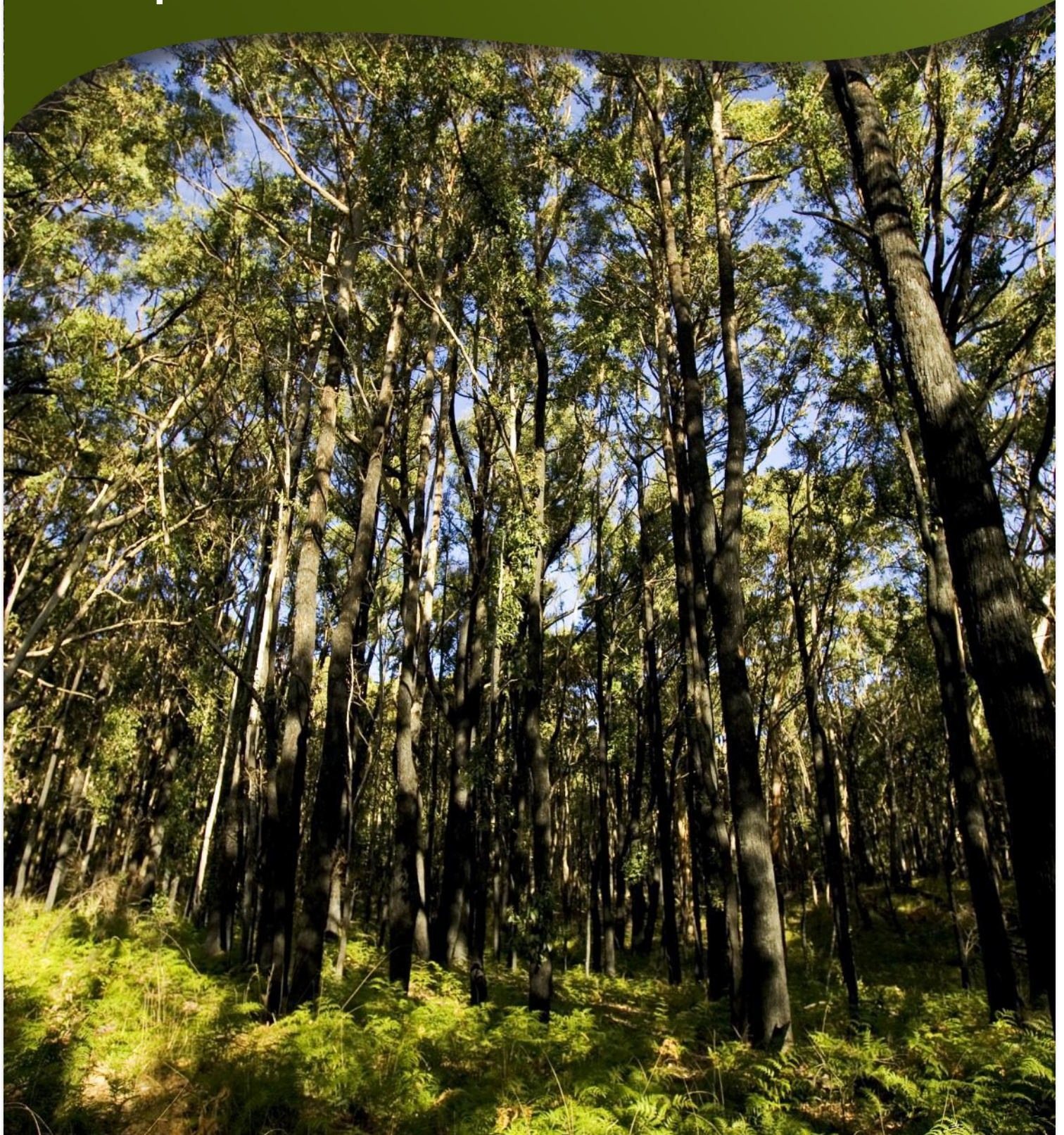




**Macedon
Ranges**
Shire Council

**Strategic Planning
& Environment**

Annual Environment Report 2019/20



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Theme 1: Climate Change

Current legislative and policy context

The ***Climate Change Act 2017*** was passed by the Victorian Parliament in February 2017. This remains the key legislation for addressing climate change in Victoria. The Act legislates for the State of Victoria to achieve zero net emissions by 2050, with interim targets to have been adopted by the Victorian Parliament by 31 March 2020. Due to the global pandemic, the consideration of interim targets has been deferred until an unspecified date.

The ***Local Government Act 2020*** will come into effect in four stages during 2020 and 2021. The new Act outlines the responsibilities of local government in regards to climate change and sustainability. In particular, Part 2, Division 1, Section 9, states:

A Council must in the performance of its role give effect to the overarching governance principles.

The following are the overarching governance principles—

....

*(c) the economic, social and **environmental sustainability of the municipal district, including mitigation and planning for climate change risks**, is to be promoted;*

This requirement will be reflected in Council's future Council Plans and other strategic documents.

Indicators

Indicator 1: Emission reductions from Council operations

Current targets

1. 25% reduction from baseline year of 2014/15 (1,910 tonnes of CO₂-e)
2. Zero net emissions by 2030

Reporting error for 2018/19

An error has been identified in the previous reporting for Council's emissions for 2018/19. This error was due to a data entry mistake for diesel fuel consumption conducted by Council's energy and emissions tracking service. Council's emissions for 2018/19 were actually 5,930 tonnes CO₂-e as opposed to 6,163 tonnes CO₂-e as reported in the Annual Environment Report 2018/19. This discrepancy of 233 tonnes CO₂-e is substantial and influences Council's "business as usual" projections for 2020/21.

Progress to achieving emission reduction targets

At the end of June 2020, annual emissions from Council operations equated to 5,315 tonnes CO₂-e. This is a 10.4% reduction from 2018/19 and a 30.4% reduction from the baseline of 7,640 tonnes CO₂-e in 2014/15. This means that Council has exceeded its emission reduction target of 25% (see **Table 1**).

Council's emission reductions for 2019/20 can be attributed to the following circumstances:

1. 2019/20 was the first year all LED streetlights (2,548 of 2,688) and all roof top solar arrays on buildings were in operation for the full year.
2. 2019/20 included approximately four months of reduced services in response to the global pandemic, most notably the temporary closure of the shire's two aquatic centres for approximately three months.

