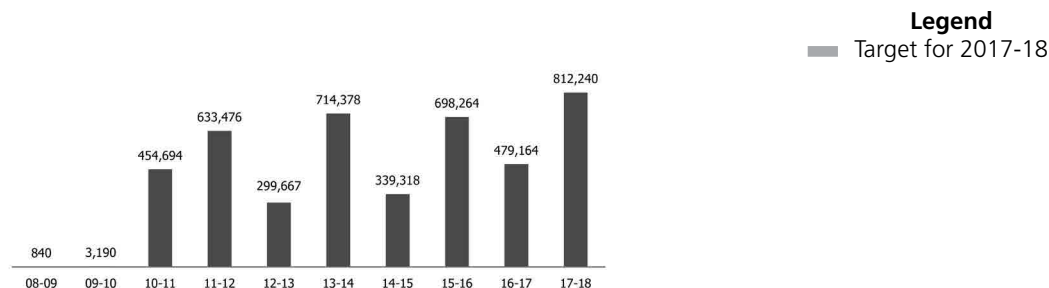
Hard engineering approaches are used less now, with a preference for vegetation. In the absence of significant floods, recent trends are expected to continue.

Support of anglers and the Regional Riparian Action Plan resulted in a better than expected outcome for 2017-18.

Note on forecast targets:

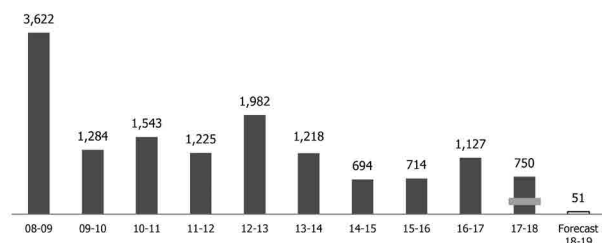
Forecast output targets are generally lower than what was achieved previously because they are based on indicative rather than actual funding received. Forecasts are based on outputs from project submissions for 2018-19 and funded projects as at June 2018. Forecasts may change as new funding opportunities arise and project submissions are negotiated.

Environmental water use, ML



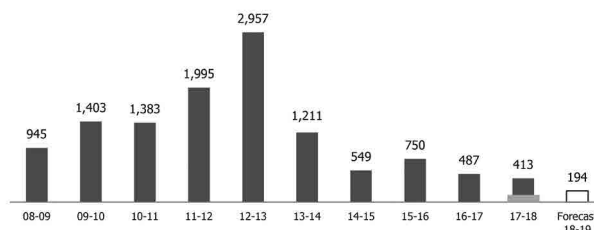
Annual environmental water use is influenced by seasonal conditions and environmental water availability (page 41).

Remnant vegetation fenced, ha



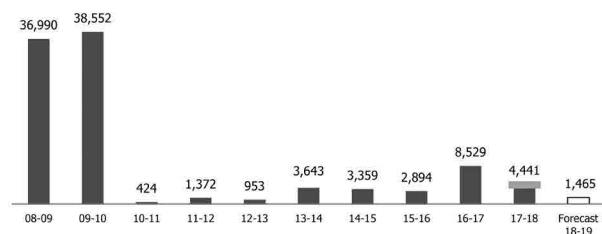
This year's fencing was mainly through Victoria's Our Catchments Our Communities and Waterways programs.

Indigenous revegetation (planted), ha



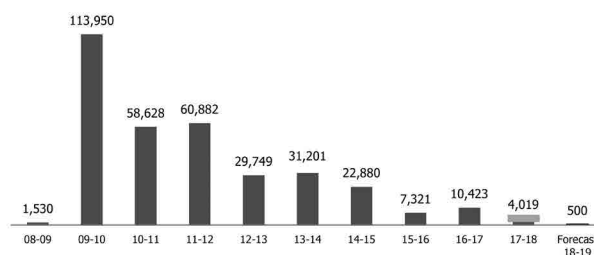
There is still significant community interest in revegetation. Direct seeding is currently the dominant method because it adapts better to seasonal conditions.

Weeds treated, ha



DEDJTR's Biosecurity Victoria's Pest Plant 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) | | | | 2017-18 performance ^{iv} (outputs) | Details page |
|--------------------------------------|-----------------------------------------------------------|------------------|------------------|---------------------------------------------|---------------------------------------------------|-----------------|
| | 2015-16 \$000 | 2016-17 \$000 | 2017-18 \$000 | Forecast ⁱⁱⁱ 2018-19 \$000 | | |
| Community and the Environment | | | | | | |
| Community ^v | 537 | 537 | 536 | 502 | On target | 26 |
| Sustainable irrigation | 13,645 | 24,365 | 21,315 | 6,040 | On target | 63 |
| Waterways | 5,626 | 4,224 | 4,571 | 5,217 | Exceeded target | 31 |
| Floodplain management | 894 | 861 | 1,079 | 940 | On target | 43 |
| Biodiversity | 3,517 | 3,358 | 2,626 | 2,142 | Exceeded target | 48 |
| Land | 766 | 762 | 814 | 440 | On target | 55 |
| The Business (Corporate) | | | | | | |
| Governance ^{vi} | 1,694 | 1,564 | 1,214 | 1,445 | On target | 80 |
| Human resources ^{vii} | 5,840 | 6,234 | 6,464 | 6,415 | On target | 73 |

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 and any subsequent adjustments over the financial year. Outputs are described in Appendix 4 on page 132.

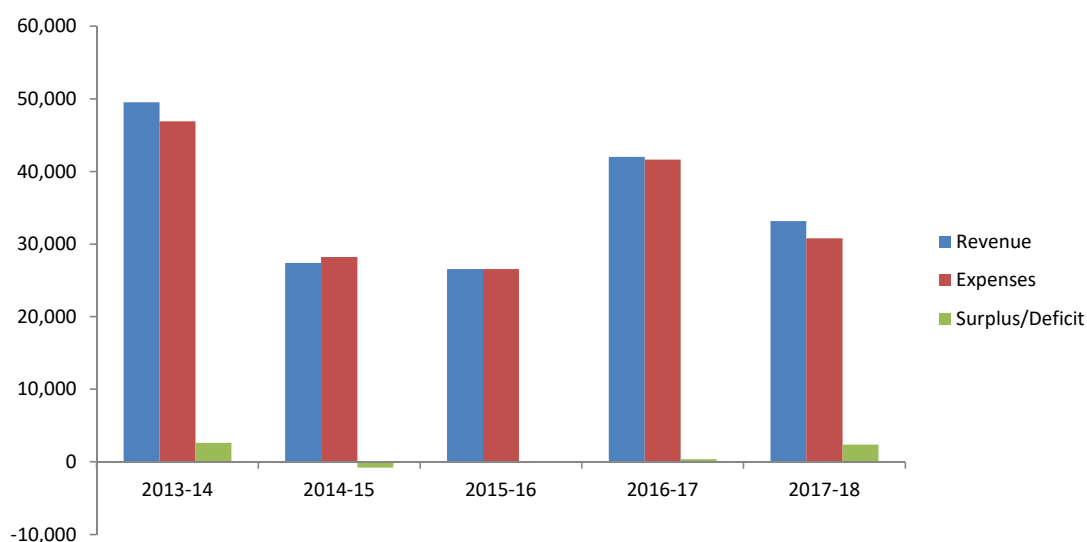
v. In addition to specific expenditure, community engagement is integrated into the delivery of outputs across all investment areas outlined above.

vi. The approach to calculating Governance was revised for the 2016-17 Annual Report to align with note 2.2.1 in the financial statements.

vii. These are costs rather than investments. Costs are embedded within other investment areas.

Financial summary 2013-14 to 2017-18, \$000 ⁱ

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



Aggregate output performance across all investment areas in 2017-18

| Output ⁱ | Achieved | Target ⁱⁱ | Performance | |
|-------------------------------------------------------------|----------|----------------------|-------------|-------------------|
| | | | % achieved | Rating |
| Remnant vegetation fenced, hectares | 750 | 253 | 296 | Exceeded target |
| Wetlands fenced, hectares | 0 | 8 | 0 | Well below target |
| Rivers and streams fenced, hectares | 161 | 49 | 328 | Exceeded target |
| Riparian land fenced, hectares | 161 | 57 | 282 | Exceeded target |
| Long-term conservation agreements, hectares ⁱⁱⁱ | 104 | 60 | 173 | Exceeded target |
| Indigenous revegetation planted, hectares | 413 | 161 | 256 | Exceeded target |
| Irrigation drains built, kilometres | 3.76 | 14 | 27 | Well below target |
| Reuse systems installed, numbers | 36 | 37 | 97 | On target |
| Laser levelling, hectares | 3,979 | 7,261 | 55 | Below target |
| Groundwater pumps installed, numbers | 0 | 0 | - | - |
| Weeds treated, hectares | 4,441 | 4,257 | 104 | On target |
| Rabbits and foxes treated, hectares | 4,019 | 3,878 | 104 | On target |
| Environmental water use, megalitres | 812,240 | | 0 | - |
| River or stream bed and bank protection actions, kilometres | 0.51 | 0.00 | 0 | Exceeded target |
| Fishway structures installed and barriers modified, numbers | 0 | 0 | - | - |
| Threatened species projects, numbers | 0 | 0 | - | - |
| Whole farm plans prepared, numbers | 55 | 120 | 46 | Well below target |

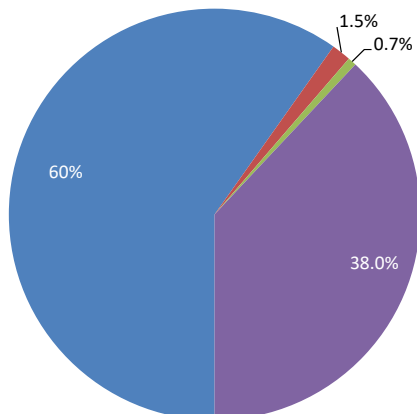
- i. Outputs shown in this table are derived from the more detailed set in Appendix 4 on page 132, including the full list of footnotes. Appendix 1 describes the analytical framework. Ratings legend is inside front cover. Detailed outputs are listed in sections devoted to each investment area throughout this report.
- ii. Targets are determined by considering levels of government funding as listed in the Corporate Plan and any subsequent adjustments over the financial year.
- iii. These are shown as 'Binding management agreements' in the detailed outputs on page 132. This target will only be reported once covenants are on title, which takes more than 12 months.

Descriptions of output performance

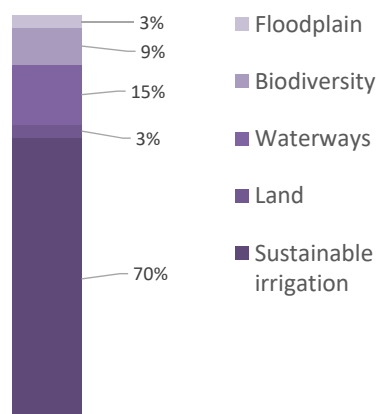
Investment area details in the community and environment section pages 18 to 72 describe actions undertaken in 2017-18 and illustrate integration between programs, government agencies and priorities, regional authorities, community organisations and individuals.

Goulburn Broken investment share ^{i, ii}

- Community investment
- Government investment - The Business (Governance, Environmental footprint)
- Government investment - The Business (Community engagement)
- Government investment - The Environment



Government investment - The Environment



- i. See bar chart on page 26 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 Rod McLennan

This section reports on the planning approach and implementation against 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, fires, 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 CMA has increased focus on the general resilience of the Catchment, with key principles:

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

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

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

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

Level 2 includes the long-term (20 to 30-year) biodiversity, land, water and people objectives, which are found in the relevant sub-strategies developed by the Goulburn Broken CMA, in consultation with the Catchment community.

These objectives define what is to be achieved within the different 'asset' classes of biodiversity, land, water and people, which feature in how the Goulburn Broken CMA structures investment and reporting (see scorecard on pages 12 and 13).

The Goulburn Broken CMA values its theme-based RCS sub-strategies that include long-term objectives for one or more of these asset classes and detailed context and direction for investing in onground action. (See the diagram page 20 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.

Local (social-ecological system) plans

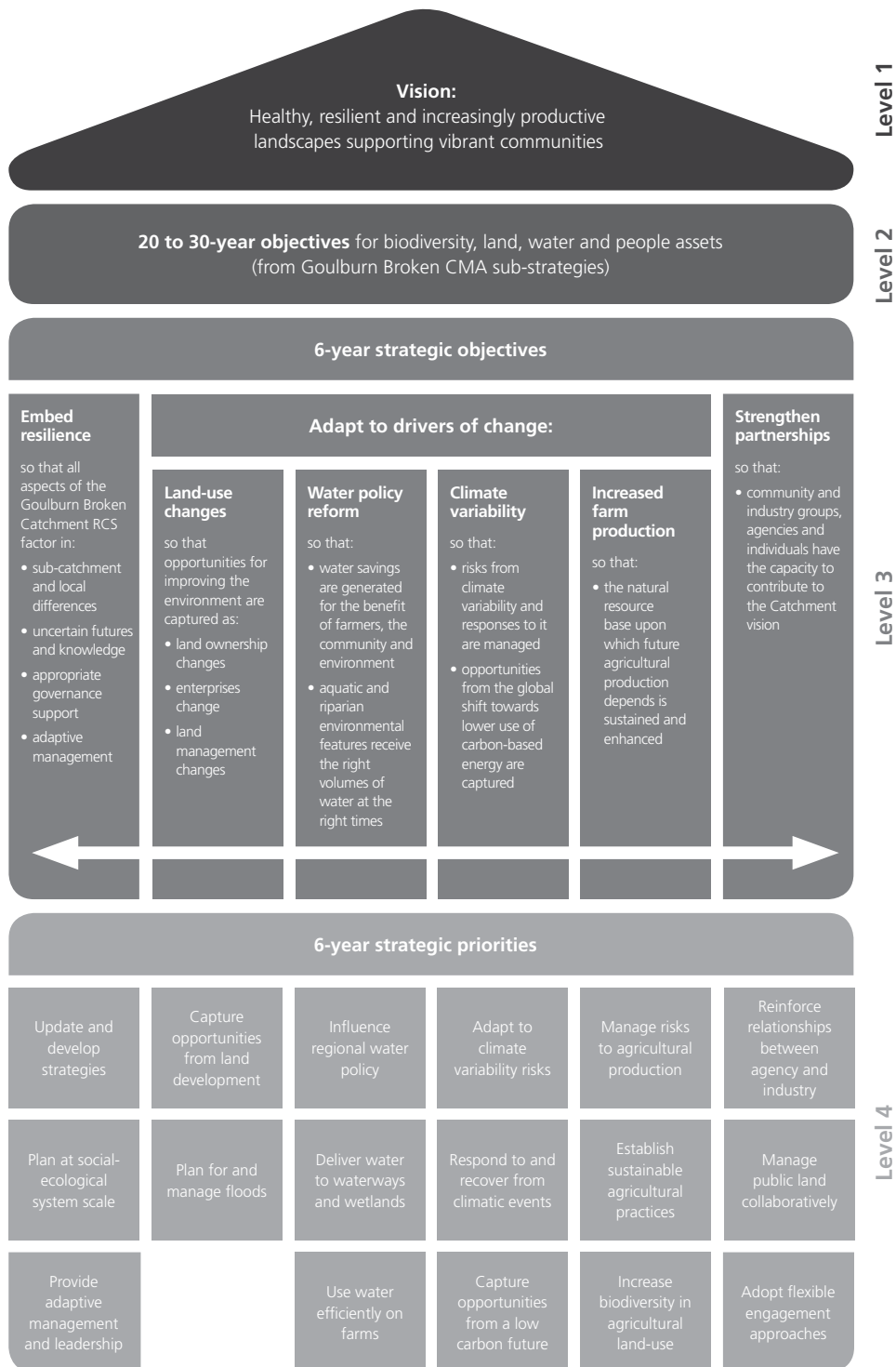
Areas with generally consistent elements of people and nature, including relationships between them, are called **social-ecological systems** (SES; see map on page 6). Elements include landform, vegetation types, land uses, social structure and dynamics.

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

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

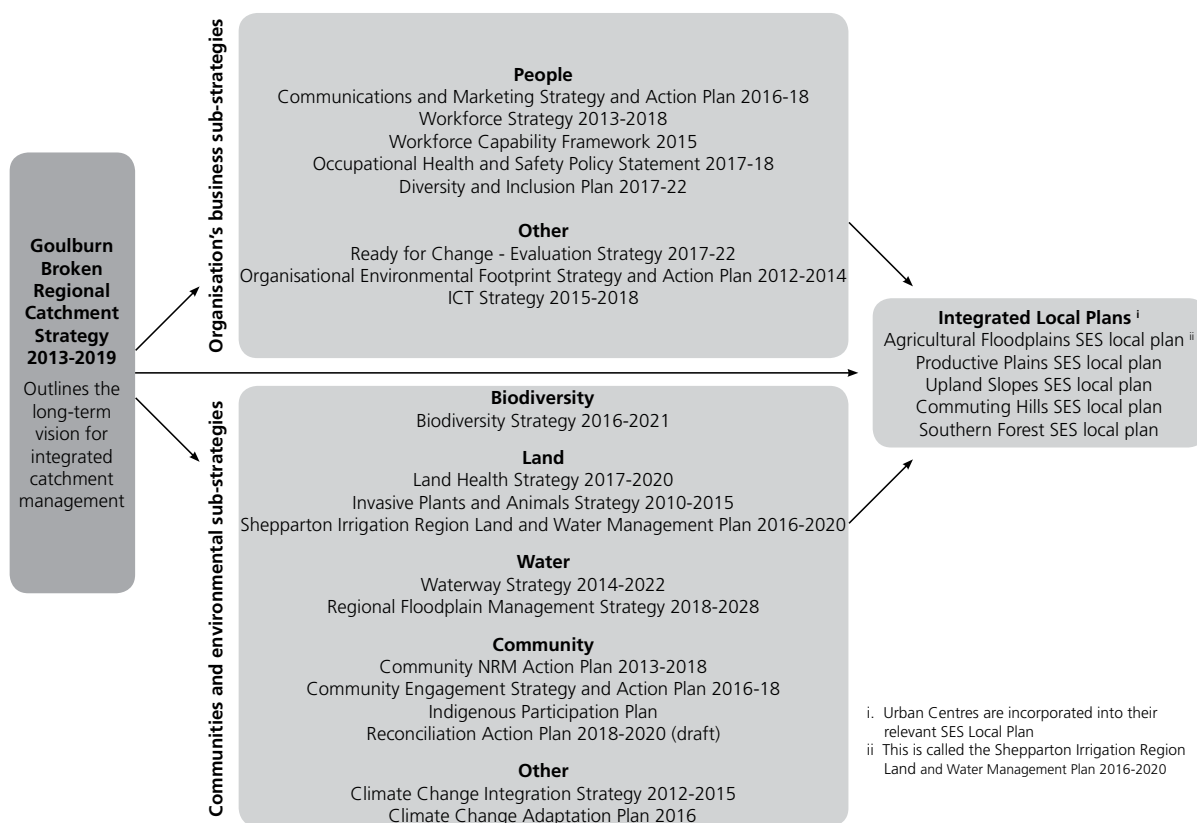
To learn more and have your say about the RCS, sub-strategies and local plans, visit the Goulburn Broken CMA's WeConnect strategy site <http://weconnect.gbcma.vic.gov.au>

Regional Catchment Strategy 2013-2019 objectives hierarchy



Regional Catchment Strategy and sub-strategies structureⁱ

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



i. Urban Centres are incorporated into their relevant SES Local Plan
 ii This is called the Shepparton Irrigation Region Land and Water Management Plan 2016-2020

Long-term strategy implementation progress and 2017-18 performance

Progress towards the RCS's 20-30 year objectives (level 2) are shown in the long-term scorecards (see pages 12 and 13) 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.gbcm.vic.gov.au

The table below summarises key achievements since 2013 and 2017-18 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 | 2017-18 performance Corporate plan priority | Details page |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 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. | 24 |
| Strathbogie Community Bushfire Planning group was established. | Continue to respond to natural disasters as and when they occur, and seek opportunities to secure long-term funding for these increasingly frequent natural events. | 44 |
| Drought Recovery Program implemented. | Take a leadership role across the Victorian CMAs to support a collective approach to the implementation of the regional NRM Adapting to Climate Change plans. | 25 |
| | Undertake the scheduled review of the Goulburn Broken CMA's Climate Change Integration Strategy. | 25 |

| Long-term RCS implementation progress Key achievement from 2016 mid-term review | 2017-18 performance Corporate plan priority | Details page |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 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 three years</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. | 46 |
| | Continue to support Whole Farm Planning in the Agricultural Floodplains as a crucial regional planning tool applied at a farm scale. | 66 |
| | Finalise the Goulburn Broken Floodplain Management Strategy. | 44 |
| | Implementation of the Floodplain Management Program. | 43 |
| Strategic objective: Adapt to water policy reform | | |
| <p>Strategic Connection Project is creating a modernised irrigation system.</p> <p>Priority environmental water flow targets are met annually.</p> <p>Wetland areas protected as part of whole farm planning approval processes.</p> | Develop and implement a comprehensive and targeted communications strategy to be delivered in 2017-18 to support the achievement of the above strategic objective. | 29 |
| | Seek DELWP and Ministerial direction on progressing community engagement with those who may be directly affected if the Goulburn River Constraints project proceeds. | 42 |
| | 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 and ensure that our natural resources are utilised in the most sustainable manner. | 66-68 |
| | Rollout of Round 5 Farm Water Program, including negotiations with State and Australian Governments on a modified approach to a possible Round 6. | 69 |
| | Development and implementation of 2017-18 Seasonal Watering Plans including associated long-term monitoring programs to demonstrate the impact of environmental water. | 36-37 |
| | Selling the story of environmental water (including articulating multiple benefits) and the importance of healthy waterways. | 38 |
| | Implementation of the River Health program including delivering on the State Government's Regional Riparian Action Plan. | 37-38 |
| | Upgrade the model for Whole Farm Plan delivery to ensure it meets latest technology and continues to deliver integrated catchment management at a farm scale. | 66 |
| Strategic objective: Adapt to increase farm production | | |
| <p>Conservation Networks and Landcare Groups in the Goulburn Broken run hundreds of events each year.</p> <p>Partnership projects such as woodlands and wetland protection, threatened species and various Conservation Management Network initiatives have been completed.</p> <p>Continued support of the Dookie Seedbank.</p> | Implement the Goulburn Broken Biodiversity Strategy 2016-2021 that seeks to improve ecosystem resilience including for the priority species that live within them. | 50-53 |
| | Continue to contribute to development of the State Biodiversity Strategy. | 52 |
| | 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. | 51 |
| | Shallow watertable management adjustment and communication of salinity as an ongoing threat and rollout of the outputs from the Shepparton Irrigation Region Shallow Watertable Adaptive Management project. | 67 |
| | Deliver the onground works as highlighted in the updated Shepparton Irrigation Region Drainage Strategy. | 67 |
| | Support the rollout of the Plan2Farm project across the irrigation landscape to assist farmers with best decision making with the NCCMA as the lead. | 66 |

| Long-term RCS implementation progress Key achievement from 2016 mid-term review | 2017-18 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 7 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 are 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 23 and a summary of the status of RCS sub-strategy updates in Appendix 8.</p> | <p>Delivery of Our Catchments Our Communities - Integrated Catchment Management in Victoria 2016-19 including the onground works through the Linking Lower Goulburn project in the Agricultural Floodplains and Bogies and Beyond in the Productive Plains/Upland Slopes.</p> <p>Identify and implement approaches to increase innovation and continuous improvement across the organisation including the implementation of the CMAs revised Monitoring, Evaluation, Review and Improvement Strategy 2017-2021.</p> <p>Continued development and implementation of business systems (in consultation with other CMAs) that support a resilient organisation.</p> <p>Ongoing investigation of opportunities to respond efficiently and effectively to increasing governance requirements with limited resources.</p> <p>Development and implementation of the Goulburn Broken CMA Diversity and Inclusion Plan in response to the Victorian Government's Diversity and Inclusion Plan Framework for Catchment Management Authorities.</p> | <p>22</p> <p>23</p> <p>80</p> <p>80</p> <p>74</p> |
| 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 Shepparton Irrigation Region People and Planning Integration Committee (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>Partnerships with 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> | <p>Maintain the strong focus on partners and their role in RCS implementation across the Catchment.</p> <p>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.</p> <p>Implement the Goulburn Broken CMA Community Engagement and Communication and Marketing Strategies.</p> <p>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). This includes the development of significant projects aligned to priorities of the Commonwealth and relevant State Governments.</p> <p>Finalise and implement the MOU with Taungurung Clans Aboriginal Corporation (TCAC).</p> <p>Endorsement by TCAC and Yorta Yorta Nation Aboriginal Corporation (YYNAC) of the Goulburn Broken CMA Indigenous Participation Plan that defines the cooperative relationship between Traditional Owners YYNAC and TCAC, and the Goulburn Broken Catchment Management Authority (Goulburn Broken CMA), with respect to participation activities, programs, and partnerships within the Goulburn Broken Catchment</p> | <p>20-23</p> <p>27</p> <p>29</p> <p>29</p> <p>28</p> <p>28</p> |

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 development 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 132) and to summarise progress via long-term scorecards since 2005-06 (see page 12) 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 2017-18 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. 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 two 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 Victoria 2016-2019. In 2018-19, 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 and the finalisation of the first project. 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.
- input into the development of the Regional Catchment Strategy renewal guidelines.
- improve our understanding of the social ecological systems across the Catchment.
- increase our understanding of general resilience; how to use it in communication and priority setting.

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 fires: 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 fires: 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 19).

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

The 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 below.)

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

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

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

2017-18 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:

- Through Our Catchments Our Communities, the Victorian Government invested \$150,000 in a Victorian-wide Catchment Carbon Offsets project (managed by the Goulburn Broken CMA). This project was completed in February 2018. The project was a collaboration between the Victorian water sector, which comprises CMAs, water corporations and DELWP. The catchment carbon offset (CCO) concept was framed around the idea of projects being designed to retain and increase carbon stocks to meet water corporations emission reductions requirement. The project will also provide environmental and social benefits consistent with the Regional Natural Resource Management Climate Change Adaptation Plan, programs and targets. The project will also utilise the tools that have been developed to identify priority areas for carbon sequestration in the Catchment.

- 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 has recently been successful in receiving funding to better understand the opportunities for Traditional Owners and CMAs to work together on sequestration projects.
- The Goulburn Broken CMA also represents Victoria on the NRM Regions Carbon Working Group, this working group identifies opportunities for NRM Groups across the country, provides feedback on national policies and reviews; and shares information across state jurisdictions.

In addition to the statewide projects the Goulburn Broken CMA has also:

- undertaken Climate Change Adaptation Pathways Planning in the Strathbogie Ranges and implementation of onground works
- continued as an active member of the Goulburn Broken Greenhouse Alliance
- completed the Goulburn Broken Adaptation Pathways project with RMIT.

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 statewide 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, Kate Brunt, Fiona Lloyd, Rod McLennan, Darelle Siekman, Tony Kubeil, Gaye Sutherland and Neville Atkinson.

Long-term and annual scorecard ⁱ

2017-18 performance On target

| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
|-----------------------------------|------|--------------|----------------|
| | | Satisfactory | Satisfactory |

Diverse stakeholders are now represented on high-level regional and local community NRM forums: farmers, Traditional Owners, local and regional government agencies, Landcare and recreation groups, and others work well in partnership and are strongly networked. In 1990, government devolved significant responsibilities and decision-making to regional and local communities to determine their own futures, but trends since are towards less devolution. Traditional Owners are participating more in high-level decisions and there is significant scope for greater involvement if more funding becomes available.

Communities, partner organisations, farmers and others have achieved significant onground changes with appropriate levels of government support. Funding for agencies to provide coordinated support for local community groups and individuals is uncertain and volunteer participation in government programs is dropping off in some locations.

| 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 | 2018 | Trend 2015-18 | Long-term (10+ years) | | | |
| | | | | Current support ^{vi} | No support ^{vi} | | |
| Community capacity to influence and lead | Good | Satisfactory | Risk increasing | High | Very high | 1990 | Escalated response ^{vii} |
| Community capacity to be involved and act onground | Poor | Satisfactory | Risk increasing | Medium | High | 1990 | Watch & maintain |

- i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
- ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
- iii. System is Community; benchmark for contribution is the desired level, as defined (formally or informally) in 2018.
- iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
- v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
- vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
- vii. Category of 'escalated response' recognises a significant shift in the situation and is included for the first time in this annual report.

Government investment, \$000

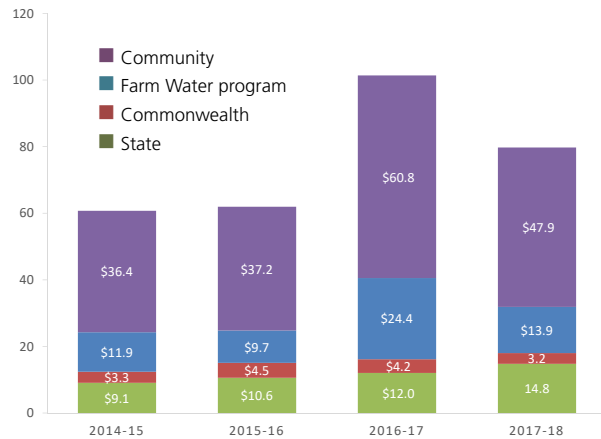
| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 537 | 537 | 536 | 502 |

i. Forecast based on the Corporate Plan 2018-19.

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 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.

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.

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. Appendix 5 (page 135) includes a table of community participation (as volunteer hours for different activities).

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

Catchment condition - Community (since 1990)

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 Plans' 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 Traditional Owner-led natural resource management businesses and employment programs.

Appendix 5 (page 135) includes a bar chart of the status of Landcare group health over the past seven years.

Long-term strategy implementation progress and 2017-18 performance

Each Goulburn Broken CMA strategic document highlights the pivotal role of people in achieving environmental outcomes. 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 to influence and lead and to be involved and act onground are critical attributes for long-term community resilience.

The Goulburn Broken CMA relies on landholders, Traditional Owners, 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.

Community capacity

Community capacity activity includes:

- Performance of landholder (especially farmer) works consistent with the RCS: works on thousands of sites covering thousands of hectares with multiple benefits. Onground works generally were on target for the given budget. See bar charts page 14 and 15.
- 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 67 and 68.
- Community organisations: 98 active groups, 12 community NRM networks; 5,089 members plus 5,640 volunteers (2016-17 Landcare survey); see also Regional Landcare Facilitator and Landcare under the Land section on page 55.
- \$1.67 million for 126 State and Commonwealth grants to community and partner organisations (see table page 29 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 finalised 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.

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 Clans Country plans, Victorian Catchment Management Aboriginal Participation Guidelines, and works agreements established between the CMA and Traditional Owners for delivery of NRM works.

Country plans prepared by Traditional Owners detail their aspirations and goals for inclusion and holistic management of their Traditional lands. The plans give direction for all parties, including NRM, education and business sectors, to: collaborate in generating a pathway for ongoing engagement and training of Indigenous people; continue building Traditional Owners' capacity and achieve parity; link 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 Program, manage natural resources on their Traditional lands, including pest plant and animal control, fencing, and ecological monitoring and surveys via their works teams, and protect 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.

Capacity building has resulted in Traditional Owners operating commercially competitive NRM works teams, who strive to secure contracts external to CMA projects. 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 educational activities. Young Indigenous people are supported to engage in traditional ecological knowledge with Elders in their community.

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. Indigenous NRM staff have also taken a leading role in the Murray Corridor Tri-State Alliance Indigenous Program, which is striving to connect communities along the Murray Corridor to support, promote and develop Indigenous-led businesses to drive economic and social change. Partner agencies and Indigenous people along the corridor participated in two forums to support this initiative in 2018. See also Chair's review page 2.

Implementing Our Catchments Our Communities

In 2016, the State Government released *Our Catchments Our Communities – Integrated Catchment Management in Victoria 2016-19*. It focuses on how catchment management partners can work better and more effectively to manage the state's natural resources.

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 Environment, Land, Water and Planning, Agriculture Victoria, Goulburn-Murray Water, Trust for Nature, Parks Victoria and 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 and a range of engagement activities. A key engagement project included the Nathalia G.R.A.I.N. Store (art gallery), Goulburn Murray Landcare Network (GMLN), Goulburn Broken CMA and Birds Australia. A series of community and school activities was delivered in the first half of 2018, built around the bush stone-curlew, the icon species that connects people and remnant vegetation. The project has also resulted in a covenanted site through Trust for Nature.

The *Bogies and Beyond* project has started implementing the extensive community planning undertaken in the first year. Activities focused on a citizen science, tree health App and commencement of onground works to protect large old trees in the Strathbogie ranges. The project also helps landholders understand groundwater and water budgeting on-farm. The Goulburn Broken Partnership Team is the Steering Committee of the Goulburn Broken *Our Catchments Our Communities* project and is provided monthly updates on progress. Other initiatives supported by *Our Catchments Our Communities* in the Goulburn Broken in 2017-18 include:

- a partnership with Mansfield and Murrindindi Shire Councils to update the Commuting Hills Local Plan
- Up2Us Landcare Network in the Mansfield area undertook kitchen table discussions and workshops with the local community to gather information to further inform the Upland Slopes local plan and implementation
- social mapping of the productive plains
- workshop with Taungurung Clan Aboriginal Corporation focused on the alignment of the Country Plan and Regional Catchment Strategy.

Awareness and information highlights 2017-18

- 51 media releases prepared with almost 100 per cent take up.
- Monthly column in the Country News (reaching more than 50,000 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, as well as in media around Yea and Alexandra to explain the many and varied reasons for changes in river heights and flows in the mid-Goulburn River.
- Continued increase in social media followers, with Facebook 'page likes' reaching 1,646 (up from 1,313 in June 2017) and followers of our Twitter account increasing to 1,401 (up from 1,159 in June 2017).
- 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 (1,300 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 EOI calls for various grants.

Tri-State Alliance

The Tri-State Murray NRM Alliance is made up of the seven NRM agencies along the Murray Corridor who are working together to build the capacity and capability of the region to 'Grow the Economy, Secure the Environment and Motivate the Community'.

In the past 12 months the Alliance brought together over 60 native fish research and delivery staff to share their expertise, map the existing works and then collectively develop whole of Murray River corridor native fish priorities. These priorities guided ongoing native fish activities and informed National Landcare Program 2 proposals. Two successful Indigenous business forums were held in Moama and Mildura to support and promote Indigenous self-determination through economic development.

A core strength of the Alliance is its connections, understanding and engagement with the Murray River communities. This expertise has been recognised by many key stakeholders and organisations with the Alliance attracting opportunities to meet with stakeholders where there is an interest in taking a whole of the Murray Corridor approach. These include Energy and Environment Minister Josh Frydenburg, the Commonwealth and State Environmental Water Holders, Murray Tourism, Murray Lower Darling Rivers Indigenous Nations and the Murray-Darling Basin Authority.

The Alliance will continue to use its resources to build the capability and capacity of the Murray Corridor in three key areas: working with indigenous groups to build their economic independence through caring for country; progress delivery aligned to the Murray River native fish priorities; and continue to integrate and coordinate engagement with Murray River corridor communities.

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 2017-18 | No. of projects | Amount paid \$ (ex GST) |
|-----------------------------------------------------------------------|-----------------|-------------------------|
| Australian Government - Biodiversity Fund | 1 | \$3,500.00 |
| Australian Government - National Landcare Program | 42 | \$904,622.39 |
| Victorian Government - Our Catchments Our Communities | 6 | \$190,027.48 |
| Victorian Government - Regional Riparian Action Plan | 11 | \$103,386.36 |
| Victorian Government - Victorian Landcare Grants | 61 | \$196,853.00 |
| Victorian Government - Victorian Water Investment Program | 3 | \$261,305.83 |
| Victorian Government - other | 2 | \$12,434.75 |
| Total Grants paid | 126 | \$1,672,129.82 |

See Appendix 7 for full list of payments made during 2017-18.

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.

What's next?

The Goulburn Broken CMA will remain vigilant in watching and responding to potential and actual changes impacting on the Catchment's communities and their capacity to contribute to NRM.

Community engagement and partnerships continue to be a priority during implementation of the RCS and is supported by:

- implementation of projects aligned to Our Catchments

Our Communities and implementation of statewide guidelines

- continuous investigation and development of the best ways to engage with the community to plan at a local scale
- inclusion of a community engagement component in all project planning and development (with a focus on the social-ecological systems)
- continued implementation of the Goulburn Broken Indigenous Participation Plan.

- increasing staff community engagement and communication capability
- review and update of Goulburn Broken CMA Communicate Engagement Strategy and Action Plan and Goulburn Broken CMA Communication Strategy and Action Plan
- continued support for statewide and national engagement and communication approaches, such as promoting the benefits of environmental flows
- engagement through TCAC and YYNAC Indigenous Consultation Groups, which have been expanded to

- include neighbouring North East and North Central CMA areas that also include Taungurung and Yorta Yorta Country
- agreement between Taungurung Clans Aboriginal Corporation and the State of Victoria (through the *Traditional Owner Land Settlement Act 2010*) for cooperative management of nominated public land areas on Country
- finalisation of the Goulburn Broken Reconciliation Plan.

