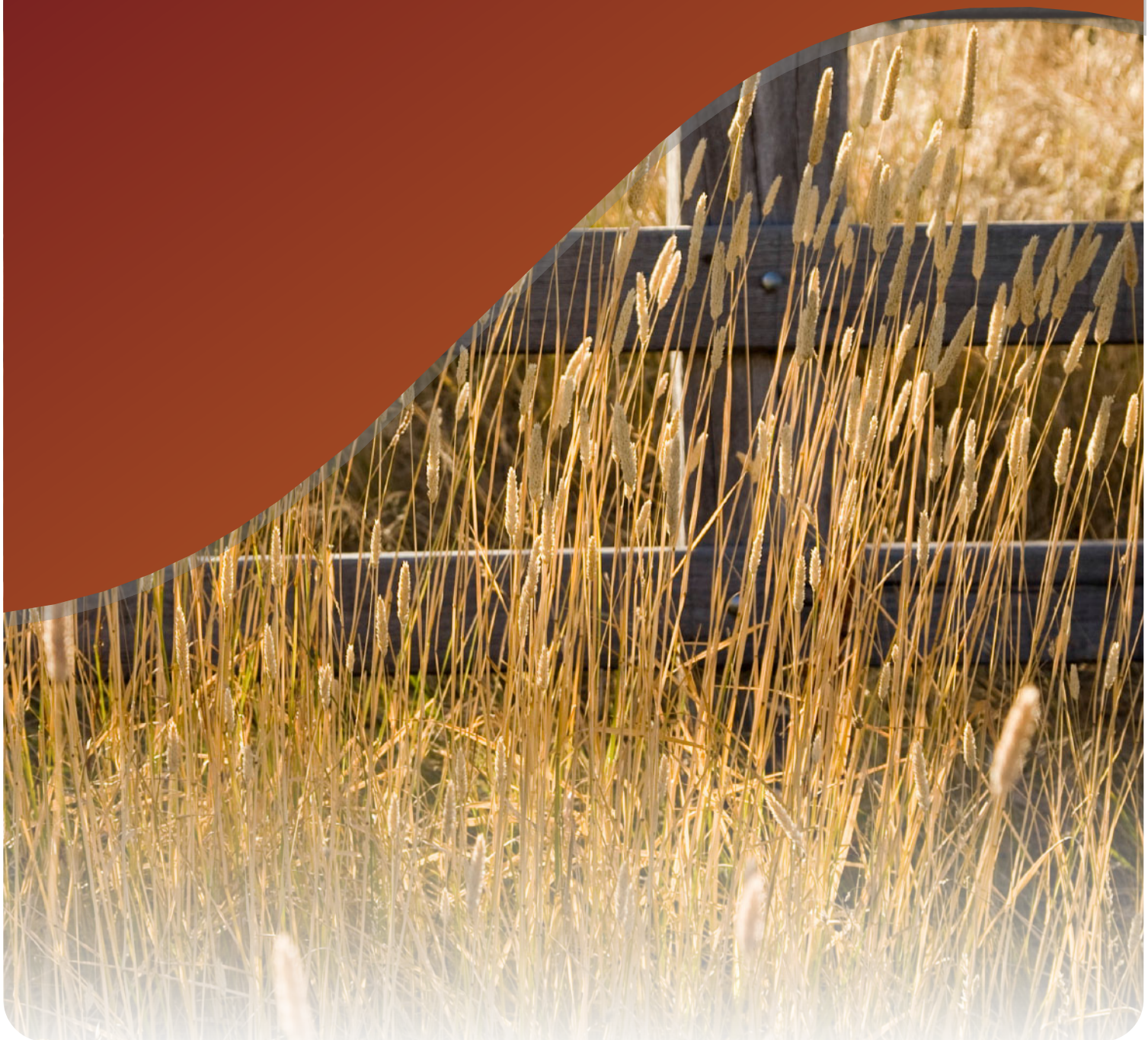
Macedon Ranges Shire Council

Environment Strategy



Contents

Foreword 3
Traditional Owner Acknowledgement 3
Executive Summary 4
Introduction 5
Our Vision 8
Our strategic directions 8
Key principles 9
"All-of-Council" actions from strategic directions and principles 9
Climate Change adaptation and mitigation 10
Background 10
- What can we expect? 10
- What can Council do? 11
- Climate Change Mitigation 11
- Climate Change Adaptation 12

Community action on climate change 13
Objectives 13
Policy statements 13
- Legislative and Policy Context 15

Key Actions for Climate Change 16
Biodiversity 18
Background 18
- Biodiversity in the Shire 18
- Managing the Shire's biodiversity 19
- Working with others 23
- The science behind the management 23
- Legislative and Policy Context 25

Objectives 26
Policy statements 26
Key Actions for Biodiversity 27
Land and Water Management 29

Background 29
Legislative and Policy Context 31
Objectives 33
Policy statements 33
Key Actions for Catchment Management 33
Resource Efficiency 36
Background 36
Objectives 37
Policy statements 38
Key Actions for Resource Efficiency 38
Communications, Engagement and Partnerships Framework 40
Evaluation Framework 43
Monitoring 43
Evaluation (via strategic directions re-framed as evaluation questions) 43
Reporting 44
Improvement 44
A Final Note 44

Foreword

The Macedon Ranges Shire is located in a unique environment with many beautiful landscapes, natural features, and indigenous flora and fauna species. Council has significant responsibility for protecting environmental values across the Shire and to avoid adverse environmental impacts.

Our community is very active in working for a better environment, through the restoration of land and waterways, and by promoting sustainable living practices and advocating for positive environmental outcomes in everyday life. Council is keen for this activity to continue and aims to work in partnership with the community and key management agencies for a better environmental future.

The Macedon Ranges Environment Strategy provides guidance for Council in working to improve outcomes for the key environmental issues of climate change, biodiversity, land and water management, and resource efficiency. As a key policy document and key component of the Council Plan 2017-2027, it will guide the many existing and future plans of Council that address environmental matters in more detail.

In continuing to implement this Environment Strategy, Council looks forward to working with the wider community to deliver a better environmental future.

Traditional Owner Acknowledgement

Macedon Ranges Shire Council (Council) acknowledges the traditional owners of this land, the Woiwurrung (or Wurundjeri), Dja Dja Wurrung and Taungurung, as the caretakers and custodians of the lands now situated within the Macedon Ranges Shire. The Woiwurrung (or Wurundjeri), Dja Dja Wurrung and Taungurung continue to practice their culture and customs and experience a close spiritual, physical, social, historical and economic relationship with the land and waters that make up their country.

Council recognises that current land managers have much to learn from the elders and land managers of the Woiwurrung (or Wurundjeri), Dja Dja Wurrung and Taungurung peoples. They have lived in the Shire for thousands of years before settlement by Europeans, in a way that was sustainable and which preserved the wildlife, habitat, land and waterways of this country.

Executive Summary

The Macedon Ranges Environment Strategy is Council's key environmental policy document, guiding work cross Council to achieve objectives for climate change, biodiversity, land and water management and resource efficiency.

The objectives for each of the key themes are supported by policy statements and high level actions designed to work towards the stated vision:

> A place where Council leads by example and works with the community to maximise improved environmental outcomes in all aspects of life

Council will continue to progress work on each action over the coming years according to the assigned priority. Since adoption of the original Environment Strategy in June 2016, two key actions originally listed with assigned an "immediate" priority have been completed, namely, the completion of a Climate Change Action Plan (adopted in June 2017) and the completion of a Biodiversity Strategy (adopted in December 2018). The relevant actions have been amended accordingly in this version of the Environment Strategy.

Many actions are assigned an ongoing priority, recognising that Council will continually aim to improve environmental outcomes in its works and activities.

The Macedon Ranges Environment Strategy will be a dynamic strategy and remain a relevant document for Council, through regular updates informed by annual environment reports to Council, and through its links to the Council Plan.

Introduction

The key purpose of the Macedon Ranges Environment Strategy is to provide environmental policy guidance for plans and strategies of Macedon Ranges Shire Council (Council).

It has been written to:

- Define Council's objectives for key environmental themes
- Influence specific plans and programs of Council and inform the Council Plan
- Address current policy gaps and provide a basis for future environmental initiatives

As a key policy document, this strategy is strongly linked to the Council Plan 2017-2027, through one of the five priorities for Council, *Protect the natural environment*. More detailed plans (existing and potential) for key environmental themes will extend from directions provided in this strategy, as shown in Figure 1. The Macedon Ranges Environment Strategy is a key step in a long journey towards environmental sustainability, outlining how Council will work in a strategic manner to continuously improve environmental outcomes for the Shire, extending from work undertaken by Council and the community in the past.

