

MITCHELL SHIRE COUNCIL.

Environment Strategy 2014-2024



Our community supports a healthy and resilient natural environment

MITCHELL SHIRE COUNCIL



Acknowledgement of Traditional Owners

Mitchell Shire Council acknowledges the traditional custodians of land which now comprises Mitchell Shire, the Taungurung Clans and the Wurundjeri Clans. We pay respect to their elders both past and present, and celebrate their continuing culture

Strategy Owner	Environmental Programs Parks and Assets
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- Mitchell Environment Advisory Committee
- Council staff and Councillors
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- External stakeholders
- Community members who entered photos in the Mitchell Shire Photography competition. These photos feature throughout the Strategy
- Tree Wishes for the information that contributed to the Mitchell Shire natural environment chapter; and
- RM Consulting Group.

Structure of this Strategy

There are five main components to this Strategy, an introduction to the development of the Strategy, an overview of Council's role in protecting and enhancing the natural environment, an overview of the natural environment of Mitchell Shire, the main priority areas for action, and a monitoring, evaluation and reporting framework to measure success against each desired outcome. The structure of the strategy is outlined in Table 1.

Table 1: Structure of the strategy

Section in Strategy	Content
1	Introduction <i>An overview of the purpose, vision and desired outcomes of the Strategy and the development and community consultation process.</i>
2	Council's role in protecting and enhancing the natural environment <i>An overview of Council's sphere of influence and the tools and resources available to achieve the desired outcomes.</i>
3	The Mitchell Shire natural environment <i>An overview of the natural assets, threatening processes and current condition of the environment in Mitchell Shire.</i>
4	Priority areas <i>Five priority areas will direct Council's efforts in environmental management over the next ten years. The responsible department, timelines for implementation and priority are also identified for each action.</i>
5	Monitoring, evaluation and reporting <i>A framework to assist Council in measuring the success, or otherwise, of the actions that have been implemented.</i>

Five priority areas are described in Chapter 4. A range of actions is included for each priority area to direct Council's effort in environmental management over the next ten years.

For each action identified in the Strategy, the Council department responsible for its implementation is listed and the timelines and priority are described. A brief explanation of the key terms that populate the action tables is provided in Table 2.

The different categories described below in Table 2 are used to assign a relative measure of importance (priority) and urgency (timelines) to each action. All actions are important.

In terms of timelines:

- Short-term priorities are those most likely to deliver key environmental outcomes for our community. They may also be actions that are relatively simple to instigate
- Medium and long-term priorities are those that are less urgent or rely on longer term financial planning, involve a range of stakeholders and multiple steps before implementation can occur; and
- Ongoing priorities may already be occurring and are expected to continue into the future.

The policy directions, strategies, and approaches within this Strategy are aspirational and those that require funding will be subject to Council consideration as part of the normal budget process.

Table 2: Key terms for priority area action tables

Priority	Description
1	Very High
2	High
3	Medium
Timelines	Description
Short	Within 3 years
Medium	Within 5 years
Long	Within 10 years
Ongoing	Ongoing implementation over the life of the Strategy
Responsible departments	Description
ES	Engineering Services
BT	Business Transformation
ACC	Active and Connected Communities
O	Operations
PA	Parks and Assets
PC	Planning and Compliance
SP	Strategic Planning
CS	Community Strengthening

Introduction

Vision

Our community supports a healthy and resilient natural environment.

Informed by the community consultation, the Environment Strategy is focused around five priority areas including; Biodiversity, Waterways and Wetlands, Rural land use and management, Urban land use planning and development and Resilient communities. Each of these priority areas also has its own vision.

This Strategy also advances the Mitchell Shire Council Plan's overarching vision for the natural environment:

"Environmental resilience - responding to changing environmental conditions and protecting our natural environment to ensure long term sustainability" – Mitchell Shire Council Plan 2013-2017.

Purpose of the Environment Strategy

This Strategy has been prepared to guide Council in its role as a custodian of Mitchell Shire's natural environment. It shows how Council can act, inform and guide over the next decade to conserve Mitchell's natural environment for the present and future.

Mitchell Shire Council recognises the need to show leadership in environmental sustainability by embracing its responsibility to the next generation of Mitchell Shire residents. The strong association between the local environment, economy and community calls for a considered approach to the management of the natural environment. This is particularly important in the current context of environmental pressures such as climate change, land use changes and population growth.

This Strategy identifies the approach that Council will take to protect and enhance the natural environment of Mitchell Shire. This Strategy will be Council's foundation for decision-making and delivery of natural environmental services and programs over the next ten years.

The Strategy will:

- Identify and implement priorities for action
- **Strengthen connections between biodiversity, ecosystem services and community well-being**
- **Highlight the significance and role of Local Government in a broad range of legislative responsibilities such as roadside management, native vegetation retention and land use planning**
- **Highlight the environmental, social and economic benefits of sustainable management of the natural environment**
- Support and acknowledge community participation, leadership, awareness and education in relation to sustainable land management and biodiversity conservation, and promote and acknowledge responsible land stewardship; and
- Identify and develop key partnerships and stakeholders needed in order to achieve the best outcomes for custodianship of Mitchell's natural environment.