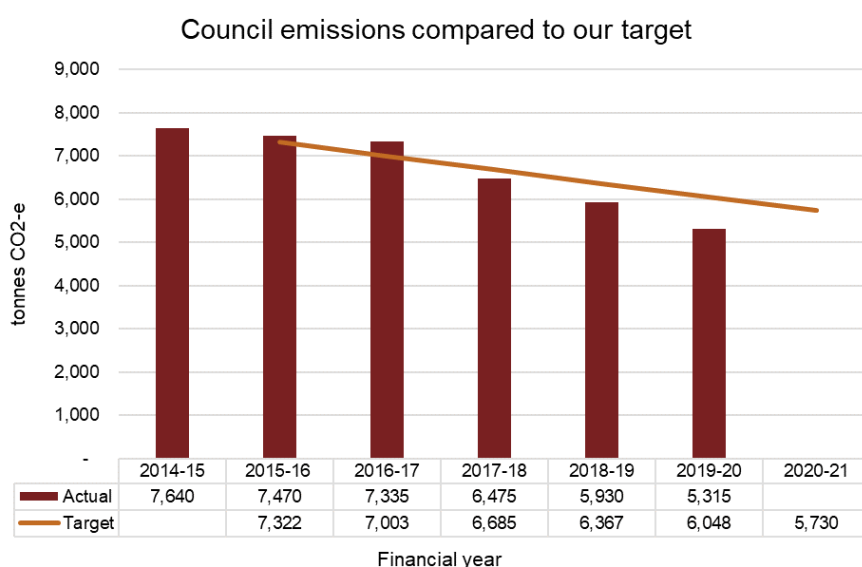
It's estimated that under a "business as usual" scenario, emissions from Council operations at June 2020 would be approximately 5,474 tonnes CO₂-e. This equates to 28.4% reduction from the baseline year.

Council's progress towards achieving its emissions reduction target is shown in **Figure 1** below.

Table 1: Emissions for 2018/09 and 2019/20 and % reduction from baseline year

	Total emissions for 2018/19	Total emissions for 2019/20	Reduced emissions Jul 19 – Jun 20	Reduction 2018/19 to 2019/20	Reduction from baseline year
	(tonnes CO ₂ -e)	(tonnes CO ₂ -e)	(tonnes CO ₂ -e)	%	%
Actual	5,930	5,315	615	10.4%	30.0%
Business as usual (est)		5,474	456	7.7%	28.4%

Figure 1: Council's annual emissions compared to target

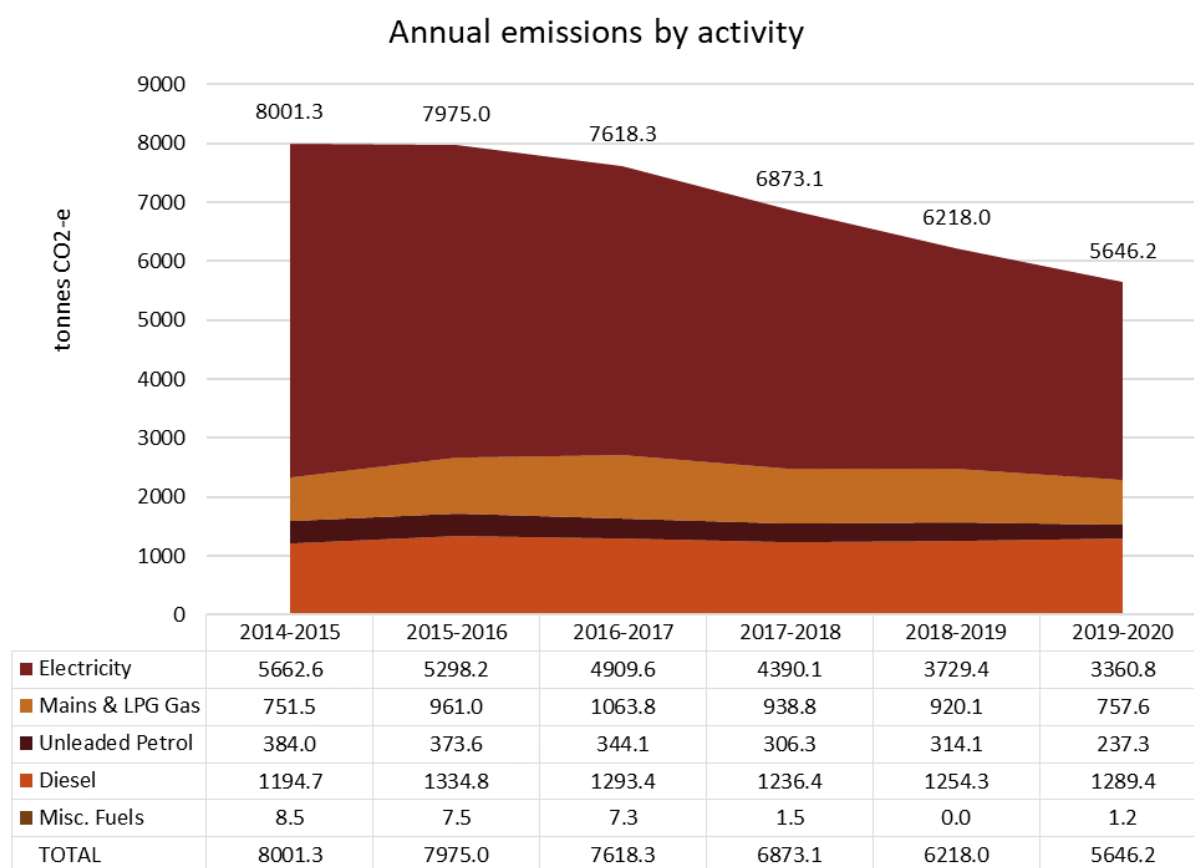


Changing emissions profile

Figure 2 shows how Council's emissions profile has changed over the last 6 years. The introduction of solar arrays and the replacement of street lights with LEDs dramatically reduced Council's electricity use which, in turn has resulted in a significant drop in greenhouse gas emissions. Emissions from fuel and gas have remained relatively steady during this time.

Data explanation: The emission profile below includes "Scope 3" emissions generated from the transportation, extraction and processing of fuels. "Scope 3" emissions for fuels have not been included in Council's reporting to date and were not included in Council's 2014/15 baseline year when determining Council's emission reduction target.