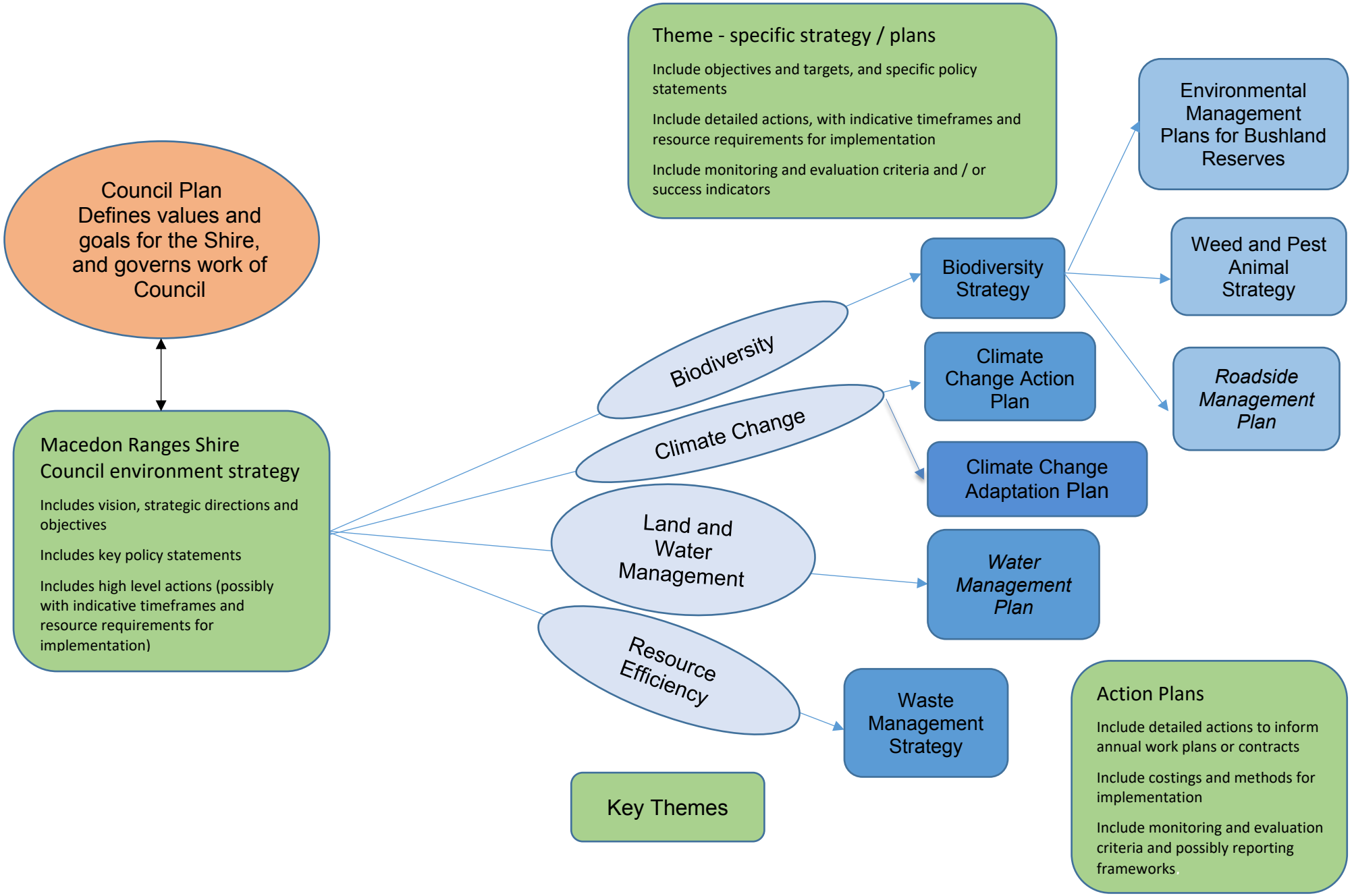


Figure 1: Context of the Macedon Ranges Environment Strategy in Council's hierarchy of (existing and *potential*) environmental plans

Figure 1 does not list all existing or potential plans of Council that may assist in delivering the objectives outlined for the key environmental themes of the Macedon Ranges Environment Strategy. It is an indicative diagram to illustrate the positioning of the strategy as an umbrella document for key policy work of Council, according to key environmental themes. Over time, existing plans may be reviewed, new plans may be developed, and themes to be addressed by Council may change. Additionally, some plans of Council may not have a primary focus on environmental outcomes, but the implementation of plans may provide environmental outcomes, for example, the Open Space Strategy, the Walking and Cycling Strategy, the Street Tree Policy and the Agribusiness Plan.

This strategy is presented according to the logic shown in Figure 2. The vision and strategic directions are overarching, while objectives, policy statements and key actions are presented for each of the key environmental themes.

Figure 2: The logic for the Macedon Ranges Environment Strategy

The chapters for each of the key themes can be individually updated in future years to reflect major changes in the broader policy context, account for completed and emerging actions, and incorporate community values. The format also provides flexibility for inserting additional chapters for emerging environmental themes in the future.

The success of any plan is dependent upon people, both for the implementation of actions, and probably more-so for how people work together to form a shared vision and coordinate their roles to realise outcomes. While "communications and engagement" may be regarded as a theme in its own right, in this strategy, it is addressed in the form of a framework to guide units across Council and sectors of the community to coordinate their individual and collective work for environmental outcomes.

Our Vision

A place where Council leads by example
and works with the community
to maximise improved environmental outcomes
in all aspects of life

Our strategic directions

Strategic directions provide pathways for Council to work towards the vision. They form the basis for decision-making and implementation of actions. Three strategic directions are set in this strategy:

- Demonstrate leadership by working in a coordinated manner to continuously improve Council's environmental performance
- Partner with the community to deliver a shared vision for a healthier environment
- Work with management agencies to extend and adapt environment programs to the local level

The strategic directions can be re-framed as questions to be considered by staff in everyday work, by the executive team and Council in decision-making forums, and in evaluating the success of this strategy:

- How is Council showing leadership in environmental protection and sustainability?
- How well are Council and the community working together towards a shared vision?
- How well is Council working with management agencies who may help progress environmental outcomes at the local level?

Key principles

In addition to the three strategic directions, Council acknowledges key messages received from the community through consultation undertaken 2015 and 2016 to inform the development of the Environment Strategy which are presented here as principles, forming a basis for objectives and policy in each of the four key themes addressed in this strategy.

- the environment strategy should inform, and be integrated into, the Council Plan
- environmental policy is to be flexible and allow for local application
- environmental outcomes are to be a key consideration in major decisions
- plans and actions primarily delivering environmental outcomes also deliver other benefits - including social and community well-being, financial benefits for Council, and economic benefits for the local community – which should be acknowledged and promoted by Council
- decision-making should be in the context of a long term "planning horizon", accounting for the cumulative environmental impact of individual decisions and actions
- strong partnerships between Council and the community and / or Council and other management agencies will deliver greater environmental outcomes

"All-of-Council" actions from strategic directions and principles

In continuing to implement this strategy, Council will undertake the following actions to follow its strategic directions and translate the principles into practice.

- Maintain the profile of the environment in the Council Plan (2017-2027)
- Identify scope for enhancing environmental outcomes through Council policy, guidelines and processes, and review them accordingly. Include (but not limit to) procurement of goods, materials and services, design specifications for capital and maintenance works to Council infrastructure, operation of fleet and plant, and landscape works in streets and parks.
- Participate in forums and planning processes of regional and state authorities to promote Council's intentions for environmental outcomes, in both the natural and built environment, and where suitable, utilise opportunities provided through programs, partnerships and grants to implement environmental projects within the Shire.
- Promote social and economic benefits that result from environmental programs.
- Strengthen partnerships between Council and community groups in working to protect our environment.

Climate Change adaptation and mitigation

Background

Impacts of climate change have already been experienced within Macedon Ranges Shire (the Shire) in recent years – increased frequency and intensity of bushfires, reduced water supply in storages, and more days of extreme temperatures. The State government resource *Climate Ready Victoria* provides a summary of changes already experienced in the Shire and the broader Loddon Mallee Region. For example, since 1950, the average annual rainfall in the Shire has decreased by 100mm to 200mm, and the average annual temperature has increased between 1.2ºC to 1.4ºC (source: https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0023/60746/Loddon-Mallee.pdf, accessed 16 May 2016). Climate change is here, and its impacts will continue – the question is to what degree and what can and should we do about it?

What can we expect?

Recent work of the Bureau of Meteorology (BoM), the federal Department of Environment (DoE), and the Commonwealth Scientific Industrial Research Organisation (CSIRO) allows future climate scenarios for different regions (named "sub-clusters") across Australia to be identified. The scenarios are drawn from a combination of complex models that account for recorded meteorological data and for natural variability. Most of the Shire falls within the "Southern Slopes Victoria West" sub-cluster, for which the following climate scenarios have been determined:

- Average temperatures will continue to increase in all seasons (very high confidence). By 2090, under a high emission scenario, the projected range of warming is between 2.4ºC to 3.8°C.
- More hot days and warm spells are projected (very high confidence). Fewer frosts are projected (high confidence).
- Less rainfall in winter and spring is projected (high confidence). Changes to summer and autumn rainfall are possible but more difficult to forecast. The projected decreases in rainfall over Western Victoria are up to 25% in winter and up to 45% in spring by 2090 under a high emissions scenario.
- Increased intensity of extreme rainfall events is projected (high confidence).
- There will be a harsher fire-weather climate in the future (high confidence).
- Time spent in drought is projected to increase over the course of the century (medium confidence).

(source:http://www.climatechangeinaustralia.gov.au/en/climate-projections/future-climate/regional-climate-change-explorer/sub-clusters/?current=SSVWC&tooltip=true&popup=true, accessed on 16 May 2016)

The recent science regarding projections at the regional level needs to be further analysed to better understand the impacts of projections in the northern part compared

to the southern part of the Shire. For example, while the Climate Ready projections (drawn from the above-mentioned work of BoM, DoE and CSIRO) for Bendigo indicate the average number of days per year over 35ºC as increasing from 13 days to 19 days by 2030, and possibly to 29 days by 2070, a similar projection may apply to Kyneton more than to Gisborne. The forecast changes will inevitably affect many of the Shire's values, including waterways, biodiversity, landscapes and agricultural productivity. In turn, this will impact on many aspects of our livelihoods and lifestyles. (source:https://www.climatechange.vic.gov.au/__data/assets/pdf_file/0023/60746/Loddon-Mallee.pdf, accessed on 16 May 2016)

What can Council do?