Investment patterns and maturity (stages) of implementation ⁱ

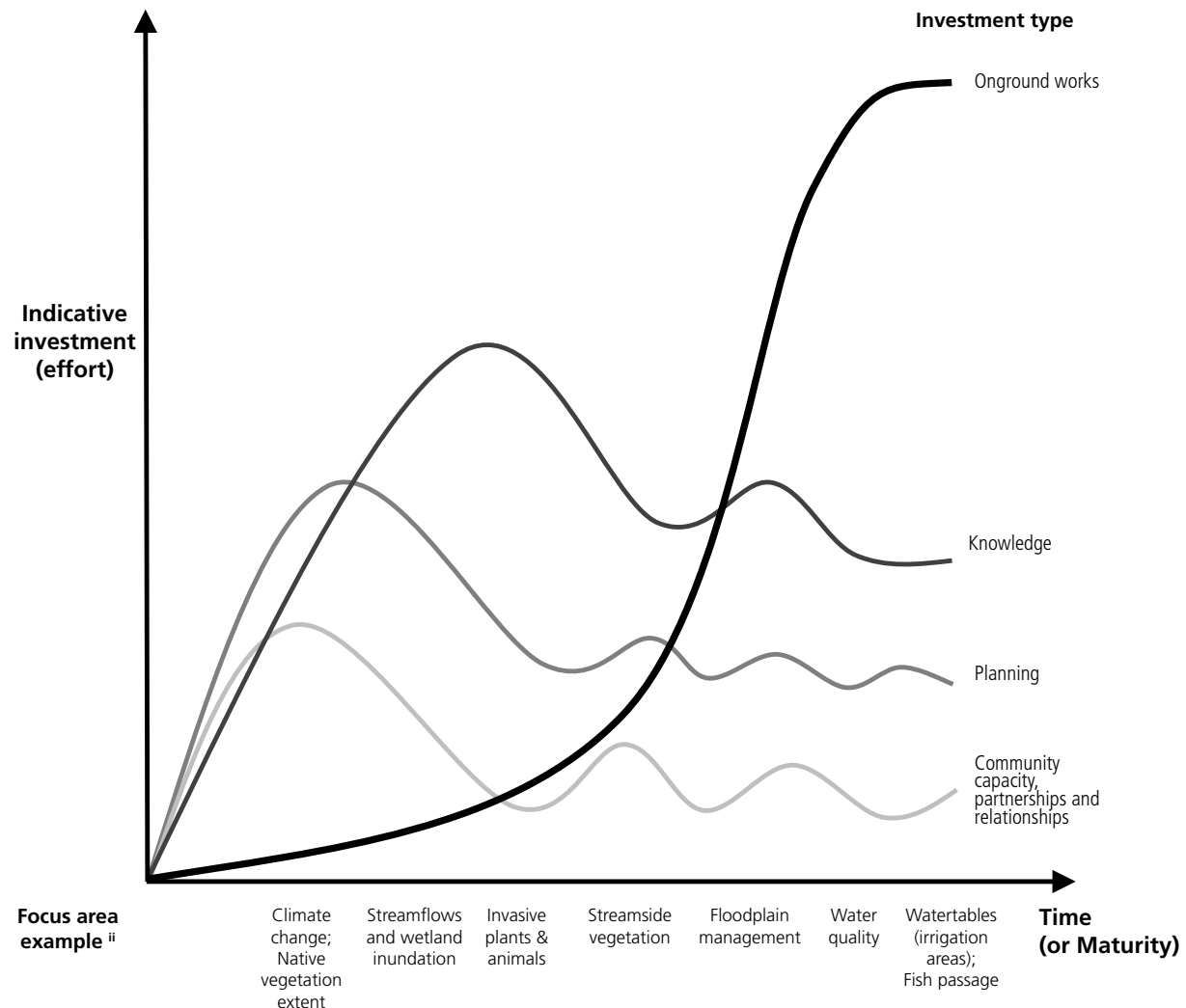
The stylised investment patterns in the graph show the Goulburn Broken CMA is at different stages of maturity of implementing approaches in various focus areas.

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 Deretic, Christine Glassford, Corey Wilson, Geoff Brennan, Sue Kosch, Kirsten Roszak, Collin Tate, Fiona Lloyd and Caroline Keenan.

Long-term and annual scorecard ⁱ

| | |
|---------------------|-----------------|
| 2017-18 performance | Exceeded target |
|---------------------|-----------------|

| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
|-----------------------------------|-----------|--------------|----------------|
| | Very poor | Satisfactory | Medium |

Water quality and fish populations have improved significantly from changes such as stock-grazing and fish-barrier removal, resnagging of streams, tree planting, and the delivery of water for the environment. Despite increasing waterbird habitat in the Goulburn Broken Catchment through environmental flows, populations of many species across the MDB seem to be declining.

Streambank vegetation and critical habitat in the lower Goulburn River is at increased risk from high unseasonal flows. Managing waterways for regional values becomes challenging because of competing priorities from other parts of the southern-connected MDB. Waterways are also subject to increasing recreation pressure.

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

| Resilience assessment | | | | | | Long-term strategy implementation ^v | |
|-------------------------------------------------------------------|--------------------------------------------------|--------------|-----------------------------------------|-------------------------------|--------------------------|------------------------------------------------|------------------|
| Critical attribute affecting long-term resilience | Contribution to system resilience ⁱⁱⁱ | | Risk to system resilience ^{iv} | | | Start | Stage |
| | 1990 | 2018 | Trend 2016-18 | Long-term (10+ years) | | | |
| | | | | Current support ^{vi} | No support ^{vi} | | |
| Stream flows and wetland inundation | | | | | | | |
| - Dammed (regulated) streams | Very poor | Poor | Risk increasing | Medium | Very high | 2011 | Early |
| - Undammed (unregulated) streams | Very poor | Poor | Stable | High | Very high | 1995 | Middle |
| Streamside (Riparian) vegetation | Very poor | Satisfactory | Risk declining | Low | High | 1997 | Late |
| Water quality | Very poor | Satisfactory | Stable | Medium | High | 1996 | Watch & maintain |
| Fish passage and habitat | Very poor | Satisfactory | Risk declining | Low | Medium | 1997 | Late |
| Community capacity to be involved and act onground ^{vii} | Very poor | Poor | Stable | High | Very high | 1997 | Middle |

- i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
- ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
- iii. System is Waterways; benchmark for contribution is the desired level, as defined (formally or informally) in 2018.
- iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
- v. Long-term strategies vary significantly in formality: 'start' approximates when holistic, integrated approach to influencing critical attribute began.
- vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
- vii. Includes regional government agency and stakeholder leadership, partnerships, and tools to change long-term directions and implement short-term onground changes.

Government investment, \$000

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 5,626 | 4,224 | 4,571 | 5,217 |

i. Forecast based on the Corporate Plan 2018-19.

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 19). The interim review of this strategy is due for completion

in 2018. Murray-Darling Basin Authority and Victorian Government water plans and strategies are pertinent references for waterways management. Appendix 8 includes a more complete list. Waterway management in regional Victoria is the responsibility of catchment management authorities (*Water Act 1989*, part 10).

Background

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

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

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

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

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

Catchment condition – Waterways (since 1990)

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

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

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

Clean water

Like much of Australia, Goulburn Broken waterways are well above thresholds for most parameters listed under the EPA's State Environment Protection Policy (Waters of Victoria), and a watching brief (mainly for sudden events and negative long-term trends) is mostly appropriate. Salinity contributions from the region comply with targets under MDBA processes.

Fish

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

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

Plants, animals and ecological communities

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

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

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

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

Vegetation: In the Barmah forest, River red gum has recovered after declining significantly during the millennium drought. Moira grass marshlands are significantly depleted. Since 2010, the cover and diversity of wetland plants has improved in response to delivery of water for the environment and natural flooding.

Fish: Stable populations of most native fish species, with silver perch possibly re-establishing in some areas and golden perch spawning. Trout cod have become more prevalent. The southern pygmy perch is suspected of becoming extinct in Barmah Forest during the millennium drought.

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

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

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

Heritage rivers

Natural, recreational, scenic, cultural and other values of heritage rivers are likely to have at least been maintained since formal declaration in 1992. They have been supported by being factored into works program priorities. Risks to Big River's values are likely to be low because of its remote location and benign landuse. Many risks to Goulburn River values have been reduced because of reduced stock grazing pressure, delivery of water for the environment and improved irrigation and drainage management. In 2010, the Victorian Government created the Lower Goulburn National Park, which has reduced grazing and firewood gathering, but increased recreation pressure.

Healthy waterways

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

High community value waterways

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

Catchment condition assessment part 2: Critical attributes of waterway resilience

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

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

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. The program responded by securing funding and implementing recovery programs and initiatives with the community. Management of critical attributes supports long-term benefits described in part 1 (page 32).

Streamflows and wetland inundation

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

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

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

down the Goulburn River for use beyond the Catchment, impacting the River's resilience.

During the unprecedented millennium drought, water was provided to major wetlands and waterways, such as Reedy Swamp, Black Swamp, Moodie Swamp, Goulburn River, Broken Creek, and Barmah Forest, providing a bridge to the return of wetter times. See the table on page 41 for environmental flows in various streams since 2007-08. Several streams experienced record floods since the millennium drought ended. The resulting floodplain-to-river connection has helped the recovery of waterways, floodplains and wetlands and associated plants and animals.

Dammed (regulated) streams

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

Undammed (unregulated) streams

Establishment of sustainable diversion limits and improved management of licensed water-use extraction for agriculture and towns through local management plans has improved flows in unregulated streams.

Streamside (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
- 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. It supports a diverse range of animals and plants. 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 stock fencing, revegetation and pest plant and animal control.

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

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

Since 1997, over 1,612 kilometres of fencing has been erected (protecting 11,782 hectares) and approximately

29,570 hectares of riparian land has been treated for weeds.

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

Water quality

In the 1996 water quality strategy, blue-green algal blooms were a key focus, and they were managed by reducing nutrient loads in waterways.

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

Since water quality strategy implementation began in 1996:

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

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

Although the processes causing these events are reasonably well understood, they are often difficult to predict and

mitigate because they are associated with intense and extensive short-term weather events. Responses are coordinated within an emergency management framework. The changing climate is likely to increase the risk of low dissolved-oxygen and hypoxic blackwater events through increasing stream temperatures, low flow, and increasing intense rainfall events during warmer months.

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. Vast areas of the upper Goulburn catchment were severely burnt in 2006-07 and most of the canopy along riparian zones were removed.

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

Fish passage and habitat

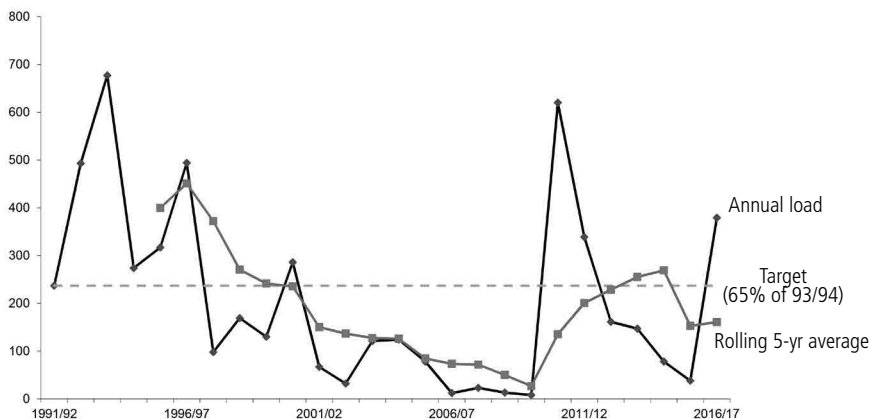
Weirs and other instream structures like vehicle crossings, which were built post European settlement, made it impossible for fish to migrate along many of our priority waterways, significantly impacting on their capacity to breed, and reducing their access to available habitat, food and shelter. The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

A total of 26 fish barriers have been removed or modified in Goulburn Broken Catchment waterways since 1997. This has opened up 868 kilometres of stream to significantly improve passage.

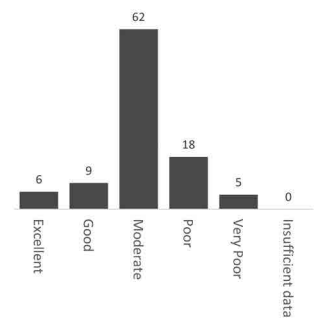
Asset owners must now consider and address fish passage when modifications to existing irrigation infrastructure, such as weirs, are planned. Some older fishways might need to have their fish-passage design improved.

Instream habitat such as snags are sometimes called the inland equivalent of coastal reefs. They provide habitat for native fish and other animals like turtles and native water rats. Snags have been removed from river systems within the Goulburn Broken Catchment in the past for

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



Index of stream condition 2010
Goulburn Broken Basin
Stream condition % length



boating safety and navigation, and in the mistaken belief that it would reduce the risk of flooding. Clearing and inappropriate management of native vegetation along streams has also led to a decrease in large woody material introduced naturally into waterways. The removal and reduction in the number of snags has been identified as a major reason for the decline of native fish populations.

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

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

Several large projects funded through the Recreational Fishing Licence (RFL) Grants Scheme and other recent projects have focused on the introduction of large wood and boulders in the mid and lower Goulburn River, Broken Creek, Hughes Creek, Seven Creeks, Holland Creek, Howqua River, and Tahbilk Lagoon: 2,322 large snags and rock have been placed in these waterways through the RFL Grants Scheme from 2011 until 2017-18.

Managing risks from works and activities on waterways

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

Index of stream condition

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

In 2010, 15 per cent of stream length in the Goulburn and Broken basins were in good or excellent condition (nine and six per cent respectively; see bar chart page 34). The overall condition had not significantly changed since 2004. Assessments of Goulburn Broken Catchment wetlands undertaken since 2009 indicate that most are in good or moderate condition (38 and 40 per cent respectively), with the remaining in excellent (six per cent), poor (15 per cent) and very poor condition (less than two per cent). The results also indicate that wetlands on public land are generally in better condition than those on private land.

Community capacity to be involved and act onground

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

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

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

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

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

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

Landholder grants uptake and ongoing participation

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

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

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

Long-term strategy implementation progress and 2017-18 performance

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

| Long-term strategy implementation progress | 2017-18 performance |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Progress in building resilience via the five critical waterway attributes varies significantly, largely reflecting the maturity of interventions, budget constraints, or uncertain knowledge when setting targets. Actions have been achieved in accordance with funds provided each year.</p> <p>The trend of a move away from hard (and expensive) engineering approaches continues, towards soft engineering, involving working more with the changes, focusing on the long-term benefits desired and the most cost-efficient way of achieving them.</p> <p>Reviews of the GBWS (in 2013 and underway in 2018) indicate that the Goulburn Broken CMA's waterways program has responded well to unprecedented fires, floods and drought by securing funding and implementing recovery actions.</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 Program and The Living Murray Initiative.</p> |
| Streamflows and wetland inundation | |
| Dammed (regulated) streams | |
| <p>Since the early 2000s, with the assistance of partner organisations and input from the regional community, the Goulburn Broken CMA has played a key role in delivering and managing water for the environment to maintain and enhance ecological values of rivers, floodplains and wetlands.</p> <p>Flow in the Goulburn River results from different delivery sources and methods. It can come from releases from Lake Eildon and Goulburn Weir, or from catchment run-off. Releases from Lake Eildon can supply water for human use and environmental needs. Water for the environment is extremely important in very dry periods, such as July to October 2016. The table on page 41 shows the annual volume of environmental water delivered within the Goulburn Broken CMA in the past 11 years.</p> <p>In recent years, the Goulburn Broken CMA has managed the delivery of environmental water to the Goulburn River, Broken River, Broken Creek, Barmah Forest and a number of priority wetlands. This has improved water quality, promoted the growth and establishment of native vegetation, promoted and supported waterbird and fish breeding, provided drought refuge for native fauna, provided habitat for native fish and water bugs, and reduced the growth of nuisance aquatic plants.</p> <p>The Victorian Government, with support from the Goulburn Broken CMA and its partners, is increasing water for the environment 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>812,870 megalitres of environmental water was delivered to support water quality, fish, macroinvertebrates, water birds, platypus, turtles and native vegetation in the Goulburn River, Broken River, Broken Creek, Barmah Forest, Moodie Swamp and Gaynor Swamp (see tables on page 41).</p> <p>Significant ecological outcomes included:</p> <ul style="list-style-type: none"> — golden and silver perch bred in the lower Goulburn River and evidence of trout cod breeding in the lower Goulburn River for the first time in approximately seven years — the growth and flowering of Moira grass and river swamp wallaby-grass in Barmah Forest, particularly within the fenced area of Little Rushy Swamp — thousands of waterbirds nested and 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>Water for the environment was delivered in accordance with VEWH processes, with assistance and cooperation of partners. Most priority watering actions were achieved at all sites.</p> <p>381,173 ML of the environmental water delivered down the Goulburn River and lower Broken Creek, continued to the Murray River to benefit downstream water quality, recreation, wetlands and rivers.</p> <p>Water for the environment was delivered to Gaynor Swamp and down the Broken River for the first time.</p> |

| Long-term strategy implementation progress | 2017-18 performance |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Streamflows and wetland inundation (continued) | |
| <p>Dammed (regulated) streams (continued)</p> | <p>308,571 ML of water in transit to the Murray River provided some environmental benefits in the lower Goulburn River and the lower Broken Creek. However, the high and prolonged delivery of water to Murray River down the lower Goulburn River between January and May had a detrimental impact on the cover and growth of lower bank vegetation.</p> <p>Significant technical studies and reports included:</p> <ul style="list-style-type: none"> — 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 — a study investigating the ecological risks and benefits of summer/autumn water transfers down the lower Goulburn River to the Murray River was completed; the study will inform the delivery and management of future water transfers down the lower Goulburn River; this will be supported by current studies into the flow requirements of lower Goulburn River bank vegetation and the impact of the high and prolonged delivery of water to Murray River down the lower Goulburn River between June and May on bank condition. — a draft FLOWS study was completed for the lower Broken Creek; the study identified environmental objectives for the creek and associated flow recommendations, and will inform the delivery, planning and monitoring of environmental water. |
| Undammed (unregulated) streams | |
| <p>The Goulburn Broken CMA has completed a number of technical studies (environmental flow determinations and streamflow management plans) on unregulated streams, including the Yea River, King Parrot Creek and Seven Creeks. They have sought to determine how available water can be sustainably shared between environmental and consumptive demands.</p> <p>In unregulated streams, water for the environment cannot be released to manage risks, such as when Macquarie perch and Trout cod were dying in the Seven Creeks due to low flow in March 2016. The Goulburn Broken CMA is investigating innovative approaches to secure flows through the Integrated Water Management Forum.</p> | <p>The Goulburn Broken CMA has been working with GMW to implement local management plans for groundwater management areas, including Eildon, upper Goulburn and Strathbogie. GMW developed these plans in consultation with the Goulburn Broken CMA and other key stakeholders.</p> <p>The activities below (streamside vegetation) contribute to the protection and enhancement of undammed streams.</p> |
| Streamside (riparian) vegetation | |
| <p>Streamside vegetation implementation programs are at a late stage of maturity after two decades of onground works and significant land tenure changes towards more passive uses.</p> <p>Since 1997, over 1,612 kilometres of fences have been erected and approximately 11,780 hectares of riparian land have been protected and/or enhanced.</p> <p>A total of 573 hectares of streamside in priority reaches were fenced in the first four years of implementing the GBWS (159 per cent of the entire eight-year target of 359 hectares), and 321 hectares of non-priority reaches were opportunistically fenced.</p> <p>The significant over-achievement against target for area is likely to be attributed to bigger than expected acceptance by landholders to fence further back from streambanks, including efficient fencing in straight lines from meander to meander rather than following them around .</p> | <p>Significant onground works were undertaken on streams flowing from the Strathbogie Ranges, including Hughes Creek, Seven Creeks and Honeysuckle 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> |

| Long-term strategy implementation progress | 2017-18 performance |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Water quality | |
| <p>The Goulburn Broken Water Quality Strategy 1996–2016 was reviewed with key contributing partner organisations. The review indicated good progress toward targets and that no major change in direction was needed. The strategic focus on water quality for the region is now covered in the Regional Waterway Strategy as one of the key components of waterway health. Institutional arrangements to manage water quality threats continue through several regional participant forums.</p> <p>There has been a change in focus to invest for the public benefits of streamside vegetation works first, rather than instream soil erosion works. In the absence of significant floods, recent trends are expected to continue .</p> | <p>The Water Quality Forum continued monitoring the flow conditions.</p> <p>Following a DELWP and EPA review, the draft State Environment Protection Policy (Waters) was released in February and regional consultation occurred in April.</p> |
| Fish passage and habitat | |
| <p>The Goulburn Broken CMA has focused on resnagging waterways to improve instream habitat. Approximately 3,750 instream habitat structures, including large wood and rock, have been added to priority waterways since 2004 (until the end of 2017-18), including the Goulburn River, Broken Creek, Hughes Creek, Seven Creeks, Holland Creek, Howqua River and Tahbilk lagoon.</p> | <p>Between January and February Lake Benalla was partially drawn down to expose and kill the aquatic weed Cabomba with the cooperation of Benalla Rural City Council and GMW. The weed smothers native aquatic vegetation that provided valuable habitat for animals, fish and water bugs. It can also clog pumps and filters. Lowering of the lake has been successful in the past and has reduced the weed population significantly. Back in 2007, Cabomba covered the majority of the lake, reducing its aesthetic, recreational and habitat values.</p> |

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

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

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

Landholder grants uptake and ongoing participation:

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

Traditional Owners: Traditional Owner participation in onground works continues to grow strongly. Traditional Owners are also more involved in policy development and setting priorities, although significantly more efforts are needed to build ongoing and consistent involvement, which requires more resources (especially at the TO end). (See also pages 27 and 28.)

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

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

General community understanding and participation

(waterways): In the last few years, several individuals and community stakeholders groups have become advocates for waterway and wetlands management activities, and have led the way by actively participating. Ninety per cent of Goulburn Broken Catchment residents are aware of Goulburn Broken CMA's role in 'managing waterways', according to a biennial statewide survey. When asked which NRM issues were of the most importance, without prompting with suggestions, 'water quality' and 'drought' were both leading issues, with large increases from 2012, while 'protecting wetlands', 'sustainability', and 'salinity management' also had increased ratings. Other surveys such as 'My Victorian Waterways' and University of Canberra's 'Regional wellbeing survey' also inform decisions.

Goulburn Broken CMA and DELWP (waterways)

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

Goulburn Broken CMA and regional agency

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

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

Community capacity to be involved and act onground in 2017-18

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

Activities to improve the health of Barmah-Millewa Forest included the coordination of 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.

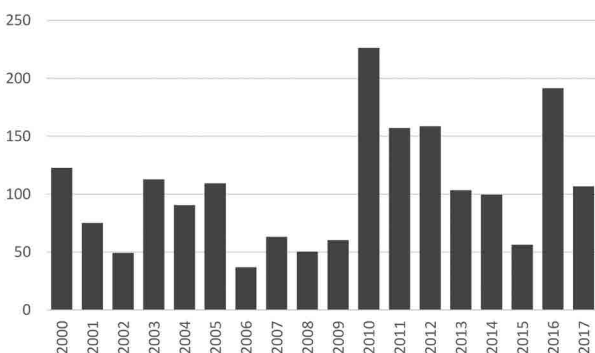
The eighth Floodplain Ecology Course was successfully held at Barmah during October, managed by the Goulburn Murray Landcare Network and Goulburn Broken CMA, with 23 participants attending the five-day course funded by Australian Government's National Landcare Program.

RiverConnect, which promotes the Goulburn and Broken rivers as the heart and soul of the Shepparton-Mooroopna community, continued to be supported. A total of 4,978 community members and school students were involved in RiverConnect awareness-raising and education programs.

Waterwatch continued as a highly successful community education, awareness raising, and water quality data collection program. A total of 7,250 students and members of the community participated in engagement events, 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, Talk Wild Trout Conference, Gone Fishing Day, Coorong, Lower Lakes and Murray Mouth Community Advisory Panel, Wentworth Croup of Concerned Scientists, Shepparton National Carp Control plan regional sessions, Murrindindi Shire Councillors, Fairley Leadership program, 2018 Catchments Summit, Myrtleford Fish Habitat Workshop, Goulburn Broken Indigenous Consultation Group, Land and Biodiversity Implementation Forum and GMW Water Service Steering Committees. In total over 1,800 people were engaged through such presentations.

Annual river inflow Goulburn Broken Catchment, mm



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

Re-engagement with past program participants continued, with 25 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.

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. RiverConnect, Angling Clubs, Arthur Rylah Institute, Waterwatch, Goulburn Valley Water, and Trely's Shepparton 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 Program, 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. Turtle-nest monitoring revealed a significant reduction in fox-predation due to baiting.

Monitoring, research and development, and adapting management in 2017-18

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

- Monitoring of threatened species continued and included recovery monitoring of Macquarie Perch in the Holland, King Parrot, Seven and Hughes Creeks and Yea River.
- Electrofishing surveys of fish populations along the lower Broken Creek were undertaken.
- Implementation of the Barmah ecological character project (funded by the Australian Government's National Landcare Program) continued 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.
- Lake Benalla, Broken Creek, Broken River and upper Broken Creek were assessed for the presence of Cabomba, an aquatic 'Weed of National Significance'.

The Living Murray program continued to fund a range of activities to improve the health of Barmah-Millewa Forest including monitoring the ecological response of birds, fish and vegetation to delivery of water for the environment. In addition, a state-funded project mapped the distribution and cover of River Swamp Wallaby-grass in six wetlands in Barmah Forest. The grass was found in only one wetland and predominantly inside a fenced area protecting it from feral animal grazing pressure.

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

responses. This information informs future planning and delivery of water for the environment.

Vegetation, water quality, water depth, waterbirds and frogs were monitored at the following sites that receive water for the environment: Reedy Swamp, Moodie Swamp, Black Swamp, Doctors Swamp, Kinnairds Wetland, Yambuna Wetland and Gaynor Swamp. The monitoring was funded by DELWP. At some of these sites, these activities were complemented with time lapse photography and static photographs at pre-determined points.

The surface elevations of Gaynor Swamp and Loch Garry were mapped using aerial images. The data will help the Goulburn Broken CMA better understand the relationship

between water depth, water extent and vegetation communities. A Portable Automated Logging System (PALS) was installed at Gaynor Swamp to relay real-time water level and quality information to the CMA. This will be used to inform environmental water planning and monitoring at the sites.

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 2015-16, 2016-17 and 2017-18

| Action | From funds received through Corporate Plan | | | | | |
|-----------------------------------------------------------------------|--------------------------------------------|---------|---------|---------|------------|-----|
| | Achieved ⁱ | | | Target | % achieved | |
| | 2015-16 | 2016-17 | 2017-18 | | | |
| Stock grazing action | | | | | | |
| Fence riparian land (= wetland + stream/river remnant below) | ha | 247 | 431 | 161 | 57 | 282 |
| Fence wetland remnant | ha | 3 | 137 | 0 | 8 | 0 |
| Fence stream/river remnant ⁱⁱ | ha | 244 | 294 | 161 | 49 | 328 |
| Fence stream/river remnant | km | 38 | 35 | 26 | 26 | 100 |
| Off-stream watering | no. | 19 | 25 | 17 | 17 | 100 |
| Nutrient-rich and turbid water and suspended solids action | | | | | | |
| Stormwater management projects ⁱⁱⁱ | no. | - | - | - | - | - |
| Instream and near-stream erosion action | | | | | | |
| Bank protection actions | km | 0.91 | 0.62 | 0.51 | - | - |
| Instream & tributary erosion controlled | km | 0.91 | 0.62 | 0 | - | - |
| Changed flow-pattern action | | | | | | |
| Environmental water use ^{iv} | ML | 698,264 | 479,164 | 812,240 | - | - |
| Weed invasion action | | | | | | |
| Weeds – aquatic weeds controlled (managed) | km | 14 | 9 | 10 | - | - |
| Habitat loss management | | | | | | |
| Rock ramp fishway | no. | - | - | - | - | - |
| Fish barrier removal | no. | - | - | - | - | - |
| Instream woody habitat - snags ^v | no. | 334 | 363 | 627 | 310 | 202 |
| Surface water action ^{vi} | | | | | | |
| Drain - primary built ^{vii} | km | - | - | 3.76 | 10 | - |
| Drain - community built | km | - | - | - | 4 | - |
| Farm reuse systems installed ^{viii} | no. | - | 5 | 36 | 37 | 97 |
| High flow drain diversion - high nutrient water removed ^{ix} | ML | - | - | - | - | - |
| Irrigation systems - improved ^x | ha | 3,553 | 4,460 | 5,174 | - | - |

i. Achievements include those from investment areas: Waterways and complementary investment areas (Sustainable irrigation, Land, and Biodiversity). Outputs delivered through each fund source are available from the Goulburn Broken CMA.

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

iii. Stormwater management projects were undertaken on a one-to-one funding basis with local government.

iv. Target cannot be set with any confidence because achievement is prone to extreme variation, being affected by climatic and seasonal conditions. Volumes used since 2000-01 were reconciled in 2014 and some figures were adjusted. The NSW component of water delivered to Barmah Forest is included in these figures.

v. Output included for the first time in 2015-16 as 'instream woody habitat - snags'. Updated to 'instream habitat' in 2017-18 to include other habitat structures undertaken in 2017-18 such as groynes and rock seeding.

vi. Surface water management enables the removal of excess rainfall runoff from irrigated lands, alleviating soil salinity. As part of an overall management plan for nutrients, nutrient loads are managed by collecting and reusing water from drains. Nutrient loads are monitored against the Goulburn Broken Water Quality Strategy nutrient target for drains.

vii. Fencing and laneways are relocated along primary drains to control stock. Drains are also hydromulched and seeded to provide vegetative cover on bare batters.

viii. Reuse dams allow for the collection of high nutrient runoff and reirrigation, reducing the water and nutrient loads leaving the farm.

ix. High flow diversion. None completed because of no demand and previous dry conditions.

x. Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area - see footnote iv) + pressurised irrigation systems (micro or drip + sprinkler).

Environmental water use

| Wetland or stream | Volume, ML | | | | | | | | | | |
|------------------------------------------|----------------------------------------------------|------------|--------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| | 2007-08 | 2008-09 | 2009-10 | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
| Barmah-Millewa Forest (Vic) ⁱ | 0 | 300 | 1,850 | 184,500 | 184,500 | 2,959 | 195,386 | 0 | 109,351 | 95,800 | 190,091 |
| Barmah-Millewa Forest (NSW) ⁱ | 125 | 0 | 520 | 243,500 | 243,500 | 0 | 167,700 | 0 | 328,044 | 158,388 | 223,919 |
| Black Swamp | 90 | 40 | 80 | 0 | 0 | 0 | 50 | 0 | 80 | 0 | 0 |
| Lower Broken Creek | Goulburn River WQ Allowance deployed ⁱⁱ | | | | 10,366 | 41,230 | 38,593 | 34,306 | 30,319 | 36,192 | 41,408 |
| Upper Broken Creek | 0 | 0 | 0 | 0 | 0 | 51 | 0 | 387 | 0 | 0 | 0 |
| Broken River | 0 | 0 | 0 | 24.2 | 0 | 0 | 0 | 0 | 0 | 0 | 1000 |
| Doctors Swamp | 0 | 0 | 40 (trial) | 0 | 0 | 0 | 0 | 0 | 594 | 0 | 0 |
| Goulburn River | 0 | 0 | 0 | 26,670 | 195,110 | 255,427 | 312,349 | 304,125 | 228,252 | 193,272 | 354,832 |
| Kinnairds Wetland | 426 | 0 | 400 | 0 | 0 | 0 | 179 | 0 | 696 | 0 | 0 |
| Moodie Swamp | 50 | 0 | 0 | 0 | 0 | 0 | 121 | 500 | 500 | 0 | 500 |
| Reedy Swamp | 544 | 300 | 300 | 0 | 0 | 0 | 0 | 0 | 475 | 0 | 0 |
| Gaynor Swamp | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 500 |
| TOTALS | 1,235 | 640 | 3,190 | 454,694 | 633,476 | 299,667 | 714,378 | 339,318 | 698,264 | 479,164 | 812,240 |

- i. 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.
- ii. Environmental water only became available for use in the lower Broken and Nine Mile Creeks in 2010-2011. Prior to this flow was managed by: regulated and unregulated flows; redirecting Goulburn River and Murray River flows through the lower Broken and Nine Mile Creeks; and deployment of the Goulburn River Water Quality Reserve.

Environmental water used during 2017-18

| Quantity, ML | Source |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Water used WITHIN the Goulburn Broken Catchment | |
| Goulburn River | |
| 235,623 | Commonwealth Environmental Water – Goulburn River System |
| 77,559 | The Living Murray Water – Goulburn River System |
| 41,650 | Victorian Environmental Water – Goulburn River System |
| Lower Broken Creek | |
| 20,309 | Commonwealth Environmental Water – Goulburn River System |
| 0 | Goulburn River Water Quality Allowance – Goulburn River System |
| 21,099 | Commonwealth Environmental Water – Murray River System |
| 0 | Victorian Environmental Water – Murray River System |
| Barmah-Millewa Forest | |
| 288,539 | Commonwealth Environmental Water – Victoria and NSW |
| 83,800 | The Living Murray allocation – Victoria and NSW |
| 0 | Barmah-Millewa Forest Environmental Water allocation |
| 0 | Victorian Environmental Water – Murray River System |
| 32,306 | River Murray Increased Flows (RMIF) – Victoria and NSW |
| 9,355 | NSW Adaptive Environmental Allowance |
| Moodie Swamp (Upper Broken Creek) | |
| 500 | Victorian Environmental Water – Broken River System |
| Gaynor Swamp (Lower Goulburn River) | |
| 500 | Victorian Environmental Water – Goulburn River System |
| Water used DOWNSTREAM that benefited waterways in the Goulburn Broken Catchment | |
| Murray River | |
| 258,062 | Inter-Valley Trade transfers (Goulburn River) ⁱ |
| 0 | The Living Murray allocation (Goulburn River) |
| 16,382 | Inter-Valley Transfers (lower Broken Creek) ⁱ |
| 165,204 | Goulburn River Unregulated Flows |
| 0 | Murray Unregulated Flows (lower Broken Creek) ⁱⁱ |
| 34,127 | Murray consumptive water in transit (lower Broken Creek) |

- i. Inter-Valley Trade 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.

What's next?

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

- 1 Strengthening relations with Traditional Owners to increase their participation at all stages of waterway management for environmental, cultural, economic, and community benefits.
- 2 Making it easier for community members to contribute to GBWS development by framing high-level goals in a way that makes them meaningful when identifying actions.
- 3 Managing water for the environment to maximise shared benefits.
- 4 Refining streamside vegetation programs as the need for new fencing nears its end-point on major streams.

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

- 1 Develop an action plan from the recommendations listed in the interim and complementary reviews, such as the Goulburn Broken Water Quality Strategy review.
- 2 Continue to implement stream-frontage works with adjacent landholders, with an emphasis on increased targeting (of waterway values).
- 3 Continue to protect and improve the ecological character of Barmah Forest Ramsar site.
- 4 Consider constructing an implementation program that delineates activities into two types: maintenance and improvement, which relates mainly to vegetation.
- 5 Continue to improve efficiency and effectiveness of delivering water for the environment by applying tight adaptive management and leveraging off opportunities provided by the Basin plan.

The Strathbogie Streams Flagship Waterways Project will continue to focus on the Seven Creeks and Hughes Creek, and other streams flowing from the Strathbogie Ranges will be also targeted through the Riparian Works Program. Priority waterways including the Goulburn, Broken, Delatite and Howqua rivers and the King Parrot, Broken and Holland creeks will be targeted in year 3 of the 4-year Onground Works Program.

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, the Murray-Darling Basin Authority, Traditional Owners and the community.

2018-19 seasonal watering proposals aim to use water for the environment for positive ecological achievement outcomes by:

- 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
- trial variable winter and spring baseflows in the lower Goulburn River to support geomorphic processes, macroinvertebrates, native fish and nutrient cycling
- 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 and frog breeding at Black Swamp, Kinnairds Wetland, Moodie Swamp, Reedy Swamp, Gaynor Swamp, Loch Garry and Doctors Swamp.

The Goulburn Broken CMA will continue to support implementation of the Goulburn River Long Term Intervention Monitoring project and the development and implementation of the Victorian river and wetland monitoring and assessment programs (VEFMAP and WETNAP).

Opportunities to better manage water transfers down the lower Goulburn River will continue to be investigated further with DELWP and partners, including the Goulburn Constraints project.

Investment area – Floodplain management

Compiled by Guy Tierney and Dean Judd.

Long-term and annual scorecard ⁱ

| | | | |
|-----------------------------------|-----------|--------------|----------------|
| 2017-18 performance | On target | | |
| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
| | 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). As more infrastructure and assets are placed within floodplains, flood impacts potentially increase, but through floodplain management, annual average damages and social trauma have significantly decreased.

| 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 | 2018 | Trend 2015-18 | Long-term (10+ years) | | | |
| | | | | 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. 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 2018.
- 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

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 894 | 861 | 1,079 | 940 |

i. Forecast based on the Corporate Plan 2018-19.