Figure 2: Council's Emissions Profile 2014/15 to 2019/20 (includes Scope 3 emissions for fuel)



Emissions from kerbside waste

Emissions from Council's kerbside collection is accounted for at the treatment site and, therefore, does not form part of Council's current corporate emissions profile. Even so, emissions from the shire's rubbish collection would have decreased as a result of the introduction of the Food Organics Garden Organics collection (FOGO) service in February 2020.

A tonne of organic waste typically releases approximately 1.9 tonnes CO₂-e as it decomposes. Therefore, the 97.1kg of organic waste per serviced property diverted from landfill as a result of FOGO (see **Table 7**) would have resulted in 184.5kg of emission reductions or 0.1845 tonnes CO₂-e. This equates to approximately 2% of the annual emissions from electricity for an average household.

Emissions from Council's corporate waste

Council is not currently able to calculate the volume of waste the organisation produces from its operations and, therefore, is not able to accurately report on emissions from its various corporate waste streams. Based on data from other councils of a similar size, emissions from corporate waste generally accounts for 1% of the organisation's total emissions. For Macedon Ranges for 2019/20, this would equate to approximately 55 to 60 tonnes CO₂-e.

Indicator 2: Renewable energy generation

Council did not invest in additional solar generation in 2019/20. As a result of previous solar installations across 17 buildings, Council currently generates an estimated 495 MWh per year.

Council continued to participate in the state-wide Local Government Renewable Energy Power Purchase Agreement (PPA) project. This bulk buy contract will commence on 1 July 2021. Council has nominated its total demand for buildings and streetlights of 3,138 MWh to the tender process. Participation in this contract is estimated to result in the reduction of 3,385 tonnes CO₂-e which equates to a 44% of Council's 2014/15 baseline year total of 7,640 tonnes CO₂-e or approximately 59% of Council's 2019/20 emissions.

Indicator 3: Policies and practices demonstrating that climate change action is a core business of Council

Advocacy

Council continues to advocate for strong action on climate change at the State Government level, particularly in regards to setting high interim emission reduction targets. Two online submissions were forwarded to the Independent Expert Panel on Interim Emissions Reduction Targets for Victoria (2021-2030). One in April 2018 to the Discussion Paper and one in August 2019 to its Final Report.

Council sent a letter to Minister D'Ambrosio in February 2020, encouraging the adoption of the higher range of recommended interim emission reduction targets for 2025, in accordance with what's required to keep global temperature rise to below 1.5 degrees. This letter supported previous submissions about the State Government's interim emission reduction targets.

Council forwarded a submission to the Parliamentary Inquiry into Tackling Climate Change in Victorian Communities in August 2019.

Divestment from fossil fuels

Council continues to give preference to investing its funds in banks and financial institutions that do not invest in or finance the fossil fuel industry, providing that they meet the criteria outlined in the Investment Policy. In accordance with the *Climate Change Action Plan*, Council continues to aim to have at least 20% of its investments with banks and financial institutions that do not invest in or finance the fossil fuel industry.

Community Funding Scheme

Council continues to encourage submission of environmental projects as a part of the Community Funding Scheme, including projects with a climate change focus.

The Community Funding Scheme funded Sustainable Malmsbury to deliver a project aimed at improving household energy efficiency for residential homes.

Fleet

Council's Vehicle Policy (June 2017) specifies the preference for vehicles which have a minimum 3.5 star rating in the federal government's Green Vehicle Guide.

Council now has a standard practice of replacing passenger and pool vehicles with hybrid fuel vehicles when possible. As of June 2020, Council had 20 hybrid vehicles in its passenger vehicle fleet of 95.

Tenders

Council continues to specify "environmental benefit" as one of its mandatory evaluation criteria for major tenders.

Indicator 4 - Number of homes with solar panels through Council supported programs

The Australian Photovoltaic Institute (APVI) notes that there are 5,238 buildings with roof top solar arrays across the shire which equates to 25.4% of all buildings. This includes residential and commercial buildings.

Between March 2019 and March 2020, solar systems were installed on 58 residential buildings in the shire (totalling 309kW) through the solar bulk buy and installation program MASH which Council continues to support.

Indicator 5: Community engagement activities relating to climate change

Regenerative agriculture

Council promoted regenerative agricultural techniques to local farmers which seek to increase carbon storage in soils and enhance on-farm resilience to climate change. This involved provision of individual advice to 27 farmers through on-farm visits, and delivery of a series of workshops and seminars as a part of the National Landcare Program funded by the Healthy Land for Healthy Livestock project.

Cool Changes

Following the successful local climate change action planning program conducted in Malmsbury in 2018/19, the wider district of Woodend was selected for the program in 2019/20. This project commenced with a community information evening on 2 March 2020. Due to the global pandemic, the project then was modified to an online format and its completion date extended until October 2020.

Climate Change Communications Plan

Council commenced work on a Communications Plan to direct Council's climate change awareness raising activities (Action CC10 of the *Environment Strategy 2016*).

Sustainable design events

Council delivered the following sustainable design events in 2019/20:

Table 2: Sustainable Design Events 2019/20

What	When	Where	Attendees
Sustainable House Day Tour (with Macedon Ranges Sustainability Group)	15 Sep 2019	Various sites around the shire	26
Building with Natural Materials	10 Oct 2019	Woodend Neighbourhood House	24



Sustainable House Day Bus Tour, September 2019

Indicator 6: Collaborations and partnerships with community and agency stakeholders for climate change action

Central Victorian Greenhouse Alliance (CVGA)

Council continues to be an active participant in the Central Victorian Greenhouse Alliance (CVGA). In 2019/20 Council participated in the greenhouse alliance project “Charging the Regions” which included development of a decision support tool to guide local government investment in electric vehicle charging infrastructure.

Sustainable Subdivisions Assessment Framework

Council participated in a cross-council project to develop a draft framework to assess the sustainability of subdivisions submitted for planning approval. The project was led by Wodonga City Council with funds from the Victorian Government’s Collaborative Council funding program. The project will result in a voluntary trial of the assessment framework across participating Victorian councils in 2020/21.