Given the relevance of climate change to all other aspects of the environment and to our livelihoods and lifestyles, it needs to be a priority of Council to take action on climate change to the best of its ability. Taking action on climate change involves both *mitigation* (actions that reduce resource inputs and greenhouse emissions without decreasing the quality of services, such as actions that reduce energy consumption, increase energy efficiency, or reduce reliance on coal fired power) and *adaptation* (taking deliberate and considered actions to manage or reduce the consequences of a hotter, drier and more extreme climate, such as designing and constructing drainage infrastructure for greater flood capacity).

Climate Change Mitigation

While climate change is a global concern and cannot be controlled or determined by Council, Council can take action in several ways to help mitigate climate change, including:

- Advocating for stronger action on climate change at the state and federal levels
- Reducing emissions from its own operations
- Encouraging community action on climate change

Understanding the sources of greenhouse emissions from Council's vast range of operations is the first step in planning and acting to reduce emissions. In the preparation of the Climate Change Action Plan, Council determined that greenhouse emissions associated with its operations amounted to 7,640 tonnes CO2-e for the baseline year of 2014-2015. As shown in Figure 3, in 2014-2015, almost half of the total emissions were from electricity consumption at buildings, almost a quarter from electricity consumption by streetlights, and the remainder from fuel used for fleet and plant (20%), consumption of mains gas (9%) and a small amount from other sources like corporate waste and electricity used at bores and pumps.

It should be noted that in accordance with the reporting framework governed by the National Greenhouse and Energy Reporting Scheme (NGERS), emissions associated with landfill are accounted for at the receiving landfill site, and as no landfill site is operated by Council, greenhouse emissions from waste need not be factored into its operational emissions profile. Council may however calculate emissions associated with waste generated from its own operations to improve its accountability for greenhouse emissions.

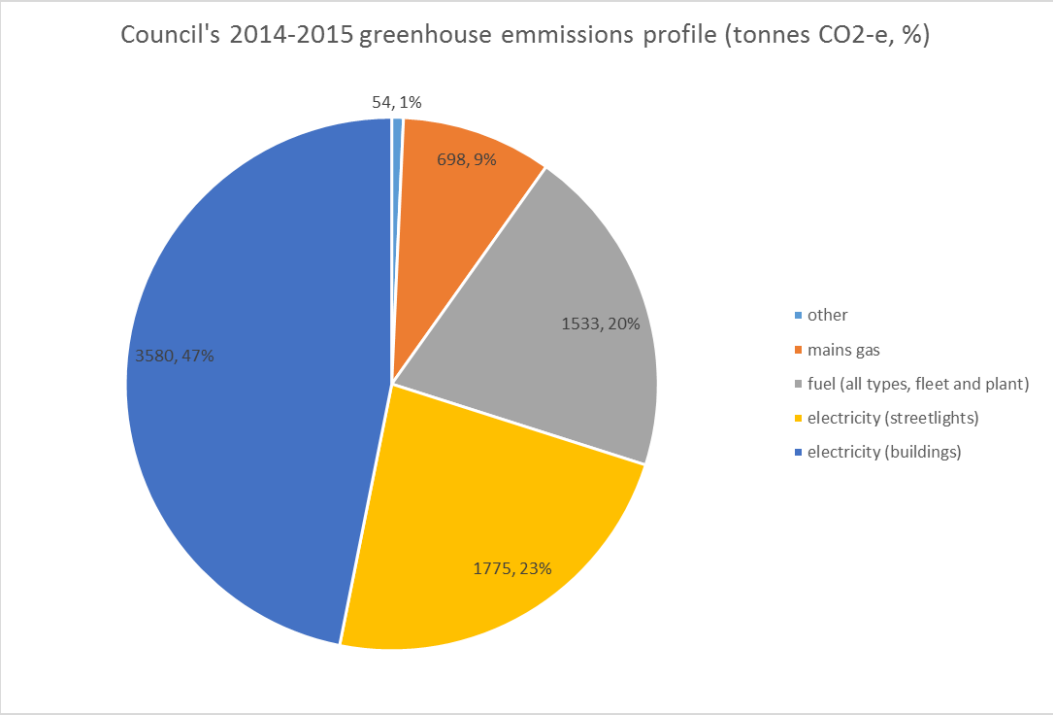


Figure 3: Council's greenhouse emissions profile, baseline year 2014–2015.

Since the baseline year of 2014-2015, emissions from Council operations have continued to decrease:

2014-2015: 7,640 tonnes CO_2-e
2015-2016: 7,470 tonnes CO_2-e
2016-2017: 7,335 tonnes CO_2-e
2017-2018: 6,476 tonnes CO_2-e
2018-2019: 6,163 tonnes CO_2-e

The Climate Change Action Plan adopted by Council in June 2017 provides guidance for Council to continue this trend and achieve its adopted target of a 25% reduction in emissions, to 5,730 tonnes CO2-e by 2020-2021, outlining the expected impacts from planned works upon the sources of emissions. Implementation of works is also likely to alter Council's emissions profile, so that Figure 3 will look different for 2020-2021.

Climate Change Adaptation

In addition to taking action to reduce its corporate emissions, Council can take a role in preparing itself and the community to live under changed climatic conditions. Council participated in the development of a regional Loddon Mallee South Regional Climate Adaptation Plan in 2014, and developed its own Climate Change Adaptation Report in 2012.

The plans provide a guide for how all functions of Council can plan for, and adapt to, the impacts of climate change, addressing both infrastructure and services.

Community action on climate change

Many residents of the Shire have long expressed their concerns about climate change, and are taking action to address climate change. Actions range from individual everyday practices like walking short distances instead of driving, to local projects for self-sufficiency like community gardens, to higher profile coordinated efforts like securing state government funds for a community operated solar farm in Woodend (as achieved by the Macedon Ranges Sustainability Group). Council acknowledges that cumulatively, these actions contribute to reducing the environmental impact of our lifestyles.

Objectives

- To reduce greenhouse emissions from Council's operations by 25% by 2020-2021, from 2014-2015 levels.
- To work towards a "zero net emissions" status for Council operations.
- To strengthen support to community initiatives for climate change action and renewable energy generation, within the resource limits of Council.
- To advocate for stronger climate change action across all levels of government and partner with management stakeholders to progress action.

Policy statements

- Council acknowledges that human activity over the past two hundred years has significantly contributed to climate change.
- Council acknowledges the greenhouse emissions generated by its daily work activities, and will work towards reducing greenhouse emissions as a means of contributing to climate change mitigation
- In working to continuously mitigate Council's impact on climate change, Council will follow the energy hierarchy below:
  1. reduce energy consumption
  2. improve energy efficiency
  3. invest in on-site and local renewable energy generation
  4. purchase externally generated renewable energy
  5. offset emissions
- Council acknowledges that the impacts of climate change will continue to be experienced across the Shire, and will impact on key values of the Shire – its biodiversity, its landscapes and waterways, its agricultural productivity, and the lifestyles the Shire provides. Council will continue to plan and act to adapt to climate change to the best of its capacity, at the local, regional and broader levels.
- Where possible, Council will support and participate in local and regional initiatives for energy efficiency and renewable energy as a means of reducing greenhouse emissions from the Shire, within state government policy and legislative frameworks.

- Council acknowledges the work of community groups and networks extending from community hubs like neighbourhood houses in facilitating action to mitigate and adapt to climate change.

Legislative and Policy Context

Council's work in climate change is influenced and determined by the broader legislative and policy context operating at the national and state levels. This context is subject to change to reflect the intentions of political leaders at any one point in time. Some key initiatives to better address climate change at the state level are outlined below.

- The *Climate Change Act* 2017 was passed by the Victorian Parliament in February 2017, legislating a target for zero net emissions by 2050 for the state of Victoria. Although it does not place any legal obligation on local government council in regards to climate change action, it does provide guidance for all levels of government to account for climate change in its decision making.
- Interim emission reduction targets will be set under the Climate Change Act 2017 in 2020, upon the state government's consideration of advice and reports from the Independent Expert Panel.
- Targets for renewable energy generation have been set by the Victorian government
- 25% of the state's electricity to be from Victorian built renewable energy generation by 2020
- 40% of the state's electricity to be from Victorian Built renewable energy generation by 2025
- The commitment to renewable energy is being supported by initiatives to drive community and industry investment in renewable energy, for example, an increase in the feed-in tariff for roof stop solar into the grid, and funding the establishment of three regional community energy hubs (in Bendigo, Ballarat, and the Latrobe Valley)
- A new energy efficiency target for Victoria has been set (to equate to an abatement of 6.5 million tonnes of CO2-e in 2020). The targets will form part of the Victorian Energy Efficiency Target Scheme, and aim to drive further investment in new energy technology and employment growth in the renewable energy sector, and deliver cuts to household energy costs.

At the regional level, Catchment Management Authorities received funding under the federal government's Planning for Climate Change Initiative in 2012, to update Regional Catchment Strategies to account for latest projections and develop adaptive planning processes. In 2015, the North Central Catchment Management Authority developed a Climate Change Adaptation and Mitigation Plan. The plan outlines adaptation options for responding to climate change variables for the key natural assets of rivers and floodplains, wetlands, biodiversity and soils, for example through establishing carbon plantings to provide landscape connectivity. Council's future work in climate change mitigation and adaptation, and biodiversity and catchment management, will account for directions provided in this regional plan.