Strategic references

- Victorian Floodplain Management Strategy (2016)
- Goulburn Broken Regional Floodplain Management Strategy 2018-2028
- *Planning and Environment Act 1987*
- *Subdivision Act 1988*
- *Building Regulations 2005*
- *Water Act 1989*
- *Minerals and Resources (Sustainable Development) Act 1990*
- *Environment Protection Act 1970*

Background

Floodplain management functions, as described in Section 202 of the *Water Act 1989*, are delegated to the Goulburn Broken CMA. 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 the impacts of floods on urban and rural communities. These same techniques have been used to understand environmental flow regimes in waterway and wetland systems.

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

Catchment condition - Floodplain management (since 1990)

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

Without floodplain management, flood impacts potentially increase if infrastructure and assets are placed within floodplains. Through floodplain management, including improved flood intelligence sharing, flood mitigation and land-use planning, annual average damages and social trauma have significantly decreased.

Since 2009-10, there have been significant gains with the standard statewide format of Municipal Flood Emergency Plans, and continued gains in land-use planning and flood intelligence systems (i.e. statewide FloodZoom system). A pilot program for fit-for-purpose community information sharing (flood intelligence) is being trialled at Shepparton. The Goulburn Broken CMA is seeking to expand this trial. This dovetails with establishing a database as a statewide source of truth at a State and Commonwealth level.

Long-term strategy implementation

In early 2018, the Regional Floodplain Management Strategy was accepted as complete by the Department of Environment, Land, Water and Planning and released. This strategy will be used to prepare a four-year rolling action and investment plan for new initiatives centred around flood mitigation, total flood warning systems, land-use planning and emergency planning.

The vision of the Regional Floodplain Management Strategy is: 'Through partnerships, improve the flood resilience of the catchment's people, infrastructure, land, water and biodiversity'. 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.

This strategy has four objectives to achieve the long-term outcomes, namely:

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

There are four programs that form the basis for the delivery of the above four objectives, namely:

- flood mitigation works

- total flood warning systems
- land-use planning
- municipal flood emergency plans.

Implementation of the 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.

2017-18 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 in early 2018 was transformed and updated.

The table below provides a summary of the studies and implementation plans progressed for 2017-18. 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 2017-18

| Project name | Lead agency | Status |
|-------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flood Mitigation Work Program | | |
| Cobram East Flood Mitigation Functional Design | Moira Shire Council | Civil consultants have recently been commissioned. |
| Numurkah Functional Design for Flood Mitigation Works | Moira Shire Council | Following further rounds of community engagement, the final report has been adopted by Moira Shire that includes whole of town approach for flood mitigation. Funding under Natural Disaster Risk Management Grants Scheme was successful. Project specification in preparation for the functional design. |
| Seymour Town Levee Implementation Plan | Mitchell Shire Council | Civil design consultants Wallbridge and Gilbert are progressing the detailed design for the town levee. |
| Violet Town Flood Mitigation Detailed Design | Strathbogie Shire Council | Strathbogie Council has placed the matter on hold pending further analysis on legal liability. DELWP through the Victorian Floodplain Management Strategy is working on this liability matter. |

| Project name | Lead agency | Status |
|------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Total Flood Warning Systems | | |
| Total Flood Warning System to Numurkah | Moira Shire Council | Additional suite of rain and stream flow gauges are to be installed in the mid and upper Broken Creek catchment. The Bureau of Meteorology is set to provide flood prediction services to Numurkah. Also the MFEP has been updated with relevant flood intelligence. |
| Granite Creeks Regional Flood Mapping Project (Hume Freeway to the Goulburn River) | DELWP | Final report and deliverables have been peer reviewed and are expected to be completed in 2018. However, flood intelligence is yet to be extracted. |
| Shepparton East Overland Flood Study | Goulburn Broken CMA | Final report and mapping deliverables completed. Flood intelligence has been extracted and included in the Greater Shepparton MFEP. |
| Shepparton Mooroopna Flood Mapping and Intelligence Study | Greater Shepparton City Council | Final hydrology and hydraulic mapping report delivered in April 2017. Flood intelligence has been included in the Greater Shepparton MFEP. Also the Pilot community flood intelligence portal (HydroNET) is in its final stages. |
| Flood warning improvements for Benalla | Benalla Rural City Council | FloodSafe Guide drafted. Site-specific flood-chart information has been completed and is operational on Council's website. |
| Yea River Flood Intelligence Augmentation Study | Goulburn Broken CMA | Draft report and deliverables provided for review. |
| Whiteheads Creek Flood Intelligence and Mapping Project | Mitchell Shire Council | Draft report and deliverables have been reviewed. Flood intelligence will form the next stage of the project. |
| Flood Study of the Goulburn and Broken Rivers | Goulburn Broken CMA | At early stage. Outputs will be linked to gauge network providing flood intelligence. |
| Sunday Creek Catchment Flood Intelligence and Mapping Study | Mitchell Shire Council | Study has been tendered and the successful tenderer is being commissioned. |
| Land-use Planning | | |
| Nagambie Flood Study | Goulburn Broken CMA/ Strathbogie Shire Council | Final report and mapping deliverables completed. Data has been analysed and flood zone and overlay controls have been prepared by CMA with Strathbogie Shire Council. |
| Planning Framework for Sand and Gravel Mining in the Goulburn Valley | Goulburn Broken CMA | A model planning scheme amendment completed and published on Goulburn Broken CMA's website as an interim measure before statewide guidelines are prepared. |
| Kilmore Flood Mapping and Intelligence Study | Mitchell Shire Council | Final report and mapping deliverables completed. Data is being analysed and flood zone and overlay controls are in preparation by CMA with Local Government Authority. |
| Kyabram Flood Zone and Overlays | Goulburn Broken CMA | Mapping completed in 2018 with Local Government Authority. |
| Flowerdale Flood Zone and Overlays | Goulburn Broken CMA/ Murrindindi Shire Council | Completed in late 2017. |
| Rural flood mapping (Eildon and Nillahcootie catchments) | Goulburn Broken CMA | Final report and hydrologic deliverables completed. No flood mapping deliverables to date. |
| Hydrology of the Acheron catchment | Goulburn Broken CMA | Continuing. Project has significantly expanded to provide flood mapping for the towns of Marysville, Buxton, Taggerty and the rural rivers as a seamless single output. |
| Shepparton East Overland Flood Study | Goulburn Broken CMA | Flood zone and overlay controls not yet analysed. |
| Shepparton Mooroopna Flood Mapping and Intelligence Study | Greater Shepparton City Council | Flood zone and overlay controls not yet analysed. |
| Whiteheads Creek Flood Intelligence and Mapping Project | Mitchell Shire Council | Flood zone and overlay controls not yet analysed. |
| Flood Study of the Goulburn and Broken Rivers | Goulburn Broken CMA | Flood zone and overlay controls not yet analysed. |
| Sunday Creek Catchment Flood Intelligence and Mapping Study | Mitchell Shire Council | Flood zone and overlay controls not yet analysed. |
| Municipal Flood Intelligence | | |
| All studies will inform MFEPs | | |

Significant preparation was put into Victorian Civil Administrative Tribunal hearings where decisions to refuse to grant permits were upheld. Further, preparation of material to Planning Panels Victoria for Shepparton South led the Panel to support the Goulburn Broken CMA's view of flood mapping.

Five new major initiatives are underway: upper Broken Creek LiDAR capture (completed), Flood Study of the Goulburn and Broken Rivers, and Sunday Creek Catchment Flood Intelligence and Flood Mapping Study, new flood prediction service to Numurkah including major upgrade to the gauge network, and augmentation to the Yea Flood Study.

Works and activities within or across a waterway require a permit from the Goulburn Broken CMA to ensure risks to river health and stability are not compromised. Further, referrals made through a range of Acts occur for floodplain assessment and advice.

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 table below.

Works and operations

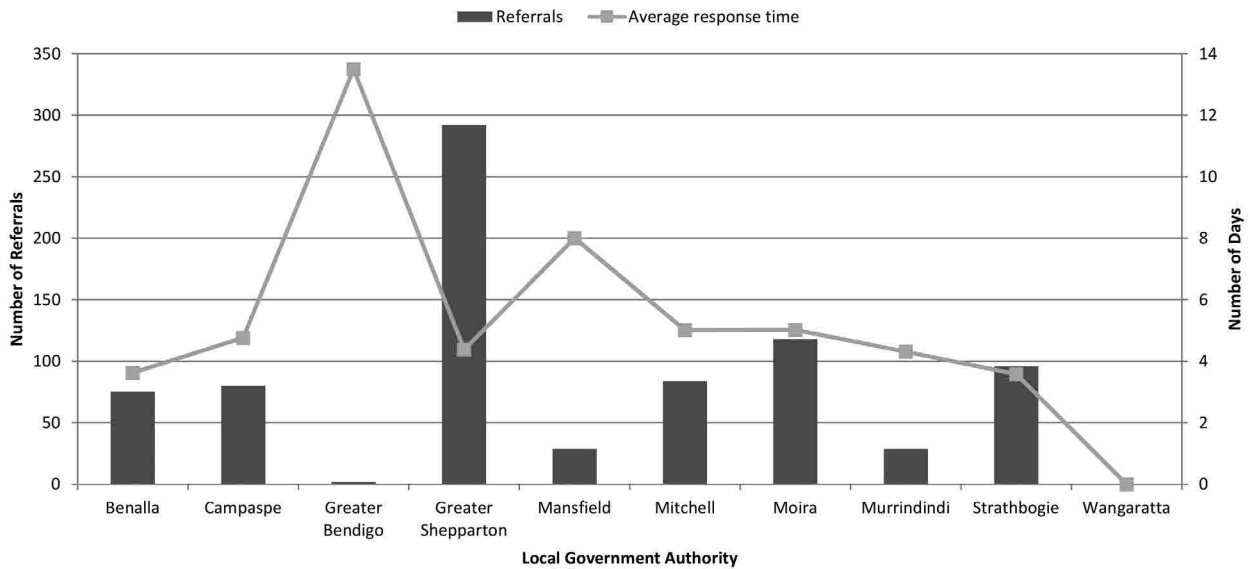
Floodplain management actions 2017-18

| Action | From funds received | | |
|-------------------------------------------------------------------------------|-----------------------|----------------|------|
| | Achieved ⁱ | % of responses | |
| Integrating knowledge into planning | | | |
| Land Use Development Direct Applications (LUD) | no. | 197 | 24.5 |
| Planning Scheme Amendment Direct Application (PSA) | no. | 4 | 55 |
| Flood Information Request Direct Applications (FIR) | no. | 44 | 210 |
| Other Direct Applications (DAOTH) | no. | 0 | 0 |
| Land Use and Development [Formal] (S 55) | no. | 407 | 50.6 |
| Land Use and Development [Advice only] (S 52) | no. | 42 | 5.2 |
| Certification of Subdivision (S 8) | no. | 41 | 5.1 |
| Statement of Compliance (S 8) | no. | 3 | 0.4 |
| Subdivision and Certification (S 55 & S 8) | no. | 13 | 1.6 |
| Notice of Planning Scheme Amendment (S 19) | no. | 11 | 1.4 |
| Victorian Building Regulations [VBRs] (R 802) | no. | 29 | 3.6 |
| Other LGA Applications (LGAOTH) | no. | 13 | 1.6 |
| Query & Notification of Unauthorised Work | no. | 0 | 0 |
| Work Plan [Minerals and Energy] (S 77) | no. | 1 | 0.1 |
| Total | | 805 | 100 |
| Victorian Civil Administration Tribunal and Planning Panels Victoria hearings | days | 9 | |
| Floodplain implementation | | | |
| Gazettal of Flood Amendment | no. | 0 | |
| Urban flood studies and management plans | no. | 4 | |
| Regional flood studies and management plans | no. | 0 | |
| Creating awareness | | | |
| Flood education and awareness program | no. | 0 | |

i. Most actions are performed reactively so no targets are set annually, however there are KPIs relating to regulatory waterway/water functions (see page 92).

Number of referrals by local government authority and average response times in 2017-18

The average response time for the 706 statutory referrals and 99 direct enquiries was 5.5 days and 7.3 days respectively. Statutory responses have been delivered within the required timeframe 99 per cent of the time.



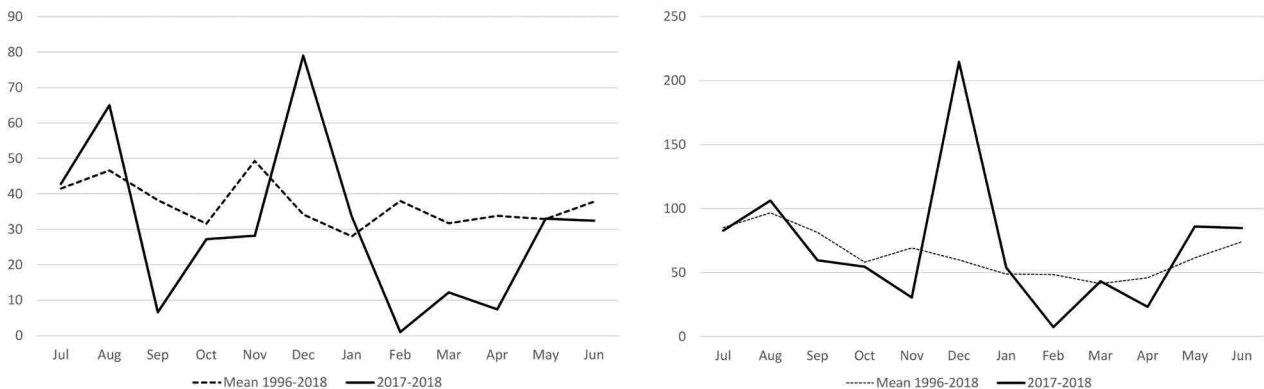
Works on waterways permits

There have been 66 permits issued for works and activities on waterways within an average response time of 20 days.

What's next?

- Flood pilot report tool for Shepparton and Mooroopna launched and expended for those most at-risk communities.
- Local government planning scheme amendments to incorporate new mapping and performance-based assessments will continue. Priorities include Benalla Rural City Council, Kilmore, Kyabram, Euroa, Nagambie, Shepparton Mooroopna and Violet Town.
- Preparation of a four-year work plan and a monitoring, evaluation, reporting and improvement plan to assist with the implementation of the Regional Floodplain Management Strategy.
- Implementation of the Victorian and Regional Floodplain Management Strategies.

Monthly rainfall 2017-18 at Shepparton airport (left) and Lake Eildon (right), mm ⁱ



i. Source: Australian Government Bureau of Meteorology.

Investment area - Biodiversity

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

Long-term and annual scorecard ⁱ

| | |
|---------------------|-----------------|
| 2017-18 performance | Exceeded target |
|---------------------|-----------------|

| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
|-----------------------------------|-----------|------|----------------|
| | Very poor | Poor | Very high |

While onground native vegetation improvements have made positive changes on about 0.6 per cent of the Catchment's private land in the past 10 years, the scale is not sufficient to support all current species of flora and fauna. Ongoing clearing, new and existing invasive pest plants and animals, and other threats continue to add to the large-scale habitat loss and degradation caused by historic clearing.

| 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 | 2018 | Trend 2015-18 | 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. 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 2018.
- 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

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 3,517 | 3,358 | 2,626 | 2,142 |

i. Forecast based on the Corporate Plan 2018-19.

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, which is reflected in their National and State Conservation Status.

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 aim to 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 SESs, 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 that reflects existing extent. For example, scientific evidence suggests that increasing extent in the Productive Plains SES to 10-30 per cent in priority landscapes (currently often less than five per cent), would be beneficial, whereas we would aim for no loss in extent in the Southern Forest SES (currently >90 per cent extent).

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

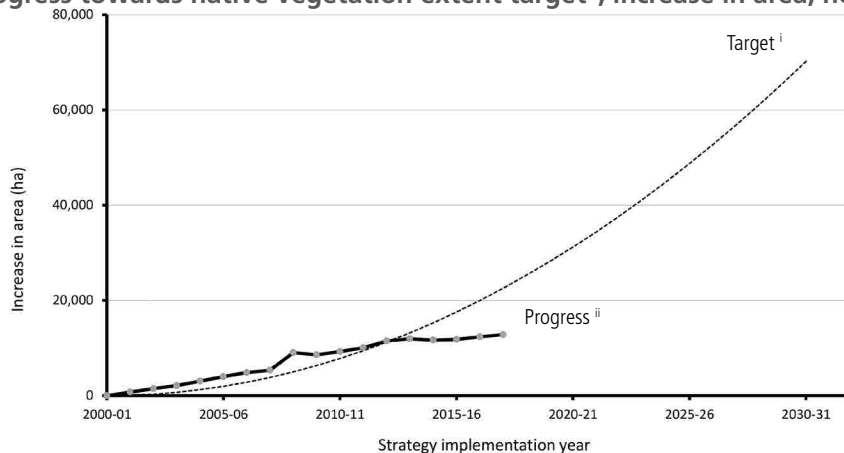
1. Increase the extent of native vegetation in fragmented landscapes by 70,000 ha by 2030.
2. Improve the quality of 90 per cent of existing (2005) native vegetation by 10 per cent by 2030.
3. Increase the population viability of 20 flagship species by 2030.

The ‘increase extent’ target is currently the only one that is measured annually because the quality and population viability targets are difficult to measure. Measurements over time for changes in extent are shown in the graph below. 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. The graph 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.

Beyond just measuring change in extent, we continue to work with scientists to try and understand changes in native vegetation condition and population viability. However, it is recognised that our understanding of whether we are creating resilient landscapes is complex. There is a range of changes to native vegetation condition and species populations 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 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.

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



- i. Resource condition target (revised 2009): Increase the extent of native vegetation in fragmented landscapes by 70,000 hectares by 2030 to restore threatened Ecological Vegetation Classes and to improve landscape connectivity. Note that native vegetation extent is just one indicator of biodiversity. Other indicators such as native vegetation quality are more difficult to measure.
- ii. Based on assumptions of gains in vegetation (such as revegetation and natural regeneration) and losses of vegetation (such as legal and illegal clearing). Vegetation burnt by major fires in natural areas is not included as a loss of extent, as it is assumed the area burnt will regenerate by 2030. However, direct vegetation removal associated with fires, such as removal of ‘high risk’ trees on roadsides and private land or death of scattered paddock trees from fire, is assumed as a loss in the net outcome in the year of the fire (for example, the 2009 Black Saturday fires, the 2014 Wunghnu fires and the 2015 Lake Rowan, Stewarton and Strathbogie fires) and includes an ongoing loss due to fire suppression activities. Detailed explanation of these assumptions can be found in the Goulburn Broken CMA’s Biodiversity Monitoring Action Plan upon request.

Long-term strategy implementation progress and 2017-18 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 31).

| Long-term strategy implementation progress | 2017-18 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 and understand outcomes of works.</p> | Goulburn Broken Biodiversity Strategy 2016-2021 being implemented. |
| | Delivering on DELWP's State Biodiversity Plan 2037 through regional funding grants, and participation in project assessment panels. |
| | Contributing to DELWP's Monitoring Biodiversity Plan and the VicEnvironments Science Sub-committee. |
| | Participated in workshops to develop a long-term monitoring strategy to understand the outcomes of onground works for the Regional Land Partnerships program (federally funded), with Griffith University. |
| | Developed two key projects for the federal Regional Land Partnerships (Federal funding for next five years) project: 1. Conservation of Grey Box Woodlands (5-year project) and 2. Management of Mountain Pygmy Possum on Mt. Buller (1-year project). |
| | Honours project through Latrobe University and CSIRO completed that looked at genetic diversity of isolated populations of Sweet Quandong (<i>Santalum acuminatum</i>), the findings of which will inform 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. |
| | 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). |
| | Biodiversity Response Planning project developed based on the priorities developed in the Box and Ironbark Alliance strategy meetings, which was ranked as the highest priority through the assessment process. |
| | Smart Farms Nature @Work application that aimed to work with farmers, Dookie College and researchers to identify value of nature to farms was unsuccessful. The Nature@Work concept will continue to be promoted. |
| Integrated catchment management is occurring through: working with Goulburn Broken CMA's Waterways and Sustainable irrigation programs: participating in steering committee meetings for working groups for the Sustainable irrigation Our Catchments Our Communities project and River and Wetland Health teams through the Strathbogie Streams Project. | |
| A project to control Noisy Miners submitted to Biodiversity Response Planning was supported by the Goulburn Broken CMA. | |

| Long-term strategy implementation progress | 2017-18 performance |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 eighth year, to ensure catchment-wide networking and planning to implement strategies, and provide training to implementers across the catchment, such as LGAs, VicRoads and Community Networks. |
| | Continued to deliver one project with North East CMA and North Central CMA (Victorian Government funded VEPP project Northern Eco Connections) (Final year 2018-19). |
| | Participated in community reference groups: Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC), Farm and Environment Working Group, 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 initially by Moira Shire Council and now by Goulburn Broken CMA and funded by the Australian Government's National Landcare Program. This initiative builds capacity of local government to play an active role in natural resource management by developing skills, knowledge and strong and collaborative partnerships. |
| | Indigenous partnerships continued to grow through attendance at Goulburn Broken Indigenous Consultation Group supporting both Taungurung and Yorta Yorta people, engagement in project development, training and employment opportunities. For example, 20 indigenous people were involved in CMA project activities. |
| | Indigenous interpretive signage was installed at Reedy Swamp (eight signs) and Mt Major, Dookie (11 signs). |
| | Supporting individual landholders: Property visits were made to finalise NLP Woodlands and Wetlands project, offering landholder extension and incentives. An EOI was sent out to landholders in the Strathbogie Ranges to carry out revegetation works, with 30 EOIs submitted for works in 2018-19. Limited resources are a barrier to undertaking routine revisits to ensure compliance and discuss ongoing site management. |
| | Seventeen community groups and networks were engaged as delivery partners: building capacity and delivering incentives and media and other community engagement projects. The groups are: five Conservation Management Networks (Longwood Plains, Broken Boosey, Whroo Goldfields, Lower Goulburn, and Strathbogie Ranges); five Landcare Networks (Up2Us, South West Goulburn, Upper Goulburn, Goulburn Murray and Gecko Clan); two Landcare Groups (Granite Creeks Project and Warrenbayne Boho Landcare Groups) and three friends groups (Regent Honeyeater Project, Superb Parrot Project and Euroa Arboretum). |
| | Threatened species have been used to promote biodiversity conservation within the community, including bush stone-curlew, fat-tailed dunnart and turquoise parrot. |
| | Participated in project assessment working groups for Biodiversity Response Planning for DELWP areas 1, 9 and 10. |
| | The Annual Landcare Community Network Report card completed with 62 per cent response rate. |
| | A citizen science project Tree Health Survey through Our Catchments Our Communities funding was launched, with 110 trees being monitored by the community through the associated Tree Health App. |
| | Cultural burning practice partnerships with YYNAC, DELWP and CFA has resulted in burning of 0.5 hectares of a grassland and agreed burning for three reserves through the Joint Fuel Management Plan in 2018-19. |
| Developed a Smart Farms proposal that included developing relationships with Dookie College, LaTrobe University, and agricultural consultant/ entomologist. This partnership will continue to develop the Nature@Work concept. | |

| Long-term strategy implementation progress | 2017-18 performance |
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| Biodiversity strategic direction 3: Investing more wisely | |
| <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 (EOI) process, which identifies project priorities of community and other partners.</p> | <p>Incentive Delivery Guidelines continue to ensure good governance of projects and are updated as required.</p> <p>Delivered Bogies and Beyond project (funded through Our Catchments Our Communities) within a resilience framework that considered climate change scenarios which has resulted in an update of the Upland Slopes SES local Plan and identification of five critical attributes and two Citizen science projects.</p> <p>Priority landscapes (developed in 2015) in the Agricultural Floodplains SES are influencing delivery of Linking 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>An EOI call for Community Networks to deliver the Australian Government's Regional Land Partnerships (RLP) program was developed so that the groups can determine how they wish to support the next RLP 5-year project.</p> <p>Strategic Management Prospects (DELWP model of species distribution) was used to assist in the development of Biodiversity Response Planning projects.</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. Strategic Management Prospects (DELWP model of species distribution) was used to assist in the development of Biodiversity Response Planning projects.</p> |
| Biodiversity strategic direction 4: Building on our ecological infrastructure | |
| <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>Finalised and acquitted seven projects delivered through the Australian Government's National Landcare Program (2015-2018). 'Building the resilience of the Barmah Forest Ramsar Site to protect its ecological character' is covered in the Waterways section (page 31).</p> <p>Building Traditional Owner Capacity and Participation: Goulburn Broken Indigenous Participation Group formed and active; Taungurung Whole of Country NRM plan completed, and 20 indigenous people attended training.</p> <p>Building NRM Community, Skills, Knowledge and Engagement project received funding of \$140,024. Box-Ironbark course held with 30 attendees including four indigenous people. Floodplain Ecology Course held with 24 attendees including four indigenous people.</p> <p>Improving the resilience of Nationally Significant Woodland and Wetland Ecosystems in the Goulburn Broken project final outputs included 721 hectares of box woodlands and 139 hectares of Seasonal Herbaceous Wetlands secured under 10-year management agreements across 56 sites.</p> <p>Building the resilience of EPBC threatened species in the Goulburn Broken Catchment project received funding of \$373,333. Total outputs achieved: 284 hectares of remnant woodlands protected, five community groups supported and 427 hectares revegetated. The Superb Parrot Project achieved 45 hectares of revegetation. The Regent Honeyeater Project achieved 256 hectares of protection and 350 hectares of revegetation across 120 sites.</p> <p>Community Directed Action Learning to Enhance Soil Ecosystem Services project funding received \$485,919. Outputs achieved: 65 SoilCare workshops/field days, 3,390 participants, 27,518 hectares practice change, funding supplied to 22 community and industry projects, 17 community and producer groups supported.</p> <p>Regional Landcare Facilitator Goulburn Broken project funding received \$150,000. Outputs achieved: 320 participants at 13 events (workshops, field days, conferences and meetings).</p> <p>Victorian Government's Landcare Grants funding received \$245,000 to fund 21 community-led projects: pest plant and animal control, land manager and community education, vegetation protection and enhancement, and sustainable farming practices.</p> |

| Long-term strategy implementation progress | 2017-18 performance |
|--------------------------------------------|---------------------|
|--------------------------------------------|---------------------|

| | |
|----------------------------------------------------------------------------------------|--|
| Biodiversity strategic direction 4: Building on our ecological infrastructure (Cont'd) | |
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| | |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Threatened Species Protection Initiative Community Volunteer Action Grants Round 2 funded Broken Boosey CMN for A Turquoise Landscape (\$16,000) which erected 30 nest boxes. |
| | Since 2009, 750 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. Predominantly these are for brush-tailed phascogales, squirrel gliders, sugar gliders and turquoise parrots. |
| | Linking Lower Goulburn project (funded through Our Catchments Our Communities) resulted in an increase in vegetation extent (160 ha of revegetation) and quality (over 100km of woody weeds removed from roadsides) (see Sustainable Irrigation section page 63). |
| | 20 Million Trees Swift Parrot: Winter Wanderers involves three sites totalling 52 ha secured under 10-year management agreements. |
| | Box and Ironbark Alliance: Saving the System (DELWP funded 80 ha). |
| | Villa Turquoise Project (DELWP funded) 40 nest boxes over five properties. |
| | Longwood Plains Reserve project, funded through DELWP's Biodiversity Onground Action grants with 16 ha of revegetation to increase connectivity to reserves. Two bird surveys across four reserves including weed control and pest animal control with Woka Walla and DELWP. |
| | 20 Million Trees Superb Parrot project: a revegetation site of 52 ha has been secured under a 10-year agreement. The site is adjacent to the Broken Creek and a covenant. |
| | Bogies and Beyond secured one management agreement over seven ha. 30 EOIs for more works are being processed. |

| | |
|----------------------------------------------------------------------------|--|
| Biodiversity strategic direction 5: Legitimising biodiversity conservation | |
|----------------------------------------------------------------------------|--|

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|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>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.</p> <p>Ongoing efforts are required to promote synergies between biodiversity conservation and land management at the farm and landscapes scales.</p> <p>Conservation Management Networks continue to play a valuable role in promoting the importance of biodiversity conservation across land tenures.</p> <p>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.</p> | <p>Biodiversity Spring coordinated events continue to be carried out by many community groups, with 74 events delivered, and approximately 7,000 attendees.</p> <hr/> <p>Nature@Work produced six flyers to inform farmers about how to increase their profits through shade and shelter.</p> <hr/> <p>Monthly spot on local ABC radio to discuss the Catchment's flora and fauna.</p> <hr/> <p>Presentations to U3A, schools, community groups, landcare groups, Probus, partner agencies, conferences and workshops on various topics around biodiversity conservation.</p> <hr/> <p>Native vegetation clearance regulations input. Gazetted in December 2017.</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Community capacity, engagement and involvement

Long-term strategy implementation and 2017-18 performance related to the community are included throughout the above table.

Actions 2015-16, 2016-17 and 2017-18

| Action | | From funds received | | | | |
|---------------------------------------------------------------|----|-----------------------|---------|---------|--------|------------|
| | | Achieved ⁱ | | | Target | % achieved |
| | | 2015-16 | 2016-17 | 2017-18 | | |
| Stock grazing management action | | | | | | |
| Fence terrestrial remnant vegetation | ha | 468 | 696 | 589 | 196 | 301 |
| Fence wetland remnant | ha | 3 | 137 | 0 | 8 | 0 |
| Fence stream/river remnant ⁱⁱ | ha | 244 | 294 | 161 | 49 | - |
| Binding management agreement (licence, Section 173, covenant) | ha | 70 | 18 | 104 | 60 | 173 |
| Grazing regime change | ha | - | - | - | - | - |
| Habitat loss management | | | | | | |
| Revegetation – plant natives | ha | 750 | 487 | 413 | 161 | 256 |

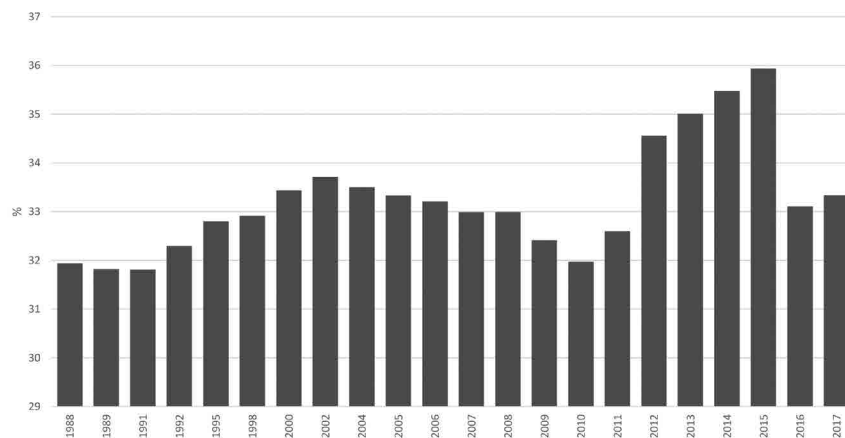
i. Achievements may include those from complementary investment areas. Outputs delivered through each fund source are available from the Goulburn Broken CMA. For a full list of footnotes please see Appendix 4 on page 132.

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 as SES local plan managers (Upland Slopes and Productive Plains).
- Develop project logic plans for Regional Land Partnerships projects to begin delivery in 2018-19.
- Legitimising biodiversity conservation through community engagement and support to landholders and community groups.
- Improved understanding of outcomes from biodiversity works and communications by continuing to work with research and industry partners. Continue to promote systems-based approaches for land management to achieve whole-of-farm and catchment outcomes for both biodiversity and agricultural productivity through Nature@Work project development.
- 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 to integrate climate change into project design.
- Deliver the range of DELWP funded projects.
- Continue to work with DELWP and AgVic and other partner agencies to add value to projects.

Goulburn Broken Catchment Tree cover change ⁱ



i. Source: Australian National University - Fenner School of Environment & Society. Better data analyses may be reflected in changes over time rather than actual increases in extent. While changes look large, the biggest modelled change is only a three per cent increase in extent from 1980 – 2015 (30.5 to 33.5). This change is not sufficient to create resilient landscapes nor to achieve 2030 targets.

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

| | |
|---------------------|-----------|
| 2017-18 performance | On target |
|---------------------|-----------|

| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
|-----------------------------------|------|------|----------------|
| | | Poor | Satisfactory |

The increased awareness of how soils can be improved is being applied on many farms. The purpose and use of private and public land have generally improved (especially grazing in sensitive areas). Catchment-wide invasive plant and animal management is now mainly focused on new and emerging species and complementing community activity. Under present arrangements, there are high and increasing long-term risks in hot-spot areas from existing and emerging threats like deer in the foothills and feral horses in Barmah National Park.

| Resilience assessment | Contribution to system resilience ⁱⁱⁱ | | Risk to system resilience ^{iv} | | | Long-term strategy implementation ^v | |
|---------------------------------|--------------------------------------------------|--------------|-----------------------------------------|-------------------------------|--------------------------|------------------------------------------------|------------------|
| | 1990 | 2018 | Trend 2015-18 | Long-term (10+ years) | | Start | Stage |
| | | | | 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 | Risk increasing | High | Very high | 2001 | Middle |

- i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
- ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators of higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
- iii. System is Land; benchmark for contribution is the desired level, as defined (formally or informally) in 2018.
- 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

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 766 | 762 | 814 | 440 |

i. Forecast based on the Corporate Plan 2018-19.

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 Program. 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 Program and the Victorian Landcare Program.

Strategic references

The Goulburn Broken Land Health Strategy 2017-2020 guides investment of public funds in improving the Catchment's land resources, with a significant focus on soil

health. The Goulburn Broken 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. 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.

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

As part of connected systems of people and nature, land supports ecosystems that provide many services, including habitat for native plants and animals, natural water purification, agriculturally 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. Supporting farmers to manage their land sustainably benefits farm profitability, ecosystem health, social wellbeing and increases communities' capacity to prepare for and respond to change.

Soils for agriculture

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

Agricultural soils are in areas cleared and cultivated for dryland and irrigated cropping and pastures, horticulture and viticulture, and 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 is incomplete for 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.

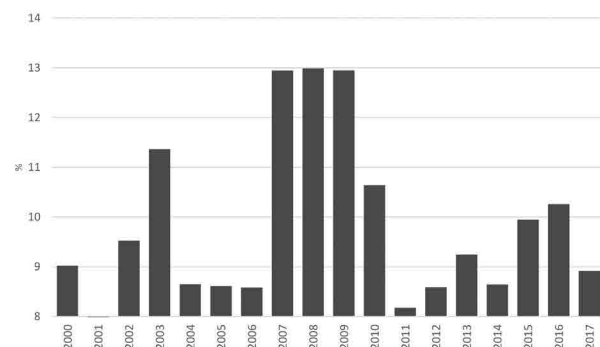
Soil testing through the Beyond SoilCare project found that soil acidity is generally high across the Catchment and soil organic carbon is low. Half of the 1,206 soil tests had a pH of less than 4.8. Retesting of 53 participants' soils found a slight but significant decrease in soil acidity, from pH of 4.8 to pH 5.0. However, land management practices such as liming are generally not employed at sufficient levels to counteract the rate of soil acidification.

Soil structure continues to limit ecosystem services, and our limited understanding of soil biology suggests it is not fully functional. While care is required to interpret carbon levels in soil, the mean carbon level of the 1206 tests was only marginally higher than the minimum for optimal function (two per cent). 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. Recent increases in the intensity of summer thunderstorms has resulted in significant 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, impacting on biodiversity, water quality and farm production. Biodiversity plantings have had multiple benefits where landholders have fenced off and revegetated erosion gullies or steep slopes for soil protection and vegetation connectivity. In other cases, mitigation measures have included earthworks, soil amendments and grazing and vegetation management. While the public benefits of these works are clear, private costs mostly exceed private benefits: landholders can only undertake works with grant support. Farm and property planning programs, such as Healthy Hectares and grazing management workshops in 2017-18, are key to minimise erosion. The first half of 2018 was drier than normal. Livestock have not been in good condition, demand has been down, and prices have been poor. Pastures are under a lot of pressure, increasing the risk of poor groundcover and soil exposure. Small-scale soil loss events, such as hillslope, rill and wind erosion, are likely to increase.

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, pasture, 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 63).

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 (such as fodder production, livestock trading and cropping) and the expansion of continuous cropping.

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

People fish and camp along the Catchment's many waterways, including Victoria's largest and most preferred fishing locations: the Goulburn River, Victoria's most popular lake for fishers, Lake Eildon, and the world's largest red gum forest in Barmah National Park (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 Dry Sheep Equivalent (DSE) 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, DEDJTR endeavours to provide support through targeted compliance programs.

Municipal roadside pest management plans were developed for each municipality in 2015, and were approved by DEDJTR 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 DEDJTR 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.

DEDJTR 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 new Rabbit Haemorrhagic Calicivirus K5 strain at 30 points across the Catchment beginning in September to maximise impact on young and emerging rabbits. Community has reported good success from the release.

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.

Overall, the risk of invasive plants and animals to system resilience is increasing as support in this area is declining. The Goulburn Broken Invasive Plants and Animals Strategy 2010-2015 is out-of-date so activities are not necessarily in-line at the regional scale. Furthermore, investment supporting community-led action is small, relative to the impact of pest plants and animals, further reducing the influence of activities at the regional scale.

Long-term strategy implementation progress and 2017-18 performance

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

Community capacity, engagement and involvement

See also Community section (page 26).