Implementation status of actions – Climate Change

Action	Status June 2016	Status June 2017	Status June 2018	Status June 2019	Status June 2020
CC1. Implement works to achieve a 25% reduction target	Commenced (7,470 tCO ₂ -e)	In progress (7,335 tCO ₂ -e)	In progress (6,476 tCO ₂ -e)	In progress (6,163 tCO ₂ -e)	In progress (5,894 tCO ₂ -e)
CC2. Investigate options for investing in renewable energy as a means of working towards a “zero net emissions” status for Council’s operations	New action in 2019/20	New action in 2019/20	New action in 2019/20	Commenced	In progress (PPA in progress)
CC3. Review Council's Climate Change Adaptation Plan	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding
CC4. Determine emissions from corporate waste	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding
CC5. Implement actions to reduce emissions from fuel consumption by fleet and plant.	Outstanding	In progress	In progress	In progress	In progress (20 hybrid vehicles in fleet)
CC6. Establish a process to track capital and maintenance works and associated environmental and financial impacts	Outstanding	Outstanding	Outstanding	Outstanding	Commenced
CC7. Utilise external funding opportunities to assist in conducting major mitigation and adaptation works	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
CC8. Advocate to state and federal governments for stronger climate change action and increased support to local government	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
CC9. Support, promote and investigate partnership opportunities in community initiatives for climate change action and renewable energy generation	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
CC10. Promote awareness about climate change and its impacts to the community	Outstanding	Outstanding	Outstanding	Commenced	Commenced

Theme 2: Biodiversity

Current legislative and policy context

The *Flora and Fauna Guarantee Amendment Bill 2018* passed through the Parliament of Victoria in August 2019, and has been in effect from 1 June 2020. The amended legislation aims to increase biodiversity protection through improvements to enforcement regulations and improved consistency in listing species and preparation of action plans.

The **Victorian Environmental Assessment Council (VEAC) Central West Investigation** final report was released in June 2019. For Macedon Ranges Shire, VEAC recommends that additional land be incorporated into the Macedon Regional Park and that existing State Forests be reclassified to create the Wombat Regional Park, Cobaw Conservation Park and the Black Forest Nature Reserve. The Victorian Government is yet to respond to VEAC's recommendations.

Indicators

Indicator 1: Council knowledge about the health of ecosystems and species across the shire

Biodiversity Monitoring Program

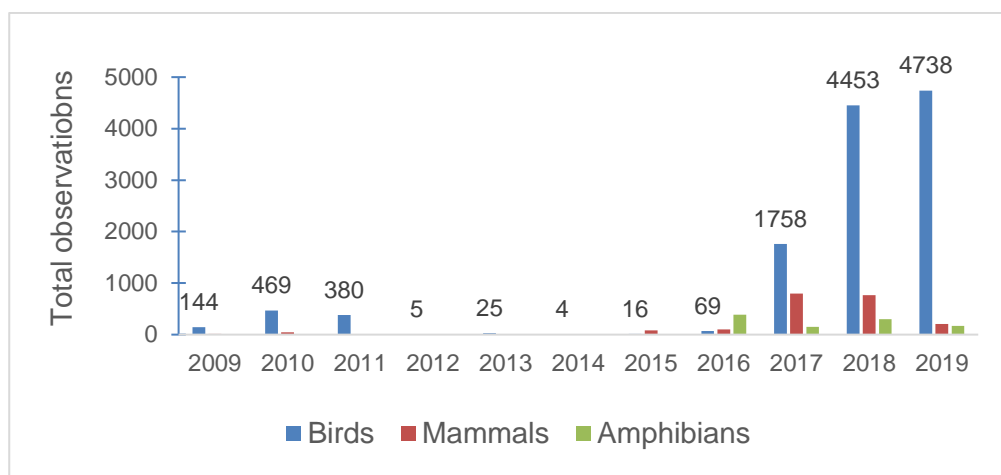
In 2019/20 Council established its Biodiversity Monitoring Program as outlined in the *Biodiversity Strategy 2018*. Council now has 84 monitoring sites across six biolinks and two large forest areas. Council commenced implementation of the monitoring program as follows:

- **Bird surveys** - Council organised a Bird Blitz in October 2019 attended by 83 participants. In total 97 species were recorded including five threatened species. The surveys recorded 2,769 individual bird observations.
- **Nest box surveys** - Council installed 144 nest boxes across 48 sites to monitor for Brush-tailed Phascogales and Sugar Gliders.
- **Spotlight surveys** – Spotlight surveys were completed at 16 monitoring sites targeting nocturnal threatened species such as the Powerful Owl and Greater Glider. Neither species were recorded during these surveys.

Possible climate impacts on bird distributions

The Bird Blitz resulted in sightings of a range of birds that are not commonly found in the Macedon Ranges. In particular, the detection of White-winged Trillers, Black-chinned Honeyeaters, Jacky Winter and Western Gerygone implies that there may be significant movement of birds outside of their normal distributions. The dry conditions experienced in other parts of Victoria may have caused these birds to seek out new suitable areas for breeding.

Figure 3: Victorian Biodiversity Atlas Records for the Macedon Ranges



Council's nest box monitoring, spotlight surveys and camera trapping has increased mammal records in the region over the past decade. The detection of amphibians has also increased with large populations of the endangered Brown Toadlet recorded near Kyneton.

Hanging Rock Fauna Monitoring

Fauna monitoring activities at Hanging Rock included:

- **Bird surveys** - Four (4) woodland bird surveys. In total 32 species were recorded and 148 individual bird observations.
- **Spotlight surveys** – Two (2) spotlight surveys were undertaken in Autumn. Notable sightings include a family of Boobook Owls.
- **Nest box surveys** – A survey of nest boxes was undertaken resulting in sightings of Brush-tailed Phascogale.

Newham Roadside Fauna Monitoring Project

This project is being delivered in collaboration with Newham Landcare with funding from the Commonwealth Government's Communities Environment program. Spotlight surveys resulted in 683 observations of wildlife on Newham roadsides. In total 28 species were recorded including Brush-tailed Phascogale, Feather-tailed Glider and Koala.

Number of species found in Newham

Averaged out, 93 animals were observed per km on roadsides in the Newham area compared to 10 animals per km in the 2018 spotlight surveys conducted in the Wombat Forest and Mount Macedon. This highlights the environmental value of the Cobaw Biolink and its roadside vegetation.

Victorian Biodiversity Atlas

Council's monitoring activities resulted in the inclusion of 3,132 species records in the Victorian Biodiversity Atlas including 10 threatened species. Notable species include Barking Owl, Brown Toadlet, White-bellied Sea Eagle, Grey Goshawk, Mountain Flat-pea and Spotted Hyacinth-orchid.

Macedon Ranges Field Naturalists Group

A public meeting held in February 2020 with 70 attendees confirmed strong interest amongst local residents to form a Field Naturalist Group for the Macedon Ranges. A working group was formed to oversee the formal establishment of the group.