Also relevant to Council's work in addressing climate change are some state policy frameworks for waste minimisation and resource recovery, including the State-wide Waste Infrastructure and Resource Recovery Plan, the related Victorian Organics Resource Recovery Strategy, and any related regional plans developed under these frameworks.

Key Actions for Climate Change

Legend

Additional Resource Requirements		Priority	
$	< $5,000	I	**Immediate** - a priority to commence work in the short term
$$	$5,000 - $25,000	P	**Program** - to be included in Council's work program, timing subject to funds and resources
$$$	$25,000 - $50,000	O	**Ongoing** - work already being undertaken and / or to continue as part of Council business
$$$$	$50,000 - $100,000		
$$$$$	> $1M		
TBC	Cost will depend on type of work, form of support, etc.		

	Action	**Priority**	**Additional Resource Requirements**	**Lead (and Support) DEPT**
CC1	Implement works to achieve a 25% reduction in Council's greenhouse emissions, as outlined in the Climate Change Action Plan adopted by Council in June 2017. Report on progress towards achieving the target in the annual environment report to Council proposed in the Evaluation Framework, and account for any growth in services impacting on Council's greenhouse emissions profile.	O and I	$$$$$	Engineering and Projects (Strategic Planning and Environment)
CC2	Investigate options for investing in renewable energy as a means of working towards a "zero net emissions" status for Council's operations	O	TBC	Strategic Planning and Environment (Corporate Services, Engineering Projects, and Operations)
CC3	Review Council's Climate Change Early Adaption Plan to determine its effectiveness at preparing Council for providing services to the community in changed climate scenarios.	P	$	Strategic Planning and Environment (Community Safety)

	Action	Priority	Additional Resource Requirements	Lead (and Support) DEPT
	Ensure the plan reflects the latest science, relevant policy and best practice approaches to climate change adaptation Account for, and where appropriate extend from, state and regional frameworks and plans in developing the plan.			
CC4	Determine emissions from Council's corporate waste relative to the total waste generated from within the -Shire, and address waste in the proposed climate change action plan (CC2).	I	$	Operations
CC5	Implement actions to reduce emissions from fuel consumption by fleet and plant as outlined in the Climate Change Action Plan, or as resources and opportunities allow.	I	$	Operations
CC6	Establish a cross-council process for tracking capital and maintenance works and associated environmental and financial impacts. Report on trends and results of data analysis to relevant staff, and in the annual environment report to Council (proposed in the Evaluation Framework).	I	$	Engineering and Projects (Strategic Planning and Environment)
CC7	Utilise external funding opportunities to assist in conducting major mitigation and adaptation works.	O	TBC	Engineering and Projects
CC8	Advocate to state and federal governments for stronger climate change action and increased support to local government.	O	$	Strategic Planning and Environment
CC9	Support, promote and investigate partnership opportunities in community initiatives for climate change action and renewable energy generation.	O	TBC	Strategic Planning and Environment (Community Development)
CC10	Promote awareness about climate change and its impacts to different sectors of the community, and support the community to take action on climate change at the local level.	O	$	Strategic Planning and Environment (other units as relevant)

Biodiversity

Background

Biodiversity (biological diversity) is the term given to the variety of life on earth, Biodiversity not only holds its own intrinsic value, but is vital for the health and wellbeing of our society and economy

The range of altitudes, landforms, soils and rainfall patterns across the shire means that it is rich in biodiversity, hosting a wide range of native flora and fauna species and ecosystems. While vegetation is often considered the key component of ecosystems, it is important to note that the health and viability of ecosystems is dependent on complex interactions between different plant and animal (flora and fauna) species, geology, soils, water, fungi, lower order plant forms like mosses and lichens, and lower order animal forms like bacteria and macro-invertebrates.

Biodiversity in the Shire

The Shire is home to a wide range of terrestrial and aquatic ecosystems. There are 33 Ecological Vegetation Classes (EVCs) represented across two main bioregions across the Shire (the Victorian Volcanic Plains and the Central Victorian Uplands). However, the official Biodiversity Conservation Status (BCS) assigned to each EVC presents reason for concern, as at a state-wide level, the quality and extent of the EVCs rate poorly compared to their original extent and condition (pre 1750).

Within the Shire:

- 13 EVCs are endangered (less than 10% of pre-settlement coverage)
- 9 EVCs are vulnerable (between 10 to 30% of coverage compared to pre-European settlement, or meeting other criteria regarding threats of degradation)
- 4 EVCs are depleted (between 30 to 50% of coverage compared to pre- European settlement, or meeting other criteria regarding threats of degradation)
- 6 EVCs are least concern (greater than 50% coverage compared to pre-European settlement, subject to little degradation)
- 1 wetland formation – status not determined

A comparison of current vegetation cover compared to vegetation cover at 1750 shows that much of the Shire has been cleared, and the state of many EVCs appears marginal, as seen in Figures 4 and 5. For example, the EVC Western Basalt Plains Grassland used to cover a large area of the Shire, in a band running north from Clarkefield to Lancefield, and in a band running north east from Woodend to Malmsbury (shown as Plains Grassy Woodland in Figure 4). However, there are now only a few areas containing this EVC, for example, just outside Carlsruhe. The EVC is listed as a threatened community under Victoria's *Flora and Fauna Guarantee Act 1988*. At the national level, the same EVC is termed Natural Temperate Grassland of the Victorian Volcanic Plain, and is listed as "critically endangered" under the *Environment Protection and Biodiversity Conservation Act 1999*. The listings trigger statutory assessments should any proposed action be likely to have a significant impact on the EVC.

At the species level, several flora species listed under the *Flora and Fauna Guarantee Act 1988* are known to occur within the Shire, including the indigenous Black Gum (*Eucalyptus aggregata*). The Shire is also rich in fauna species, many of which are threatened or endangered, such as the brushtailed phascogale (*Phascogale tapoatafa*).

Managing the Shire's biodiversity

A key requirement for the viability of ecosystems and for survival of flora and fauna species is connectivity of vegetation and waterways, to allow for movement of wildlife, and cross pollination within individual plant species to maintain genetic diversity. Within the Shire, connectivity is provided by roadside vegetation, streamside vegetation and waterways and native vegetation on private and public land. Connectivity is provided by remnant or restored ecosystems, and plantings of native vegetation, especially in the form of strategically planned biolinks.

In addition to providing connectivity, many stretches of roadside vegetation in the Shire are noted for their significant vegetation species. Council is responsible for managing 1,700km of roadside vegetation for multiple outcomes for protection and enhancement of biodiversity and habitat, to manage fire risks and to ensure vehicle access and public safety. This is inevitably complex, requiring a considered and balanced approach to decision making. However, with careful consideration and planning, practices like woody weed control can help meet goals for both fuel reduction and biodiversity protection.

Council also manages over 20 bushland and conservations reserves. There are Environmental Management Plans (EMPs) for many of these reserves, aimed at protecting and enhancing the biodiversity values at these sites. Council continues to prepare and implement Environmental Management Plans and action plans for reserves and smaller sites of conservation value, engaging with stakeholders as required.

There are many threats to biodiversity across the Shire, ranging from generic threats like climate change to more site-specific threats like vegetation clearance, grazing and compaction by stock, and the impacts of weeds and pest animals. Biodiversity protection involves addressing the threats in a coordinated manner, within state legislative and policy frameworks, as well as restoring ecosystems and providing habitat for species through works like planting strategic sites with appropriate flora species and installing nest boxes for targeted fauna species.

State planning policies and regulations apply to native vegetation clearance in the Shire. Local planning policies and controls also apply to the protection of species, sites, and areas with high biodiversity value.