Integrated delivery via Land and 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, DELWP, DEDJTR, 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 Program 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 3,500 participants in activities during 2017-18. Activities were delivered by Goulburn Broken CMA staff and project partners, including DEDJTR, Landcare and producer groups. In 2017-18 the Victorian Government's Victorian Landcare Grants funded 24 grants to 13 community groups/networks to the value of \$190,908.

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 Calicivirus K5 strain in the Gooram and Ruffy areas 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 DEDJTR and community group invasive plant and animal programs.

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 DELWP 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 DEDJTR 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 DEDJTR.

A total of 191 infestations of high-risk invasive plants were treated, including all known infestations of the State Prohibited Weeds: Camel Thorn, Horsetail, Knotweed and Mexican Feather Grass and the Regionally Prohibited Weeds: Artichoke Thistle, Serrated Tussock, Cape Tulip and Ragwort. We note Water Hyacinth has been eradicated.

As a principal investor in pest plants and animals, the Victorian Landcare Grants have provided \$46,145 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 Program, the Facilitator works to support farmers and land managers in the Goulburn Broken Catchment to increase their awareness, knowledge and skills in sustainable farm management practices. The facilitator also supports regional community leaders and groups engaged in NRM and agricultural production to

Land Health Strategy strategic implementation

| Long-term strategy implementation progress | 2017-18 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>51 young farmers, advisors and agriculture students attended the 'Fundamentals of Farm Management' workshops held in Benalla and Numurkah in July 2017. Topics included decision making; risk management; and how temperament and personality types influence decisions and attitudes to risk. This activity was a joint initiative of the Regional Landcare Facilitator project and Murray Dairy.</p> <p>The Regional Landcare Facilitator sponsored five women working in agriculture to attend the 'Thriving Women 2018' conference in Adelaide (four participants) and the 'Women on Farms Gathering 2018' in Rosebud (one participant). Topics included achieving your goals, decision making, financial wellbeing and networking.</p> |

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 DEDJTR.

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 managed for conservation, ha

| Protection type | Total | Added 2017-18 |
|------------------------------------------|---------|---------------|
| National parks ⁱ | 345,267 | 0 |
| State parks ⁱ | 41,909 | 0 |
| Trust for Nature covenants ⁱⁱ | - | 69 |
| Landholder agreements ⁱⁱⁱ | 6,650 | 505 |
| Other ⁱ | 525,601 | 0 |

- ⁱ Data from Public Lands Management spatial dataset (PLM25). 'Other' includes Bushland Reserve, Other Reserves And Public Land, Essentially Natural Catchment, Uncategorised Public Land, State Forest, Bushland Reserve, Nature Conservation Reserve, Wildlife Reserve (Hunting), Other (Non Scheduled), Regional Park, Historic Reserve, Streamside Reserve, Natural Features Reserve, Forest Area, Revegetation Area, Pv Managed Land, Natural Features And Scenic Reserve, Scenic Reserve, Reserved Forest, Wildlife Reserve (Sgr Classification Pending Reservation), Roadside Conservation, Proposed National Parks Act.
- ⁱⁱ Goulburn Broken CMA-funded sites only. Total to date unavailable.
- ⁱⁱⁱ From 2017-18, includes agreements in perpetuity (Goulburn Broken CMA-funded sites only). Total (from 2004-05) includes annual reports' 'binding management agreement [license, Section 173 (of *Planning and Environment Act 1987*), covenants'.

| Long-term strategy implementation progress | 2017-18 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 Program.</p> <p>Facilitated one Regional Landcare Facilitator Steering Committee meeting in February, with the committee providing feedback on agriculture projects and emerging issues. The committee has 14 members, comprising seven community members representing horticulture, sheep meat and wool, beef, dryland cropping, chicken meat/mixed farming, as well DEDJTR and Bestwool Bestlamb.</p> <p>Facilitated one Land Health Forum meeting in February, with community Landcare, DEDJTR and Bestwool Bestlamb participation.</p> <p>24 project grants were devolved through the Victorian Landcare Grants, groups included: Balmattum Sheans Creek Landcare Group, Dookie Land Management Group, Euroa Arboretum, Goomalibee Landcare Group, Goulburn Murray Landcare Network, Longwood East Landcare Group Inc, Molyullah and Tatong Tree and Land Protection Group, Sheep Pen Creek Land Management Group Inc, South West Goulburn Landcare, Upper Goulburn Landcare Network, Up2Us Landcare Alliance, Warrenbayne Boho Land Protection Group, and Yarrawonga Urban Landcare Group.</p> <p>Four project grants were devolved through the National Landcare Program's Beyond SoilCare projects (in addition to the grants continuing from the previous year), groups included: Irrigated Cropping Council, Riverine Plains, South West Goulburn Landcare and Strathbogie Tablelands Landcare Group.</p> <p>Delivered the Community Landcare and Agriculture Leadership Program's alumni workshop in partnership with the North East Catchment Management Authority, Alpine Valleys Community Leadership, and Goulburn Murray Community Leadership.</p> <p>Sponsored the two-day Victorian No-Till Farmers Association's annual conference in Moama in July, with over 100 attendees. The conference highlighted practices that cropping farmers could implement to improve soil biology, soil structure and resilience to climate risk.</p> <p>Participated in the Indigenous Consultation Working Group and the statewide Dryland Managers Forum.</p> |
| Strategic objective: Adapt to land-use change | |
| <p>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> | <p>The Euroa Arboretum in partnership with the local Landcare Networks and the Murrindindi, Mansfield and Mitchell Shires hosted three workshop series for small and new landholders. Each series covered property planning, soils, pasture, water, biodiversity, weeds, pest animals and livestock. 73 participants attended the workshops in total.</p> <p>The Gecko Clan Landcare Network hosted an on-farm field day in March on farm water planning, including water budgeting, technology to monitor water storages and use, water infrastructure design and preparing for dry times. 30 farmers attended the field day.</p> |

| Long-term strategy implementation progress | 2017-18 performance |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 and project partners delivered 90 activities around resilient farming to more than 3,600 participants. 22 industry and community partners were involved in delivery. Topics included cost-effective erosion control, grazing cover crops, holistic management, soil test interpretation, grazing management and new technologies to support farm decision making .</p> <p>A standout event for 2017-18 was the 'Healthy soils; improve farm profits, flexibility & adaptation' showcase event at Dookie in May, with 89 farmers, industry representatives and students in attendance. The event highlighted the results and learnings from the five-year Beyond SoilCare project, with 12 farmer-led demonstration trials featured on the day covering a range of soil health themes.</p> <p>Other key events relating to this strategic objective include:</p> <ul style="list-style-type: none"> — 15 farmers (representing 12 farm businesses) completed the Cover Cropping Short Course in Tatura in August 2017. All participating farm businesses conducted on-farm cover cropping demonstration trials over an area of 338 hectares. — 53 farmers attended the 'Sidonia Beef Naturally Open Gate' event in October 2017. The event showcased the use of holistic management principles to plan rotational grazing, improve soil health, grow more grass and boost animal performance. |

Works and operations

Soils for agriculture, purpose and use of private land - Actions 2015-16, 2016-17 and 2017-18

| Action | | From funds received | | | | |
|----------------------------------------------------------------|-----|-----------------------|---------|---------|--------|------------|
| | | Achieved ⁱ | | | Target | % achieved |
| | | 2015-16 | 2016-17 | 2017-18 | | |
| Fence remnant vegetation | ha | 468 | 696 | 378 | 196 | 193 |
| Irrigation drainage environment plans | no. | - | - | 0 | 0 | |
| New irrigation referrals dryland zone ⁱⁱ | no. | 2 | 5 | 6 | 15 | 40 |
| Improved irrigation dryland zone ^{ii, iii} | no. | 18 | 16 | 10 | 10 | 100 |
| Sub-surface water action | | | | | | |
| Revegetation – plant natives | ha | 683 | 396 | 176 | 101 | 175 |
| Pasture – plant | ha | - | - | - | | |
| New groundwater pumps – public installed | no. | - | - | - | | |
| Planning for works action | | | | | | |
| Whole farm plans - Level 1 ^{iv} | no. | - | - | - | - | |
| Whole farm plans prepared - Level 2 dryland zone ^{iv} | no. | 1 | - | - | - | |

i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes please see Appendix 4 on page 132.

ii. Unit of measure published previously should have been 'number' and not 'hectare'. Achievement for 2017-18 includes one new irrigation referral in the SIR.

iii. 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.

iv. 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 2015-16, 2016-17 and 2017-18

| Action | | From funds received | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|----|-----------------------|---------|---------|--------|------------|
| | | Achieved ⁱ | | | Target | % achieved |
| | | 2015-16 | 2016-17 | 2017-18 | | |
| Weed invasion | | | | | | |
| Weeds – aquatic weeds controlled/eradicated | km | 14 | 9 | 10 | 0 | - |
| Targeted infestations of weeds in high priority areas covered by control programs ⁱⁱ | ha | 2,894 | 8,529 | 4,441 | 4,257 | 104 |
| DEDJTR Biosecurity Victoria works - Targeted infestations of weeds in high priority areas covered by control programs ⁱⁱⁱ | ha | 11,820 | 7,781 | 11,001 | 11,580 | 95 |
| Pest animals | | | | | | |
| Area of high priority rabbit infested land covered by control programs | ha | 722 | 10,163 | 3,510 | 3,349 | 105 |
| DEDJTR Biosecurity Victoria works - Area of high priority rabbit infested land covered by control programs ⁱⁱⁱ | ha | 7,480 | 2,911 | 6,400 | 6,400 | 100 |
| Area of high priority fox infested land covered by control programs | ha | 6,599 | 260 | 509 | 529 | 96 |

i. Achievements include those by complementary investment areas such as Biodiversity. For a full list of footnotes see Appendix 4 on page 132.

ii. This includes 'Weeds - woody weed management' (Appendix 4).

iii. Works completed by DEDJTR Biosecurity Victoria (outside of the Corporate Plan).

What's next?

- Complete final reporting for the five-year Beyond SoilCare and Regional Landcare Facilitator projects, identifying focus areas (e.g. topics, audiences, issues, etc.), key partners and delivery methods for future projects.
- Secure project funding from the Australian Government's National Landcare Program 2 to continue to deliver awareness-raising events, training, on-farm demonstrations, and community grants in the areas of: soil health (i.e. managing soil acidification, reducing the risk of erosion and increasing soil organic carbon); improving management of on-farm native vegetation; supporting agriculture systems to adapt to changes in climate and market demands; and capacity building of the Catchment's community and industry groups.
- 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.
- Continue to invest in Landcare and community groups to deliver soil health and sustainable farming projects.
- Link training packages to promotion of improved management practices.
- Work on the identification of improved management practices.
- Showcase and connect farmers implementing improved management practices.
- Coordinate peer-supported learning opportunities, focused on management solutions and building the soil health community network.
- Continue to build the capacity of community groups and individuals to carry out their own assessments of soil health and management practices in a rigorous and logical way through support of 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, DEDJTR 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

| | |
|---------------------|-----------|
| 2017-18 performance | On target |
|---------------------|-----------|

| Catchment condition ⁱⁱ | 1990 | 2018 | Long-term risk |
|-----------------------------------|------|------|----------------|
| | | Poor | Poor |

The socio-economic condition of the Shepparton Irrigation Region has depended on highly productive and efficient irrigated agriculture, underpinned by available water. Risks to water availability for agriculture are now very high, threatening farm and regional viability. While many localities are feeling the brunt of declining water availability, others are adapting to a future with less water. As the social-ecological system transforms, risks and opportunities for managing natural resources are emerging, such as volume and timing of streamflows. Downstream water demand is creating risks from high unseasonal flows.

While some riverine ecosystems and pockets of the remaining three per cent of native vegetation on farmland are improving through intervention, the most threatened ecosystems and species associated with private land continue to be at high risk, exacerbated by incremental clearing in recent years.

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

| 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 | 2018 | Trend 2015-18 | Long-term (10+ years) | | | |
| | | | | Current support ^{vi} | No support ^{vi} | | |

| | | | | | | | |
|-----------------------------|-----------|--------------|-----------------|-----------|-----------|------|-----------------------------------|
| Water availability for | | | | | | | |
| - the environment | Poor | Satisfactory | Risk increasing | Medium | High | 2011 | Early |
| - Agriculture | Good | Poor | Risk increasing | Very high | Very high | 2015 | Escalated response ^{vii} |
| Water quality | Very poor | Satisfactory | Stable | Medium | High | 1995 | Watch & maintain |
| Watertables | Poor | Satisfactory | Stable | Medium | High | 1983 | Late |
| Native vegetation extent | Very poor | Very poor | Risk increasing | High | Very high | 1997 | Early |
| Farm and regional viability | Good | Satisfactory | Risk increasing | High | Very High | 2015 | Escalated response ^{vii} |

- i. Appendix 1 describes the analytical framework. Ratings legend is inside front cover.
- ii. Critical attribute contributions and risks are major considerations in rating catchment condition, along with indicators on higher level outcomes from managing these critical attributes, such as viability of threatened species and gross value of agricultural production. Long-term risk assumes ongoing support at current levels.
- iii. System is Agricultural Floodplains social-ecological system; benchmark for contribution is the desired level, as defined (formally or informally) in 2018.
- iv. Risk that system will not be in desired state of resilience in long term because of level of critical attribute contribution. Risks can be from biophysical threats, such as climate, or other, such as community's adaptive capacity. Desired state might be other than current state.
- v. Long-term strategies vary significantly in formality. 'Start' approximates when holistic, integrated approach to influencing critical attribute began.
- vi. Support includes government funding and community (including individual) in-kind and financial investment for onground works and helping communities and individuals adapt.
- vii. 'Escalated response' is included as a category for the first time in this 2017-18 annual report.

Government investment, \$000

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 13,645 | 24,365 | 21,315 | 6,040 |

i. Forecast based on the Corporate Plan 2018-19.

Strategic references

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

Background

The DELWP-endorsed final update of the Shepparton Irrigation Region Land and Water Management Plan 1990-2020 (the Plan) was launched in 2017. The Sustainable Irrigation Program delivers on the Plan's vision through onground works, supported by the community-based Shepparton Irrigation Region People and Planning Integration Committee (SIRPPIC).

Since 1990, the Plan has evolved from focusing on salinity to managing five attributes critical to how the region functions as a system of people and nature: water availability (for the environment and for agriculture), water quality, watertables, native vegetation extent, and

farm and regional viability (which evolved in 2018 from 'farm and food-processor viability'). The approach reflects the Goulburn Broken CMA's emphasis on resilience and associated social-ecological systems.

Implementation of the Plan priorities evolved further in 2017, from operational programs that reflect action types (see figure below), to critical attributes that foster increased sharing of decisions around social-ecosystem risks and opportunities. Integration of priorities and associated actions to achieve multiple benefits (in terms of critical attributes) remains a key principle, and a consolidated report of responding to each priority is included in this annual report. The format of the annual report also allows contributions to Drainage and Farm programs to be readily extracted.

Reporting on regional land salinisation and Murray River salinity is now included under Watertables (page 65). Additional salinity management in the Goulburn Broken Catchment is reported under Land (page 55).

Catchment condition - Sustainable irrigation (since 1990)

Long-term goals for critical attributes

Note: detailed quantitative targets, which consider threshold (tipping point) levels are listed in the Plan.

Water availability: Ensure that water is available to match the needs of the environment, agriculture and social consumption when required.

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

Watertables: Manage shallow watertables so that soil zones 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 regional 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 agricultural markets and demands.

Water availability

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

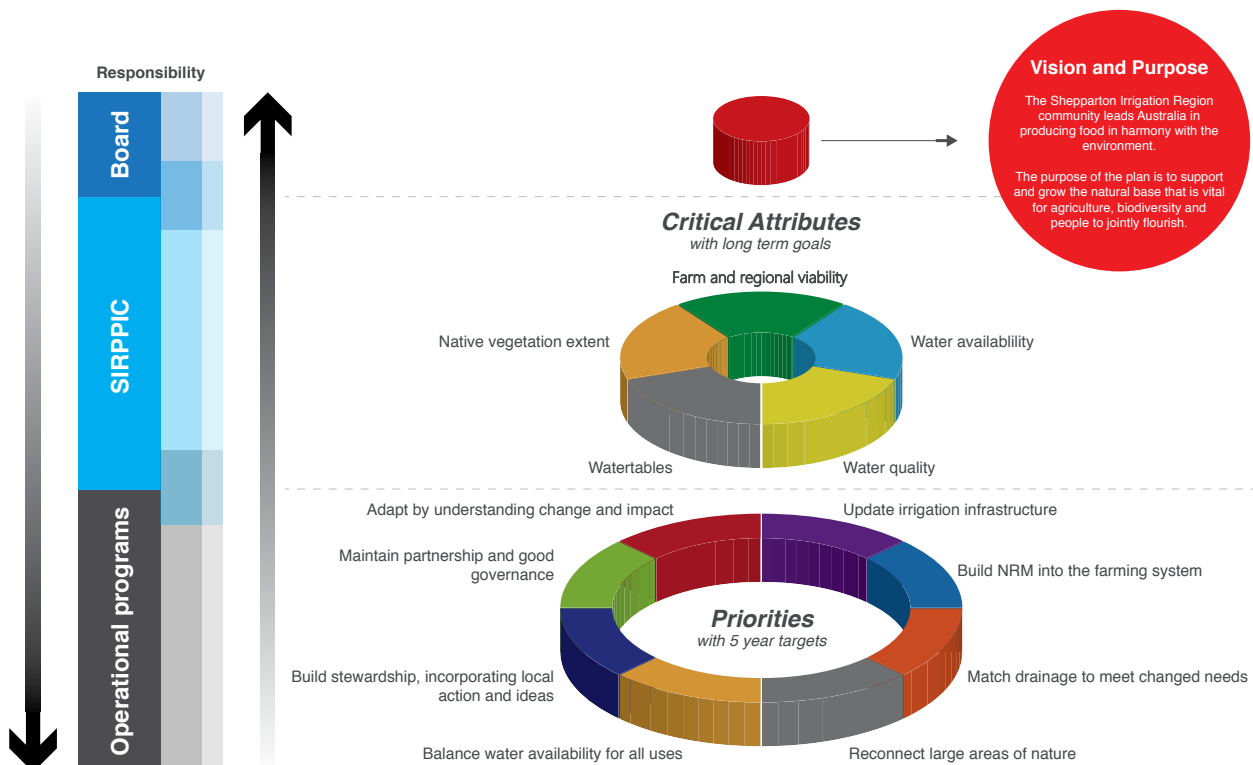
River flows have changed markedly since previous generations dammed the rivers. Through collaborations over many years, a balanced approach to share water has been developed by consumptive, environmental and recreational users.

Environmental requirements, 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. Current trends are resulting in more irrigation-water transfers between regions to downstream users.

a Water availability for the environment

Water for the environment is delivered to key wetlands and sections (reaches) of rivers and streams as per the Victorian and Commonwealth Environmental Water Holders' seasonal watering plans. The Sustainable irrigation program has ensured community representation on advisory groups for environmental watering planning, and has supported acquisition of water for the environment through the Farm Water Program.

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



b Water availability for agriculture

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

However, irrigation deliveries in the region reduced from more than 1200 gigalitres seasonally in the 1990s to about 800 gigalitres now. Water availability is likely be further reduced due to changing climate, water trade, industry changes and demand for other uses that is facilitated through a very active water market.

The 'Challenges and Opportunities of Changes to Water Availability on the Food and Fibre Sector in the Goulburn Murray Irrigation District (Phase 1)' 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 on-farm.

Water quality

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

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 the Murray-Darling Basin Authority (MDBA) modelling (somewhat counter-intuitively), this increases salinity concentration levels 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 successful 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.

Similar to the salinity impact, the improved water use efficiency both in the channel system and on-farm has seen relatively fresh water flows from drains reduce significantly to the point where if there has been little rainfall then drain flows are almost non-existent. This does mean though that concentration levels of nutrients may be higher, but overall there is far less salt total load entering our waterways.

Blackwater events in the Goulburn River as a result of rain-events further upstream from the irrigated landscape are reported elsewhere (see Water Quality page 34). 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 persisted in recent years due to the return of wetter conditions. Watertables dropped three metres during the millennium drought but quickly bounced back, with 150,000 hectares having a watertable within three metres of the surface in 2017.

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 linked to rainfall on a wet (irrigated) catchment. 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, allowing farmers to understand changes to watertables and the threat to their properties.

Renewed investment in surface drainage is resulting in the rollout of a hybrid design for surface water management, utilising natural drainage courses in priority sub-catchments. The completion of two shovel-ready drains has seen areas of intensive irrigated landscape become protected from water logging and the new approach will see additional areas protected across the irrigated areas.

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 Lower Goulburn National Park) and corridors along waterways and roadsides. Areas of native vegetation away from these reserves and corridors can be isolated fragments and can 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 such as the Bush stone-curlew, Grey-crowned babbler and Tree goanna are under threat.

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

Farm and regional viability

The region as a social-ecological 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 increasing costs of 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. The

number of large-scale farm enterprises is growing. 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 new processors have emerged.

Projects completed in 2017-18 in the Goulburn-Murray Irrigation District, including land-use mapping and understanding water availability and 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 2017-18 performance

Progress towards long-term strategy implementation is satisfactory in some areas, but falling behind in others (see the bar chart on page 72). All priorities delivered as expected, however whole farm planning is operating below targets. Further details are provided below.

| Long-term strategy implementation progress | 2017-18 performance |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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>Reintroduction of survey component of the Whole Farm Planning Incentive Scheme, along with ongoing demand from irrigators for whole farm planning to better respond to change, saw funds fully committed.</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 page 69.</p> <p>Six new irrigation developments were supported and 10 system checks were undertaken across the irrigated landscape</p> <p>Review and improvement of whole farm plan delivery continues, through implementation of recommendations from the Stage 2 Whole Farm Plan process review completed in 2017-18.</p> <p>Supported the Plan2Farm initiative that is being delivered across the GMID, with our partners North Central CMA as lead.</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 in the SIR have been completed on 4,395 properties covering 319,892 hectares, including 426 'revised modernised' plans.</p> | <p>Whole farm plans on 55 properties covering 5,475 hectares completed in the SIR, including 25 'revised modernised' plans.</p> <p>3,300 people involved in the region's Beyond SoilCare project funded by the Australian Government's National Landcare Program: 2,445 people attended field days, workshops, forums and bus trips or accessed web-based information developed through the project; 255 landholders involved in discussions, training and meetings to support practice change; 67 landholders reported changing practices over 6,710 hectares; six trials completed with maize, tomato, cropping and fruit industry bodies and the Goulburn Murray Landcare Network; nine groups supported involving 449 people. See page 70 for more details on Beyond SoilCare.</p> <p>Goulburn Broken CMA liaised closely with regional stakeholders to:</p> <ul style="list-style-type: none"> — provide final comment on the DELWP-led Native Vegetation Regulation Review and disseminate information of regulation changes to local community — develop a flyer on managing natural timber post-fire, for use by Country Fire Authority and Forest Fire Management Victoria — provide input into the proposed reforms to planning controls for animal industries in Victoria — support the development of the DEDJTR Navigating Dairy Development Tool to assist landholders better understand their obligations when considering business expansion. |

| Long-term strategy implementation progress | 2017-18 performance |
|--------------------------------------------|---------------------|
|--------------------------------------------|---------------------|

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 Shepparton Irrigation Region Land and Water Management Plan was launched in December 2017.</p> <p>Water stewardship project involved continuing discussion to align water management improvements.</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 actions; Senior Combined Partners Forum is well attended and now includes local government, Traditional Owners and integrated water management team with DELWP; regular meetings held with CEOs and senior members of partner organisations to enhance common understanding.</p> <p>The representation of various community members in other community groups such as Environmental Watering and Wetland Groups, Farm Water Program committee and special focus groups ensures increased knowledge and influence.</p> |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Priority: Match drainage to meet changed needs, aligning it with modernised irrigation delivery

| | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Regional drainage works are being undertaken through increased investment from the Victorian Government that 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>Two primary surface water management systems constructed and one community surface water management system reinitiated 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 engagement undertaken with three of five priority undrained catchment communities to gain support for hybrid drainage schemes. Work to survey catchments, define natural drainage courses, identify obstructions and engage with stakeholders is well advanced in the Deakin catchment.</p> <p>Options to improve drainage management on farms in irrigated areas without access to public drainage is a focus of the 'on-farm' part of renewed surface water management program, aiming to support landholders manage drainage water on-farm, including reducing need to dispose drainage water to channels.</p> <p>Project planning completed to relocate disposal of water via public groundwater pumps from channels to drains and funded by GMW Connections.</p> <p>Report 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>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 2017 August Watertable Study Map once again showed shallow groundwater levels 1-2 and 3 metre depth ranges increase in area across parts of the region.</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 was completed, with additional protective covers installed to aid bore visibility and data collection. The development of the SIR Salinity Risk Management Website has been completed and will allow the landholders to identify and manage their risk where watertables rise and fall.</p> |

| Long-term strategy implementation progress | 2017-18 performance |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Priority: Balance water availability for all uses | |
| <p>The 2016 SIR Land and Water Management 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 regional 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 and delivering on the regional environment's water needs creates the appropriate balance and integration with irrigation and other needs.</p> | <p>SIRPPIC identified an extreme risk to farm and regional viability through land-use change and future water availability. A GMID visioning forum brought regional leaders together to develop a shared understanding of, and response to, the issue of future water availability</p> <p>Integrated landscape planning and management of the Corop wetlands remains a priority, with a regulator installed at Gaynors Wetland to enable environmental water delivery. Rock beaching undertaken through funding by the Our Catchments Our Communities Linking Lower Goulburn project will also enable environmental water to be delivered to Loch Garry.</p> <p>The Goulburn Broken CMA continued to contribute to the development of the statewide Rural Drainage Strategy.</p> <p>Blackwater and other low dissolved oxygen events are a key management consideration.</p> <p>Water provided for the environment and downstream users is threatening the health of the Goulburn River because water levels are unseasonally high.</p> |
| 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.</p> <p>Important objectives of environmental flows include provision of water to protect and enhance riparian vegetation.</p> <p>Delivering outcomes in focus landscapes is a priority to increase extent and connectivity of native vegetation across the region.</p> | <p>The Our Catchments Our Communities onground project 'Linking Lower Goulburn' has seen vegetation enhancement on six priority public reserves, revegetation works on private land and weed control on roadsides totalling more than 1,270 ha, as well as connecting with more than 100 community members through art workshops, performances and bus trips.</p> <p>A project brief developed for a voluntary biodiversity investment fund aims to attract private investment in biodiversity outcomes across the region. This project emerged from the regional native vegetation offset feasibility study.</p> <p>Vegetation enhancement and protection works were undertaken through the Drainage Program at a private wetland adjoining a newly constructed public surface water management system.</p> |
| 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, GMLN and Murray Dairy.</p> <p>The Local Government Agricultural Floodplains Reference Group is in its 26th year of operation. The group seeks workable and collaborative solutions to improve efficiency and effectiveness of natural resource management delivery in the Shepparton Irrigation Region. Representation includes Moira Shire Council, Campaspe Shire Council, Greater Shepparton City Council and other stakeholders, led by Goulburn Broken CMA.</p> | <p>Greater than 70 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>A regional visioning workshop held to identify ways of positioning the region to better respond to land-use change and water availability concerns for irrigated agriculture.</p> <p>Co-funded projects remain a strength, such as: RiverConnect; groundwater management and monitoring; water quality partnerships; GMID land-use Project phase 2; Municipal Catchment Coordinator (with Moira, Campaspe and Greater Shepparton municipalities) and now expanding to include other municipalities.</p> <p>MDB Salinity Management Strategy compliance needs met and Shepparton Irrigation Region register entry review endorsed by the Goulburn Broken CMA Board, with the dryland entry also reviewed in partnership with North Central CMA.</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 a resilience approach in the update.</p> | <p>Critical attributes, their thresholds, and the changing context and risks annually reviewed with SIRPPIC, to contribute to the development of annual work plans.</p> <p>An event held in December 2017 to celebrate more than 35 years of contribution by Allen Canobie, active SIRPPIC and working group chair and member, highlighted the importance of and continued need for community contribution to the implementation of the SIR LWMP.</p> |

Farm Water Program achievements, whole-of-life to date (July 2010 to June 2018) ⁱ

| Action | | Whole of Farm Water Program ⁱⁱ | | | Shepparton Irrigation Region ⁱⁱⁱ | | |
|----------------------------------------------------------------|-----|-------------------------------------------|--------|------------|---------------------------------------------|--------|--------------------------|
| | | Achieved | Target | Achieved % | Achieved | Target | Achieved ^{iv} % |
| Laser levelling ^v | ha | 17,536 | 17,726 | 99 | 11,481 | 11,672 | 98 |
| Farm reuse systems ^{vi} | no. | 300 | 303 | 99 | 209 | 212 | 99 |
| Farm reuse systems | ha | 14,783 | 15,003 | 98 | 9,123 | 9,344 | 97 |
| Gravity channel surface irrigation | ha | 14,633 | 14,727 | 99 | 11,269 | 11,363 | 99 |
| Pipe and riser irrigation | ha | 15,506 | 15,656 | 99 | 7,731 | 7,880 | 98 |
| Farm delivery channel upgrade ^{vii} | km | 11 | 11 | 100 | 8 | 8 | 100 |
| Irrigation scheduling systems | ha | 1,404 | 1,404 | 100 | 1,089 | 1,089 | 100 |
| Pressurised irrigation systems - micro or drip ^{viii} | ha | 937 | 937 | 100 | 183 | 183 | 100 |
| Pressurised irrigation systems - sprinkler | ha | 3,457 | 3,457 | 100 | 2,602 | 2,602 | 100 |

- 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. All on target as Round 5 projects are contracted to be completed over two years (to April 2018).
- v. Until 2014-15, named 'Laser grading'.
- vi. 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'.
- vii. Until 2014-15, two categories named 'Plastic lined channel' and 'Farm channel upgrade'.
- viii. Until 2014-15, combined with 'Pressurised irrigation systems - sprinkler' in one category.

Farm Water Program

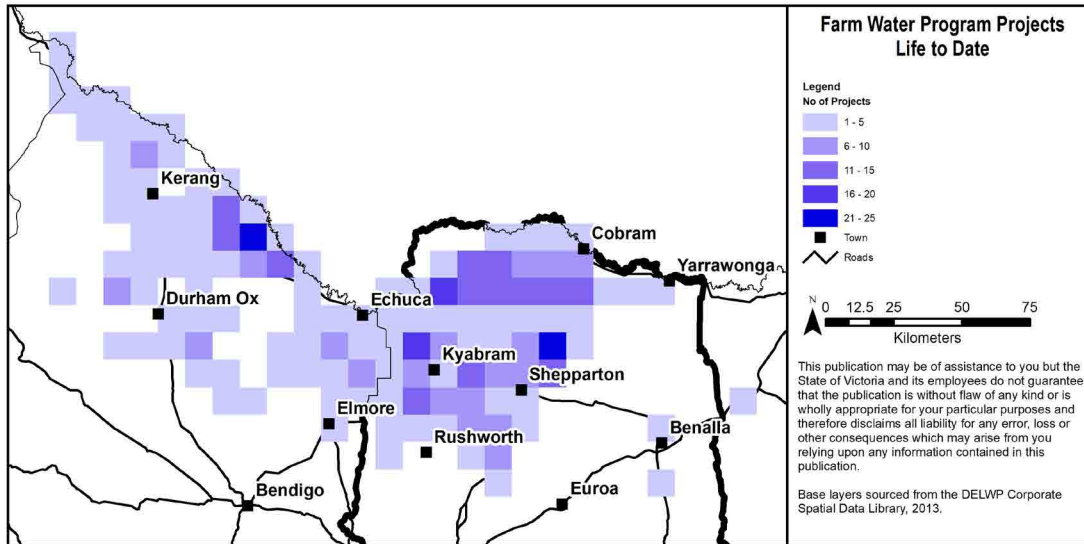
The Farm Water Program successfully completed Round 5 in 2017-18 with 97 of 98 projects delivering around 12,400 hectares of water savings works on farms. The works generated an estimated 13 gigalitres of water savings; 7.4 gigalitres was transferred to the Commonwealth Government for environmental purposes and 5.8 gigalitres was retained on farms to increase productivity.

Overall since 2010 the Farm Water Program has completed 622 projects (618 finished all works and 4 have had water transferred but no works completed). These projects have generated more than 80 gigalitres of water savings through more than 70,000 hectares of works with funding of around \$172 million (primarily through the Australian Government). Feedback from irrigators continues to be very positive: 80 per cent of irrigators found the process to be a positive one (10 per cent negative and 10 per cent neutral) and 86 per cent of irrigators found the results were positive (nine per cent negative and five per cent neutral). Comments were around the following themes: water and labour savings, farm productivity and flexibility, link with the GMW Connections program and that without the program irrigators would not have been able to do the works.

The Goulburn Broken CMA cannot be more proud of the region's irrigators and partners in working together over the last eight years to achieve this astonishing level of works - on time and on budget.

A review of the Victorian Farm Modernisation Project was conducted by the Victorian Government, and findings were released in August 2018. 'The review found it was not possible to find further on-farm works to transfer water to the Commonwealth without further social and economic impacts on irrigators and the broader community'. (Lisa Neville MP, Minister for Water.)

In response to the review, the Farm Water Program consortium partners have been working on a number of options that do not require a transfer of water share.



Beyond SoilCare

In 2017-18, more than 3,300 people were involved in the final year of the 5-year SIR Beyond SoilCare project, funded by the Australian Government's National Landcare Program. There were 2,445 people who attended field days, workshops, courses, forums and bus trips, or accessed online information created through the project. Nearly 800 landholders and students attended events delivered by the Goulburn Murray Landcare Network. Similar to 2016-17, the Network continued to be a highly-valued project partner running events on relevant topics presented in formats suited to the SIR community.

In addition to the 25 events delivered by the Goulburn Murray Landcare Network, 16 activities were delivered by DEDJTR and Goulburn Broken CMA staff and through the Goulburn Valley Food Cooperative and the Irrigated Cropping Council. Topics included composting, multispecies cover cropping, grazing cover crops, compaction, soil biology and fungi, irrigation scheduling, centre pivot/soil relationships and performance, pasture cropping, maize management, soil testing, holistic farming, healthy farming, marketing management and soil health.

A total of 255 landholders were involved in discussions, training and meetings to support practice change and 67 landholders reported changing practices over 6,500 hectares. Nine groups were supported through the SIR Beyond SoilCare project, involving more than 449 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 SIR SoilCare delivery. There were six trials completed with maize, tomato, cropping and fruit industry bodies and the Goulburn Murray Landcare Network. Five demonstration trials continued from 2017, investigating maize yield variability, compost banding, the effect of compaction and amelioration in irrigated soils, management of climate change impacts on perennial horticulture, and multi-species cover cropping. One new trial was established to look at the effects of chicken manure as a fertiliser and soil conditioner.

Renewed Surface Water Management Program

A significant achievement for the Sustainable Irrigation Program in 2017-18 was to begin implementation of the renewed Surface Water Management Program (SWMP) in the Shepparton Irrigation Region (SIR). The funding for this program 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 used 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 were identified to complete works that were planned or partially delivered prior to reduced funding and two of these projects have been completed; Stanhope Drain and Mosquito Drain 40 with the Muckatah Community Drain 3/8P ready for construction in 2018.
2. **Hybrid Surface Water Management Systems.** 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 five priority sub-catchments. Engagement has been undertaken with communities in three sub-catchments; Upper Deakin, Corop Lakes and Guilfus Congupna. Drainage course declaration design has been undertaken in Upper Deakin and an obstruction removal program is being developed.
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.