Indicator 2: Implementation of environmental management plans for Council managed bushland reserves

Weed control

Council conducted weed control works at 17 Council managed bushland and conservation reserves. These were Bald Hill Reserve, Black Hill Reserve, Gisborne Marshland, Mount Gisborne, Mount Aitken, Echidna Lane Reserve, Marsh Court Reserve, Malmsbury Common, Magnet Hill, Woodend Grassland, Wyralla Crescent Waterway Reserve, Kathryn Court Waterway Reserve, Riddells Creek Drainage Reserve, Duckholes Road Waterway Reserve, Three Chain Road Waterway Reserve, Quarry Road Retarding Basin and Hobbs Road Reserve.

Infrastructure Upgrades

Additional walking paths were installed at Malmsbury Common in accordance with the Malmsbury Common Masterplan to enable a broad range of community members to enjoy the site and its natural and cultural values.

The Mt St Mary's Lane entrance to Bald Hill Reserve was upgraded to include new entry fencing, boardwalks and seating to increase access for people of all abilities.

Walking track repairs were conducted at Black Hill Reserve as well as tree safety works.



Entry upgrades, Bald Hill Reserve

Reserve identification signs were installed at Mount Gisborne, Gisborne Marshland, Echidna Lane Reserve, Malmsbury Common and Barringo Reserve. Interpretive Brown Toadlet signs were installed at Bald Hill Reserve.

Ecological burns

Ecological burns took place at Malmsbury Common and Woodend Grassland.

Aboriginal Cultural Heritage Assessments

Aboriginal cultural heritage assessments were undertaken at Marsh Court Reserve in Ashbourne and Magnet Hill in Gisborne with representatives from Dja Dja Wurrung and Wurrundjeri. These provided the opportunity to gain an understanding of the site's cultural values to inform future management of these sites.

Revegetation

Revegetation and direct seeding occurred at the Quarry Road Retarding Basin to enhance the site's Swampy Riparian Woodland and Valley Grassy Forest vegetation and create a new native grassland.

Revegetation also occurred at Kathryn Court Waterway Reserve, Duckholes Road Waterway Reserve, Three Chain Road Waterway Reserve, Magnet Hill and Malmsbury Common.



Quarry Road Retarding Basin, Woodend

Hanging Rock Reserve

Implementation of the *Hanging Rock Reserve Environmental Management Plan* included:

- Completion of the *Hanging Rock Grasslands Management Plan*.
- Revegetation in the core conservation and riparian zones with approximately 9,000 plants.
- Creation of Tree Conservation Zones around 29 large significant trees or group of trees.
- Six audits of the site's kangaroo population.
- Ongoing weed control.
- Rabbit control.

Indicator 3: Council plans, processes and practices to deliver biodiversity protection across the shire

Vegetation Protection Overlays Detailed Review Stage 1

Council commenced a review of its Vegetation Protection Overlay. Stage 1 investigated the species specific and roadside overlays and a draft report was completed in June 2020. Stage 2 and community consultation will be undertaken in 2020/21.

Roadside Conservation Management Plan

Internal workshops were conducted as part of development of a Roadside Conservation Management Plan. A draft will be finalised and community and stakeholder consultation will take place in 2020/21.

Environmental planning

Council's Environmental Planner responded to approximately 130 planning referrals providing advice about land management plans and how to avoid, minimise and offset native vegetation loss as a part of proposed developments.

Indicator 4: Collaboration with community and agency stakeholders in biodiversity protection

Collaboration with Landcare and Friends groups

Council provided administration and weed partnership grants to 16 Landcare and Friends groups as well as partnership funding to the Upper Campaspe Landcare Network. These funds assisted the groups with administration, working bees and other communication and engagement activities. Officers worked closely with local networks including the Biolinks Alliance, Upper Deep Creek Landcare Network, and Upper Campaspe Landcare Network.

Collaboration on regional projects

Council Officers actively participated in the North Central Catchment Management Authority's (NCCMA) Partnership's Forum, Regional Catchment Strategy review process and Upper Coliban and Campaspe programs. Council also participated in the Port Philip and Westerport Catchment Management Authority's Deepening Connections project as well as the Victorian Government's Biodiversity Response Planning process.

Collaboration on Biolink Projects

Council provided support for community-led biolink projects in the Kyneton Woodlands and Mount William Range Biolinks through provision of Landcare network funding, advice and assistance with landholder contacts.

Indicator 5: Community engagement activities to raise awareness and facilitate action for biodiversity protection

Publications

Council published "*A bushwalkers guide to the flora of the Macedon Ranges*" in June 2019. Due to popular demand for the booklet, 6000 more copies were printed in early 2020. A guide to common birds of the Macedon Ranges was drafted and is due to be completed in 2020.

Local schools

Council delivered the following biodiversity activities with schools in 2019/20:

- **Candlebark** – Delivery of a remote camera workshop to enable the school to monitor for terrestrial mammals such as Bush Rats
- **Alice Miller** – Installation and checking of nest boxes across the campus. Delivery of a talk about Brush-tailed Phascogale.
- **Sacred Heart Secondary School** – Monitoring of Feather-tailed Glider nest boxes.
- **Macedon Primary School** - Bird watching and nest box checks with Grade 5 students (approximately 5 sessions)

- **Braemar College** – Initiation of biodiversity monitoring and planning for bird surveys.
- **Manna Gum Family & Children's Centre** - Biodiversity show and tell.

Biodiversity Events

Council delivered the following biodiversity focused events held in 2019/20:

Table 3: Biodiversity focused events 2019/20

What	When	Where	Attendees
Where have all the Gliders gone?	31 Aug 2019	Newham Mechanics Institute	63
Biodiversity for kids	4 Sep 2019	Woodend Library	22
All about Black Gums	7 Sep 2019	Five Mile Creek, Woodend	21
Wildflower Walk & Flora Guide Launch	29 Sep 2019	Woodend Grassland	53
Biodiversity for kids	4 Oct 2019	Romsey Hall	5
Wildflower Walk	13 Oct 2019	Hobbs Road Reserve	39
Geology Tour	14 Nov 2019	Various sites	50
Building on a Bush Block	14 Nov 2019	Woodend Neighbourhood House	15
Reptiles of the Macedon Ranges	30 Nov 2019	Kyneton Mechanics Institute	64
Picnic with the bats	14 Dec 2019	Bald Hill Reserve	79