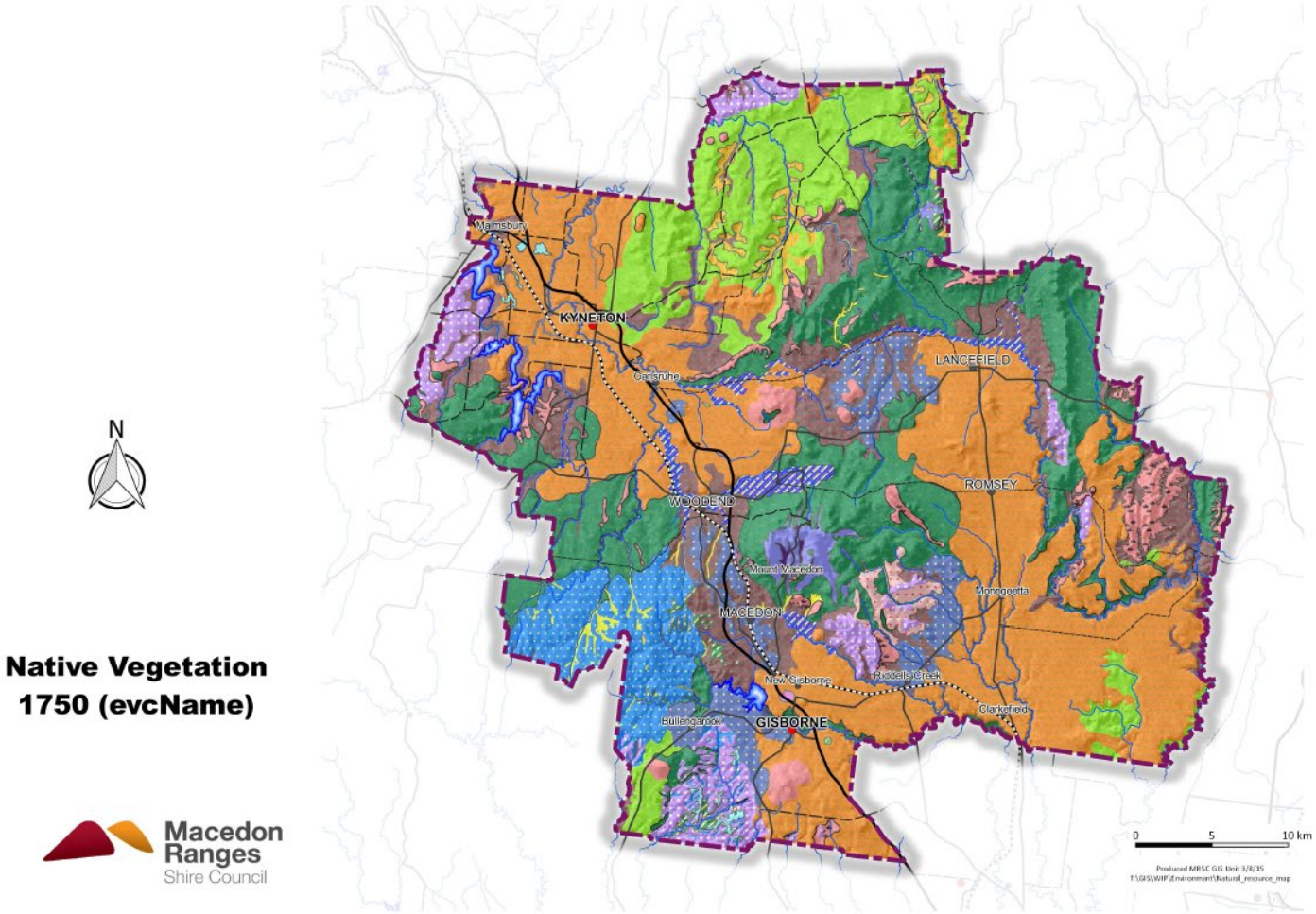


Figure 4: Distribution of Ecological Vegetation Classes across Macedon Ranges Shire pre 1750 (refer to legend on page 24)

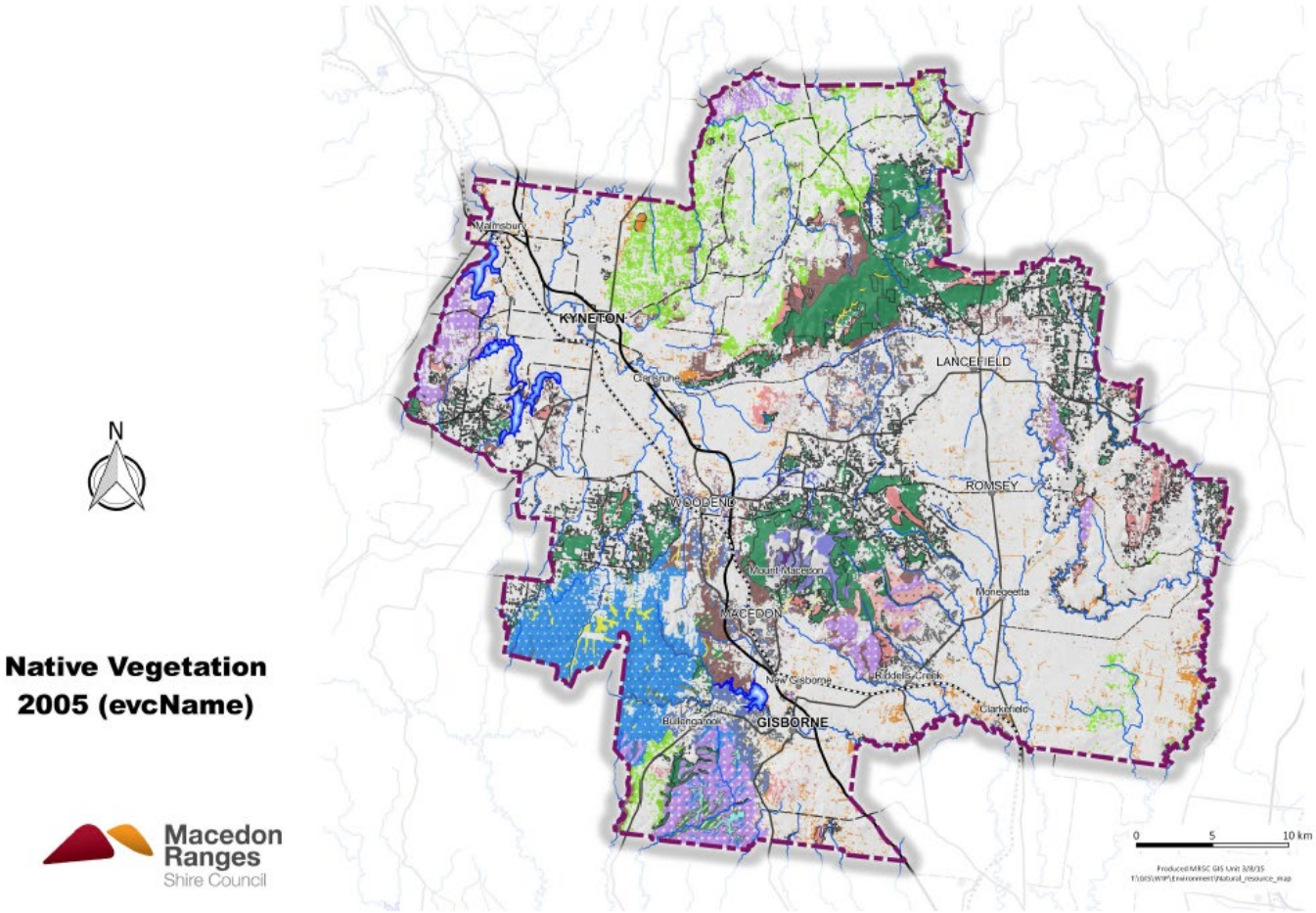


Figure 5: Distribution of Ecological Vegetation Classes across Macedon Ranges Shire in 2005 (refer to legend on page 24)

Legend for Ecological Vegetation Classes in Figure 4 and Figure 5

Working with others

Council is one of many agencies with responsibility for protecting biodiversity within the Shire. For example, Melbourne Water has legal responsibility to carry out works for improving the environmental values and health of aquatic ecosystems in the south and east of the shire. Western Water and Coliban Water manage land at sites of water supply and treatment, and Parks Victoria and the Victorian Department of Environment, Land, Water and Planning manage sites like Mt Macedon Regional Park and Cobaw State Forest. Additionally, the water authorities provide assistance to landholders to restore vegetation along waterways. The North Central Catchment Management Authority manages landscape scale projects for biodiversity protection on private land, most notably the Kyneton Woodlands Project and Caring for Campaspe. Council works alongside all management agencies to achieve positive outcomes for biodiversity.

In many areas across the Shire, the improved status of the natural environment can be attributed to the countless hours of work undertaken by community groups and individuals to protect biodiversity and restore ecosystems, on both public and private land. In addition to accessing project grants from external sources and raising funds, many Landcare and friends groups in the Shire receive assistance from Council in the form of administration support grants, as well as some in-kind support as needed for specific works and projects. The importance of individual landholders protecting biodiversity on private land is also recognised through Council providing a rate reduction for property protected through a Trust for Nature covenant.

Council also provides opportunity for residents to learn more about the Shire's biodiversity through a range of educational and interactive activities, including talks, walks, spotlight evenings, and installation and monitoring of nest boxes to monitor fauna.

The science behind the management

While there is considerable knowledge about ecosystems and species across the Shire, there are still many gaps in our collective knowledge. Given the inherent complexity of the many components of biodiversity, and the many stakeholders and land managers involved in or impacting on biodiversity management, it is difficult to consistently and accurately record and access information about the extent and quality of ecosystems and the health of species, their optimal requirements for long term viability, and the effectiveness or otherwise of our management practices.

Establishing a monitoring program to collate what's been learnt from past experience, to measure impacts of management practices, and to provide a uniform framework for collecting data into the future is a first step to better understanding "what's out there", and how it can best be managed. A monitoring program would also help track changes and trends resulting from influencing factors like climate change, development of land, and management of waterways and water resources, which can play an integral role in ecosystem function. The information can then be used to inform biodiversity protection in the context of potential future scenarios.

Understanding the biodiversity values on private and public land is also important to enable Council to plan for connectivity across the landscape, and to improve connectivity through working collaboratively with the many stakeholders and land managers involved in biodiversity management.

Legislative and Policy Context

Frameworks for legislation, policy and plans governing biodiversity protection and management are subject to change at the national, state and regional levels, according to political drivers and scientific knowledge. In recent years, the Victorian Government has aimed to respond to the continuous decline in the state's biodiversity through several avenues.

Protecting Victoria's Environment - Biodiversity 2037 was released in April 2017 as the key policy guide for biodiversity protection for Victoria. Under the vision *Victoria biodiversity is healthy, valued and actively cared for* the policy lists 22 priorities to work towards two key goals:

Goal 1: To encourage more Victorians to value nature
Goal 2: To ensure that Victoria's natural environment is healthy.

In 2017, the State Government commenced a review of the *Flora and Fauna Guarantee Act 1988.* A consultation paper was released in early 2017, and feedback was considered alongside data analysis to inform stronger legislative protection for the state's plants and animals. This led to the introduction of *the Flora and Fauna Guarantee Amendment Bill 2018* into parliament in June 2018. It was passed in August 2018 and will take effect from 1 June 2020.

The review of the Permitted Clearing of native vegetation regulations and guidelines aimed to improve regulatory systems and processes to result in greater consideration of important biodiversity values in decision making and better monitoring and reporting of implementation of the guidelines. The review was completed in early 2017, and subsequent amendments to the relevant clauses of the Victorian Planning Provisions and all planning schemes in Victoria were made through Amendment VC138 in December 2017.