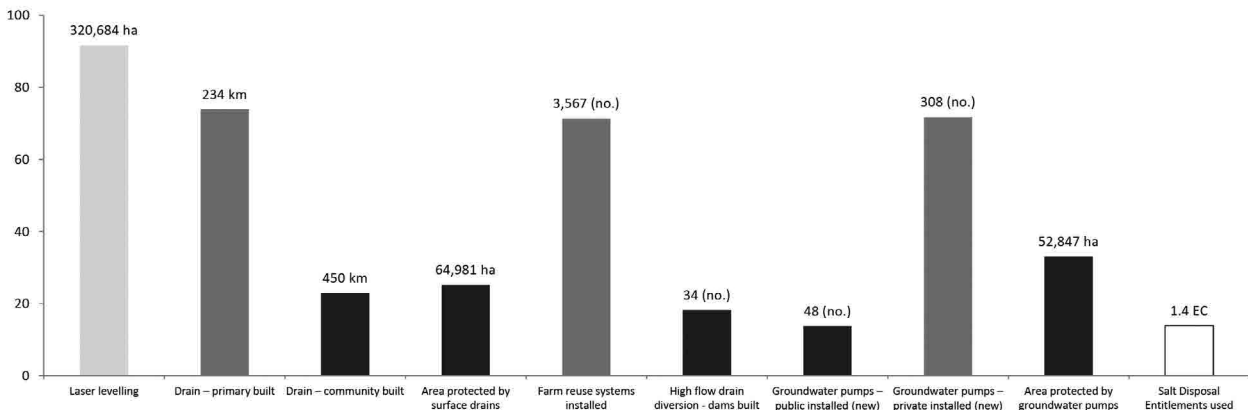
Actions 2015-16, 2016-17 and 2017-18 (Shepparton Irrigation Region only, incl. Rochester)

| Action ⁱ | From funds received | | | | | |
|-------------------------------------------------------------------------|---------------------|---------|---------|----------------------|-------------------|-----|
| | Achieved | | | Target ⁱⁱ | % achieved | |
| | 2015-16 | 2016-17 | 2017-18 | | | |
| Surface water action ⁱⁱⁱ | | | | | | |
| Laser levelling ^{iv} | ha | 3,553 | 4,460 | 3,979 | 7,261 | 55 |
| Drain – primary built ^v | km | - | - | 3.76 | 10 | 38 |
| Drain – community built | km | - | - | 0 | 4 | 0 |
| Area protected by surface drains ^{vi} | ha | - | - | 391 | 1,456 | 27 |
| Farm reuse systems installed ^{vii} | no. | 51 | 5 | 36 | 37 | 97 |
| Farm reuse systems installed ^{vii} | ha | 1,742 | 187 | 1,584 | 1,622 | 98 |
| Gravity channel surface irrigation | ha | 1,858 | 334 | 1,345 | 1,345 | 100 |
| High flow drain diversion - dams built ^{viii} | no. | - | - | - | - | |
| High flow drain diversion - dams built ^{viii} | ML | - | - | - | - | |
| High flow drain diversion - high nutrient water removed ^{viii} | ML | - | - | - | - | |
| Pipe and riser irrigation | ha | 732 | 191 | 511 | 550 | 93 |
| Irrigation scheduling systems | ha | 269 | - | 86 | 86 | 100 |
| Farm delivery channel upgrade ^{ix} | km | - | - | - | - | |
| Pressurised irrigation systems - micro or drip | ha | - | - | 138 | 138 | 100 |
| Pressurised irrigation systems - sprinkler | ha | 160 | - | 1,057 | 1,057 | 100 |
| Irrigation systems - improved ^x | ha | 3,553 | 4,460 | 5,174 | - | |
| 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 | 1.4 | 1.4 | - | |
| Planning for works action | | | | | | |
| Whole farm plans - new | no. | 35 | 34 | 30 | 120 ^{xi} | 46 |
| Whole farm plans - modernised | no. | 16 | 40 | 25 | | |
| Whole farm plans - new | ha | 2,576 | 3,289 | 2,843 | - | |
| Whole farm plans - modernised | ha | 2,037 | 3,905 | 2,632 | | |

- i. 'Action' includes actions and outcomes. Several actions were included in this list for the first time from 2014-15, although they were listed elsewhere before. Many actions primarily aimed at achieving salinity targets contribute to other targets, such as those for water quality and biodiversity. Fencing remnant vegetation and revegetation achievements are shown in the table on page 61.
- ii. 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.
- iii. Surface water management enables the removal of excess rainfall runoff from irrigated lands, alleviating soil salinity. As part of an overall management plan for nutrients, nutrient loads are managed by collecting and reusing water from drains. Nutrient loads are monitored against the Goulburn Broken Water Quality Strategy nutrient target for drains.
- iv. Assumptions: 2015-16, 2016-17 & 2017-18 = Farm Water Program's SIR onground achievements (1,963, 360 & 1,734) + 60 per cent of area put under Whole Farm Plans [new (2,576, 3,289 & 2,843) + modernised (2,037, 3,905 & 2,632) - Farm Water Program's SIR onground achievements (1,963, 360 & 1,734)]. Target = Farm Water Program's SIR target (1,773) + 60 per cent of area to be put under Whole Farm Plans [no. (120) x average area of Whole Farm Plans (91) - Farm Water Program's SIR target (1,773)].
- v. Fencing and laneways are relocated along primary drains to control stock. Drains are also hydro-mulched and seeded to provide vegetative cover on bare batters.
- vi. Assumption: Area protected = Length (km) of drain x 104.
- vii. Reuse dams allow for the collection of high nutrient run-off and re-irrigation, reducing the water and nutrient loads leaving the farm.
- viii. High flow diversion. None completed because of no demand and previous dry conditions.
- ix. 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.
- x. Assumptions: From 2014-15, area improved = laser levelling (which itself includes an assumption based on whole farm plan area - see footnote iv) + pressurised irrigation systems (micro or drip + sprinkler).
- xi. Combined target for the number of new and modernised whole farm plans was 120 in 2017-18.

SIR Land and Water Management Plan's 1990-2018 target achieved, %ⁱ

(achievements listed on top of each bar)



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

What's next?

Relationships and partnerships with stakeholders, including local community groups, industry groups and local, state and national government agencies remain critical to Plan implementation.

Water availability

- Ensure GMID irrigators do not inadvertently lose further water through interstate water recovery programs.
- Respond to major water issues, such as large volumes of water that have already left the GMID.
- Describe key water projects clearly (the water literacy project).
- Engage the irrigation community in the water delivery processes for both the environment and irrigation.
- Respond to the Water for Victoria plan actions.

Watertables and water quality

- Make salinity risk information easily accessible by farmers through the salinity website.
- Engage stakeholders to relocate disposal of drainage water via public groundwater pumps from channels to drains.
- Review triggers for operating public groundwater pumps to address rising groundwater risks and impacts on receiving water's water quality.
- Construct the community surface water management system in the Muckatah catchment.
- Implement the hybrid drainage system model, using natural flow-paths and removing obstructions to restore natural flows, while allowing connection of agricultural land to these systems; five priority catchments are under development: Upper Deakin, Corop Lakes, Guilfus-Congupna, Murray Valley Drain 11 and Mosquito Depression.
- Establish on-farm solutions and options for properties that will not be serviced by formal off-farm drainage connections.
- Contribute to MDBA's Basin Salinity Management Strategy.

Native vegetation extent

- Improve integration of native vegetation into delivery of the whole farm plan incentive scheme.
- Target onground works in focus landscapes through the Linking Lower Goulburn project.
- Pilot implementation of Goulburn Broken Voluntary Biodiversity Investment Fund.
- Educate landholders on paddock trees: their value and impacts on their health.
- Ensure Goulburn River health is not compromised when water is provided for downstream developments.

Farm and regional viability

- Secure funding to support irrigation farmers in continuing to improve productivity and adapt to a future with less water.
- Plan for the future of the Goulburn-Murray Region and use partnership knowledge and skills to help.
- With partners, build the skills of regional community leaders to develop a clear and respected regional voice that influences national and state decisions.
- Pursue improved planning through joint efforts with Stage 2 of GMID projects on land-use mapping and the challenges and opportunities of changes to water availability on the food and fibre sector.
- Align with delivery of GMW's Connections Project and future directions of GMW.
- Implement statewide whole farm planning review findings (stage 2) to reflect the changing irrigation industry and best practice.
- Investigate land management options with service providers and industry, and extend information to farmers.
- Develop clear information around water for farmers and new irrigation developments.
- Continue delivery of the Plan2Farm initiative.
- Potential stewardship event.

Human resources (including occupational health and safety)

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

Long-term and annual scorecard

| | | | | |
|-------------------------------------|-----------|------|----------------|-----------------------------------------|
| 2017-18 performance | On target | | | |
| Organisation condition ⁱ | 1990 | 2018 | Long-term risk | Long-term strategy implementation stage |
| | n.a. | Good | Low | Late |

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

Government investment ⁱ, \$000

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱⁱ |
|---------|---------|---------|-----------------------|
| 5,840 | 6,234 | 6,464 | 6,415 |

i. Excludes board and support committees.

ii. Forecast based on the Corporate Plan 2018-19.

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 culture is reflected in the values demonstrated and the continued efforts of the people who make up our organisation. The culture is characterised by healthy and committed leadership, professionalism, industry leading expertise, resilient partnerships and respect for our workplace, community and environment. We continue to learn and grow through continuous improvement in both our technical and organisational abilities.

This culture celebrates and acknowledges our achievements and also recognises and encourages our learnings as we attempt new things, driving and inspiring innovation as reflected by the level of job satisfaction reported by employees.

The Goulburn Broken CMA continues to emphasise a holistic view of our most valuable resources and proactively supports a safe work environment with a focus on both physical and mental wellbeing, a learning environment where employees can develop their skills and capability and also teach and share these skills with others.

We have continued to enhance 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 analysis of key employee data including turnover, absenteeism continues to remain at a low level indicating an overall dedication and satisfaction with the work of the organisation. This is further emphasised by the strong and proactive participation of employees in surveys and internal initiatives.

Workforce data for the current and previous financial years is contained in the tables on pages 74, 75 and 76.

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.

Occupational Health and Safety

The Goulburn Broken CMA's Occupational Health and Safety procedures and practises are based on the model of continuous improvement. Following the statewide review of CMA OHS practises and subsequent individual CMA reports, the Goulburn Broken CMA has delivered both on an action plan to address areas of opportunity and also on a review of all OHS procedures to ensure currency and relevance for our employees.

2017-18 Human resources performance

The 2017-18 year has seen a continued focus on delivery and improvement to existing processes and operations reflective of the funding environment.

A Workforce Management Audit was undertaken in April 2018 that found not only were workplace planning and management controls adequate, key positive attributes include 'the conduct of performance management activities', 'sound forecasting of workforce changes and future workforce pressures' and a 'detailed diversity and inclusion plan'.

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

Governance

The Workforce Planning and Management Review 2018 confirmed the current practises for performance management, workforce forecasting, managing workforce change, career/succession planning, capability assessment, training and workforce tracking were adequate with no high or significant risks identified.

Attraction and recruitment and labour supply and agility

2017-18 has been a year of preparation for funding changes in several of our program areas. This has included a review of future project demands and workforce needs with continued focus and investment in the skills of our employees to respond to this change.

Capability building

The Goulburn Broken CMA has continued to provide good quality and diverse learning and development experiences for employees. In 2017-18 all employees undertook compliance training in Conflict of Interest, Bullying and Harassment, and Occupational Health and Safety. Occasional counsellor training was also provided to the senior management team to support their skill development in managing and supporting employees.

Participation and motivation

Access to workplace flexibility continues to be a highly valued attribute of the Goulburn Broken CMA. This year a number of employees entered short-term Individual Flexibility Agreements at their request allowing them to determine how they managed both personal and professional demands. Ten staff accessed long service, unpaid leave and parental leave over the period. Three staff also made use of Purchased Leave.

Supporting our community

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

Two work experience placements were provided by the Goulburn Broken CMA this year. The participants came from both secondary and tertiary institutions and were placed with different program areas. Feedback from these participants was overwhelmingly positive for the experiences they participated in as well as their interactions with our employees.

Diversity and inclusion

The Goulburn Broken Catchment's key strength is the diversity of our communities. To continue to achieve good outcomes for our community and environment, the Goulburn Broken CMA provides a workplace and work practices that embrace, reflect, respect and promote the inclusion and participation for all regardless of difference. We enable members to share their skills, knowledge and experiences in a mutually respected, transparent, equal environment where barriers that prevent this are actively removed. 2017-18 saw the development and approval of the GB CMA's first Diversity and Inclusion Action Plan 2017-2022 and the implementation of the Year 1 initiatives which will form a solid base for future commitments to diversity and inclusion at an organisational level.

Our staff

A list of all Goulburn Broken CMA staff employed for all or part of 2017-18 is on page 148.

Other workforce data 2015-16, 2016-17 and 2017-18

| | 2015-16 | | 2016-17 | | 2017-18 | | Comments |
|-----------------------------------------------------------------|-----------|-----|-----------|-----|-----------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | no. | % | no. | % | no. | % | |
| Years of service ⁱ | | | | | | | |
| 12 months or less | 3 | 5 | 5 | 8 | 0 | 0 | While there were no new employees this year, the workforce has continued to retain its skilled and experienced staff. The retention of employees beyond three years has risen demonstrating stability in our current workforce. |
| 1-3 years | 7 | 11 | 6 | 10 | 6 | 11 | |
| 3-5 years | 5 | 8 | 3 | 5 | 6 | 11 | |
| 5+ years | 46 | 75 | 47 | 77 | 43 | 78 | |
| Average length of service, years | 8 | | 8.3 | | 9.5 | | |
| Salary distribution ^{i & ii} | | | | | | | |
| <\$40,000 | 0 | 0 | 0 | 0 | 0 | 0 | Salary figures have continued to climb driven by the annual EBA and GSERP increments. |
| \$40,000 - 59,999 | 4 | 7 | 1 | 2 | 0 | 0 | |
| \$60,000 - 79,999 | 30 | 49 | 25 | 41 | 19 | 35 | |
| \$80,000 - 99,999 | 10 | 16 | 18 | 30 | 20 | 36 | |
| \$100,000+ | 17 | 28 | 17 | 27 | 16 | 29 | |
| Average Salary ⁱⁱⁱ | \$80,269 | | \$81,524 | | \$83,506 | | |
| Qualifications ⁱ | | | | | | | |
| Year 12 or less | 6 | 10 | 4 | 7 | 4 | 7 | Our employees continue to hold a high level of competency that is transferred into the delivery of their duties. |
| Certificate | 2 | 3 | 1 | 2 | 1 | 2 | |
| Advanced Diploma/Diploma | 11 | 18 | 12 | 20 | 11 | 20 | |
| Degree | 35 | 57 | 35 | 57 | 31 | 56 | |
| Postgraduate Degree/Graduate Diploma | 7 | 11 | 9 | 14 | 8 | 15 | |
| Turnover (total) | 2 | 3 | 5 | 8 | 7 | 13 | This year has seen a higher turnover due to project funding agreements drawing to a close. |
| Turnover (ongoing staff only, % of total turnover) | 1 | 50 | 3 | 60 | 3 | 43 | |
| Exit interviews completed | 1 | 50 | 2 | 40 | 5 | 71 | All departing employee were offered an exit interview. Completed interviews were all voluntary terminations. |
| Absenteeism | | 2.1 | | 2.2 | | 3.0 | Use of sick leave increased slightly this year. |
| Training expenditure (% of employee related expenditure) | \$114,745 | 2.0 | \$149,541 | 2.5 | \$121,982 | 1.9 | Reduction in training as Knowledge Conference with North East CMA and North Central CMA held on biennial basis only. |

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 (2018) of the previous reporting period (2017).

| | June 2018 | | | | | | June 2017 | | | | | | | | |
|---------------------|-----------------|-----------------|-----|-------------------------------------|-----------------|-----|-----------------|-----------------|------|------------------------|-----------------|------|-------------------------------------|-----------------|-----|
| | All employees | | | Fixed term ^{iv} and casual | | | All employees | | | Ongoing ⁱⁱⁱ | | | Fixed term ^{iv} and casual | | |
| | Full time | | FTE | Part time | | FTE | Full time | | FTE | Part time | | FTE | Full time | | FTE |
| | No. (headcount) | No. (headcount) | | No. (headcount) | No. (headcount) | | No. (headcount) | No. (headcount) | | No. (headcount) | No. (headcount) | | No. (headcount) | No. (headcount) | |
| Demographic data | | | | | | | | | | | | | | | |
| Gender | | | | | | | | | | | | | | | |
| Male | 23 | 22.6 | 12 | 2 | 13.6 | 9 | 9.9 | 25 | 24.0 | 12 | 2 | 13.6 | 11 | 10.4 | |
| Female | 32 | 27.7 | 12 | 11 | 19.9 | 9 | 7.8 | 36 | 31.1 | 11 | 13 | 20.0 | 12 | 11.1 | |
| Age | | | | | | | | | | | | | | | |
| 15-24 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 0.0 | 0 | 0.0 | 0 | 0 | 0.0 | 0 | 0.0 | |
| 25-34 | 3 | 2.6 | 1 | 1 | 1.6 | 1 | 1.0 | 5 | 4.6 | 2 | 1 | 2.6 | 2 | 2.0 | |
| 35-44 | 19 | 16.7 | 7 | 8 | 12.7 | 4 | 4.0 | 23 | 19.7 | 8 | 10 | 14.8 | 5 | 4.9 | |
| 45-54 | 19 | 17.8 | 10 | 2 | 11.6 | 7 | 6.2 | 22 | 20.9 | 8 | 3 | 10.4 | 11 | 10.5 | |
| 55-64 | 14 | 13.2 | 6 | 2 | 7.6 | 6 | 5.6 | 11 | 9.9 | 5 | 1 | 5.8 | 5 | 4.1 | |
| 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 | 3 | 2.5 | 2 | 1 | 2.5 | 0 | 0.0 | |
| Band 6 | 8 | 7.0 | 4 | 4 | 7.0 | 0 | 0.0 | 9 | 8.0 | 3 | 4 | 6.0 | 2 | 2.0 | |
| Band 7 | 12 | 10.7 | 5 | 3 | 7.1 | 4 | 3.6 | 14 | 12.7 | 5 | 4 | 7.9 | 5 | 4.8 | |
| Band 8 | 14 | 12.3 | 5 | 4 | 8.1 | 5 | 4.2 | 16 | 13.2 | 5 | 5 | 8.4 | 6 | 4.8 | |
| SEO | 12 | 11.8 | 8 | 1 | 8.8 | 3 | 3.0 | 12 | 11.8 | 8 | 1 | 8.8 | 3 | 3.0 | |
| Senior managers | 6 | 6.0 | 0 | 0 | 0.0 | 6 | 6.0 | 7 | 6.9 | 0 | 0 | 0.0 | 7 | 6.9 | |

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.

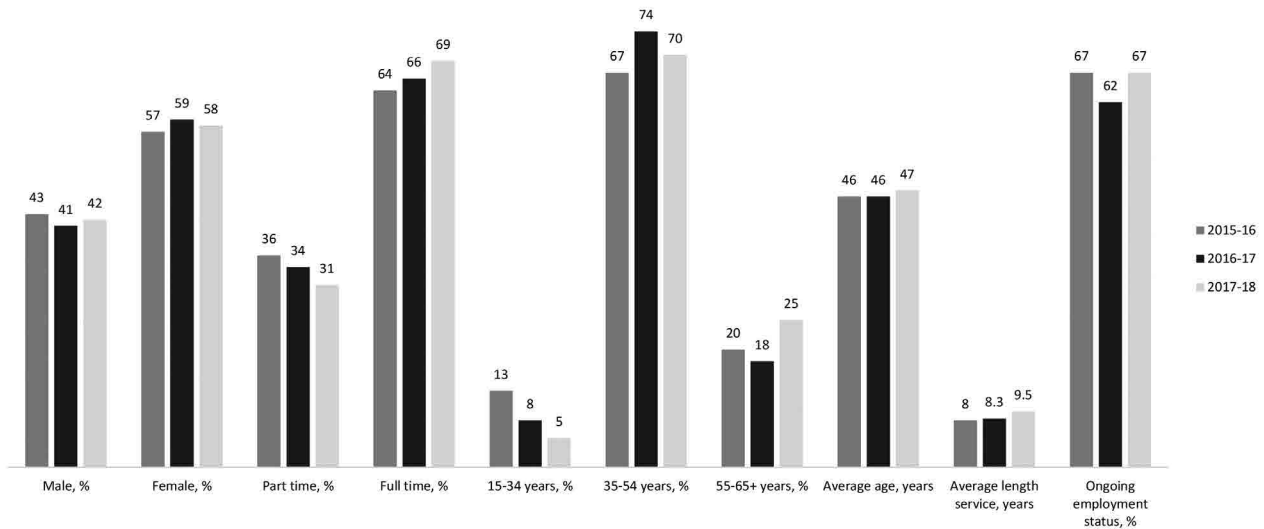
v. Employees are classified as a Band (1 to SEO) under the EBA. Senior managers refers to staff employed under a GSERP contract.

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

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

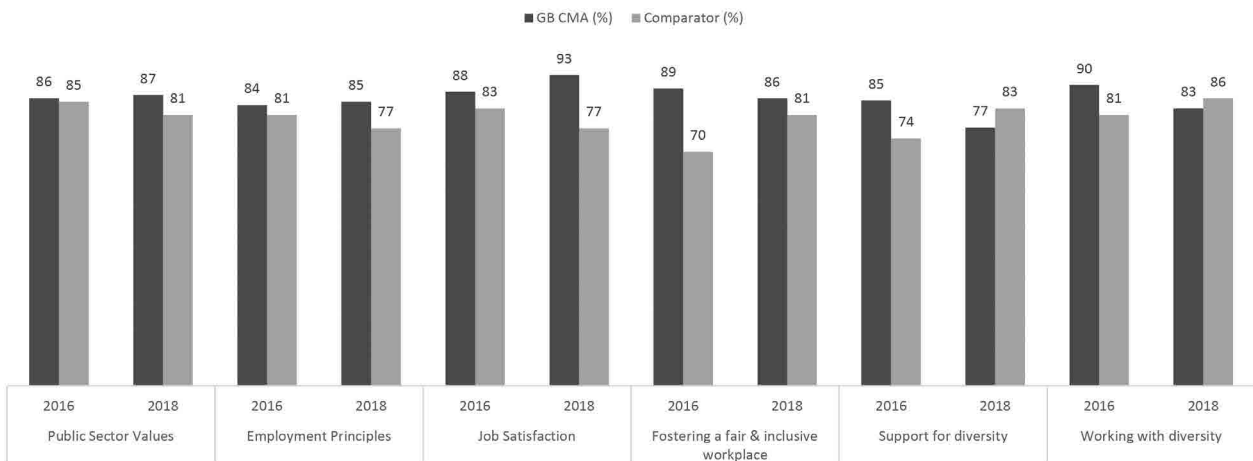
- Income bands in this table differ from Note 8.4 in the Financial Statements as \$ values are based on salary only, not total remuneration package.
- No. of staff in this table differs from Note 8.5 in the Financial Statements as this table includes CEO.

Goulburn Broken CMA people profile



People Matter survey results 2018 – core survey & diversity survey key areas

% of staff responded with positive agreement



2017-18 Occupational Health and Safety performance

A key Occupational Health and Safety outcome in 2017-18 has been the review of the OHS structure from a state-wide perspective, the review of all OHS procedures and supporting documentations and the continued implementation of the iAuditor technology.

Via the iAuditor platform a greater than 78 per cent success rate for the submission of Safe Work Method Statements (SWMS) within a week of works commencing with most on the same day as the works commenced.

This year saw a host of wellbeing initiatives offered including:

- biennial skin checks, completed by 48 employees
- hearing checks, completed by seven employees
- flu immunisations, taken up by 52 per cent of employees
- Greater Shepparton City Council pedometer challenge
- corporate pedometers challenge
- Taste of Harmony.

Refer also to the 2017-18 Occupational Health and Safety performance table on page 77.

Occupational health and safety statistics summary

| | | 2015-16 | 2016-17 | 2017-18 |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------|--------------------|
| Hazards | Hazards reported, no. | 0 | 4 | 5 |
| | Rate per 100 FTE | 0 | 7 | 10 |
| Incidents | Total incidents, no. | 11 | 4 | 5 |
| | Rate per 100 FTE | 20.1 | 7 | 10 |
| | Incidents requiring first aid and/or further medical treatment, no. | 4 | 1 | 1 |
| Claims | No. of Standard claims | 0 | 0 | 0 |
| | Rate per 100 FTE | 0 | 0 | 0 |
| | No. of lost time Standard claims | 0 | 0 | 0 |
| | Rate per 100 FTE | 0 | 0 | 0 |
| | No. claims exceeding 13 weeks | 0 | 0 | 0 |
| Fatalities | Fatality claims | 0 | 0 | 0 |
| | Average cost per Standard claim | 0 | 0 | 0 |
| Return to work | Percentage of claims with RTW plan <30 days | 0 | 0 | 0 |
| Management commitment | Evidence of OHS policy statement, OHS objectives, regular reporting to senior management of OHS, and OHS plans (signed by CEO or equivalent) | Completed | Completed | Completed |
| | Evidence of OHS criteria(s) in purchasing guidelines (including goods, services and personnel) | Completed | Completed | Completed |
| Consultation and participation | Evidence of agreed structure of designated workgroups (DWGs), health and safety representatives (HSRs), and issue resolution procedures (IRPs) | Completed | Completed | Completed |
| | Compliance with agreed structure on DWGs, HSRs, and IRPs | Completed | Completed | Completed |
| Risk management | Percentage of internal audits/inspections conducted as planned | 100 | 75 | 78 |
| | Improvement Notices issued across the Authority by WorkSafe Inspector | 0 | 0 | 0 |
| | Percentage of issues identified actioned arising from: - internal audits - HSR provisional improvement notices (PINs) - WorkSafe notices | 100 n.a. n.a. | 77 n.a. n.a. | 95 n.a. n.a. |
| Training | Percentage of managers and staff that have received OHS training: | | | |
| | - induction | 0 | 100 | n.a. |
| | - management training | 0 | 67 | 100 |
| | - contractors, temps, and visitors | n.a. | 67 | 100 |
| | Percentage of HSRs trained: | | | |
| - acceptance of role | 100 | 100 | 100 | |
| - re-training (refresher) | 66 | 33 | 0 | |
| - reporting of incidents and injuries | 100 | 100 | 100 | |

What's next?

Human resources

- Continuing to deliver workplace wellbeing initiatives via the implementation of the Workplace Health Achievement team plan.
- Ongoing implementation of the Goulburn Broken CMA Diversity & Inclusion Plan, including the delivery of cultural awareness training to all employees.
- Renewal of the Goulburn Broken CMA Workforce Strategy.

Occupational Health and Safety

- Review of our OHS practices for contractors.
- Organisation-wide training on the iAuditor platform to enable all OHS reporting to be undertaken on the one platform.
- Rollout of the Safe Work Instructions via the Rapid Induct platform.

Environmental footprint

Compiled by: Annie Squires.

Long-term and annual scorecard

2017-18 performance On target

| Organisation condition ⁱ | 1990 | 2018 | Long-term risk | Long-term strategy implementation stage |
|-------------------------------------|-----------|------|----------------|-----------------------------------------|
| | Very poor | Poor | Medium | Early |

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

Government investment, \$000

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 0 | 0 | 0 | 0 |

i. Forecast is based on the Corporate Plan 2018-19.

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 24D 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 79 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 downward trend with continued improvements in energy use and vehicle emissions (our biggest greenhouse gas emissions sources), waste management and paper use.

2017-18 performance

Total emissions rose slightly during 2017-18, primarily due to increases in electricity use and air travel. Total greenhouse gas emissions for the year are still almost 21 per cent below 2006-07 levels. Emissions per FTE have risen to 9.5 t CO₂e, but are still 25 per cent lower than 2006-07 levels. Overall the Authority continues to meet its target of 20 per cent below 2006-07 levels of total emissions.

Electricity emissions are still approximately 28 per cent below 2006-07 levels, even though consumption rose slightly during 2017-18. The low energy LED lights installed in the Shepparton office in April 2016 continue to result in significant savings in electricity use.

Vehicle fleet emissions continued the downward trend with a five per cent fall in total kilometres travelled for the year. This, combined with ongoing improvements in the vehicle fleet of fuel efficient, lower emission vehicles, resulted in reduced emissions for the year. Total emissions from vehicles are now 21 per cent below 2006-07 levels.

Paper use fell to less than to 9.7 A4 equivalent reams per FTE, which remains well below the target 2006-07 level of 14.2 reams per FTE.

Flight emissions rose compared to recent years due to several staff presenting papers at conferences overseas.

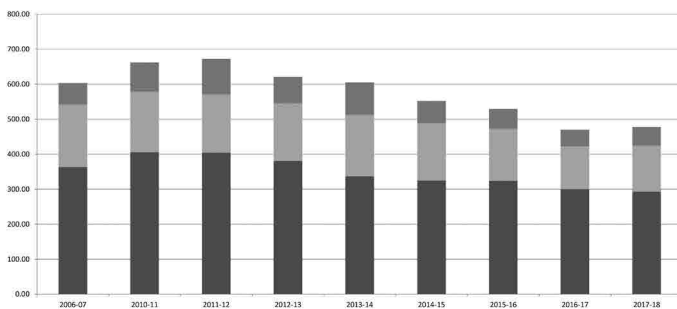
Waste emissions are not a significant component of our total emissions. Waste to landfill rose again from 5.5 kg per FTE to 7.6 kg, which is still well below the target of less than 10 kg per FTE. Recycling rates remained steady at 77 per cent of total waste, falling short of the 90 per cent target.

Office-based environmental impacts reporting

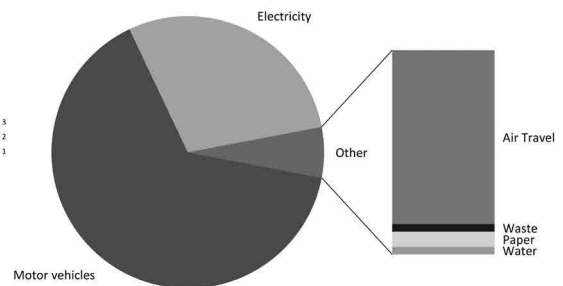
| Sustainability report | 2006-07 (base year) | | 2016-17 | | 2017-18 | |
|--------------------------------------------------------|---------------------|--------------------------------------|-------------|--------------------------------------|-------------|--------------------------------------|
| | 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 | 12,061 | 29 | 5,402 | 13 |
| Diesel for vehicles (L) | 66,127 | 178 | 99,662 | 271 | 103,076 | 280 |
| LPG for vehicles (L) | 8,936 | 14 | - | - | - | - |
| Distance travelled by fleet vehicles (km) | Not avail. | | 1,490,252 | | 1,398,241 | |
| Total Scope 1 | | 363 | | 300 | | 293 |
| Indirect emissions (Scope 2) | | | | | | |
| Electricity (kilowatt hour) | 147,930 | 179 | 112,843 | 123 | 121,374 | 131 |
| Total Scope 2 | | 179 | | 123 | | 131 |
| Optional emissions (Scope 3) ⁱ | | | | | | |
| Electricity (transmission & distribution losses) (kWh) | 147,930 | 22 | 112,843 | 11 | 121,374 | 12 |
| Flights (km) | Not avail. | | 66,288 | 17 | 96,611 | 23 |
| Waste - landfill (kg) | 8,680 | 9 | 267 | 0 | 338 | 1 |
| Water consumption (kL) | Not avail. | | 350 | 1 | 433 | 1 |
| Paper consumption (reams) | 514 | 2 | 571 | 2 | 431 | 2 |
| Petrol (extraction, production, etc.) (L) | 74,711 | 14 | 12,061 | 2 | 5,402 | 1 |
| Diesel (extraction, production, etc.) (L) | 66,127 | 13 | 99,662 | 14 | 103,076 | 14 |
| LPG (extraction, production, etc.) (L) | 8,936 | 1 | - | 0 | - | - |
| Total Scope 3 | | 61 | | 47 | | 54 |
| Total Scope 1 + 2 | | 542 | | 423 | | 424 |
| Total Scope 1 + 2 + 3 | | 603 | | 470 | | 478 |
| Offsets purchased (% air travel) | - | | 11 | | 2 | |

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



2017-18 Emissions by source activity



Governance

Compiled by Eileen Curtis, Shannon Crawford and Kate Brunt.

Long-term and annual scorecard

| | | | | |
|-------------------------------------|-----------|------|----------------|-----------------------------------------|
| 2017-18 performance | On target | | | |
| Organisation condition ⁱ | 1990 | 2018 | Long-term risk | Long-term strategy implementation stage |
| | n.a. | Good | Medium | Watch & maintain |

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

Government investment, \$000

| 2015-16 | 2016-17 | 2017-18 | 2018-19 ⁱ |
|---------|---------|---------|----------------------|
| 1,694 | 1,564 | 1,214 | 1,445 |

i. Forecast is based on the Corporate Plan 2018-19.

Major strategic references

The Goulburn Broken Corporate Plan 2017-18 to 2021-22 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.
- 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.

2017-18 performance

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

What's next?

The Goulburn Broken CMA is a mature organisation with an optimum corporate structure managing a revenue base of \$33.1 million in 2017-18.

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 2018-19 will be based on 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.
- Implementation of actions identified in the Diversity Plan 2017.

Goulburn Broken CMA's legislative and funding context

Refer to 'Objectives, functions, powers and duties' on page 82 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 \$31.8 million was sourced from Regional, State and Commonwealth Government sources in 2017-18. It is estimated that the regional community contributes (in-kind and via products and services) about the same that governments contribute.

An increasing amount of government funding received is from initiative funding sources.

All works undertaken are in line with State, Murray-Darling Basin and National strategies.

Objectives, functions, powers and duties of the Goulburn Broken CMA

The Goulburn Broken CMA has responsibilities under two Statements of Obligations, one under the *Catchment and Land Protection Act* (for obligations under that Act) and another under the *Water Act* (for obligations under that Act).

Catchment and Land Protection (CaLP) Act 1994

The responsibilities of the Goulburn Broken CMA as they relate to the *CaLP Act 1994* are as follows:

- Prepare, coordinate, monitor and review the Regional Catchment Strategy.
- Prepare and submit an annual report on the condition and management of land and water resources in the region.
- Prepare and submit a corporate plan to the Minister by 30 June each year.
- Comply with the Statement of Obligations.

Water Act 1989

Under the *Water Act 1989*, the Goulburn Broken CMA aims to reduce the impact of flood damage to new buildings, help conserve and preserve flora, fauna and habitat in designated waterways and to reduce water quality decline.

This is done by providing:

- Permits to construct and operate works on a waterway, compliance and community education.
- Resources to planning permit referrals for developments within a flood prone area.
- Responses to applications for flood levels, flood risk reports and flood information before development.
- Flood planning information and advice to councils, state emergency services, developers and others.
- Flood response action plans, including collection of flood information during and after a flood and assistance with emergency planning and flood warning.
- Flood data management.
- Comply with the Statement of Obligations.

Guiding principles

In performing its functions and providing its services the Authority shall recognise the importance of:

- a. Operating to the highest standards of public sector governance and performance in order to deliver outcomes for government, the environment and Victorian communities;
- b. Balancing social, economic, environmental and Aboriginal and Traditional Owner outcomes, and the connection Traditional Owners have to Country and their rights and role as land managers;
- c. Collaborating and forming partnerships with the community and partner agencies;
- d. Planning and making decisions within an integrated catchment management context;
- e. Optimising shared benefits across the community, including Aboriginal and Traditional Owners groups and recreational users;
- f. Climate change as a challenge to the management of natural assets;

- g. Targeting investment to address priorities and deliver maximum improvement in the condition of catchments;
- h. Ensuring alignment between state, regional and local planning;
- i. Consistent and effective community engagement in the integrated planning and management of catchments, and of connecting people with nature and the importance of biodiversity to Victorians;
- j. Strengthening Victoria's catchment management framework through collaborative statewide approaches;
- k. Acting as the caretaker of waterway health and providing regional leadership on issues relating to waterway health;
- l. Undertaking the operational management of the Environmental Water Reserve as a key component of an integrated program of waterway, floodplain and aquifer restoration.

Goulburn Broken CMA's corporate governance practices

Sound and ethical corporate governance practices underpin the Goulburn Broken CMA's overall performance including compliance with what is required and expected of it. This is codified in the Goulburn Broken CMA's Financial Code of Practice which all employees are obligated to comply with.

Planning Framework

The Goulburn Broken CMA's planning framework is described within the 'Regional Catchment Strategy, resilience and climate change' section on page 18.

Attestation for financial management compliance with Ministerial Standing Direction 5.1.4

I, Adrian Weston, on behalf of the Responsible Body, certify that the Goulburn Broken CMA has complied with the applicable Standing Directions of the Minister for Finance under the *Financial Management Act 1994* and Instructions.



Adrian Weston

Chair

23 August 2018

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.



Board Directors (L-R): Chris Norman (CEO), Annie Volkering (immediate past Chair), Kate Stothers, Ron Harris, Helen Reynolds, Adrian Appo, Kate Hawkins, Adrian Weston (Chair), Jenny Ford, Sam Lolicato.

Annie Volkering – Chair (from 1 October 2017 to 2 May 2018)

Annie has more than 30 years' experience working in natural resource and public land management in Victoria. She also has extensive governance, leadership and financial management experience and currently holds an executive role with the Environment Protection Authority (EPA). Annie is an Australian Institute of Company Directors Graduate, a Williamson Community Leadership Program Alumna and has served on the University of Melbourne's Melbourne Sustainable Society Institute and Office of Environmental Programs advisory boards.

Adrian Weston – Deputy/Acting Chair (Chair from 20 August 2018)

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

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.

Kate Stothers

Kate lives in Upton and has many years' experience in sustainable land management, private land conservation and community development. She also has a strong interest in community-based democracies and advocating for climate change action. Kate's farming background, extensive contacts and networks, environmental restoration skills and professional experience provide her with a good understanding of the Catchment community's natural resource management priorities. Kate believes that using the natural ecological processes of our land and water scapes as the basis to determine community-driven local pathways towards sustainable land management practices is the key to addressing challenges such as climate change.

Helen Reynolds - Deputy Chair

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

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 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.

Jenny Ford (from 1 October 2017)

Jenny has held senior executive roles in corporate affairs, economic development, tourism and strategic planning in the public and private sectors. She is currently employed in the not-for-profit sector. Jenny has extensive experience in external and internal stakeholder management, community engagement, public policy and media and issues management. Jenny sees changes in population, land use and water policy as the greatest challenges facing the catchment. She believes working in collaboration with a well-informed community is the best way to understand and plan for the social and economic effects of current and future governments' natural resource management policy decisions.