John Harris demonstrating a Harp Trap - Picnic with the bats, Dec 2019



Geology Tour, November 2019

Implementation status of actions - Biodiversity

Action	Status June 2016	Status June 2017	Status June 2018	Status June 2019	Status June 2020
B1. Implement the Biodiversity Strategy as adopted by Council in Dec 2018	Outstanding	Outstanding	Commenced	In progress	In progress
B2. Develop a Roadside Management Plan.	Commenced	Commenced	Commenced	Commenced	Commenced
B3. Ensure findings from the assessment of all Council managed reserves are incorporated into council databases and inform informing management decisions	In progress	In progress	In progress	In progress	In progress
B4. Continue to prepare, implement and evaluate Environmental Management Plans (EMPs) for reserves and sites of conservation significance.	In progress	In progress	In progress	In progress	In progress
<i>B5. Action relocated to Land and Water Management theme</i>					
<i>B6. Action relocated to Land and Water Management theme</i>					
B7. Support, promote, and where possible participate in community and agency initiatives for biodiversity protection at a regional scale.	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
B8. Continue to support the work of Landcare and Friends Groups.	In progress	In progress	In progress	In progress	In progress

Action	Status June 2016	Status June 2017	Status June 2018	Status June 2019	Status June 2020
B9. Work with traditional owners to understand and identify cultural heritage or areas of significance in reserves and areas managed by Council.	Outstanding	Outstanding	Outstanding	Outstanding	In progress
B10. Continue to raise awareness about the shire's biodiversity through talks, workshops and other community events.	In progress	In progress	In progress	In progress	In progress

Theme 3: Land and Water Management

Current legislative and policy context

There were no changes to legislation or policy at a Commonwealth, state or regional level relevant to Council's work in land and water management in 2019/20.

Indicators

Indicator 1: Weed control on council managed land

Roadsides

Council's roadside weed control works included:

- Treatment of 268 rural roadsides
- Woody weed control conducted across 1,036 linear kilometres of roadsides
- Treatment of 65,645m² of woody weeds resulting in a reduction of 56,354m² of woody weed cover. This equates to an 86% reduction of woody weeds on the roadsides treated.
- Serrated Tussock control conducted along 392 linear kilometres of roadsides
- Chilean Needle Grass control conducted on 21 roadsides
- Support provided to four (4) Landcare groups to conduct weed control on Council managed roadsides through Council's Community Weed Partnership Program

Bushland and conservation reserves

Weed control was conducted across 17 bushland and conservation reserves as outlined under Theme 2: Biodiversity.

Weed control was conducted at six (6) bushland and conservation reserves by Landcare or Friends groups through Council's Community Weed Partnership Program.

Indicator 2: Pest animal control on Council managed land

Council conducted fox control at Black Hill Reserve. A baiting program was implemented resulting in the destruction of approximately 5 to 7 foxes.

Indicator 3: Consideration of catchment health in Council processes and decisions

Domestic Wastewater Management

The Domestic Wastewater Management Plan was adopted on 18 December 2019 and aims to reduce the environmental, public health and economic risks associated with the management of all domestic wastewater systems in the shire.

Kyneton Flood Study

A review of flood mapping was undertaken in 2019 by North Central Catchment Management Authority (NCCMA). The purpose of the flooding study was to ensure that the flooding provisions in the Macedon Ranges Planning Scheme accurately reflect flooding risk.

Effluent discharges into rivers

Council responded to community concern over effluent entering river systems from treatment plants managed by Coliban Water and Western Water. Council continues to advocate for a long-term solution to the problem with full transparency with the community.

Indicator 4: Community engagement in activities to raise awareness and action relating to sustainable land and waterway management

Healthy Landscapes for Healthy Livestock Project

Funded by the National Landcare Program, Council engaged a Private Land Conservation Officer in 2019 to promote regenerative agriculture techniques across the shire. The project seeks to increase carbon storage in soils and enhance on-farm resilience to climate change.

In 2019/20, the project delivered:

- 37 property visits of 27 properties with a combined area of approximately 2,300 ha
- 3 events held with 100 attendees and 9 service providers (listed below)
- Regenerative Grazing Short Course with an enrolment of 20 farm businesses
- Formation of a discussion group with 14 landholders
- Development of information and fact sheets

"The program helped clarify my plans and the direction I was pursuing within my business. One of the big things was that Jason helped with some practical on farm advice to make it easier for me. It removed some of my barriers. Through adjustments in grazing, by strip grazing across the paddock, I went from two weeks in a paddock to 6 weeks! I am growing more feed!"

Malmsbury land owner

Land management workshops and events

Council hosted or partnered to deliver the following land management workshops and events:

Table 4: Land management events 2019/20

What	When	Where	Attendees
Serrated Tussock and Chilean Needlegrass Workshop (with Upper Deep Creek Landcare Network)	18 Sep 2019	Darraweit Guim	20
Gorse Control Workshop	26 Oct 2019	Bald Hill Reserve	7
Kyneton Show Stall (with This Farm Needs a Farmer)	26 Nov 2019	Kyneton	20
Blackberry Control Workshop	10 Feb 2020	Jubilee Hall, Macedon	20
Weeds on Waterways (with NCCMA)	16 Feb 2020	Marsh Court Reserve	18
Moveable/Strip Fencing Demonstration	16 Mar 2020	Private farm	30
Managing Your Pasture in a Changing Climate With Colin Seis	30 Mar 2020	Online	50 households + 100 views after the event



Graham Hand, Day 2 of the Regenerative Grazing Course



Colin Seis, Online webinar about pasture management

Indicator 5: Collaboration with community and agency stakeholders in sustainable land and waterway management

Council collaborated on the following land management and waterway projects:

- Completion of weed control and revegetation at four (4) waterway reserves with co-funding from Melbourne Water
- Commencement of a Strategic Works Plan for Waterways in the Port Philip and Westernport Catchment with co-funding from Melbourne Water
- Preparation of a draft Environmental Management Plan for Bunjil and Howey Creeks, Gisborne with co-funding from Melbourne Water and in collaboration with Gisborne Landcare
- Completion of the Romsey Five Mile Creek Masterplan with co-funding from Melbourne Water and in collaboration with the Five Mile Creek Working Group.
- Development of a Project Plan for Woodend Five Mile Creek in collaboration with the NCCMA, Landcare, Dja Dja Wurrung and Western Water.
- Completion of an Integrated Water Management Plan for Upper Maribyrnong Catchment in collaboration with Western Water, Melbourne Water and DELWP