The directions provided in Biodiversity 2037 are reflected in the objectives and key actions of this strategy, and will be further expanded on in the proposed development of a Biodiversity Strategy. Similarly, the outcomes of the review of vegetation clearance controls and regulations will be adopted, and options for increasing the effectiveness and efficiency of applying controls may be explored,

Similar directions are provided in regional plans. For example, an objective of the Loddon Mallee Regional Plan is to increase community involvement in natural resource management, as a means of fostering stewardship for biodiversity. Similarly, the North Central Regional Catchment Strategy aims to strengthen people's skills, motivation, partnerships and resourcing so that they can continue their work in natural resource management. It defines desired outcomes for biodiversity across the region, which includes the northern part of the Shire.

In June 2019 the Victorian Environment Assessment Council released its final report from the Central West Investigation. It recommends reclassification of some key areas of Crown land in the shire to protect their strategic importance for wildlife habitat and landscape connectivity.

The development and adoption of a Biodiversity Strategy for the Shire, and its component investigations and plans extend from directions provided at the state and regional level to provide more detailed guidance at the local for biodiversity protection.

Objectives

- To protect and enhance the health, connectivity and extent of ecosystems across the Shire, and avoid any further loss of species and communities.
- To continuously improve Council's understanding of the Shire's unique biodiversity, in its many contexts and complex interactions.
- To utilise and promote best practice and evidence-based conservation management techniques to protect biodiversity and manage threats, taking into account local and expert knowledge.

Policy statements

- Council recognises the many values of the Shire's unique biodiversity, and will regard its protection and enhancement as a key outcome when making decisions, especially concerning Council owned or managed land.
- Council will work with relevant decision makers and management agencies to optimise outcomes for biodiversity, within federal, state and regional policy and planning frameworks.
- Council recognises and values community efforts to protect and enhance biodiversity across the Shire, and will work alongside community groups and land managers towards the continued improvement of the Shire's biodiversity values.
- Council will apply best practice and evidence-based conservation management techniques for protecting biodiversity and managing threats aiming for continuous improvement in its operations, including integration and coordination of programs and works across the organisation.
- Council recognises the principles below as a cost efficient and environmentally effective means for protecting and enhancing biodiversity:
  1. Protect biodiversity (through avoiding and minimising loss of, and damage to, ecosystems, including the management of threats)
  2. Increase connectivity of ecosystems across the Shire
  3. Offset unavoidable loss of native vegetation through securing remnant native vegetation and facilitating revegetation, preferably within the Shire or region.
- Council will aim to achieve positive outcomes for biodiversity when making decisions regarding acquisition, disposal, or leasing of (Council owned) land.

Key Actions for Biodiversity

Legend

Additional Resource Requirements		Priority	
$	< $5,000	I	**Immediate** - a priority to commence work in the short term
$$	$5,000 - $25,000	P	**Program** - to be included in Council's work program, timing subject to funds and resources
$$$	$25,000 - $50,000	O	**Ongoing** - work already being undertaken and /or to continue as part of Council business
$$$$	$50,000 - $100,000		
$$$$$	> $1M		
TBC	Cost will depend on type of work, form of support, etc.		

	Action	Priority	Additional Resource Recovery	Lead (and Support) DEPT
B1	Implement the Biodiversity Strategy as adopted by Council in December 2018.	O	$$$$	Strategic Planning and Environment
B2	Develop a roadside management plan to define the relative conservation values of, and priority management goals for, roadsides across the Shire. Provide clear direction for managing roadsides in different contexts to account for connectivity, wildlife habitat, fire prevention, vehicle access and public safety. Account for relevant work undertaken to date by community groups and management agencies	I	$$$	Strategic Planning and Environment (Community Safety, Operations)
B3	Ensure findings from the assessment of all Council managed public open space and reserves, including waterway reserves, are incorporated into council databases and processes informing management of council land	P	$	Several - Property and Valuations, Engineering Planning, Operations, Recreation and Sport, GIS, Strategic Planning and Environment
B4	Continue to prepare, implement and evaluate Environmental Management Plans for reserves	O	TBC	Strategic Planning and

	Action	Priority	Additional Resource Recovery	Lead (and Support) DEPT
	and sites of conservation significance, and action plans for smaller sites with biodiversity values.			Environment (Operations)
B7	Support, promote, and where possible participate in, community and agency initiatives for biodiversity protection at a regional scale.	O	$	Strategic Planning and Environment
B8	Continue to support the work of Landcare and Friends groups for biodiversity protection and enhancement, according to agreed objectives and within the capacity of Council resources.	O	TBC	Strategic Planning and Environment
B9	Work with traditional owners to understand and identify cultural heritage or areas of significance in reserves and areas managed by Council.	O	$	Strategic Planning and Environment
B10	Continue to raise awareness about the Shire's biodiversity amongst the broader community through talks, workshops and other community events	O	TBC	Strategic Planning and Environment

Land and Water Management

Background

The original version of the Environment Strategy adopted in June 2016 had this key theme titled “Catchment Management” with the subtitle “managing land and water together”. The title was to convey the holistic nature of the term “catchment management” referring to the complexity of many stakeholders managing land and water in an integrated and coordinated manner, ultimately to improve the health of land, ecosystems and waterways. Catchment management is essentially about land and water being managed together, and *everyone* acting to reduce the adverse impacts of everyday activity on the land and water that sustains our lifestyles.

However, in practice, “catchment management” appears to be interpreted differently by different sectors of the community. For example, some people understand “catchment” as the area of land draining to a common point, while others understand the term to refer to a water supply. The title of this key theme has therefore been reworded to a variation on its subtitle: “Land and Water Management”

The Macedon Ranges Shire is uniquely located around the Great Dividing Range, meaning that land to the north drains to the Murray River, and land to the south drains to Port Phillip Bay. The Shire falls into five main river catchments in the Shire, shown in Figure 6:

- a section in the north east drains to the Goulburn River
- the north central part of the Shire drains to the Campaspe River
- the north west part of the Shire drains to the Coliban River
- the south and east areas are mostly within the Maribyrnong River catchment
- an area in the south west drains to the Werribee River

The holistic nature and many elements of catchment management means that it is governed or influenced by several legislative and policy frameworks, and typically involves several agencies with some responsibility in one or more aspects of catchment management. For example, Council can control weeds on its own land and promote weed control to private landowners in accordance with its adopted Weed and Pest Animal Strategy, but enforcement of weed control is the responsibility of State government. Similarly, Council can aim to minimise adverse impacts on water quality through siting and design of infrastructure on local roads and in smaller drainage catchments, for example through the inclusion of swale drains, but authorities like VicRoads and Melbourne Water manage drainage from major roads and larger drainage catchments.

Council plays an important role in catchment management through collaborating with, and providing support to, the work of various agencies involved in managing land and water. State government policy and regional plans are implemented at the local level to achieve shared goals, for example, in regards to waterway restoration. Some specific aspects of catchment health may also be addressed through a combination of mechanisms across different management agencies, for example, the development of farm dams is controlled by the Macedon Ranges Planning Scheme but can incorporate

advice from water authorities to address the associated impacts on flow to waterways and water supply catchments.

Council can also influence catchment health and water quality in several ways through policy on domestic wastewater management and planning controls regarding stormwater runoff in new developments. Council's Domestic Waste Water Management Plan (adopted in December 2013) identifies districts within the Shire requiring improved management and increased inspection of domestic wastewater management, and contains recommended management actions to ensure potential risks are appropriately managed. The on-site treatment of stormwater is addressed in state planning policy, and requirements vary depending on the type and size of developments, and whether they are covered by a drainage scheme or development services scheme. These approaches ultimately aim to prevent pollutants entering waterways and water supply storages, thereby helping to provide healthy freshwater ecosystems and safe drinking water.

Council can also reduce its own consumption of water and generation of wastewater, increase its use of recycled and harvested water, and manage runoff from the land and roads it manages, to minimise impacts on water supply and waterway health. Council will work towards a more coordinated approach to managing water in the context of Integrated Water (Cycle) Management, in its own operations and in collaboration with water authorities.

Coliban Water and Western Water have responsibility for managing the 25 Proclaimed Water Supply Catchments within the Shire, according to their administrative boundaries, to protect water supply and quality for human use and consumption. The Macedon Ranges Planning Scheme contains policy and overlays for the protection of these water supply catchments.

In addition to Council's roles in catchment management outlined above, Council can play a role in educating the community about responsible everyday practices to minimise adverse impacts on land and waterways. The sustainable management of agricultural land, native vegetation and waterways, including management of threats like weeds, pest animals and soil erosion, plays a significant role in improving catchment health. Similarly, management of more urban parts of the Shire's landscape, from parks and reserves, to roads and streetscapes, and residential driveways and gardens, also influence catchment health. Everyone has a role to play in catchment management, and Council, along with a range of management agencies and community groups, can continue to promote responsible and sustainable land management of land and waterways.

Legislative and Policy Context

Given the complexity of the many elements of catchment management and their interactions, there are many legislative and policy frameworks governing catchment management. The key legislation in Victoria is the *Catchment and Land Protection Act* (1994), which establishes the state's peak independent advisory body, the Victorian Catchment Management Council, and the ten regional Catchment Management Authorities (CMAs). It also provides for the classification and control of nominated pest plants and animals.