Ron Harris (from 1 October 2017)

Ron is a beef producer at Nagambie and has a strong understanding and interest in sustainable agriculture, operations and policy after working for Victorian Government agriculture departments over many years. Ron is currently Chair of the Wild Dog Management Advisory Committee and the Cattle Council Advisory Committee and is a member of the Victorian Agricultural Advisory Committee. He is also a VFF member.

Sam Lolicato (from 1 October 2017)

Sam is an Agricultural Scientist who farms apples and other irrigated crops near Tatura. He has extensive agricultural industry knowledge and experience gained through working in and with communities in northern Victoria and southern NSW. He is involved with local community and grower groups and is interested in initiatives that achieve a balance between environmental, social and economic production considerations.

Murray Chapman – Chair (until 30 September 2017)

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 (until 30 September 2017)

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 Victorian Landcare Council and Australian Landcare International. Sandy is also a Community Assessor for the Federal Government NRM programs 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).

Ailsa Fox (until 30 September 2017)

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 an opportunity in natural resource management to balance agriculture both financial and social issues with the expectations of the Environment.

Board members and meeting attendance 2017-18

| Name | Position | Term | Attended | Eligible to attend |
|-----------------------------|--------------------------------------------------------|----------------------------------|----------|--------------------|
| Murray Chapman | Chair | 1 July 2017 -30 September 2017 | 3 | 3 |
| Adrian Weston | Deputy chair ⁱ , Acting chair ⁱⁱ | 1 July 2017 to 30 June 2018 | 10 | 11 |
| Adrian Appo ⁱⁱⁱ | | 1 July 2017 to 30 June 2018 | 9 | 11 |
| Ailsa Fox | | 1 July 2017 to 30 September 2017 | 3 | 3 |
| Alexander (Sandy) MacKenzie | | 1 July 2017 to 30 September 2017 | 3 | 3 |
| Kate Hawkins | | 1 July 2017 to 30 June 2018 | 11 | 11 |
| Kate Stothers | | 1 July 2017 to 30 June 2018 | 9 | 11 |
| Helen Reynolds | Deputy chair ^{iv} , Acting chair ^v | 1 July 2017 to 30 June 2018 | 11 | 11 |
| Annie Volkering | Chair ^{vi} | 1 October 2017 to 2 May 2018 | 5 | 6 |
| Jenny Ford | | 1 October 2017 to 30 June 2018 | 8 | 8 |
| Ron Harris | | 1 October 2017 to 30 June 2018 | 8 | 8 |
| Sam Lolicato | | 1 October 2017 to 30 June 2018 | 8 | 8 |

i. Director Weston was appointed Deputy Chair from 26 October 2017.

ii. Director Weston was Acting Chair for the following periods: 5 June to 15 July 2017, 23 November to 4 December 2017 and 2 May to 30 June 2018.

iii. Director Appo resigned from the Board effective 30 June 2018.

iv. Director Reynolds was appointed Deputy Chair from 11 May 2018 for the period of time that Director Weston was Acting Chair

v. Director Reynolds was appointed Acting Chair for the period 16 May 2018 to 31 May 2018.

vi. Director Volkering (Chair) resigned effective of 2 May 2018 with Director Weston being appointed Acting Chair by the Minister at this time.

Board Committees

The Goulburn Broken CMA has established an Audit Risk and Compliance Committee and a Remuneration Committee. Both committees operate under the terms of their respective Charter.

Audit, Risk and Compliance Committee

The members of the Audit, Risk and Compliance committee in 2017-18 are detailed in the table below.

The responsibilities of the Audit, Risk and Compliance Committee are set out in Standing Direction 3.2.1.1.

Key responsibilities of the Audit, Risk and Compliance Committee are to:

- Review and report independently to the board on the annual report and all other financial information published by Goulburn Broken CMA.
- Assist the board in reviewing the effectiveness of Goulburn Broken CMA's internal control environment covering:
 - effectiveness and efficiency of operations
 - reliability of financial reporting
 - compliance with applicable laws and regulations.
- Determine the scope of the internal audit function and ensure its resources are adequate and used effectively, including coordination with the external auditors.
- Maintain effective communication with external auditors, consider recommendations made by internal and external auditors and review the implementation of actions to resolve issues raised.
- Oversee the effective operation of the risk management framework.

Members are appointed by the board, usually for a three-year term, and are subject to the committee's terms of reference.

Meetings are held quarterly and at any other time on request of a committee member or the internal or external auditor. In 2017-18, the committee met five times. Attendance of committee members is detailed in the table below.

| Name | | Term | Attended | Eligible to attend |
|-----------------------------|------------------------|----------------------------------|----------|--------------------|
| Kate Stothers | Chair, independent | 1 July 2017 to 30 June 2018 | 4 | 5 |
| Adrian Weston | Independent | 1 July 2017 to 30 June 2018 | 4 | 5 |
| Alexander (Sandy) MacKenzie | Independent | 1 July 2017 to 30 September 2017 | 1 | 2 |
| Kate Hawkins ⁱ | Independent | 1 July 2017 to 30 June 2018 | 4 | 5 |
| Murray Chapman | Ex officio | 1 July 2017 to 30 September 2017 | 1 | 1 |
| Ron Harris | Independent | 1 October 2017 to 2 May 2018 | 3 | 3 |
| Annie Volkering | Ex officio | 1 October 2017 to 2 May 2018 | 0 | 2 |
| Ross Runnalls | External appointee | 1 July 2017 to 30 September 2017 | 1 | 2 |
| Craig Marshall | CPA external appointee | 1 July 2017 to 30 June 2018 | 4 | 5 |

ⁱ Director Hawkins was appointed Acting Chair of the Audit Risk and Compliance Committee for the period of time that Director Stothers was on leave starting 11 May 2018 (and Director Harris was appointed as Acting Chair of the Audit Risk and Compliance Committee if Director Hawkins becomes unavailable).

Remuneration Committee

To assist the Board, the Remuneration Committee oversees the implementation of the Victorian Government's Remuneration Policy as it applies to the Goulburn Broken CMA CEO and any roles with a significant management responsibility.

The members of the Remuneration committee in 2017-18 are listed in the table below.

| Name | | Term |
|-----------------|------------------------|----------------------------------|
| Adrian Appo | Chair to 30 May 2018 | 1 July 2017 to 30 June 2018 |
| Helen Reynolds | Chair from 1 June 2018 | 1 July 2017 to 30 June 2018 |
| Ailsa Fox | | 1 July 2017 to 30 September 2017 |
| Murray Chapman | Ex officio | 1 July 2017 to 30 September 2017 |
| Jenny Ford | | 1 October 2017 to 30 June 2018 |
| Annie Volkering | Ex officio | 1 October 2017 to 2 May 2018 |
| Sam Lolicato | | 1 October 2017 to 30 June 2018 |

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 | 2017-18 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.' | 2016-17 Annual Report submitted on time and 2017-18 on schedule. |
| | Corporate Plan to be submitted to the Minister under the <i>Catchment and Land Protection Act 1994</i> by 30 June annually. | Submitted to Minister on 28 June 2018. |
| | 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. |
| <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> . See page 82 for Statement regarding level of compliance with Standing Direction. |

| Act or policy | Board's major tasks | 2017-18 issues and status |
|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p><i>Freedom of Information Act 1982</i></p> | <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 <i>Freedom of Information Act</i>. 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 \$28.90 (from 1 July 2018) 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>An applicant has a right to apply for access to documents held by the Authority. This comprises documents both created by the Authority or supplied to the Authority by an external organisation or individual, and may also include maps, films, microfiche, photographs, computer printouts, computer discs, tape recordings and videotapes.</p> <p>The Act allows the Authority to refuse access, either fully or partially, to certain documents or information. Examples of documents that may not be accessed include: cabinet documents; some internal working documents; law enforcement documents; documents covered by legal professional privilege, such as legal advice; personal information about other people; and information provided to the Authority in-confidence.</p> <p>From 1 September 2017, the Act has been amended to reduce the Freedom of Information (Fol) processing time for requests received from 45 to 30 days. In some cases, this time may be extended.</p> <p>If an applicant is not satisfied by a decision made by the Department, under section 49A of the Act, they have the right to seek a review by the Office of the Victorian Information Commissioner (OVIC) within 28 days of receiving a decision letter.</p> <hr/> <p>Fol statistics/timeliness</p> <p>During 2017-18, the Authority received one application from the general public.</p> <p>The Authority made one Fol decision during the 12 months ended 30 June 2018.</p> <p>Nil decisions were made within the statutory 30 day time period; one decision within an extended statutory 30-45 day time period; nil decisions within 46 to 90 days; and nil decisions in greater than 90 days.</p> <p>The average time taken to finalise requests in 2017-18 was 45 days.</p> <p>During 2017-18, nil requests were subject to a complaint/internal review by OVIC.</p> <hr/> <p>Making a request:</p> <p>Fol requests can be lodged online at www.foi.vic.gov.au. An application fee of \$28.90 applies. Access charges may also be payable if the document pool is large, and the search for material, time consuming.</p> <p>Access to documents can also be obtained through a written request to the Goulburn Broken CMA's Freedom of Information officer, as detailed in s17 of the <i>Freedom of Information Act 1982</i>.</p> <p>When making an Fol request, applicants should ensure requests are in writing, and clearly identify what types of material/documents are being sought.</p> <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> |

| Act or policy | Board's major tasks | 2017-18 issues and status |
|---------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Public Administration Act 2004</i> | Ensure operations of Board comply with Part 5. | Policy and Procedures ensure that obligations and best practice approaches are built into current operations and practices. The Goulburn Broken CMA is committed to applying merit and equity principles when appointing staff. The selection processes ensure that applicants are assessed and evaluated fairly and equitably on the basis of the key selection criteria and other accountabilities without discrimination. |
| <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 91 for policy). |
| <i>Environmental Protection Act 1970</i> | Protection agencies need to report in their annual reporting processes, actions taken to implement the Policy (as per their responsibilities in State Environment Protection Policy (Waters of Victoria) and Schedules), so that Environment Protection Authority can then report to the community. | The Goulburn Broken CMA continued to support the implementation of the Partnership Agreement for the Preparedness and Response to Waterway Incidents in the Goulburn Broken Catchment (2007). |
| | Outlines CMAs roles with respect to set goals, priorities and targets. | |
| | Refers to water allocations and environmental flows. | |
| | Relates to responsibilities of various agencies for ensuring sustainable agricultural activities with the catchment. | |
| | Relates to the management of irrigation channels and drains. | |
| <i>Flora and Fauna Guarantee Act 1988</i> | Refers to vegetation protection and rehabilitation. | The Goulburn Broken CMA continues to support the implementation of action statements and recovery plans for threatened flora and fauna by DELWP. |
| | 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. | |
| <i>Privacy and Data Protection Act 2014</i> | Ensure details of individuals are protected. | Goulburn Broken CMA has reviewed the Privacy Procedure (in accordance with the Act) on how personal information is stored and under what circumstances it can be accessed or released to third parties. |
| <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>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> . |
| <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. |

| Act or policy | Board's major tasks | 2017-18 issues and status |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Equal Opportunity Act 2010</i> | Annual data return reporting gender, diversity and complaints lodged and investigated. | <p>The Goulburn Broken CMA is an equal opportunity employer.</p> <p>In 2017 the first Diversity & Inclusion Action Plan was developed for the Goulburn Broken CMA.</p> <p>Kate Montgomery is the sexual harassment contact officer. No complaints were received in the reporting period.</p> <p>Of the Goulburn Broken CMA staff, 58 per cent are female and 42 per cent male (see page 75).</p> <p>Of the Goulburn Broken CMA Board members, as at 30 June 2018, 50 per cent are female and 50 per cent male (see page 83).</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, 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>The Goulburn Broken CMA processed 805 referral and advice applications relating to floodplain management and 66 applications for works on waterways for 2017-18 .</p> |
| | Board is advised of application refusals at each (monthly) meeting. | Decisions are made in accordance with the Victorian Floodplain Management Strategy, the Goulburn Broken Regional Floodplain Management Strategy, the Victorian Planning Provisions Practice Notes and Authority Policy, all of which have largely been incorporated into respective municipal planning schemes as performance based criteria. |
| | Local government can request advice but are not required to implement it. | Advice has been provided where appropriate. |
| <i>Competitive Neutrality Policy</i> | 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 continues to comply with the requirements of the Competitive Neutrality Policy. |

| Act or policy | Board's major tasks | 2017-18 issues and status |
|--------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 2017-18, Goulburn Broken CMA did not commence any contracts valued at over \$1m which a VIPP Plan or LIDP was required. |
| <i>Occupational Health and Safety Act 2004</i> | <p>Report Occupational Health and Safety (OHS) issues at each (monthly) board meeting and in Annual Report.</p> <p>Quarterly Report of measurable OHS targets to the Audit Risk and Compliance Committee.</p> | <p>Goulburn Broken CMA continues to review and update its OHS Policy Statement and supporting OHS procedures to provide and maintain a safe work environment for employees as per section 21 of the <i>OHS Act 2004</i>.</p> <p>All staff, volunteers and contractors are inducted in the procedures that reflect their work function.</p> <p>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>.</p> <p>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.</p> |
| <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. | <p>Goulburn Broken CMA's policies have been evaluated for alignment against the Act and are available to staff on its portal (intranet).</p> <p>The enterprise agreement was renewed in February 2017.</p> |
| 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. | See page 82 for Statement regarding Goulburn Broken CMA compliance with Ministerial Standing Direction. |
| <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 did not supply any data sets to DataVic during 2017-18. |
| 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 continues to provide information regarding rights and responsibilities to all new staff as part of the induction process. The 2018 People Matters survey showed a significant improvement in staff knowledge around how the charter relates to the Goulburn Broken CMA. |

Statement of availability of other information

The Goulburn Broken CMA 2017-18 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:

Eileen Curtis, Corporate Program Manager, Goulburn Broken CMA, PO Box 1752, Shepparton VIC 3630
Phone (03) 5822 7700.

Additional information included in annual report

Details in respect of the following items have been included in Goulburn Broken CMA's annual report, on the pages indicated below:

- assessments and measures undertaken to improve the occupational health and safety of employees (on page 76)
- 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 85)
- a statement of completion of declarations of pecuniary interests by relevant officers (on page 86).

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 2017-18).

Compliance with *Protected Disclosure 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
- risk to public health or safety or the environment
- 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.

Corporate Plan key performance indicators*

* KPIs derived from current Corporate Plan as per the 2015 Ministerial Form guidelines.

| Performance area | Performance target | Progress 2017-18 |
|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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. | Eighty six per cent of policies and procedures updated within the three 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 2016-18 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 Regional Floodplain Management Strategy 2018-2028 was completed and endorsed by the board in December 2017 and is being implemented. |
| | Land and water management plans (LWMP) in designated irrigation areas (or equivalent) approved by the board. | The SIR LWMP 2016 Review was completed and approved by the board in August 2016. |
| | The regional contribution to the annual report on salinity management activities and the allocation and update of salt disposal entitlements is submitted to the department by 31 July or as otherwise directed by the department. | The 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 March 2018. |
| | Projects/activities to implement the RCS are delivered and reported according to associated funding agreements. | Planned projects for 2017-18 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 2017-18 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 2017-18 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. | Ninety nine per cent of responses were within the prescribed period. |

| Performance area | Performance target | Progress 2017-18 |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| 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. | One hundred per cent of responses were within the prescribed period |

Strategic organisational measures

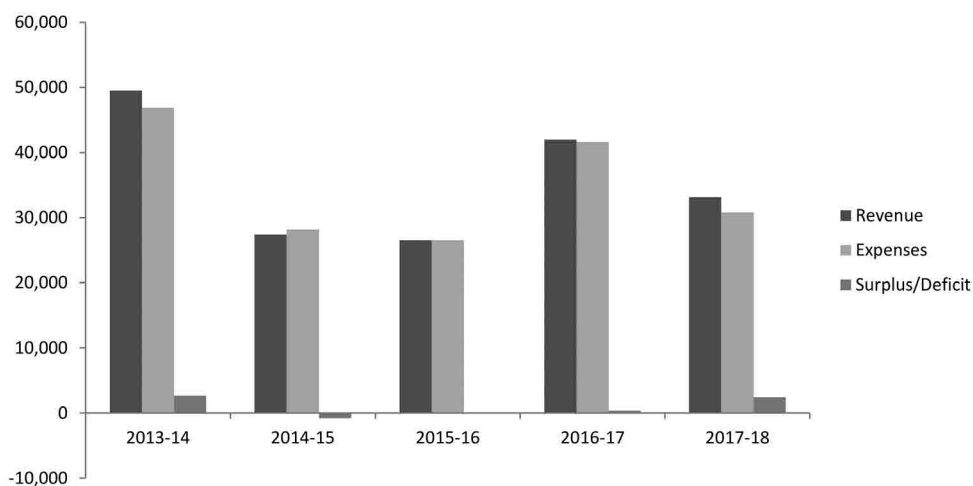
| Performance area | Performance indicators | Targets | Progress 2017-18 |
|---------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NRM Results | Catchment objectives are achieved or evidence demonstrates movement towards meeting the objectives. | 20-30 year objectives for Catchment condition. | On target. See pages 12-13 and 18-23 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. | <p>Satisfaction rating as rated by people having contact with the CMA.</p> <p>Awareness of the Goulburn Broken CMA as a land, water and biodiversity management body.</p> | <p>The 2017 Wallis Community Awareness survey found:</p> <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 four 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. | <p>Progress against agreed RCS Implementation Plan.</p> <p>Performance against Annual Internal Audit Plan.</p> <p>% projects finished on time and on budget (trend over time, and by service provider).</p> | <p>On track.</p> <p>On track.</p> <p>In 2017-18, standard output targets for program areas have been met for 76 per cent of funding lines during the financial year (41 from 54 funding lines). This compares to 80 per cent in 2016-17.</p> |
| 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. | <p>Ratio of CMA staff : \$ works on the ground (as a measure of leverage).</p> <p>Growth in income (incl. proportion of Govt. to Non-Govt.).</p> | <p>Ratio of 1.8 FTE staff for every \$1 million of onground works.</p> <p>The total government funded revenue decreased by 21 per cent from prior year at \$31.9 million and accounts for 96 per cent of total revenue. The majority of the decrease was for Australian Government funded Farm Water Program.</p> |
| 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. | <p>Organisational Leadership (in the Organisational Performance Excellence Review).</p> <p>Overall job satisfaction (% of staff).</p> | <p>7.5/10 recognised at best practice level from Organisational Performance Excellence Review 2015.</p> <p>As at 2018, 93 per cent of staff were satisfied with their job. An increase of 5 per cent on the 2016 survey results</p> |
| Governance and Social Responsibility | Governance structures and processes enable the board to professionally and competently discharge their responsibilities to the Catchment community. | <p>Strategy and purpose (Aggregated results from Board Assessment).</p> <p>Compliance and Reporting (Aggregated results from Board Performance Assessment).</p> | On track. |

Financial results summary: current plus past four years

| | 2013-14 | 2014-15 | 2015-16 | 2016-17 | 2017-18 |
|--------------------------------------|----------------|---------------|---------------|---------------|----------------|
| Income and expenditure | | | | | |
| State Government | 34,753 | 9,921 | 10,808 | 12,033 | 14,802 |
| Australian Government | 12,430 | 14,371 | 13,962 | 28,516 | 17,065 |
| Government contributions | 47,183 | 24,292 | 24,770 | 40,549 | 31,867 |
| Revenue from government entities | 260 | 1,213 | 728 | 781 | 863 |
| Other revenues | 2,081 | 1,911 | 1,041 | 654 | 432 |
| Total income | 49,524 | 27,416 | 26,539 | 41,984 | 33,162 |
| Expense | | | | | |
| Interest | 10 | 54 | 5 | 2 | - |
| Total expenses | 46,898 | 28,226 | 26,561 | 41,629 | 30,779 |
| NET RESULT | 2,626 | (810) | (22) | 355 | 2,383 |
| Balance sheet items | | | | | |
| Current assets | | | | | |
| Cash | 13,266 | 12,489 | 13,708 | 23,733 | 14,692 |
| Receivables | 3,142 | 1,100 | 673 | 555 | 898 |
| Inventories | - | - | - | - | - |
| Prepayments | 173 | 70 | 209 | 158 | 216 |
| Total current assets | 16,581 | 13,659 | 14,590 | 24,446 | 15,806 |
| Fixed assets | 1,492 | 1,257 | 1,247 | 1,120 | 970 |
| Total assets | 18,073 | 14,916 | 15,837 | 25,566 | 16,776 |
| Current liabilities | | | | | |
| Trade creditors | 1,956 | 849 | 804 | 1,340 | 1,084 |
| Unearned revenue | 3,682 | 3,003 | 3,771 | 12,269 | 1,173 |
| Borrowings | 39 | 35 | 26 | 14 | - |
| Accruals | 770 | 304 | 450 | 720 | 590 |
| Provisions | 1,742 | 1,582 | 1,735 | 1,904 | 2,256 |
| Total current liabilities | 8,189 | 5,773 | 6,786 | 16,247 | 5,103 |
| Non-current liabilities | | | | | |
| Borrowings | 32 | 43 | 15 | - | - |
| Other | 96 | 154 | 112 | 40 | 11 |
| Total non-current liabilities | 128 | 197 | 127 | 40 | 11 |
| NET ASSETS | 9,756 | 8,946 | 8,924 | 9,279 | 11,662 |
| Equity items | | | | | |
| Contributed capital | 4,209 | 4,209 | 4,209 | 4,209 | 4,209 |
| Reserves | 5,547 | 4,737 | 4,715 | 5,070 | 7,453 |
| TOTAL EQUITY | 9,756 | 8,946 | 8,924 | 9,279 | 11,662 |
| Cash flow items | | | | | |
| Net operating activities | (9,253) | (608) | 1,635 | 10,269 | (8,821) |
| Net investing activities | (579) | (132) | (380) | (218) | (206) |
| Net financing activities | (48) | (37) | (36) | (27) | (14) |
| Net cash movement | (9,880) | (777) | 1,219 | 10,024 | (9,014) |

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

Financial summary 2013-14 to 2017-18, \$000



Significant changes in financial results for 2017-18

| | Original Corporate Plan April 2017 \$000 | Corporate Plan ⁱ September 2017 \$000 | Actual \$000 |
|------------------------------------------|---------------------------------------------|-----------------------------------------------------|-----------------|
| Comprehensive Operating Statement | | | |
| Total revenue | 48,194 | 31,018 | 33,162 |
| Total expenditure | 47,651 | 32,507 | 30,779 |
| Net result | 543 | (1,489) | 2,383 |
| Statement of financial position | | | |
| Cash and receivables | 14,298 | 11,778 | 15,590 |
| Other | 150 | 160 | 216 |
| Non-current assets | 1,330 | 1,130 | 970 |
| Total assets | 15,778 | 13,068 | 16,776 |
| Liabilities | | | |
| Current | 7,986 | 5,237 | 5,103 |
| Non-current | 119 | 41 | 11 |
| Total liabilities | 8,105 | 5,278 | 5,114 |
| Net assets | 7,673 | 7,790 | 11,662 |

i. In September 2017 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 2018 of \$2.4 million surplus compared to the Corporate Plan deviation of \$1.5 million deficit related to additional unbudgeted funds of approximately \$3.0 million and delays in contracted works of approximately \$1.0 million.

Significant changes or factors affecting performance

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

Consultancy expenditure

| | 2013-14 | | 2014-15 | | 2015-16 | | 2016-17 | | 2017-18 | |
|---------------------------------------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|---------|----------------|
| | No. | \$ (excl. GST) | 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 | 40 | 890,530 |
| Consultancies valued at less than \$10,000 | 96 | 268,240 | 32 | 101,822 | 51 | 131,139 | 32 | 111,794 | 22 | 66,491 |

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 2017-18 reporting period, Goulburn Broken CMA had a total ICT expenditure of \$689,517 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 | | \$ | \$ |
| 598,680 | 90,837 | | 36,095 | 54,742 |

- 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 2017-18, Goulburn Broken CMA did not commence any contracts valued at over \$1m which a VIPP Plan or LIDP was required.

Government advertising expenditure

Nil advertising campaigns with a media spend of \$100,000 or greater were entered into during the year.

Disclosure of major contracts

Goulburn Broken CMA did not award any major contracts (valued at \$10 million or more) during 2017-18.

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 2018 and financial position of the Goulburn Broken CMA at 30 June 2018.

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 23 August 2018.



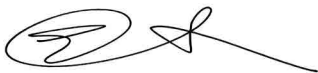
A Weston

Chair



C P Norman

Chief Executive Officer



E Curtis

Chief Finance Officer

23 August 2018

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 2018 • comprehensive operating statement for the year then ended • statement of changes in equity for the year then ended • cash flow statement for the year then ended • notes to the financial statements, including significant accounting policies • accountable officers' and chief finance officer's declaration. <p>In my opinion, the financial report presents fairly, in all material respects, the financial position of the authority as at 30 June 2018 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. I further describe my responsibilities under that Act and those standards 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 Victoria. 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, disclosing, as applicable, matters related to 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 my opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the authority's internal control
- evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Board
- conclude on the appropriateness of the Board's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the authority's ability to continue as a going concern. If I conclude that a material uncertainty exists, I am required to draw attention in my auditor's report to the related disclosures in the financial report or, if such disclosures are inadequate, to modify my opinion. My conclusions are based on the audit evidence obtained up to the date of my auditor's report. However, future events or conditions may cause the authority to cease to continue as a going concern.
- evaluate the overall presentation, structure and content of the financial report, including the disclosures, and whether the financial report represents the underlying transactions and events in a manner that achieves fair presentation.

I communicate with the Board regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that I identify during my audit.

MELBOURNE
27 August 2018



Paul Martin
as delegate for the Auditor-General of Victoria

Comprehensive Operating Statement for the financial year ended 30 June 2018

| | Note | 2018 \$000 | 2017 \$000 |
|-------------------------------------------------------------|-------|-----------------|-----------------|
| Revenue from operating activities | | | |
| Government contributions | 2.2.1 | 31,867 | 40,549 |
| Interest | 2.2.2 | 306 | 323 |
| Other revenue | 2.2.3 | 995 | 1,058 |
| TOTAL REVENUE | | 33,168 | 41,930 |
| Expenses from operating activities | | | |
| Employee expenses | 3.2 | (6,464) | (6,234) |
| Depreciation & amortisation | 4.1.1 | (350) | (398) |
| Materials, grants, contracts and consultancies | 3.3 | (22,370) | (33,243) |
| Operating lease expenses | 3.4 | (340) | (336) |
| Other operating expenses | 3.5 | (1,255) | (1,418) |
| TOTAL EXPENSES | | (30,779) | (41,629) |
| NET RESULT FROM TRANSACTIONS (net operating balance) | | 2,389 | 301 |
| Other economic flows included in net result | | | |
| Net gain/(loss) on non-financial assets ⁱ | 8.2 | (6) | 54 |
| NET RESULT FOR THE PERIOD | | 2,383 | 355 |
| Comprehensive result | | 2,383 | 355 |

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 2018

| | Note | 2018 \$000 | 2017 \$000 |
|-----------------------------------|-------|---------------|---------------|
| Assets | | | |
| Financial assets | | | |
| Cash and deposits | 6.1 | 14,692 | 23,733 |
| Receivables | 5.1 | 898 | 555 |
| Total financial assets | | 15,590 | 24,288 |
| Non-Financial assets | | | |
| Property, plant and equipment | 4.1 | 967 | 1,109 |
| Intangible assets | 4.2 | 3 | 11 |
| Other non-financial assets | 5.3 | 216 | 158 |
| Total non-financial assets | | 1,186 | 1,278 |
| Total assets | | 16,776 | 25,566 |
| Liabilities | | | |
| Payables | 5.2 | 1,674 | 2,060 |
| Unearned revenue | 5.4 | 1,173 | 12,269 |
| Interest bearing liabilities | 6.2.2 | - | 14 |
| Employee benefits | 3.2.2 | 2,267 | 1,944 |
| Total liabilities | | 5,114 | 16,287 |
| Net assets | | 11,662 | 9,279 |
| Equity | | | |
| Contributed equity | | 4,209 | 4,209 |
| Accumulated funds | | | - |
| Reserve | 8.3 | 7,453 | 5,070 |
| Total equity | | 11,662 | 9,279 |

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 2018

| | Contribution by owners \$000 | Reserves \$000 | Accumulated funds \$000 | Total \$000 |
|-----------------------------------------------------|------------------------------------|-------------------|-------------------------------|----------------|
| Balance at 1 July 2016 | 4,209 | 4,715 | - | 8,924 |
| Net result for the period | - | - | 355 | 355 |
| Transfer to / (from) Reserves | - | 355 | (355) | - |
| Balance at 30 June 2017 | 4,209 | 5,070 | - | 9,279 |
| Total Comprehensive Income / (Deficit) for the year | - | - | 2,383 | 2,383 |
| Transfer to / (from) Reserves | - | 2,383 | (2,383) | - |
| Balance at 30 June 2018 | 4,209 | 7,453 | - | 11,662 |

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 2018

| | Note | 2018 \$000 | 2017 \$000 |
|-------------------------------------------------------|-------|---------------|---------------|
| Cash flow from operating activities | | | |
| Receipts | | | |
| Government contributions | | 20,391 | 40,862 |
| Revenue from other Government Entities | | 949 | 930 |
| GST (remitted to) received from Australian Tax Office | | 1,898 | 2,493 |
| Interest received | | 312 | 319 |
| Other revenue | | 231 | 283 |
| Total Receipts | | 23,781 | 44,887 |
| Payments | | | |
| Payments to suppliers and employees | | (32,602) | (34,616) |
| Interest paid | | 0 | (2) |
| Total Payments | | (32,602) | (34,618) |
| Net cash from/(used in) operating activities | 6.1.1 | (8,821) | 10,269 |
| Cash flow from investing activities | | | |
| Proceeds from sale of property, plant and equipment | | 135 | 271 |
| Payment for property, plant and equipment | | (341) | (488) |
| Net cash flows from/(used in) investing activities | | (206) | (217) |
| Cash flow from financing activities | | | |
| Repayment of finance lease liabilities | | (14) | (27) |
| Net cash from/(used in) financing activities | | (14) | (27) |
| Net (decrease) / increase in cash held | | (9,041) | 10,025 |
| Cash and cash equivalents at beginning of year | | 23,733 | 13,708 |
| Cash and cash equivalents at end of year | 6.1 | 14,692 | 23,733 |

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 2018

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 (3.2.2);
- 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 2018

2. Funding delivery of our services

Introduction

The Authority's overall objective is for the coordinated control of natural resource management within the broader catchments of Goulburn Broken. The role of the Authority is to ensure effective implementation of the Regional Catchment Strategy. Associated with this role the Authority carries out strategic planning and advises Government.

To enable the Authority to deliver on its objectives, it receives revenue predominantly through State and Commonwealth Government Contributions.

Structure

- 2.1 Summary of revenue that funds the delivery of our services
- 2.2 Revenue from transactions

2.1 Summary of revenue that funds the delivery of our services

| | Note | 2018 \$000 | 2017 \$000 |
|----------------------------------------|-------|---------------|---------------|
| Government contributions | 2.2.1 | 31,867 | 40,549 |
| Interest | 2.2.2 | 306 | 323 |
| Other revenue | 2.2.3 | 995 | 1,058 |
| Total revenue from transactions | | 33,168 | 41,930 |

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

| | 2018 \$000 | 2017 \$000 |
|---------------------------------------|---------------|---------------|
| State Government | | |
| Corporate and Statewide | 1,214 | 1,564 |
| Sustainable Irrigation | 7,426 | 5,641 |
| River Health | 3,840 | 3,381 |
| Floodplain Management | 1,079 | 861 |
| Land and Biodiversity | 1,243 | 586 |
| | 14,802 | 12,033 |
| Commonwealth Government | | |
| National Landcare Programme | 3,127 | 3,081 |
| Other Commonwealth Funding | 49 | 1,070 |
| | 3,176 | 4,151 |
| Farm Water Programⁱ | 13,889 | 24,365 |
| | 13,889 | 24,365 |
| Total Government contributions | 31,867 | 40,549 |

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 2018

2.2.2 Interest

| | 2018 \$000 | 2017 \$000 |
|---------------------------|---------------|---------------|
| Interest on bank deposits | 306 | 323 |
| | 306 | 323 |

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

| | 2018 \$000 | 2017 \$000 |
|-----------------------------------------------------|---------------|---------------|
| Partnership Contributions - Government entities | 863 | 781 |
| Partnership Contributions – non-Government entities | 7 | 81 |
| Recoverable costs | 92 | 170 |
| Application fees | 33 | 26 |
| Total other revenue | 995 | 1,058 |

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 | 2018 \$000 | 2017 \$000 |
|-------------------------------------------------------------|------|---------------|---------------|
| Employee expenses | 3.2 | 6,464 | 6,234 |
| Materials, maintenance, grants, contracts and consultancies | 3.3 | 22,370 | 33,243 |
| Operating lease expenses | 3.4 | 340 | 336 |
| Other operating expenses | 3.5 | 1,254 | 1,418 |
| Total expenses from transactions | | 30,428 | 41,231 |

Notes to the financial statements for the year ended 30 June 2018

3.2 Employee expenses

3.2.1 Employee expenses in the comprehensive operating statement

| | 2018 \$000 | 2017 \$000 |
|----------------------------------|---------------|---------------|
| Salaries & wages | 5,012 | 4,669 |
| Annual leave | 390 | 384 |
| Long service leave | 144 | 183 |
| Superannuation | 474 | 456 |
| FBT | 206 | 244 |
| Termination payment ⁱ | 190 | - |
| Other | 48 | 298 |
| Total employee expenses | 6,464 | 6,234 |

i. Termination benefits are payable when employment is terminated before normal retirement date, or when an employee accepts an offer of benefits in exchange for the termination of employment. Termination benefits are recognised when the Authority is demonstrably committed to terminating the employment of current employees according to a detailed formal plan without possibility of withdrawal or providing termination benefits as a result of an offer made to encourage voluntary redundancy.

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

The amount recognised in comprehensive operating statement in relation to superannuation is the 9.5% employer contributions for members of both defined benefit and defined contribution superannuation plans.

3.2.2 Employee related provisions in the balance sheet

Provision is made for benefits accruing to employees in respect of wages and salaries, annual leave and long service leave (LSL) for services rendered to the reporting date and recorded as an expense during the period the services are delivered.

| | 2018 \$000 | 2017 \$000 |
|-------------------------------------------------------------------------------------|---------------|---------------|
| <i>Current provisions for employee benefits</i> | | |
| <i>Time in lieu / Restructure provision</i> | | |
| Unconditional and expected to be settled within 12 months | 230 | 34 |
| <i>Annual leave</i> | | |
| Unconditional and expected to settle within 12 months | 322 | 298 |
| Unconditional and expected to settle after 12 months | 42 | 33 |
| <i>Long service leave</i> | | |
| Unconditional and expected to settle within 12 months | 172 | 69 |
| Unconditional and expected to settle after 12 months | 1,256 | 1,223 |
| On-costs ⁱ | | |
| Unconditional and expected to settle within 12 months | 68 | 56 |
| Unconditional and expected to settle after 12 months | 167 | 191 |
| Total current provisions | 2,256 | 1,904 |
| i. On-costs include payroll tax, superannuation and worker's Compensation Insurance | | |
| <i>Non-current provisions for employee benefits</i> | | |
| <i>Long service leave</i> | | |
| Conditional and expected to be settled after 12 months | 10 | 35 |
| <i>On-costs</i> | | |
| Conditional and expected to be settled after 12 months | 1 | 5 |
| Total non-current provisions | 11 | 40 |
| Total provisions for employee benefits and on-costs | 2,267 | 1,944 |

Notes to the financial statements for the year ended 30 June 2018

Reconciliation of movement in on-cost provision

| | 2018 \$000 | 2017 \$000 |
|---------------------------------------------------------------------------------------------------------------------|---------------|---------------|
| Opening balance | 252 | 240 |
| Additional provisions recognised | 85 | 83 |
| Reductions arising from payments/other sacrifices of future economic benefits | (61) | (71) |
| Unwind of discount and effect of changes in the discount rate/Reductions arising from re measurement of payroll tax | (40) | - |
| Closing balance | 236 | 252 |

Wages and salaries and annual leave:

Liabilities for wages and salaries (including non-monetary benefits, time in lieu, annual leave and on-costs) are recognised as part of the employee benefit provision as current liabilities, and are measured at their undiscounted amounts expected to be paid, because the Authority does not have an unconditional right to defer settlements of these liabilities.

Depending on the expectation of the timing of settlement, liabilities for wages and salaries, annual leave and sick leave are measured at:

- undiscounted value - if the Authority expects to wholly settle within 12 months;
- present value - if the Authority does not expect to wholly settle within 12 months.

Long service leave (LSL):

Regardless of the expected timing of settlement, unconditional LSL is classified as a current liability because the Authority does not have an unconditional right to defer the settlement of these liabilities.

Unconditional LSL liability amounts expected to be wholly settled within 12 months are measured at the nominal value.

Unconditional LSL liability amount that are not expected to be wholly settled within 12 months are measured as the present value of the estimated future cash outflows to be made by the entity.

Unconditional LSL represents long service leave entitlements accrued for employees with more than 7 years of continuous service.

Conditional LSL is classified as a non-current liability and measured as the present value of the estimated future cash outflows to be made by the entity.