Moveable/Strip Fencing Demonstration – March 2020

Implementation status of actions – Land and Water Management

Action	June 2016	June 2017	June 2018	June 2019	June 2020
LWM1. Develop a Water Management Plan	Outstanding	Outstanding	Outstanding	Commenced	Commenced
LWM2. Continue to advocate for, and participate in planning and program initiatives and research and monitoring projects for improving knowledge and action in catchment management at state, regional and local levels	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
LWM3. Review Council's Landcare and Environmental Friends Group support program to ensure it aligns with agreed Council and community goals and priorities.	Commenced	In progress	In progress	In progress	In progress
LWM4. Incorporate water sensitive design treatments when designing roadworks where feasible and practical.	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
LWM5. Promote and facilitate the application of existing guidelines and codes of practice for sustainable land and water management in a targeted manner to landowners and residents across the Shire	In progress	In progress	In progress	In progress	In progress
LWM6. Work with key agencies and land owners in managing waterway reserves, to improve waterway health and restore riparian corridors as biolinks as a means of improving ecosystem connectivity across the shire.	In progress	In progress	In progress	In progress	In progress
LWM7. Continue to implement the Weed and Pest Animal Strategy, reviewing and updating the document as needed.	In progress	In progress	In progress	In progress	In progress
LWM8. Advocate to authorised agencies for increased compliance with legislation for biodiversity protection.	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises

Theme 4: Resource Efficiency

Current legislative and policy context

The Victorian Government released *Recycling Victoria* in February 2020 which aims to implement the principles of a circular economy. This Strategy will influence Council's Waste Management Strategy which is being reviewed in 2020/21.

Indicators

Indicator 1: Amount of waste deposited at transfer stations diverted from landfill

Transfer stations

Aggregate data for the amount of recoverable materials managed at Council's three transfer stations is presented below in **Table 5**. This data shows that a greater amount of waste was diverted from landfill at Council's transfer stations in 2019/20 compared to previous years. This is likely to be due to the introduction of a separate glass collection program along with the increase in e-waste deposits following the introduction of the Victorian Government's ban on e-waste going to landfill from 1 July 2019.

Table 5: Summary of waste received at Transfer Stations

Waste stream	2016/17	2017/18	2018/19	2019/20	Unit
Paper and cardboard	224.6	235.50	319.88	220.68	tonnes
Aluminium and steel	1,135.3	1609.55	1,709.56	1,683.9	tonnes
Comingled recycling	107.8	135.53	149.60	122.10	tonnes
e-waste	86.5	103.1	118.84	146.26	tonnes
Glass*	unknown	unknown	unknown	197.56	tonnes
Garden Waste	unknown	24,273	22,605	34,186	cubic meters
Oil	18,500	16,900	22,200	13,800	litres
Tyres	1,391	1,065	1,102	1,821	number
Mattresses	1,183	1,423	1,447	1,861	number
Total diverted from landfill	1,553.93	2,083.68	2,297.88	2,566.92	tonnes
% diverted from landfill	24.4%	32.6%	37.8%	44.8%	%
Total disposed of in landfill	4,812.30	4,314.06	3,789.00	3,162.81	tonnes
Total (all items) (excludes green waste)	6,366.23	6,397.74	6,086.88	5,729.73	tonnes

* Glass was recovered from three sources in 2019/20: 1) public drop off points across the shire, 2) the trial of a glass-only bin in the kerbside collection service conducted in late 2019 and 3) glass deposited directly at transfer stations.

Tip shop

Table 6 shows that sales at the Kyneton Tip Shop declined in 2019/20. This may be due to the closure of the Tip Shop from March 2020 due to the global pandemic.

Table 6: Summary of sales from Kyneton Tip Shop

Category	Mar 2018 – Jun 2018*		2018/19		2019/20	
	Qty	Revenue (\$)	Qty	Revenue (\$)	Qty	Revenue (\$)
Bicycles	91	\$977.28	136	\$1,409.10	89	\$845.00
books			22	\$45.45	2	\$2.00
DVD's & CD's	2	\$9.09	38	\$345.46	54	\$416.00
Electrical	7	\$46.36	444	\$3,986.80	78	\$437.00
Furniture	80	\$850.00	348	\$3,290.90	180	\$1,885.00
Lawn Mowers	2	\$18.18	26	\$250.91	23	\$200.00
Miscellaneous	332	\$2,198.17	1478	\$8,460.47	660	\$4,199.00
Steel	354	\$1,717.27	629	\$4,553.00	349	\$2,694.00
Toys	15	52.73	45	\$131.83	16	\$76.00
Revenue (exc GST)		\$5,869.08		\$22,312.09		\$10,734.00
Revenue (inc GST)		\$6,456.00		\$24,688.30		\$11,808.30

*The Tip Shop commenced operation in March 2018.

Indicator 2: Volume and weight of general waste, green waste and recyclables from kerbside collection

In 2019/20, Council introduced the following services:

- Food Organics Garden Organics (FOGO) collection service which enables all organic food waste to be placed in the green bin.
- Four bin collection service for general waste, recycling, green waste / FOGO and glass. This service is currently available to approximately 73% of serviced properties in the shire.
- Expansion of Council's green waste and FOGO service to an additional 3,325 properties on the fringe of townships.

These service changes resulted in the following outcomes:

- An 11.4% reduction in general waste sent to landfill equating to a decrease of 55.4kg per serviced property. This is likely to be partly attributable to the introduction of the FOGO service in early 2020.
- A 24% reduction in recyclables equating to a decrease of 56.9kg per serviced property. This is likely to be partly attributable to the introduction of a glass recycling program in stages from October 2019 to February 2020.
- A 36.3% increase in green waste / FOGO equating to 97.1 kg per serviced property. This is likely to be partly attributable to the introduction of the FOGO service which diverts food waste from the general waste stream.