At the state level, the policy framework *Our Catchments, Our Communities – Integrated Catchment Management in Victoria 2016-2019*, was developed in late 2015, in response to a review of Catchment Management Authorities, undertaken by the Auditor General in 2014. It provides a framework for strengthening links between state and regional planning for catchment health, for clarifying and coordinating roles of different management agencies working to improve catchment health, and increasing community engagement in catchment management. The plan is to be implemented over 2016-2017 to 2019-2020.

Water for Victoria (the Water Plan) was released in October 2016, as the State Government's plan for a future with less water as Victoria responds to the impact of climate change and a growing population. The actions set out in the Water Plan aim for a healthy environment, a prosperous economy with growing agricultural production, and thriving communities. The Water Plan guided the development of the Integrated Water Management Framework to provide more detail about the development of Integrated Water Plans for catchment areas across the state.

The Victorian Floodplain Management Strategy was released in April 2016, aiming to improve the evaluation and communication of flood risks so communities and agency stakeholders can take better informed action to manage floods. It clarifies the roles and responsibilities of the many government agencies and authorities involved in flood management, and provides a framework for identifying priority actions at the local and regional levels through collaboration amongst the many community and agency stakeholders. At the regional level, the North Central Floodplain Management Strategy was published in September 2018, after extensive consultation and engagement with landholders and agency stakeholders like emergency relief organisations over the previous two or three years.

Council's plans relevant to catchment management will account for legislative requirements, policy directions and planning frameworks developed at the state, regional and local levels.

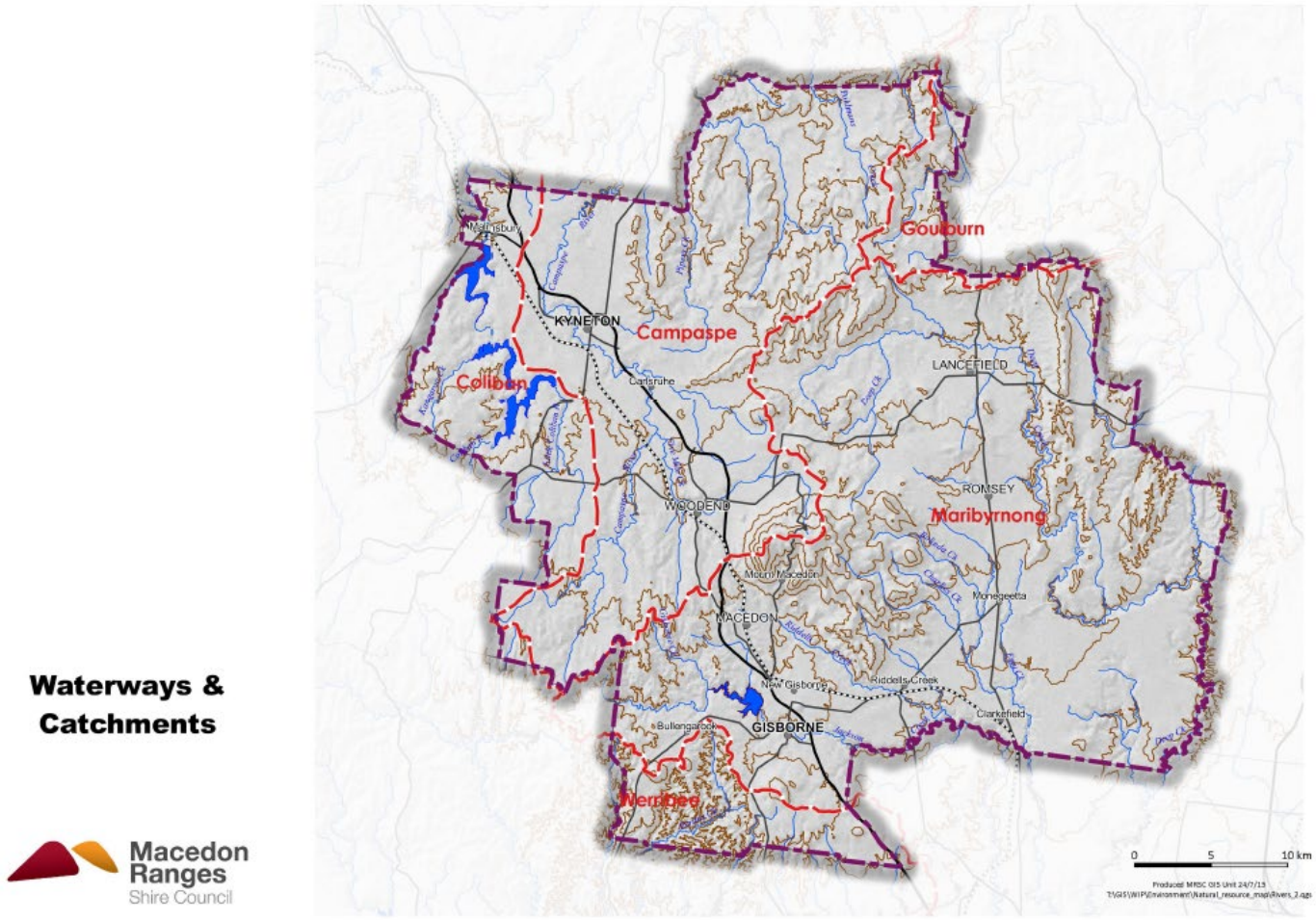


Figure 6: The five main river catchments in Macedon Ranges Shire.

Objectives

To consider decisions of Council in the context of catchment health, and aim to minimise adverse impacts on waterways, water quality and water supply.

To facilitate awareness and action for responsible and sustainable land management practices across the Shire, aiming to improve the health of land and waterways.

Policy statements

- Council recognises the integral links between land management practices and water quality across the Shire and within its catchments, and will aim to apply catchment management principles and practices to its decisions and operations, in both rural and urban contexts.
- Council will work with agency stakeholders and community groups in developing and implementing plans and programs for land health, waterway health, water quality, and water supply, within the capacity of Council resources.

Key Actions for Catchment Management

Legend

Additional Resource Requirements		**Priority**	
$	< $5,000	I	**Immediate** - a priority to commence work in the short term
$$	$5,000 - $25,000	P	**Program** - to be included in Council's work program, timing subject to funds and resources
$$$	$25,000 - $50,000	O	**Ongoing** - work already being undertaken and /or to continue as part of Council business
$$$$	$50,000 - $100,000		
$$$$$	> $1M		
TBC	Cost will depend on type of work, form of support, etc.		

	Action	Priority	Additional Resource Recovery	Lead (and Support) DEPT
LWM1	Develop a Water Management Action Plan, to outline actions to reduce water use from Council operations, increase the use of recycled and harvested water, and reduce the impact of stormwater and other sources of diffuse pollution on waterway and catchment health. Address specific aspects of water management, including but not limited to, water sensitive design, flood management and monitoring and regulation for domestic wastewater management into the new plan, to provide a whole-of-water-cycle management framework for Council. Account for policy and plans of state government, Catchment Management Authorities and local water authorities in developing the Water Management Action Plan	P	$$$	Strategic Planning and Environment (Engineering Infrastructure and Projects, Community Safety)
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.	O	$	Strategic Planning and Environment
LWM3	Review Council's Landcare and Environmental Friends Group support program to ensure it aligns with agreed Council and community goals and priorities for improving health of land and waterways.	O	$	Strategic Planning and Environment
LWM4	Incorporate water sensitive design treatments when designing roadworks (like grass swales and filtration ponds), where feasible and practical. Continue to seek opportunities for funding and partnerships to invest in works, in development and application of related construction and maintenance guidelines, and in monitoring the effectiveness of treatments and works.	O	TBC	Engineering Infrastructure and Projects (Operations)

	Action	Priority	Additional Resource Recovery	Lead (and Support) DEPT
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.	O	$	Strategic Planning and Environment (Statutory Planning)
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.	O	TBC	Strategic Planning and Environment
LWM7	Continue to implement the Weed and Pest Animal Strategy, reviewing and updating the document as needed.	O	TBC	Strategic Planning and Environment (Operations)
LWM8	Advocate to authorised agencies for increased compliance with legislation for managing threats to biodiversity and catchment health, including the *Catchment and Land Protection Act* and *Flora and Fauna Guarantee Act*.	O	$	Strategic Planning and Environment

Resource Efficiency

Background

Resource efficiency is about doing more with less, effectively limiting the consumption of resources (energy, water and materials) and reducing the generation of waste. In the context of this strategy, as energy consumption and water management are addressed under the key themes of Climate Change and Land and Water Management respectively, resource efficiency is largely about the sourcing, use and recovery of available material resources. And while waste management is a key aspect of resource efficiency, other aspects of Council operations like the procurement of goods and services, asset management and information technology also relate to, and can deliver outcomes for, resource efficiency.

The Waste Management Strategy (2015-2020), adopted by Council in December 2014, states a vision:

> *The Macedon Ranges Shire Council provides leadership and empowers the community to create a sustainable future by avoiding and reducing waste, and increasing the reuse and recovery of material resources for improved productivity and environmental protection.*

The vision reflects the principles of the waste hierarchy as promoted by the Victorian Environment Protection Authority:

- Avoidance
- Reuse
- Recycling
- Recovery of energy
- Treatment
- Containment
- Disposal

The Waste Management Strategy contains three overarching objectives supported by a number of underlying policy statements, which translate to 21 recommendations.

Three recommendations particularly promote resource efficiency:

- Recommendation 16: Enhance Council's procurement policy and power, through actively sourcing products and services that meet criteria for environmental advantage, particularly in regards to tenders for major expenditure.
- Recommendation 18: Encourage market pull for resource reuse and efficiency with residents and businesses, both in communications and engagement, and through leading by example in adopting a sustainable purchasing model (for example, ECO-Buy).