3.2.3 Superannuation contributions

Employees of the Authority are entitled to receive superannuation benefits and the Authority contributes to both defined benefit and defined contribution plans. The defined benefit plans provide benefits based on year of service and final average salary. Obligations for superannuation contributions are recognised as an expense in Comprehensive Operating Statement when they are made or due.

The Authority does not recognise any defined benefit liability for contributions to the ESS because it has no legal or constructive obligation to pay future benefits relating to its employees. The Department of Treasury and Finance discloses in its annual financial statements the States net defined benefits cost related to the members of these plans as an administered liability. For contributions to the defined benefit fund with Vision Super(the Fund) the Authority does not use defined benefit accounting for its defined benefit obligations because the Fund's Defined Benefit plan is a pooled multi-employer sponsored plan.

The amount recognised in the comprehensive operating statement in relation to Superannuation is employer contributions for members of both defined benefit and defined contribution superannuation plans that are paid or payable during the reporting period.

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

| | 2018 Rate % | 2018 \$000 | 2017 \$000 |
|--------------------------------------------|----------------|---------------|---------------|
| Defined benefit plans: ⁱ | | | |
| Vision super defined benefits scheme | 9.5 | 6 | 6 |
| Emergency Services Superannuation Scheme | various | 52 | 51 |
| Defined contribution plans | | | |
| Vision super defined contribution scheme | 9.5 | 118 | 108 |
| Vic super | 9.5 | 138 | 145 |
| Other private schemes | 9.5 | 160 | 146 |
| | | 474 | 456 |

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

Notes to the financial statements for the year ended 30 June 2018

3.2.3 Superannuation contributions (continued)

There was \$17,847 in contributions outstanding to the above schemes as at 30 June 2018 (2017: \$18,299)

The expected contributions to be paid to the Defined Benefit category of Vision Super for the year ending 30 June 2019 is \$6,089.

3.3 Materials, grants, contracts and consultancies

| | 2018 \$000 | 2017 \$000 |
|------------------------------------------------------|---------------|---------------|
| Grants paid | 14,716 | 25,642 |
| Consultants | 1,130 | 1,781 |
| Contractors | 6,373 | 5,569 |
| Materials | 151 | 251 |
| Total materials, grants, contracts and consultancies | 22,370 | 33,243 |

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

3.4 Operating lease expenses

| | 2018 \$000 | 2017 \$000 |
|------------------------------------------|---------------|---------------|
| Operating property lease rental expenses | 340 | 336 |
| Operating lease expenses | 340 | 336 |

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

| | 2018 \$000 | 2017 \$000 |
|----------------------------------------------------------------------|---------------|---------------|
| Victorian Auditor-General's Office for audit of financial statements | 23 | 22 |
| Internal audit expenses | 32 | 20 |
| Information Technology and Communication expenses | 418 | 410 |
| Events and Publicity | 167 | 297 |
| Other expenses | 615 | 669 |
| | 1,255 | 1,418 |

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 property and other investments that are utilised in fulfilling its objectives and conducting its activities. They represent the key resources that have been entrusted to the Authority to be utilised for delivery of those outputs.

Significant judgement: Fair value measurement

Where the assets included in this section are carried at fair value, additional information is disclosed in Note 7.3 about how those fair values were determined.

Structure

- 4.1 Total property, plant and equipment
- 4.2 Intangible assets

Notes to the financial statements for the year ended 30 June 2018

4.1 Total property, plant and equipment

| | Gross carrying amount | | Accumulated Depreciation | | Net carrying amount | |
|----------------------------------------|-----------------------|---------------|--------------------------|---------------|---------------------|---------------|
| | 2018 \$000 | 2017 \$000 | 2018 \$000 | 2017 \$000 | 2018 \$000 | 2017 \$000 |
| Buildings at fair value | 38 | 38 | (38) | (38) | - | - |
| Plant and equipment at fair value | 1,181 | 1,118 | (1,067) | (1,000) | 114 | 118 |
| Computer equipment under finance lease | 62 | 172 | (62) | (165) | - | 7 |
| Motor vehicles at fair value | 1,388 | 1,366 | (535) | (382) | 853 | 984 |
| | 2,669 | 2,694 | (1,702) | (1,585) | 967 | 1,109 |

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 | 2018 \$000 | 2017 \$000 |
|-------------------------------------|---------------|---------------|
| Buildings | - | - |
| Plant & equipment | 66 | 92 |
| Motor vehicles | 269 | 269 |
| Computer equipment leases | 7 | 30 |
| Intangible assets | 8 | 7 |
| Total depreciation and amortisation | 350 | 398 |

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 2018

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 |
|----------------------|----------------------------------|--------------------------------------------|---------------------------------------|----------------------------------------|----------------|
| 2018 | | | | | |
| Opening balance | - | 118 | 984 | 7 | 1,109 |
| Additions | | 62 | 279 | | 341 |
| Disposals | | | (141) | | (141) |
| Depreciation expense | | (66) | (269) | | (335) |
| Amortisation | | | | (7) | (7) |
| Closing balance | | 114 | 853 | 0 | 967 |
| 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 |

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 | (25) | (18) |
| Amortisation | (8) | (7) |
| Closing balance | (33) | (25) |
| Net book value at end of financial year | 3 | 11 |

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 2018

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

| | 2018 \$000 | 2017 \$000 |
|-----------------------------------|---------------|---------------|
| Contractual | | |
| Government grants receivables | 453 | 44 |
| Trade receivables | 29 | 116 |
| Less provision for bad debt | - | (1) |
| Accrued interest | 26 | 32 |
| Total contractual | 508 | 191 |
| Statutory | | |
| GST input tax credits recoverable | 390 | 364 |
| Total current receivables | 898 | 555 |

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.

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.

Reversal of provision for doubtful debts written of during 2018 as uncollectable: \$677 (2017: \$Nil)

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.

Notes to the financial statements for the year ended 30 June 2018

5.2 Payables

| | 2018 \$000 | 2017 \$000 |
|------------------------|---------------|---------------|
| Contractual | | |
| Trade payables | 1,018 | 1,258 |
| Accrued expenses | 590 | 720 |
| | 1,608 | 1,978 |
| Statutory | | |
| FBT payable | 52 | 59 |
| Payroll tax | 14 | 23 |
| | 66 | 82 |
| Total current payables | 1,674 | 2,060 |

Contractual payables are classified as financial instruments and categorised as 'financial liabilities at amortised cost'. They are initially recognised at fair value plus any directly attributable transaction costs. Subsequent to initial measurement, they are measured at amortised cost.

Statutory payables are recognised and measured similarly to contractual payables, but are not classified as financial instruments and not included in the category of financial liabilities at amortised cost, because they do not arise from contracts.

5.2.1 Maturity analysis of contractual payables

| | Carrying amount \$000 | Maturity dates | | |
|----------------------|--------------------------|----------------------|---------------------|---------------------|
| | | Less than 1 \$000 | 1-3 months \$000 | 3-6 months \$000 |
| 2018 Payables | | | | |
| Trade payables | 1,018 | 1,018 | - | - |
| Accrued expenses | 590 | 590 | - | - |
| | 1,608 | 1,608 | - | - |
| 2017 Payables | | | | |
| Trade payables | 1,258 | 1,258 | - | - |
| Accrued expenses | 720 | 720 | - | - |
| | 1,978 | 1,978 | - | - |

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

5.3 Other non-financial assets

| | 2018 \$000 | 2017 \$000 |
|-----------------------------|---------------|---------------|
| Current other assets | | |
| Prepayments | 216 | 158 |
| Total current other assets | 216 | 158 |

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.

Notes to the financial statements for the year ended 30 June 2018

5.4 Unearned Revenue

| | 2018 \$000 | 2017 \$000 |
|-----------------------------------------------|---------------|---------------|
| Victorian On-Farm State Project | 178 | 178 |
| Victorian On-Farm State Project - Interest | - | - |
| Victorian Farm Modernisation Project | 92 | 11,100 |
| Victorian Farm Modernisation Project Interest | 108 | 196 |
| Temporary Water Allocation Funds | 795 | 795 |
| Total | 1,173 | 12,269 |

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.

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 | 2018 \$000 | 2017 \$000 |
|--------------------------------------------------|---------------|---------------|
| Cash on hand | 1 | 2 |
| Cash at bank | 1,991 | 13,031 |
| Deposits at call | 10,700 | 8,700 |
| Term deposits (less than 3 months) | 2,000 | 2,000 |
| Balance as per cash flow statement | 14,692 | 23,733 |

Notes to the financial statements for the year ended 30 June 2018

6.1.1 Reconciliation of net result to cash flow from operating activities

| | 2018 \$000 | 2017 \$000 |
|-----------------------------------------------------|---------------|---------------|
| Net result for the period | 2,383 | 355 |
| Non-cash movements | | |
| (Gain) / loss on disposal of non-current assets | 6 | (54) |
| Depreciation and amortisation of non-current assets | 350 | 398 |
| Movements in assets and liabilities | | |
| Decrease/(increase) in receivables | (343) | 118 |
| Decrease/(increase) in prepayments | (58) | 51 |
| (Decrease)/increase in unearned revenue | (11,096) | 8,498 |
| (Decrease)/increase in payables | (386) | 806 |
| (Decrease)/increase in employee benefits | 323 | 97 |
| Net cash flows from/(used in) operating activities | (8,821) | 10,269 |

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 | 2018 \$000 | 2017 \$000 |
|--------------------------------------|---------------|---------------|
| Less than 1 year | 332 | 326 |
| 1 to 5 years | 382 | 572 |
| Total commitments (inclusive of GST) | 714 | 898 |

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 2018 the Authority had \$Nil in capital commitments (2017: \$Nil).

6.2.2 Total finance lease liabilities payable

| Other finance lease liabilities payable | Minimum future lease payments ⁱ | |
|------------------------------------------------|--------------------------------------------|---------------|
| | 2018 \$000 | 2017 \$000 |
| Not longer than 1 year | - | 15 |
| Longer than 1 year but not longer than 5 years | - | - |
| Minimum future lease payments | - | 15 |
| Less future finance charges | - | (1) |
| Present value of minimum lease payments | - | 14 |
| Included in the financial statements as: | | |
| Current interest bearing liabilities | - | 14 |
| Non-current interest bearing liabilities | - | - |
| Total | - | 14 |

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. The lease liabilities remaining at the 2017 balance date was paid out through the reporting period and no new leases were commenced through the current reporting period.

Notes to the financial statements for the year ended 30 June 2018

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.

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.

Notes to the financial statements for the year ended 30 June 2018

7.1.1 Financial instruments: Categorisation

| 2018 | Contractual financial assets - loans and receivables and cash \$'000 | Contractual financial liabilities at amortised cost \$'000 | Total \$'000 |
|------------------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------|---------------|
| Contractual financial assets | | | |
| Cash and deposits | 14,692 | | 14,692 |
| Receivables ⁱ | | | |
| Trade and government grant receivables | 482 | | 482 |
| Accrued interest | 26 | | 26 |
| Total contractual financial assets | 15,200 | | 15,200 |
| Contractual financial liabilities | | | |
| Payables ⁱ | | | |
| Trade payables | | 1,018 | 1,018 |
| Accrued expenses | | 590 | 590 |
| Finance leases | | - | - |
| Unearned Revenue | | 1,173 | 1,173 |
| Total contractual financial liabilities | | 2,781 | 2,781 |

i. The total amounts disclosed here exclude statutory amounts.

| 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 | | | |
| Contractual financial liabilities | | | |
| Payables | | | |
| 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 2018

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 Audit, Risk and Compliance committee of the Authority.

Financial instruments: Credit risk

Credit risk refers to the possibility that a borrower will default on its financial obligations as and when they fall due. The Authority's exposure to credit risk arises from the potential default of a counter party on their contractual obligations resulting in financial loss to the Authority. Credit risk is measured at fair value and is monitored on a regular basis.

Credit risk associated with the Authority's contractual financial assets is minimal because the main debtor is the Victorian Government. For debtors other than the Government, the Authority has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral where appropriate. For cash assets, the Authority's policy is to only deal with banks with high credit-ratings assigned by international credit-rating agencies. All cash and deposits are held with 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 2018

Interest rate exposure of financial instruments

| 2018 | 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 | 1.6 | 14,692 | 2,000 | 12,691 | 1 |
| Contractual receivables | | 508 | - | - | 508 |
| Total financial assets | | 15,200 | 2,000 | 12,691 | 509 |
| Financial liabilities | | | | | |
| Lease Liabilities | | - | - | - | - |
| Contractual payables | | (1,608) | - | - | (1,608) |
| Unearned revenue | | (1,173) | - | - | (1,173) |
| Total financial liabilities | | (2,781) | - | - | (2,781) |

| 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 | | | | | |
| 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) |

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 |
| 2018 | | | | | |
| Cash and deposits ⁱ | 14,692 | (147) | (147) | 147 | 147 |
| 2017 | | | | | |
| Cash and deposits ⁱ | 23,733 | (237) | (237) | 237 | 237 |

i. Cash and deposits includes \$12,691 (2017: \$21,731) that is exposed to floating rates movements. Sensitivities to these movements are calculated as follows:
 2018: \$12,691,000 x 0.01 = \$126,910
 2017: \$21,731,000 x 0.01 = \$217,310

Notes to the financial statements for the year ended 30 June 2018

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.

| | 2018 \$000 | 2017 \$000 |
|------------------------------------------------------------------------|---------------|---------------|
| Contingent assets | | |
| As at 30 June 2018, the Authority has no known contingent assets. | - | - |
| Contingent liabilities | | |
| As at 30 June 2018, 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 2017-18 reporting period.

These financial instruments include:

| Financial assets | Financial liabilities |
|-----------------------------------------------------------------------|----------------------------------------------------------------------|
| Cash and deposits | |
| Receivables: | Payables: |
| <ul style="list-style-type: none"> • Trade receivables | <ul style="list-style-type: none"> • Trade payables |
| <ul style="list-style-type: none"> • Accrued revenue | <ul style="list-style-type: none"> • Accrued expenses |
| | <ul style="list-style-type: none"> • Finance leases |

Notes to the financial statements for the year ended 30 June 2018

7.3.1 Fair value determination: non-financial physical assets

Fair value measurement hierarchy

| 2018 | 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 | 114 | - | - | 114 |
| Total Plant and Equipment at fair value | 114 | - | - | 114 |
| Equipment under finance lease at fair value | | | | |
| Computer equipment leased | - | - | - | - |
| Total equipment under finance lease at fair value | - | - | - | - |
| Motor vehicles at fair value | | | | |
| Motor vehicles | 853 | - | 853 | - |
| Total motor vehicles at fair value | 853 | - | 853 | - |

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

| 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.

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 2018.

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 2018

Reconciliation of Level 3 fair value movements

| | Plant and equipment \$000 | Office furniture and equipment \$000 | Total \$000 |
|------------------------------------------|------------------------------|-----------------------------------------|----------------|
| 2017-18 | | | |
| Opening Balance | 118 | 7 | 125 |
| Purchases (sales) | 62 | - | 62 |
| Transfers in (out) of Level 3 | - | - | - |
| Depreciation | (66) | (7) | (73) |
| Gains or losses recognised in net result | - | - | - |
| Closing balance | 114 | - | 114 |

| | 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 |

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 2018

8.1 Ex-gratia expenses

The Authority had no Ex-gratia expenses for the year ending 30 June 2018 (2017 \$0).

8.2 Other economic flows included in net result

Other economic flows measure the change in volume or value of assets or liabilities that do not result from transactions.

| | 2018 \$000 | 2017 \$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 | 135 | 271 |
| Less written down value | (141) | (217) |
| Net gain/(loss) on non-financial assets | (6) | 54 |

8.3 Reserves

| | 2018 \$000 | 2017 \$000 |
|---------------------------------------------------|---------------|---------------|
| Committed funds reserveⁱ | | |
| Balance at the beginning of the reporting period | 5,070 | 4,715 |
| Net transfers (to) / from accumulated funds | 2,383 | 355 |
| Balance at the end of the reporting period | 7,453 | 5,070 |

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 2017 to 30 June 2018 |
| Minister for Energy, Environment and Climate Change | Lily D'Ambrosio MP | 1 July 2017 to 30 June 2018 |

| Position | | Period |
|--------------|-------------|----------------------------------|
| Acting Chair | A Weston | 5 May 2018 to 30 June 2018 |
| Chair | A Volkering | 1 October 2017 to 4 May 2018 |
| Chair | M Chapman | 1 July 2017 to 30 September 2017 |
| Board Member | A Weston | 1 July 2017 to 4 May 2018 |
| Board Member | A MacKenzie | 1 July 2017 to 30 September 2017 |
| Board Member | K Stothers | 1 July 2017 to 30 June 2018 |
| Board Member | A Appo | 1 July 2017 to 30 June 2018 |
| Board Member | A Fox | 1 July 2017 to 30 September 2017 |
| Board Member | H Reynolds | 1 July 2017 to 30 June 2018 |
| Board Member | K Hawkins | 1 July 2017 to 30 June 2018 |
| Board Member | J Ford | 1 October 2017 to 30 June 2018 |
| Board Member | R Harris | 1 October 2017 to 30 June 2018 |
| Board Member | S Lolicato | 1 October 2017 to 30 June 2018 |
| CEO | C P Norman | 1 July 2017 to 30 June 2018 |
| Acting CEO | K Warner | Various dates ⁱ |

i. Acting CEO in place while CEO on leave:
 3 July 2017 to 10 July 2017
 2 January 2018 to 17 January 2018
 2 March 2018 to 9 March 2018

Notes to the financial statements for the year ended 30 June 2018

Remuneration

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

| Income bands | 2018 | 2017 |
|-------------------------------------|-----------|-----------|
| \$1-\$9,999 | 5 | 4 |
| \$10,000-\$19,999 | 7 | 4 |
| \$20,000-\$29,999 | - | 1 |
| \$230,000-\$239,999 | - | 1 |
| \$250,000-\$259,999 | 1 | - |
| Total number of responsible persons | 13 | 10 |
| Total remuneration \$ | \$387,078 | \$339,799 |

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.

| Income bands ⁱⁱⁱ | 2018 | 2017 |
|-----------------------------------------------------|-----------|-----------|
| Short-term employee benefits | \$850,527 | \$839,866 |
| Post-employment benefits | \$68,384 | \$67,332 |
| Other long-term benefits | \$28,957 | \$33,542 |
| Total remuneration | \$947,869 | \$940,740 |
| Total number of executives ⁱ | 6 | 6 |
| Total annualised employee equivalents ⁱⁱ | 5.9 | 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.

8.6 Related parties

The Authority is a wholly owned and controlled entity of the State of Victoria. Related parties of the Authority include:

- all key management personnel and their close family members;
- all cabinet ministers and their close family members; and
- all departments and public sector entities that are controlled and consolidated into the whole of state consolidated financial statements.
- all related party transactions have been entered into on an arm's length basis.

Notes to the financial statements for the year ended 30 June 2018

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 | 2018 Funding received (\$000) | 2017 Funding received (\$000) |
|-------------------------------------------------------------------|-------------------------------|-------------------------------|
| Department of Environment, Land, Water and Planning | 20,436 | 48,743 |
| Goulburn Valley Water | 124 | - |
| Port Phillip Catchment Management Authority | 121 | - |
| Victorian Environmental Water Holder | 108 | - |
| Victorian Fisheries Authority | 84 | - |
| North Central Catchment Management Authority | 73 | 56 |
| North East Catchment Management Authority | 57 | - |
| Department of Economic Development, Jobs, Transport and Resources | 50 | 120 |
| Goulburn Murray Water | - | 34 |

Receivables outstanding at 30 June 2018: \$451,650. (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 | 2018 Payments made (\$000) | 2017 Payments made (\$000) |
|-------------------------------------------------------------------|----------------------------|----------------------------|
| Goulburn Murray Water | 4,260 | 1,637 |
| Department of Environment, Land, Water and Planning | 699 | 948 |
| Department of Economic Development, Jobs, Transport and Resources | 663 | 409 |
| North Central Catchment Management Authority | 208 | 154 |
| Trust for Nature (Victoria) | 152 | 63 |
| Goulburn Valley Water | 156 | - |
| West Gippsland Catchment Management Authority | 53 | 61 |
| East Gippsland Catchment Management Authority | - | 35 |

Payables outstanding at 30 June 2018: \$675,034. (2017: \$1,147,328)

Key management personnel

Key management personnel are those persons having authority and responsibility for planning, directing and controlling the activities of the Authority, directly or indirectly this comprises Directors and the CEO. Key management personnel includes all Responsible persons as listed in Note 8.4.

The compensation detailed below excludes the salaries and benefits the Portfolio Minister receives. The Minister's remuneration and allowances is set by the *Parliamentary Salaries and Superannuation Act 1968* and is reported within the Department of Parliamentary Services' Financial Report.

| Compensation of KMPs | 2018 | 2017 |
|------------------------------|---------|---------|
| Short-term employee benefits | 345,041 | 308,655 |
| Post-employment benefits | 25,405 | 23,586 |
| Other long-term benefits | 16,632 | 7,558 |
| Total | 387,078 | 339,799 |

Notes to the financial statements for the year ended 30 June 2018

Transactions with key management personnel and other related parties

Given the breadth and depth of Authority activities, related parties transact with the Victorian public sector in a manner consistent with other members of the public e.g. stamp duty and other government fees and charges. Further employment of processes within the Victorian public sector occur on terms and conditions consistent with the *Public Administration Act 2004* and Codes of Conduct and Standards issued by the Victorian Public Sector Commission. Procurement processes occur on terms and conditions consistent with the Victorian Government Procurement Board requirements. Outside of normal citizen type transactions with the department, there were no related party transactions that involved key management personnel and their close family members. No provision has been required, nor any expense recognised, for impairment of receivables from related parties.

During the year \$142,830 of grant payments were made 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.

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.

8.7 Remuneration of auditors

| | 2018 \$000 | 2017 \$000 |
|----------------------------------------------------------------------|---------------|---------------|
| Victorian Auditor-General's Office for audit of financial statements | 23 | 22 |
| Internal audit costs | 32 | 20 |
| Total auditors' remuneration | 55 | 42 |

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 2018 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 2017-18 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 amendments are likely to result in earlier recognition of impairment losses and at more regular intervals. The initial application of AASB 9 is not expected to significantly impact the financial position however there will be a change to the way financial instruments are classified and new disclosure requirements. |
| AASB 2014-1 Amendments to Australian Accounting Standards [Part E Financial Instruments] | Amends various AASs to reflect the AASB's decision to defer the mandatory application date of AASB 9 to annual reporting periods beginning on or after 1 January 2018, and to amend reduced disclosure requirements. | 1 Jan 2018 | This amending standard will defer the application period of AASB 9 to the 2018-19 reporting period in accordance with the transition requirements. |

Notes to the financial statements for the year ended 30 June 2018

| Topic | Key requirements | Applicable for annual reporting periods beginning on or after | Estimated impact on Financial Statements |
|----------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AASB 2014-7 Amendments to Australian Accounting Standards arising from AASB 9 | Amends various AASs to incorporate the consequential amendments arising from the issuance of AASB 9. | 1 Jan 2018 | The assessment has indicated that there will be no significant impact for the public sector. |
| AASB 15 Revenue from Contracts with Customers | <p>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.</p> <p>AASB 2015 8 Amendments to Australian Accounting Standards – Effective Date of AASB 15 has deferred the effective date of AASB 15 to annual reporting periods beginning on or after 1 January 2018, instead of 1 January 2017.</p> | 1 Jan 2019 | <p>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.</p> <p>The Standard will also require additional disclosures on service revenue and contract modifications.</p> |
| 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 2016-8 Amendments to Australian Accounting Standards – Australian Implementation Guidance for Not-for-Profit Entities | <p>AASB 2016-8 inserts Australian requirements and authoritative implementation guidance for not-for-profit-entities into AASB 9 and AASB 15.</p> <p>This Standard amends AASB 9 and AASB 15 to include requirements to assist not-for-profit entities in applying the respective standards to particular transactions and events.</p> | 1 Jan 2019 | <p>This standard clarifies the application of AASB 15 and AASB 9 in a not-for-profit context. The areas within these standards that are amended for not-for-profit application include:</p> <p>AASB 9</p> <ul style="list-style-type: none"> Statutory receivables are recognised and measured similarly to financial assets <p>AASB 15</p> <ul style="list-style-type: none"> The 'customer' does not need to be the recipient of goods and/or services; The 'contract' could include an arrangement entered into under the direction of another party; Contracts are enforceable if they are enforceable by legal or 'equivalent means'; Contracts do not have to have commercial substance, only economic substance; and Performance obligations need to be 'sufficiently specific' to be able to apply AASB 15 to these transactions. |

Notes to the financial statements for the year ended 30 June 2018

| Topic | Key requirements | Applicable for annual reporting periods beginning on or after | Estimated impact on Financial Statements |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 | <p>The assessment has indicated that most operating leases, with the exception of short term and low value leases will come on to the balance sheet and will be recognised as right of use assets with a corresponding lease liability.</p> <p>In the operating statement, the operating lease expense will be replaced by depreciation expense of the asset and an interest charge.</p> <p>There will be no change for lessors as the classification of operating and finance leases remains unchanged.</p> |
| AASB 1058 Income of Not-for-Profit Entities | <p>AASB 1058 standard will replace the majority of income recognition in relation to government grants and other types of contributions requirements relating to public sector not-for-profit entities, previously in AASB 1004 Contributions.</p> <p>The restructure of administrative arrangement will remain under AASB 1004 and will be restricted to government entities and contributions by owners in a public sector context,</p> <p>AASB 1058 establishes principles for transactions that are not within the scope of AASB 15, where the consideration to acquire an asset is significantly less than fair value to enable not-for-profit entities to further their objective.</p> | 1 Jan 2019 | <p>The current revenue recognition for grants is to recognise revenue up front upon receipt of the funds.</p> <p>This may change under AASB 1058, as capital grants for the construction of assets will need to be deferred. Income will be recognised over time, upon completion and satisfaction of performance obligations for assets being constructed, or income will be recognised at a point in time for acquisition of assets.</p> <p>The revenue recognition for operating grants will need to be analysed to establish whether the requirements under other applicable standards need to be considered for recognition of liabilities (which will have the effect of deferring the income associated with these grants). Only after that analysis would it be possible to conclude whether there are any changes to operating grants.</p> <p>The impact on current revenue recognition of the changes is the phasing and timing of revenue recorded in the profit and loss statement.</p> |

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.

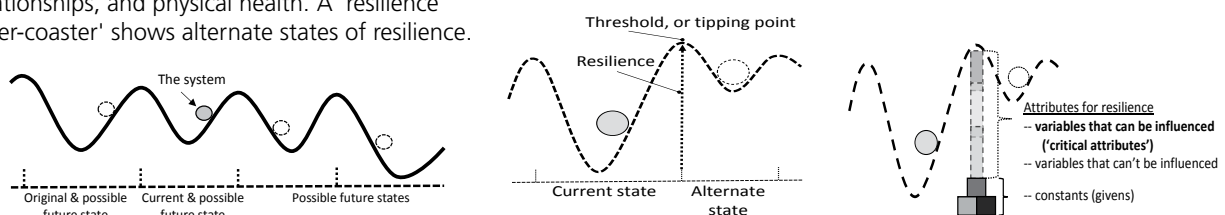
Solution: The Goulburn Broken CMA uses a resilience model to describe the current state, identify desired long-term future states, and determine required actions.

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 48), community (page 26), and social-ecological (page 7). High-level choices for these interconnected systems have been described as visions and long-term goals, such as 'increase the population viability of 20 flagship species' and '65 per cent reduction in total phosphorus exported from the catchment'.

Resilience, tipping points, risks and opportunities

Problem: While visions and long-term goals have been described for NRM systems for 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: $Outputs \times Assumptions = Outcomes$, to document progress in implementing actions and to update understanding of progress in achieving desired long-term states of system resilience, including contributions by various partners to outcomes (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 4 on page 132 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 30.

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 7) and subsequent rolling-up has also not be done yet.

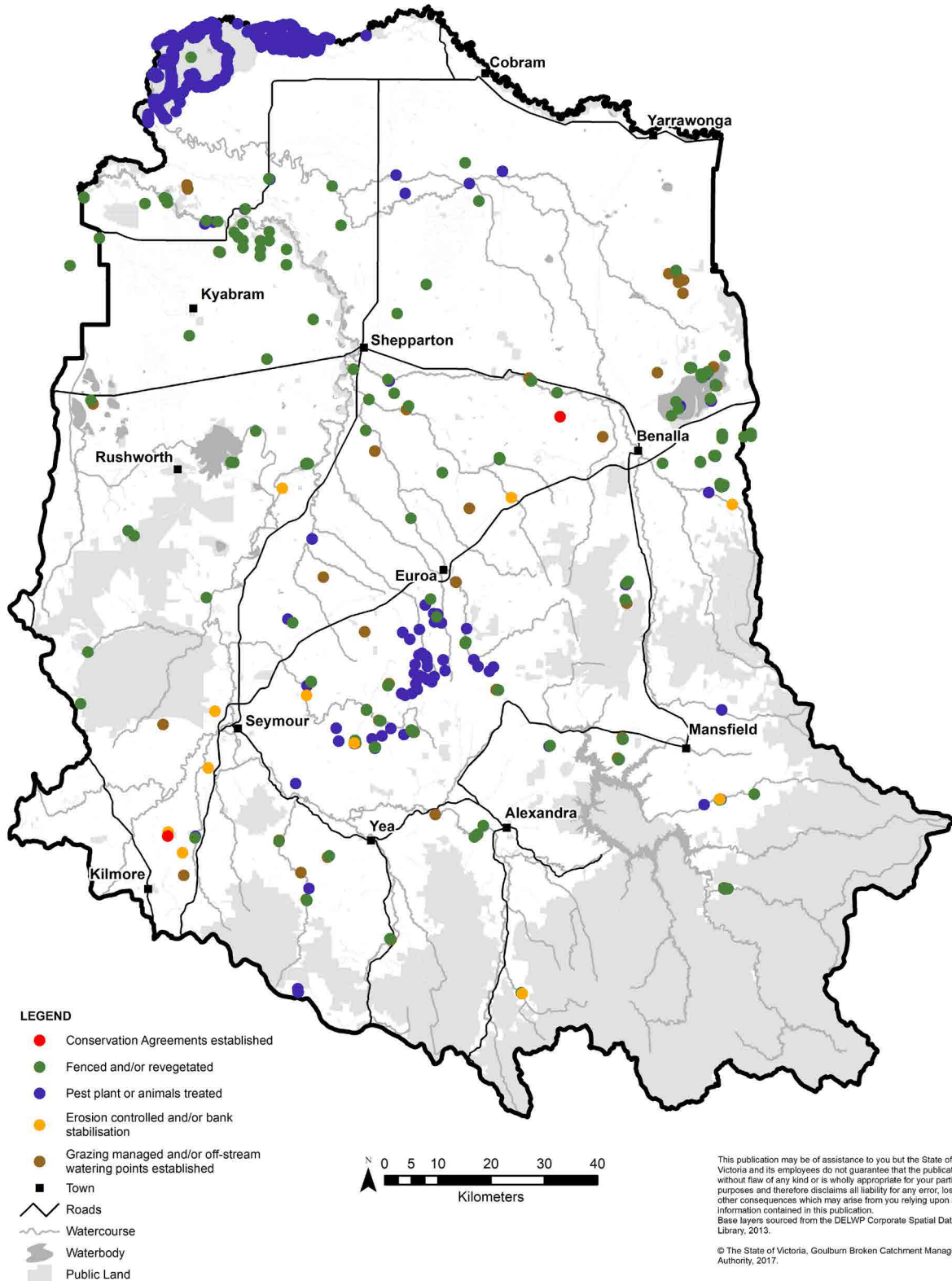
The structuring and communicating of long-term progress is itself a work-in-progress that attempts to retain the integrity of the Goulburn Broken CMA's evaluation efforts over almost two decades while aligning with emerging national and state approaches.

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 73 and 80).

Appendix 2: Works

1 July 2017 to 30 June 2018

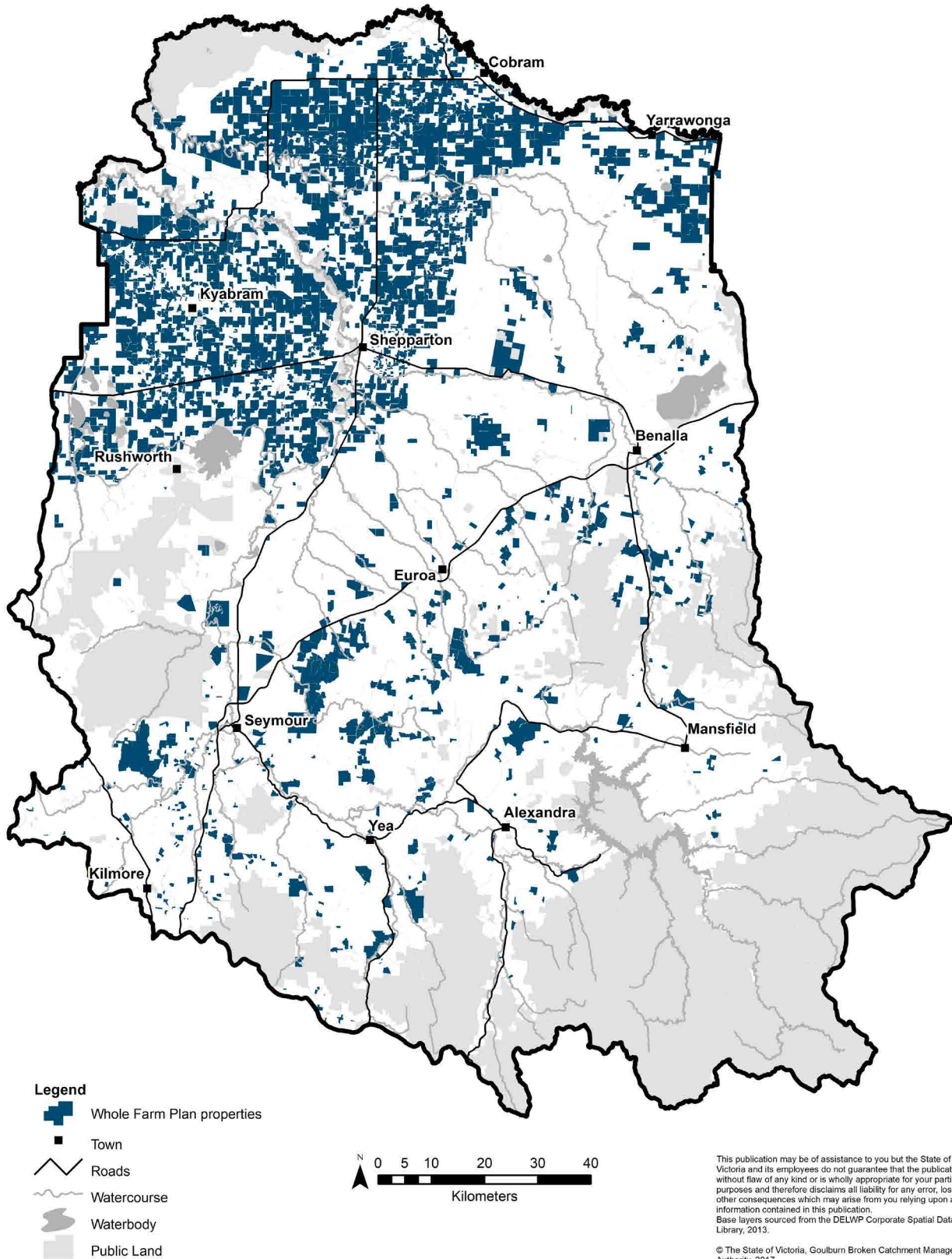
This map shows onground works completed in 2017-18 through Goulburn Broken CMA programs. These works relate to outputs listed in tables throughout this Annual Report. Some major works under Waterways, Floodplain Management and Sustainable Irrigation Programs are not shown. Ongoing works that landowners 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: Properties covered by a whole farm plan

to 30 June 2018

This map shows the properties covered by a whole farm plan or modernised whole farm plan completed since the start of the Program.



Appendix 4: Outputs - detailed list of achievements

| Standard GB Threat or Impact Managed | Output | Land & Biodiversity | | |
|-------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------|----------|------------|
| | | Target ⁱ | Achieved | % Achieved |
| Threat | | | | |
| Land and water use practices | | | | |
| Stock grazing (ha = terrestrial; km = riparian) | Fence terrestrial remnant vegetation (ha) ⁱⁱ | 196 | 378 | 193 |
| | 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 | 34 | 57 |
| Induced Threat | | | | |
| Saline water & high watertables | | | | |
| | Laser levelling (ha) ⁱⁱⁱ | | | |
| | Drain – primary built (km) ^v | | | |
| | Drain – community built (km) | | | |
| | Weir – replace (no.) | | | |
| Surface water ^{iv} | 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} | | | |
| Instream and near-stream erosion | Bed and bank protection actions (km) ^{ix} | | | |
| | Instream & tributary erosion controlled (km) | | | |
| Changed flow pattern | Environmental water use (ML) ^x | | | |
| | Weeds – woody weed management (ha) | 3,740 | 2,062 | 55 |
| Weed invasion | Weeds – aquatic weeds controlled/eradicated (km) | | | |
| | Targeted infestations of weeds in high priority areas covered by control programs (ha) ^{xi} | 4,015 | 2,343 | 58 |
| Pest animals | Area of high priority rabbit infested land covered by control programs (ha) | 3,349 | 3,510 | 105 |
| | Area of high priority fox infested land covered by control programs (ha) | 279 | 82 | 29 |
| Impact | | | | |
| Habitat loss - terrestrial | Revegetation - plant natives within or next to remnants (ha) ^{xii} | 101 | 176 | 175 |
| | Revegetation - plant natives away from remnants (ha) | | | |
| | Fish release (no.) | | | |
| Habitat loss – instream | Vertical slot fishway (no.) | | | |
| | Rock ramp fishway (no.) | | | |
| | Fish barrier removal (no.) | | | |
| | Instream habitat - snags (no.) ^{xiii} | | | |
| 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.) ^{xiv} | | | |

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 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 (478, 1,963, 360 & 1,734) + 60 per cent of area put under Whole Farm Plans [new (4,143, 2,576, 3,289 & 2,843) + modernised (2,572, 2,037, 3,905 & 2,632) - Farm Water Program's SIR onground achievements (478, 1,963, 360 & 1,734)]. Target = Farm Water Program's SIR target (1,773) + 60 per cent of area to be put under Whole Farm Plans [no. (120) x average area of Whole Farm Plans (91) - Farm Water Program's SIR target (1,773)].