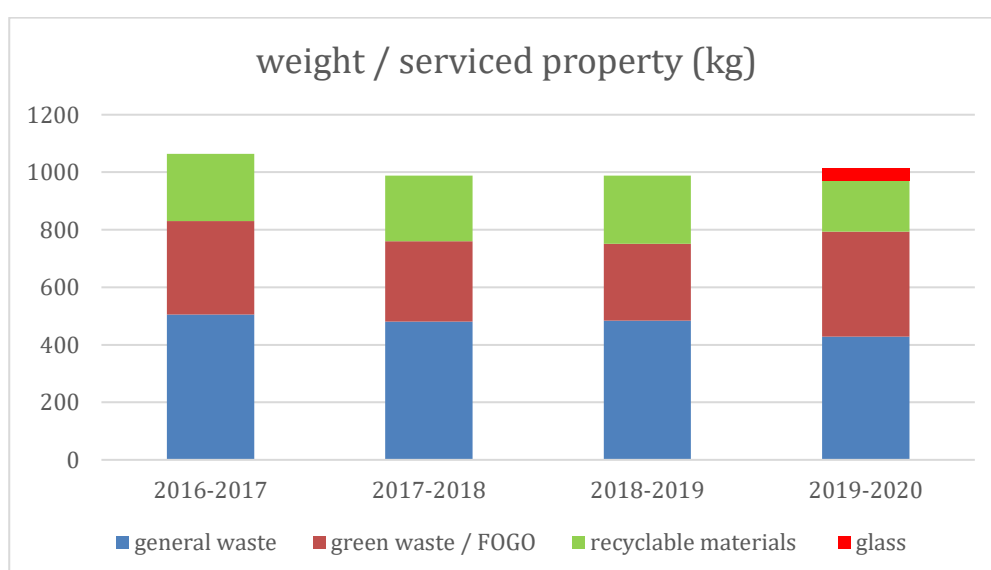
Table 7: Weight of waste from different waste streams

Waste stream	2016-2017		2017-2018		2018-2019		2019-2020		Change Jun 19 - Jun 20
	Total weight (tonnes)	Weight / serviced property (kg)	Total weight (tonnes)	Weight / serviced property (kg)	Total weight (tonnes)	Weight / serviced property (kg)	Total weight (tonnes)	Weight / serviced property (kg)	Weight / serviced property (kg)
General waste	9,179.6	505.0	8,983.2	481.3	9,222.3	483.9	8,351.0	428.5	-55.4 (-11.4%)
Green waste / FOGO	3,275.1	325.0	3,033.1	278.8	2,969.4	267.5	5,259.4	364.6	97.1 (+36.3%)
Recyclable Materials	4,250.7	233.8	4,260.8	228.3	4,509.5	236.6	3,503.2	179.7	-56.9 (-24%)
Glass							831.6	42.7	N / A
Total	16,705.4	1,063.8	16,277.1	988.4	16,701.2	988	17,945.2	1,015.5	27.5 (+2.8%)

Table 8: Number of serviced properties for each waste stream

Waste stream	2016-2017	2017-2018	2018-2019	2019-2020	Change Jun 19 - Jun 20
General waste	18,174.0	18,664.0	19,060.0	19,275.0	+215 (1.1%)
Green waste / FOGO	10,076.0	10,881.0	11,100.0	14,425.0	3,325 (30%)
Recyclable Materials	18,174.0	18,664.0	19,060.0	19,275.0	+215 (1.1%)
Glass				19,275.0	

Figure 4: Weight of different waste streams per serviced property



Indicator 3: Volume and weight of general waste and recyclables from public place collections

Council did not make any changes to public place recycling or waste collection systems in 2019/20. In 2020/21 public place recycling bins will be installed at sports grounds and in shopping strips as well as four bin sorting stations at farmer's markets and sports events.

Indicator 4: Community engagement activities promoting resource efficiency

Council completed a range of community engagement activities to promote the new FOGO and four bin service. This included letters, website information, social media, print media and a new "Let's Get Sorted" waste guide. A kitchen caddy with bin liners was supplied to households and a FOGO user guide was published and promoted, along with a series of bin signage posters.

In addition, Council delivered the following waste education activities (**Table 9**) and hosted stalls at various supermarkets. These all focused on promotion of the new FOGO service:

Table x: Waste Education Events 2019-20

What	When	Where	Attendees
Lancefield Show	19 Oct 2019	Lancefield	300+ residents
Kyneton Show	15-16 Nov 2019	Kyneton	
Malmsbury Village Fayre	17 Nov 2019	Malmsbury	
Gisborne Christmas Market	1 Dec 2019	Gisborne	
Woodend Depot Open Day	10 Aug 2019	Woodend Depot	50
Riddells Creek Zero Waste Festival	15 Mar 2020	Riddells Creek	



Gisborne Christmas Fair



Stall outside Woolworths

Indicator 5: Council policy to extend influence in resource efficiency

Paper

In 2019/20, Council purchased 14.5 % less A4 white office paper and 26% less A3 white paper than in 2018/19. A key contributing factor to this reduction was that from April 2020, many staff were working from home, and therefore did not have the same access to printing.

Single use plastics

Council is working to phase out single use plastics from its operations and prepared a draft Towards Zero Single-Use Plastics Study and Action Plan in 2019/20. Although the project has been delayed as a result of the inability to undertake plastic waste audits during the global pandemic, this project will be resumed in 2020/21.

Festivals and events

Council's *Festivals and Events Guidelines* includes guidance for event organisers to incorporate environmentally sustainable practices into their festivals or events, including waste reduction initiatives.

In 2019/20 Council also worked with the Macedon Ranges Sustainability Group to construct a "Wash Against Waste" trailer which will be available to future event organisers.



New Wash Against Waste Trailer

Implementation status of actions – Resource Efficiency

Action	June 2016	June 2017	June 2018	June 2019	June 2020
RE1. Continue to implement the Waste Management Strategy. Review and update the strategy in 2019-2020.	In progress	In progress	In progress	In progress	In progress
RE2. Report on implementation progress of the Waste Management Strategy on an annual basis.	commenced	commenced	In progress	In progress	In progress
RE3. Continue to improve Council's record management system and media platforms and their use across Council to reduce the volume of paper for record keeping and communications	In progress	In progress	In progress	In progress	In progress
RE4. Continue to review Council's approach to asset management for buildings and infrastructure to reduce the environmental impacts of sourcing and using materials.	Outstanding	Outstanding	Outstanding	Outstanding	Outstanding
RE5. Acknowledge, support and promote programs for resource efficiency being undertaken by community groups and relevant agencies	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises	As opportunity arises
RE6. Ensure waste management services and programs aim to continuously reduce generation of waste and associated disposal to landfill and greenhouse emission.	In progress	In progress	In progress	In progress	In progress
RE7. Continue to investigate ways to reduce waste and increase resource recovery from Council operations and services.			Introduced as a new action	In progress	In progress