- Recommendation 21: Investigate the feasibility of establishing a recycle shop at a transfer station(s), or forming a partnership with a service provider or social enterprise to establish a similar operation elsewhere.

There are already some operational processes within Council which support the intent of these recommendations, like Council's Asset Management Strategy. Its objective is to maximise asset service-delivery-potential and manage related risks and costs over the entire life of assets. Asset management ensures that Council's assets such as roads, buildings and open space are capable of providing services, of an agreed quality, in a sustainable manner, for present and future generations.

In 2015, Council introduced a new records management system (RM8) to digitise records and manage correspondence more efficiently. The system reduces the need for hard copies of files and makes it easier to retrieve and archive records. Council also continues to use digital media to provide information to the community more efficiently and to reduce the need to send printed brochures or newsletters, e.g. Environment eNews.

Resource efficiency also applies to the environmental performance of buildings, infrastructure, and transport, aiming to maximise the efficiency of, and minimise the need for, energy, water and materials in their design, construction and operation. While this broad context of resource efficiency, and its relevance to climate change, biodiversity and catchment management is not addressed within the scope of this strategy, it is acknowledged by Council and will be explored in future work.

Across the Shire, there are many programs underway which result in less waste to landfill. For example, Council commenced operating a tip shop at the Kyneton transfer station in March 2018 to facilitate the diversion of resources from landfill, by providing a place where goods brought to the transfer station may be recovered, re-purposed, fixed or dismantled to parts, and made available for sale. Other initiatives are conducted by Sustainability Victoria or the Loddon Mallee Waste and Resource Recovery Group, like Resource Smart Schools and Kerbside Pride, while other programs are initiated at the community level, like "food swaps", where gardeners can exchange or donate excess home grown produce. Such programs aim to create awareness and facilitate action in reducing waste and using resources more efficiently. Similarly, Council's Green Team undertakes activities such as managing worm warms to reduce the amount of office-generated organic waste being sent to landfill.

Objectives

- To continue to improve the efficiency of resource use across council operations.
- To encourage the community to be more resource efficient.
- To meet all statutory obligations regarding waste management.

Policy statements

- Council will continue to implement the Waste Management Strategy (2015- 2020).
- Council will continue to support programs for resource efficiency initiated by community groups or management agencies, within the capacity of Council resources.
- Council will continuously improve services and develop programs to encourage waste minimisation across the Shire.
- Council will aim to incorporate outcomes for resource efficiency at the broader level through its wider range of procedural policies and processes.

Key Actions for Resource Efficiency

Legend

Additional Resource Requirements		**Priority**	
$	< $5,000	I	**Immediate** - a priority to commence work in the short term
$$	$5,000 - $25,000	P	**Program** - to be included in Council's work program, timing subject to funds and resources
$$$	$25,000 - $50,000	O	**Ongoing** - work already being undertaken and /or to continue as part of Council business
$$$$	$50,000 - $100,000		
$$$$$	> $1M		
TBC	Cost will depend on type of work, form of support, etc.		

	Action	**Priority**	**Additional Resource Requirements**	**Lead (and Support) DEPT**
RE1	Continue to implement the Waste Management Strategy. Review and update the strategy in 2019-2020.	O and P	TBC - outlined in the Waste Management Strategy	Operations
RE2	Report on implementation progress of the Waste Management Strategy on an annual basis. Consider streamlining this annual reporting with the annual environment report outlined in the Evaluation Framework, to be supported by more detailed reports on specific aspects of waste management or resource recovery as required.	O	$	Operations (Strategic Planning and Environment)

RE3	Continue to improve Council's record management system and media platforms and their use across Council to reduce the volume of paper used for record keeping and communications.	O	TBC	Records, Comms
RE4	Continue to review Council's approach to asset management for buildings and infrastructure to reduce the environmental impacts of sourcing and using materials, and improve the environmental performance of buildings.	O	TBC	Operations
RE5	Acknowledge, support and promote programs and initiatives for waste minimisation and resource recovery being undertaken by community groups and relevant organisations.	O	$	Operations (Strategic Planning and Environment)
RE6	Ensure waste management services and programs aim to continuously reduce generation of waste from across the Shire, and associated disposal to landfill and greenhouse emissions, in accordance with Council's Waste Management Strategy and state plans and programs.	O	TBC	Operations
RE7	Continue to investigate ways to reduce waste and increase resource recovery from Council operations and services.	O	TBC	Strategic Planning and Environment (Operations)

Communications, Engagement and Partnerships Framework

In the context of this strategy, a key reason for communicating, engaging and partnering with people is to deliver more effective environmental outcomes. All three forms of relationships involve two-way communications between community and Council, involving an exchange of knowledge and experience, with people listening to and learning from each other, and working collaboratively to achieve the intentions for any one activity.

The framework for communications, engagement and partnerships presented here is a guide for Council to work with the community to increase awareness of, and individual and collaborative action for, the environment.

The aims of communication, engagement and partnerships, accompanied by underlying goals to guide activities, are outlined in Figure 7, along with some sample actions.

Table 1 nominates communications, engagement and partnerships for community audiences according to key environmental themes. The matrix is a guide, representing an indicative approach to working with the community for the environment. It is not intended to be a prescriptive or comprehensive framework, and does not exclude other means of working with the community, for example, partnering with research institutes and private providers to trial innovative approaches and technology.

When consulting on the various projects listed in the Macedon Ranges Environment Strategy, Council will refer to this framework, and its broader Community Consultation Framework, which guides consultation according to the International Association of Public Participation (IAP2) spectrum.

Figure 7: Communications, Engagement and Partnerships Framework, including goals and sample actions

AUDIENCE / STAKEHOLDER	CLIMATE CHANGE	BIODIVERSITY	CATCHMENT MANAGEMENT	RESOURCE EFFICIENCY
Traditional owners / indigenous community	Communication / Engagement	Engagement / Partnerships	Engagement / Partnerships	Communication / Engagement
Visitors	Communication	Communication	Communication	Communication
Residents	Communication / Engagement	Communication / Engagement	Communication / Engagement	Communication / Engagement
Landcare / “Friends” groups working on public land	Communication	Engagement / Partnerships	Engagement / Partnerships	Communication / Engagement
Landholders / Landcare groups working on private land	Communication	Communication / Engagement	Communication / Engagement	Communication / Engagement
Primary producers	Communication	Engagement	Engagement	Communication / Engagement
Absentee landholders	Communication	Engagement	Engagement	Communication / Engagement
Rural lifestyle property owners	Communication	Engagement	Engagement	Communication / Engagement
Environment groups with focus on climate change or sustainable living	Engagement / partnerships	Communication / Engagement	Communication / Engagement	Engagement / Partnerships
Neighbourhood houses / community learning centres	Engagement / Partnerships	Communication	Communication	Engagement / Partnerships
Schools – primary and secondary	Communication	Communication	Communication	Communication
Business / Industry	Engagement / Partnerships	Communication	Communication / Engagement	Engagement / Partnerships
State government departments	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships
Regional agency networks	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships
Water authorities / catchment management authorities	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships
Non-government organisations	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships	Engagement / Partnerships

Table 1: (Indicative) primary purpose(s) for working with audiences in key environmental themes.

Evaluation Framework

A good indication of the success of the Environment Strategy relates to how well Council is travelling on the path set by the strategic directions, as well as progress towards meeting objectives and completing actions. Following a commonly used evaluation framework for natural resource management, MERI, a modified approach for evaluating the success of this strategy is outlined below:

Monitoring

Where possible, progress towards meeting objectives and completing actions will be measured in a quantitative manner. Council is working to determine baseline data related to the natural and built environment, either directly by Council compiling its own records or indirectly from sourcing external data. This is the first step in facilitating quantitative monitoring of implementation progress. Additionally, it is intended that quantitative measurements and environmental indicators will be explored and determined in the development of more specific plans proposed in this strategy. Progress towards meeting objectives and completing actions will also be assessed in a qualitative manner, mostly through internal reviews and assessments.

Evaluation (via strategic directions re-framed as evaluation questions)

How is Council providing leadership in environmental protection and sustainability?

Evaluation will be through an internal assessment process, and if required, through a suitable survey, for example, through deriving information from or amending contents of the community satisfaction survey, or possibly through a short annual survey in the environment e-news.

How well are Council and the community working together towards a shared vision?

Evaluation will be through discussions with community networks or asking for feedback from the community, or possibly through a short annual survey in the environment e-news.

How is Council influencing others who may affect and progress environmental outcomes?

Evaluation will be through discussions with relevant staff in key stakeholder agencies.

Information collected through monitoring implementation progress will supplement information collected in response to the above three questions.

Reporting

The findings from the monitoring and evaluation, including a summary of outcomes and an analysis of findings (for example why or why not a particular approach succeeded or failed in delivering the intended result) will be reported to Council on an annual basis, and be made publicly available. This annual environment report will also note any changes to the broader legislative and policy context governing the implementation of the strategy.

Improvement

Recommendations for amending any aspects of the strategy to maintain its currency and relevance and to improve its effectiveness in delivering environmental outcomes will be identified and included in the annual environment report to Council, and implemented as soon as practical.

A Final Note

This updated version of the Environment Strategy has been informed by the three annual environment reports presented to Council in December 2017, October 2018 and October 2019. The reporting framework extends from the evaluation framework outlined above, and includes indicators for the key themes to measure outcomes of Council's environmental works and plans. It forms the basis for future evaluations of the Macedon Ranges Environment Strategy.