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.

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 were undertaken on a one-to-one funding basis with local government.

ix. From 2013-14, the actions for erosion control have been bundled with this to make the tally.

| 2017-18 | | | | | | | | | Total achieved | | | | | | | |
|------------------------|----------|------------|------------------------|----------|------------|---------------------|----------|------------|----------------|---------|---------|---------|---------|---------|---------|---------|
| Sustainable Irrigation | | | Waterways & Floodplain | | | Total Catchment | | | 2016-17 | 2015-16 | 2014-15 | 2013-14 | 2012-13 | 2011-12 | 2010-11 | 2009-10 |
| Target ¹ | Achieved | % Achieved | Target ¹ | Achieved | % Achieved | Target ¹ | Achieved | % Achieved | | | | | | | | |
| - | 211 | | | | | 196 | 589 | 301 | 696 | 468 | 385 | 1,004 | 1,783 | 728 | 1,112 | 1,276 |
| | | | 8 | 0 | 0 | 8 | 0 | 0 | 137 | 3 | 168 | 128 | 73 | 160 | 78 | 8 |
| | | | 49 | 161 | 328 | 49 | 161 | 328 | 294 | 244 | 141 | 87 | 126 | 337 | 354 | n.a. |
| | | | 26 | 26 | 100 | 26 | 26 | 100 | 35 | 38 | 70 | 42 | 6.8 | 26 | 93 | 63 |
| | | | 17 | 17 | 100 | 17 | 17 | 100 | 25 | 19 | 15 | 3 | 1 | 17 | 21 | 48 |
| - | 70 | | | | | 60 | 104 | 173 | 18 | 70 | 112 | 0 | 329 | 360 | 434 | 906 |
| | | | | | | | | | | | | | | | | |
| 7,261 | 3,979 | 55 | | | | 7,261 | 3,979 | 55 | 4,460 | 3,553 | 4,220 | 6,671 | 12,662 | 24,505 | 19,546 | 14,170 |
| 10 | 3.76 | 38 | | | | 10 | 3.76 | 38 | | | | | 1 | 0 | 1.1 | 6 |
| 4 | 0 | 0 | | | | 4 | 0 | 0 | | | | | | 1 | 1.4 | 4 |
| | | | | | | | | | | | | | | | | |
| 37 | 36 | 97 | | | | 37 | 36 | 97 | 5 | 51 | 9 | 64 | 25 | 25 | 7 | 76 |
| - | 5,174 | | | | | - | 5,174 | | 4,460 | 3,553 | 4,745 | 7,330 | | 24,145 | 20,050 | 14,217 |
| | | | | | | | | | | | | | | | | 152 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 1 | 0 | 9 |
| | | | | | | | | | | | | | | 75 | 0 | 1,827 |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | 2 | | 1 |
| | | | - | 0.51 | | - | 0.51 | | 0.62 | 0.91 | 0.40 | 0.20 | 0.65 | 19 | 16 | 5 |
| | | | | | | | | | 0.62 | 0.91 | 0.60 | 1.00 | | | 131 | 207 |
| | | | - | 812,240 | | - | 812,240 | | 479,164 | 698,264 | 339,318 | 714,378 | 299,667 | 633,476 | 454,694 | 3,190 |
| - | 1,211 | | 188 | 787 | 419 | 3,928 | 4,060 | 103 | 7,481 | 1,363 | 2,317 | 210 | | | | |
| | | | - | 10 | | | 10 | | 9 | 14 | 97 | 3 | 77 | 76 | 418 | 27 |
| - | 1,211 | | 242 | 887 | 366 | 4,257 | 4,441 | 104 | 8,529 | 2,894 | 3,359 | 3,643 | 953 | 1,372 | 424 | 38,525 |
| | | | | | | 3,349 | 3,510 | 105 | 10,163 | 722 | 1,496 | 4,699 | 2,749 | 882 | 1,121 | 5,700 |
| | | | 250 | 427 | 171 | 529 | 509 | 96 | 260 | 6,599 | 21,384 | 26,502 | 27,000 | 60,000 | 57,507 | 108,250 |
| | | | | | | | | | | | | | | | | |
| 20 | 164.6 | 823 | 41 | 72 | 177 | 161 | 413 | 256 | 487 | 750 | 549 | 1,211 | 2,957 | 1,995 | 1,383 | 1,403 |
| | | | | | | | | | | | | | 517 | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | 2 | | | | 1 |
| | | | | | | | | | | | | | | 2 | | |
| | | | 310 | 627 | 202 | 310 | 627 | 202 | 363 | 334 | 357 | 337 | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 36 | 12 |
| 120 | 55 | 46 | | | | 120 | 55 | 46 | 74 | 51 | 71 | 79 | 186 | 263 | 331 | 259 |

x. 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.

xi. This includes 'Weeds woody weed management'. 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. 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. 2012-13 figures do not include 9,315 hectares for weeds and 10,500 hectares for rabbit control. 2013-14 figures do not include 12,880 hectares for weeds and 6,175 hectares for rabbit control. 2014-15 achievements do not include 10,060 hectares for weeds and 6,850 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2015-16 achievements do not include 11,820 hectares for weeds and 7,480 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2016-17 achievements do not include 7,781 hectares for weeds and 2,911 hectares for rabbit control completed by DEDJTR Biosecurity Victoria. 2017-18 achievements do not include 11,001 hectares for weeds and 6,400 hectares for rabbit control completed by DEDJTR Biosecurity Victoria (see page 62).

xii. Natural regeneration from the Caring for Our Country Woodlands project and the E=M3C3 project are also included: 705 hectares and 10 hectares respectively for 2009-10. 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, 2014-15, 2015-16 & 2016-17 achievements do not include 1,080, 175, 186.8 & 624.6 hectares of revegetation achieved outside the Catchment through the Sand Ridge Woodlands project that Goulburn Broken CMA delivered in partnership with Murray Local Land Services and NSW National Parks and Wildlife Service.

xiii. Output included for the first time in 2015-16 as 'instream woody habitat - snags'. Updated to 'instream habitat' in 2017-18 to include other habitat structures undertaken in 2017-18 such as groynes and rock seeding.

xiv. Figures for total catchment historically include those outside of Sustainable Irrigation Program also, which were for comprehensive Level 2 whole farm plans, equivalent to Shepparton Irrigation Region's whole farm plan. Level 1 is a short course that is a precursor to Level 2 and not included in these figures. In 2012-13 whole farm plans under the Land and Biodiversity Program were achieved by Department of Environment and Primary Industries, using funding received outside of the Corporate Plan.

Appendix 5: 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 programs to ensure Australia's agricultural, fisheries, food and forestry industries remain competitive, profitable and sustainable and supports the sustainable and productive management and use of rivers and water resources. |
| Australian Government – Department of the Environment and Energy | <p>The Department of the Environment designs and implements the Australian Government's policies and programs 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. See the bar chart on the next page, which shows Landcare group health status. |
| 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> . |

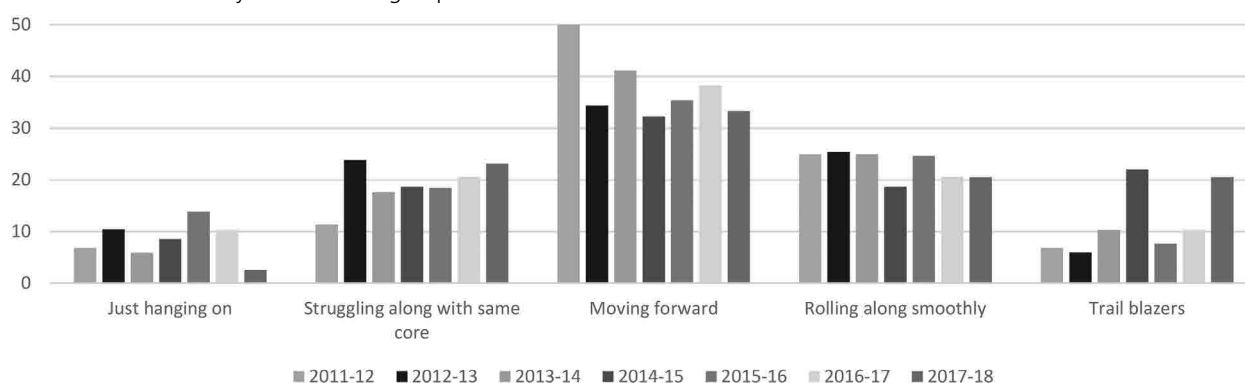
Community volunteer contributions in 2017-18

| Activity | Hours ⁱ |
|-----------------------------------|--------------------|
| Onground works | 15,811 |
| Learning and training | 10,266 |
| Promotion and communications | 3,106 |
| Planning and other administration | 6,932 |

ⁱ Excludes network chair meetings and conservation network facilitator meetings and their other work.

Landcare group health status

Data from annual surveys of Landcare groups.



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

Financial Management Act 1994

Fisheries Act 1995

Flora and Fauna Guarantee Act 1988

Forests Act 1958

Heritage Rivers Act 1992

Land Act 1958

Mineral Resources (Sustainable Development) Act 1990

Murray-Darling Basin Act 1993

National Parks Act 1975

Occupational Health and Safety Act 2004

Parks Victoria Act 1998

Privacy and Data Protection Act 2014

Planning and Environment Act 1987

Public Administration Act 2004

Reference Areas Act 1978

State Environment Protection Policy (Groundwaters of Victoria)

State Environment Protection Policy (Waters of Victoria)

Subdivision Act 1988

Sustainable Forests (Timber) Act 2004

Traditional Owner Settlement Act 2010

Victorian Conservation Trust Act 1972

Victorian Environment Assessment Council Act 2001

Water Act 1989

Wildlife Act 1975

Yorta Yorta Cooperative Management Agreement 2004

Relevant Policies, Strategies and Agreements

International

China Australia Migratory Bird Agreement 1986

Convention of Migratory Species (Bomm Convention) 1979

Greenhouse Gas Protocol (www.ghgprotocol.org)

Japan Australia Migratory Bird Agreement 1974

Ramsar Convention on Wetlands 1971

Republic of Korea Australia Migratory Bird Agreement 2009

UN Declaration on the rights of Indigenous Peoples 2007

Federal

A Directory of Important Wetlands in Australia (EA 2001)

A Framework for Determining Commonwealth Environmental Watering Actions 2009

Agricultural Competitiveness White Paper (2015)

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

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 and Toolkit 2017

DELWP Guide to Good Governance – board members

Food & Fibre Strategy 2016

Indigenous Partnership Framework 2007-10 (reviewed 2010)

Invasive Plants and Animal Policy Framework 2010

Native Vegetation Net gain accounting first approximation report 2008 (DSE)

Our Catchments, Our Communities – Integrated Catchment Management in Victoria 2016-19

Permitted Clearing of Native Vegetation – Biodiversity Assessment Guidelines 2013

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 Catchment Partnership Agreement 2018

Goulburn Broken Communications and Marketing Strategy and Action Plan 2016-2018

Goulburn Broken Community Engagement Strategy and Action Plan 2016-2018

Goulburn Broken Community NRM Action Plan 2013-2018

Goulburn Broken Corporate Plan 2017-18 to 2021-22

Goulburn Broken Dryland Salinity Management Plan 1990 (and reviews 1995, 2001, 2008)

Goulburn Broken Regional Floodplain Management Strategy 2018-2028

Goulburn Broken Invasive Plants and Animals Strategy 2010

Goulburn Broken Land Health Statement 2014

Goulburn Broken Land Health Strategy 2017-2020

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)

Goulburn Broken Native Vegetation Plan 2003

Goulburn Broken Reconciliation Action Plan 2018-2020

Goulburn Broken Regional Catchment Strategy 2013-2019

Goulburn Broken Water Quality Strategy 1996-2016

Review of Goulburn Broken Water Quality Strategy 1996-2016 (Brian Garrett and Associates 2001)

Goulburn Broken Waterway Strategy 2014-2022

Goulburn Broken Workforce Strategy 2013-2018

Goulburn Regional Partnership (www.rdv.vic.gov.au)

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

Victoria's CMAs Diversity and Inclusion Plan 2018

Yorta Yorta Cooperative Management Agreement 2004

Yorta Yorta Nation Whole of Country Plan 2012-2017

Yorta Yorta Traditional Land Management Agreement 2010

Appendix 7: Community grants

Below is a list of grants paid to community groups and organisations for projects during the 2017-18 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 2017-18 | Amount paid \$ (ex GST) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| 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 | |
| Biodiversity Spring promotion across the GB Catchment | \$3,500.00 |
| Australian Government - National Landcare Program The National Landcare Program is part of the Australian Government's Plan for a Cleaner Environment. The Program brings together previous programs to create a single national program that will invest to protect and improve our nationally and internationally important natural assets and values through action at the local level. | |
| Creighton's Creek Landcare Group | |
| Beating climate change with healthy soils and pastures | \$6,485.00 |
| Euroa Arboretum | |
| Box Ironbark Course | \$20,000.00 |
| Building resilience in the restoration and revegetation industry of the Goulburn Broken Catchment | \$30,000.00 |
| Healthy Hectares for small landholders | \$31,620.50 |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$5,000.00 |
| Gecko Clan | |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$10,000.00 |
| Step 2 in Efficient farm water planning and management grazing enterprises | \$30,280.00 |
| Goulburn Murray Landcare Network | |
| Annual Farm Forum | \$5,000.00 |
| Continuing to improve the uptake of sustainable farming practices in the GMLN | \$35,049.09 |
| Floodplain Ecology Course | \$10,000.00 |
| Ground truthing - baseline data to measure soil condition changes through regenerative farming techniques. | \$7,000.00 |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$10,000.00 |
| GV Community Energy | |
| GV Community Energy Indigenous Seedbank | \$20,000.00 |
| GV Food Co-operative | |
| Saving our soil E book | \$7,170.45 |
| Hughes Creek Catchment Collaborative | |
| A Dungless Decade | \$10,000.00 |
| Irrigated Cropping Council | |
| Surveying Soil compaction in Goulburn Valley Dairy farms | \$5,000.00 |
| Longwood East landcare Group | |
| Managing our farms better in Longwood East | \$4,545.45 |
| Longwood Plains Conservation Management Network | |
| Identifying outcomes of the Nationally Significant Eco-Systems Woodlands and Wetlands Project | \$27,272.73 |
| Moira Shire Council | |
| Goulburn Broken Local Government Biodiversity Reference Group | \$20,000.00 |
| Murray Dairy | |
| Managing for Soil Success | \$8,000.00 |
| Regent Honeyeater Project | |
| Lurg Hills Regent Honeyeater Project - Ecological restoration on a landscape scale | \$50,000.00 |
| Riverine Plains | |
| Soil moisture information for greater seasonal confidence in cropping | \$15,000.00 |
| 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 |
| South West Goulburn Landcare | |
| Demonstrating innovative soil health methods | \$9,565.00 |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$10,000.00 |
| Validating grazing effects on soil nutrients | \$23,100.00 |
| Strathbogie Ranges Conservation Management Network | |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$5,000.00 |
| Strathbogie Tablelands Landcare Group | |
| Using pelletised lime at time of sowing on highly acidic soils (high aluminium) | \$4,500.00 |
| Superb Parrot Project | |
| Superb Parrot Project | \$30,000.00 |

| Total grants paid to community groups and other organisations 2017-18 | Amount paid \$ (ex GST) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Taungurung Clans Aboriginal Corporation | |
| Provision of cultural awareness training | \$372.40 |
| Provision of land management and conservation services on Country | \$88,398.05 |
| Trust for Nature | |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$137,000.00 |
| Up2Us Landcare Alliance | |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$10,000.00 |
| KISS the dirt | \$4,250.00 |
| Upskilling locals in erosion control | \$10,000.00 |
| Upper Goulburn Landcare Network | |
| Improving the resilience of nationally significant woodland and wetland ecosystems | \$10,000.00 |
| Small landholder introductory forum | \$3,424.55 |
| Victorian No-Till Farmers Association | |
| Regenerative Agriculture - reducing costs, improving production, caring for our natural assets | \$10,000.00 |
| Warby Range Landcare group | |
| Soil Micro Nutrient Project | \$10,785.00 |
| Warrenbayne Boho Land Protection Group | |
| Understanding microbial / plant symbiosis to double pasture production | \$8,100.00 |
| Yorta Yorta Nation Aboriginal Corporation | |
| Provision of land management and conservation services on Country | \$148,184.16 |
| 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 coordinated planning, investment, and onground activities. | |
| Gecko Clan | |
| Water budgeting in the Bogies and 'Tree Storey – Growback or Dieback' | \$5,000.00 |
| Strathbogie Ranges Conservation Management Network | |
| B3 Bores, Bogies and Beyond Project | \$46,500.00 |
| The Tree Storey - Grow back or die back | \$19,000.00 |
| Up2Us Landcare Alliance | |
| Mansfield's Future Matters | \$4,000.00 |
| Upland Slopes Local Planning – Mansfield area | \$10,000.00 |
| Yorta Yorta Nation Aboriginal Corporation | |
| Provision of land management and conservation services on Country | \$105,527.48 |
| 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 | \$9,090.91 |
| Euroa Arboretum | |
| Restoring the Seven Creeks in Euroa township | \$10,000.00 |
| Gecko Clan | |
| Faithfuls Creek Restoration Project | \$5,000.00 |
| Hughes Creek Catchment Collaborative | |
| County Creek Rescue | \$2,300.00 |
| Longwood Plains Conservation Management Network | |
| Creek Connections across Longwood Plains | \$4,090.91 |
| Protecting Wetlands and Waterways across Longwood Plains | \$13,054.55 |
| Strathbogie Ranges Conservation Management Network | |
| Exploration & Adventure down Strathbogie Streams | \$6,250.00 |
| Up2Us Landcare Alliance | |
| Collective Impact Riparian Revegetation | \$17,000.00 |
| Shades of Grey for the Delatite River | \$2,100.00 |
| Shades of Grey on Upland streams | \$24,500.00 |
| Upper Goulburn Landcare Network | |
| Lorax Project | \$10,000.00 |
| 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 |

| Total grants paid to community groups and other organisations 2017-18 | Amount paid \$ (ex GST) |
|-------------------------------------------------------------------------------------------------------|-------------------------|
| Balmattum Sheans Creek Landcare Group | |
| Maintenance grants | \$240.00 |
| Spray & Wipe | \$10,945.45 |
| Broadford Land Management Group | |
| Maintenance grants | \$240.00 |
| Broken River Environment Group | |
| Maintenance grants | \$240.00 |
| Bunbartha Kaarimba Landcare Group | |
| Maintenance grants | \$240.00 |
| Congupna Tallygaroopna Landcare Group | |
| Maintenance grants | \$240.00 |
| Corop Community Landcare Group | |
| Maintenance grants | \$240.00 |
| Dabyminga Catchment Collective | |
| Maintenance grants | \$240.00 |
| Delatite Landcare Group | |
| Maintenance grants | \$240.00 |
| Euroa Arboretum | |
| Environmental education at Euroa Arboretum | \$10,500.00 |
| Gardens for Wildlife extension | \$10,325.00 |
| Maintenance grants | \$240.00 |
| Friends of the Marysville Walks | |
| Maintenance grants | \$240.00 |
| Girgarre Stanhope Landcare Group | |
| Maintenance grants | \$240.00 |
| Goomalibee Landcare Group | |
| Shelter belts on farms | \$5,154.55 |
| Gooram Valley Landcare Group | |
| Maintenance grants | \$240.00 |
| Goulburn Murray Landcare Network | |
| Biodiversity, Environment, Aquatic, Discovery Program (BEAD) | \$14,000.00 |
| Living the Good Life | \$8,540.00 |
| Maintenance grants | \$240.00 |
| Harston Community Landcare Group | |
| Maintenance grants | \$240.00 |
| Hughes Creek Catchment Collaborative | |
| Maintenance grants | \$240.00 |
| Kialla Residents Landcare Group | |
| Maintenance grants | \$240.00 |
| Kinglake Ranges Landcare Group | |
| Maintenance grants | \$240.00 |
| Kyabram Urban Landcare Group | |
| Maintenance grants | \$240.00 |
| Lockington Landcare Group | |
| Maintenance grants | \$240.00 |
| Longwood East landcare Group | |
| Maintenance grants | \$240.00 |
| Longwood East Landcare Group Inc | |
| Creating a better environment for Flora and Fauna | \$9,545.45 |
| Lower Goulburn Conservation Management Network | |
| Maintenance grants | \$240.00 |
| Molyullah and Tatong Tree & Land Protection Group | |
| Ongoing Blackberry and Pest Weed awareness and control | \$9,863.64 |
| Murrindindi Climate Change Network | |
| Maintenance grants | \$240.00 |
| Naring Landcare Group | |
| Maintenance grants | \$240.00 |
| Nulla Vale Pyalong West Landcare Group | |
| Maintenance grants | \$240.00 |
| Sheep Pen Creek Land Management Group Inc. | |
| Reinvigorating old erosion, salinity and corridor plantings to improve their value as natural habitat | \$13,860.00 |

| Total grants paid to community groups and other organisations 2017-18 | Amount paid \$ (ex GST) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|
| Sheep Pen Creek Land Management Group Inc. and Dookie Land Management Group | |
| Enhancing remnant woodland through woody weed removal in Sheep Pen and Dookie Landcare group areas | \$13,818.00 |
| Shepparton Mooroopna Urban (sub group GMLN) | |
| Maintenance grants | \$240.00 |
| South Cathedral Landcare Group | |
| Maintenance grants | \$240.00 |
| South West Goulburn Landcare | |
| FarmBlitz | \$10,185.00 |
| Ongoing Engagement of Children's learning through Nature | \$3,395.00 |
| South West Goulburn Landcare inc | |
| Maintenance grants | \$240.00 |
| Strath Creek Landcare Group | |
| Maintenance grants | \$240.00 |
| Strathallan Family Landcare Group | |
| Maintenance grants | \$240.00 |
| Strathbogie Ranges Conservation Management Network | |
| Maintenance grants | \$240.00 |
| Strathbogie Tableland landcare Group | |
| Maintenance grants | \$240.00 |
| Sunday Creek Dry Creek Landcare Group | |
| Maintenance grants | \$240.00 |
| U.T. Creek Valley Landcare Group | |
| Maintenance grants | \$240.00 |
| Up2Us Landcare Alliance | |
| Healthier Howqua | \$4,620.00 |
| Maintenance grants | \$240.00 |
| Meet Talk Act 4 | \$7,350.00 |
| Upper Goulburn Landcare Network | |
| Environmental Education across 10 schools in the Cathedral Cluster | \$10,500.00 |
| Kids Teaching Kids | \$4,000.00 |
| King Parrot Catchment Fox Control Project Phase 1 - Training and Planning | \$6,000.00 |
| Priority weed control in the Upper Goulburn Landcare Network | \$10,500.00 |
| Ribbons of Remnant Roadsides | \$14,000.00 |
| Warrenbayne /Boho Land Protection Group | |
| Brush em off 3 , working within the landcare community | \$6,754.55 |
| Willowmavin Landcare Group | |
| Maintenance grants | \$240.00 |
| Wunghnu Drummanure Landcare Group | |
| Maintenance grants | \$240.00 |
| Wyuna Landcare Group | |
| Maintenance grants | \$240.00 |
| Yarrowonga Urban Landcare Group | |
| Landcare Milestone | \$3,181.82 |
| Maintenance grants | \$240.00 |
| Yea River Catchment Landcare Group | |
| Maintenance grants | \$240.00 |
| 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 (in association with GB CMA) | |
| Goulburn Broken Waterwatch | \$120,000.00 |
| Greater Shepparton City Council | |
| RiverConnect Project | \$140,000.00 |
| Yorta Yorta Nation Aboriginal Corporation | |
| Provision of land management and conservation services on Country | \$1,305.83 |
| 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. | |
| Murrindindi Shire Council | |
| Supporting Local Social Ecological Planning in the Commuting Hills | \$5,000.00 |
| Yorta Yorta Nation Aboriginal Corporation | |
| Provision of land management and conservation services on Country | \$7,434.75 |
| Total Grants paid | \$1,672,129.82 |

Appendix 8: RCS sub strategies progress

| Plan or strategy Summary of plan development and implementation in 2017-18 | Further details |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <p>Corporate plan</p> <p>Corporate Plan key performance indicators were satisfied appropriately.</p> | <p>See Key performance indicator progress report page 92.</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 48.</p> |
| <p>Land Health Strategy 2017-2020</p> <p>The Land Health Strategy 2017-2020 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 55.</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 Land page 55.</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 regional viability. This plan was approved by the Board and launched in 2017.</p> | <p>See Sustainable irrigation page 63.</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>. The strategy identifies key threats to community values and provides recommendations to influence the future management of waterways in the catchment. It is undergoing an interim review in 2018.</p> | <p>See Waterways page 31.</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 now incorporated into other strategies as appropriate such as the Regional Waterway Strategy. 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 31.</p> |
| <p>Goulburn Broken Regional Floodplain Management Strategy 2018-2028</p> <p>The Goulburn Broken Regional Floodplain Management Strategy presents an integrated catchment planning framework for floodplain management in the Goulburn Broken region and is the primary guide for improving community flood resilience.</p> <p>The strategy is intended to be adaptable and able to respond to new information or because new opportunities or priorities change.</p> | <p>See Floodplain page 43.</p> |

| Plan or strategy Summary of plan development and implementation in 2017-18 | 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 26. |
| <p>Communication and Marketing Strategy 2016-18 & Community Engagement Strategy and Action Plan 2016-18</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 26. |
| <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 73. |
| <p>Occupational Health and Safety Policy Statement 2017-2018</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 73. |
| <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 24. |
| <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 78. |
| <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 80. |
| <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 26. |
| <p>Goulburn Broken Diversity Plan 2017-22</p> <p>The Diversity Plan was approved by the Minister in 2017 and details the CMA's commitment to diversity and inclusion, including actions to be undertaken to achieve the agreed objectives of the CMA.</p> | See Human resources page 73. |
| Integration planning | |
| <p>SES Local Plans (Agricultural Floodplains, 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 recognise that 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 9: Disclosure index

The Annual Report of the Goulburn Broken CMA is prepared in accordance with all relevant Victorian legislations and pronouncements. This index has been prepared to facilitate identification of the Authority's compliance with statutory disclosure requirements.

Information relevant to the headings listed in Financial Reporting Direction 22H of the *Financial Management Act 1994* is held at the Authority's office and is available on request, subject to the *Freedom of Information Act 1982*.

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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 128.

Dammed (regulated) streams: A river system where major dams or weir structures have been built to regulate the supply or extraction of water. Prior to the establishment of sustainable diversion limits and material volumes of water were set aside for the environment, flow in regulated streams relied solely on water from rainfall and flow remaining after water was extracted for consumptive uses (urban, irrigation and industry).

Ecosystem: A diverse and changing set of living organisms within a community, interacting with each other and the physical elements of the environment in which they are found.

End-of-valley targets have been proposed for major rivers contributing salt to the Murray River under the (Murray-Darling) Basin Salinity Management Strategy. The purpose of these targets is to maintain salinity levels at the benchmark site, Morgan in South Australia, at or under 800 EC for 95 per cent of the time. These enable within-valley targets to be set. The proposed end-of-valley targets are being investigated to align them with expectations and obligations of different parties at regional, State and Federal levels.

FLOWS: A method for determining environmental water requirements in Victoria

GMW Connections is a \$2 billion project funded by the Victorian Government, 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 128.

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 18 and 128.

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 128.

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 128.

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 | MP | Member of Parliament |
| ARI | Arthur Rylah Institute | MoU | Memorandum of Understanding |
| BSMS | Basin Salinity Management Strategy (MDBA) | no. | Number |
| CaLP | <i>Catchment and Land Protection Act 1994</i> | NLP | Australian Government's National Landcare Program |
| CEO | Chief Executive Officer | NRM | Natural Resource Management |
| CEWH | Commonwealth Environmental Water Holder | NRIP | Natural Resources Investment Program |
| CFA | Country Fire Authority (Victoria) | OCOC | Our Catchments Our Communities - Integrated Catchment Management in Victoria 2016-19 |
| CMA | Catchment Management Authority | OHS | Occupational Health and Safety |
| CMN | Conservation Management Network | PV | Parks Victoria |
| CSIRO | Commonwealth Scientific and Industrial Research Organisation | RCS | (Goulburn Broken) Regional Catchment Strategy |
| DEDJTR | Department of Economic Development, Jobs, Transport and Resources | RSMP | Regional Salinity Management Plan |
| DELWP | Department of Environment, Land, Water and Planning | RTW | Return to Work |
| DTF | Department of Treasury and Finance | SES | Social-Ecological System |
| DWG | Designated Work Group | SIR | Shepparton Irrigation Region |
| EBA | Enterprise Agreement | SIRCIS | Shepparton Irrigation Region Catchment Implementation Strategy |
| EC | Electrical Conductivity unit | SIRLWMP | Shepparton Irrigation Region Land and Water Management Plan |
| EPBC | <i>Environment Protection and Biodiversity Conservation Act 1999</i> | SIRPPIC | Shepparton Irrigation Region People and Planning Integration Committee |
| EVC | Ecological Vegetation Class | SoO | Statement of Obligations |
| EWAG | Environmental Water Advisory Group | TCAC | Taungurung Clans Aboriginal Corporation |
| FoI | Freedom of Information | t CO ₂ e | Tonnes of carbon dioxide (CO ₂) emitted |
| FTE | Full-time Equivalent | TCV | Treasury Corporation of Victoria |
| FWP | Farm Water Program | TfN | Trust for Nature |
| GHG | Greenhouse Gas | TFWS | Total Flood Warning System |
| GL | Gigalitre | VCAT | Victorian Civil Administrative Tribunal |
| GMID | Goulburn-Murray Irrigation District | VEPP | Victorian Environmental Partnerships Program |
| GMLN | Goulburn Murray Landcare Network | VEWH | Victorian Environmental Water Holder |
| GMW | Goulburn-Murray Water | VFMP | Victorian Farm Modernisation Program |
| GSERP | Government Sector Executive Remuneration Panel | VIPP | Victorian Industry Participation Policy |
| GST | Goods and Services Tax | YYNAC | Yorta Yorta Nation Aboriginal Corporation |
| ha | Hectare | | |
| HSR | Health and Safety Representative | | |
| IRP | Issue Resolution Procedures | | |
| IT / ICT | Information Technology / Information and Communications Technology | | |
| IVT | Inter-Valley Trade transfers | | |
| km | Kilometre | | |
| KPI | Key Performance Indicator | | |
| L | Litre | | |
| LaBIF | Land and Biodiversity Implementation Forum | | |
| LiDAR | Light Detection and Ranging remote sensing technology | | |
| LIDP | Local Industry Development Plans (under (VIPP)) | | |
| LGA | Local Government Authority | | |
| LWMP | Land and Water Management Plan | | |
| MDB | Murray-Darling Basin | | |
| MDBA | Murray-Darling Basin Authority | | |
| MFEP | Municipal Flood Emergency Plan | | |
| ML | Megalitre | | |
| MLA | Member of the Legislative Assembly | | |
| MLC | Member of the Legislative Council | | |

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Staff list 2017-18

| | | | | | |
|-----------------|---------------------|-------------------|-----------------|------------------|------------------|
| Aaron Findlay | Chris Norman | Gaye Sutherland | Karan Balfour | Mary Dimit | Shannon Crawford |
| Annette Neessen | Christine Glassford | Geoff Brennan | Karen Brisbane- | Meegan Judd | Simon Casanelia |
| Annie Squires | Collin Tate | Guy Tierney | Bullock | Megan McFarlane | Steve Wilson |
| Ashley Rogers | Corey Wilson | Helen Murdoch | Kate Brunt | Melanie Haddow | Sue Kosch |
| Belinda Senini | Daniel Lovell | Janice Mentiplay- | Kate Montgomery | Neville Atkinson | Tim Barlow |
| Caitlin Baker | Darelle Siekman | Smith | Katie Warner | Peter Geddes | Tom O'Dwyer |
| Carl Walters | David Lawler | Jeff Parry | Keith Ward | Rachael Spokes | Tony Kubeil |
| Carla Miles | Dean Judd | Jenny Wilson | Kerry McFarlane | Rebecca Caldwell | Vicki Mackenzie |
| Caroline Keenan | Des Morgan | Jim Begley | Kirsten Roszak | Rhiannon Apted | Zuzanna Lelito |
| Chris Burnett | Eileen Curtis | Jim Castles | Lisa Duncan | Russel Haque | |
| Chris Nicholson | Fiona Lloyd | Jo Deretic | Mark Turner | Samantha Moreno | |

RECOGNISING MAJOR NRM CONTRIBUTIONS

LANIE PEARCE



By Caroline Keenan

Lanie Pearce's fate was sealed when her mother delivered her five brothers and no female siblings.

There was precious little time for playing dolls and no-one to play with, so instead Lanie ditched the dress-ups and went exploring around her home town of Numurkah.

Her passion for nature and the environment was piqued early by her grandparents who lived on a farm in nearby Waaia.

"Pop used to put us in the back of the ute and take us fishing and Granny would take us mushrooming. So it was probably my grandparents who introduced me to the joys of the bush," Lanie said.

"And we'd go on a lot of family picnics in the bush. There's not too many places you can go with six kids. So quite often we'd pile into the car and head off for a picnic."

The daughter of a builder, Lanie was a certified 'townie' before marrying Pete Pearce and moving to his family's farm, which backed onto the Barmah Forest at Picola.

"We met at university in Melbourne where Pete was studying chemistry and I was studying speech pathology," Lanie said.

As the only son, Pete was called back to the farm when it got too much for his parents to manage.

"The only way we could be together was to get married. I was 20 when I moved to Picola and knew very little about farming."

Pete's parents' intimate knowledge and respect for their land, and nature in general, was infectious and soon Lanie was beginning to recognise bird calls and native plants.

Unlike many of their neighbours at the time, the Pearce family was always concerned about water quality and the native animals which shared the ancient landscape it farmed.

"No. Many of them would prefer to pull out an old paddock tree than plough around it. But Pete's dad fenced off the creek frontage and always told the kids to make sure they didn't run over the old goanna that lived down by the hayshed," she recalled.

Pete and Lanie were among the early adopters of the 'paddock to plate' philosophy, well before it had a name and became fashionable.

"When we were newly married we supplied beef to a butcher at the Prahran Market. He wanted five bodies a week of specific size and shape. So yes, we were a bit ahead of our time."

Lanie said there were two core issues which inspired her and she considered herself fortunate to be able to combine the pair in her work with the Goulburn Murray Landcare Network (GMLN).

"I'm passionate about conservation and education and love that I've been able to bring the two together in the work I do with GMLN."

She was the driving force behind several innovative school programs teaching students from the region's schools about their environment.

Over the past 15 years Lanie has shared her knowledge about the environment with thousands of primary and secondary school students.

She said one fundamental principle underpinned her programs. They must be fun.

"Environmentalists tend to be earnest. I believe a better way to deliver our message is with fun. If I'm not enjoying teaching the information, how can we ever expect the kids to take it in?"

It's this belief which has spawned such programs as Who's Come For Dinner which examines animal scats and tracks and Bonking In Your Backyard which looks at frog species and their importance in the ecosystem.

"We have so much fun. The other day we did these races with the kids where they had to put rubbish in the correct recycling bins, then we sorted through the rubbish to come up with a winner. The kids loved it. It's fun and they're learning at the same time."

She said she lamented the advent of the internet and the children's capacity to gain information about the natural world, without actually experiencing it.

"It's funny, they know a lot about nature but they don't play in it a great deal. Their worlds have shrunk but their knowledge has grown."

A self-confessed eternal optimist, Lanie said she was hopeful the environment was in good hands into the future.

"If I didn't believe that, what would be point? I see myself as planting seeds in these young minds. Like trees, some will thrive and some will struggle but overall I think the future generations will take care of the environment."

At the time of this interview the grandmother of two had just returned from several weeks driving around South Australia, visiting Kangaroo Island and the Flinders Ranges.

It's the first real holiday for Lanie and Pete since they took their three children to Brisbane for the World Expo in 1988.

"We've always camped and back then we had tents but now we've bought ourselves a camper trailer. It feels very luxurious to have a fridge and a stove."



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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