This Strategy builds on past achievements and identifies opportunities to increase the protection and enhancement of the natural environment of Mitchell Shire over the next ten years.



(Photo: Sascha Kosloff)

Strategy development

Scope

This Strategy considers the natural values and assets of the municipality, the threats to these values, and actions Council can take to protect and enhance the environment (both directly and by working with others).

Natural assets and values of the municipality include biodiversity, native habitat, threatened species and communities, waterways, wetlands, soils and agricultural land.

The Environment Strategy directs other relevant Council plans and strategies including:

- The Mitchell Shire Council Plan 2013 – 2017
- Sustainable Resource Management Strategy 2011
- Mitchell Waste Strategy 2010 – 2015
- Mitchell Open Space Strategy 2013 – 2023
- Domestic Waste Water Management Plan 2006
- Mitchell Shire Rural Roadside Code of Practice 2007
- Land Management Rebate Policy 2008
- Mitchell Planning Scheme,
- Town Structure Plans
- Various Council reserve management and master plans.

The Environment Strategy also provides the basis for environmental assessments for all planning decisions.

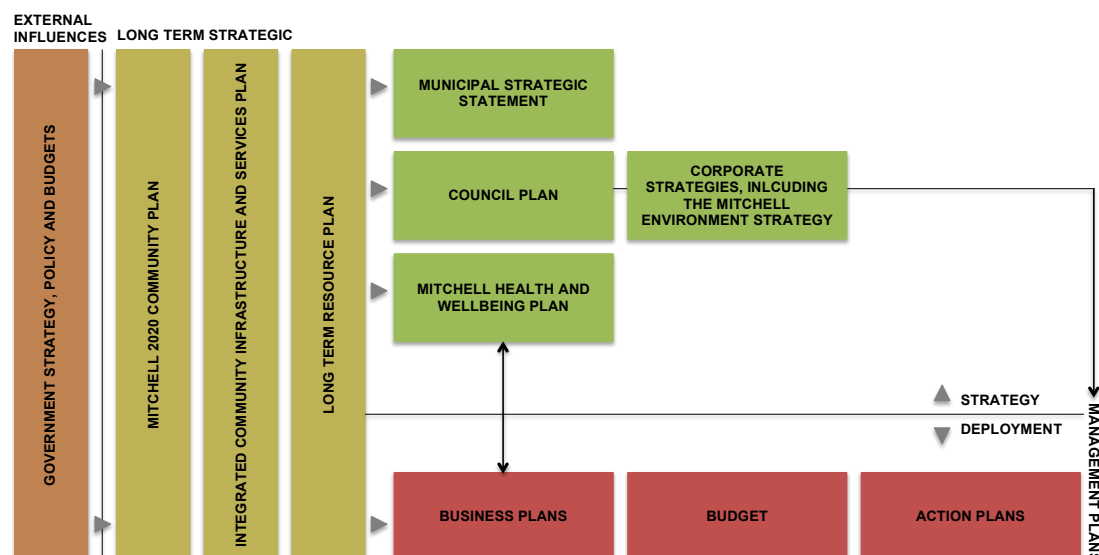
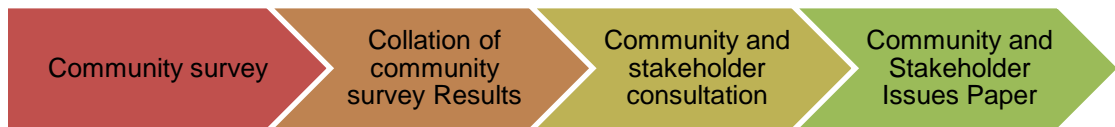


Figure 1-1: Mitchell Shire Council's planning framework

Methodology

Development of the Strategy involved two stages as described in Figure 1-2.

Stage 1: Consultation stageStage 2: Strategy development stage**Figure 1-2: Stages of Environment Strategy development**

Consultation with the community, external stakeholders, Council staff and Councillors has ensured that the development of this strategy is locally relevant and practical.

Consultation activities included a community survey, an external agency stakeholder meeting, meetings with the Mitchell Environment Advisory Committee and three community consultation workshops. Consultation participants were asked to identify the main environmental issues and opportunities for Mitchell Shire. These related to five main themes:

1. Biodiversity
2. Waterways and wetlands
3. Rural land use and management
4. Urban land use, planning and development
5. Resilient communities

The outcomes of the consultation have formed the basis of this Strategy, in particular the five priority areas (refer to Section 3).

Policy and Legislative context

There are numerous legislative requirements that guide Council. Acts relating to environmental management that have particular importance to Council include:

- *Environmental Protection and Biodiversity Conservation Act 1999*
- *Victorian Local Government Act 1989*
- *Victorian Planning and Environment Act 1987*
- *Victorian Flora and Fauna Guarantee Act 1988*
- *Victorian Catchment and Land Protection Act 1994*
- *Victorian Environment Protection Act 1970.*

A more detailed overview of relevant policy and legislation is provided in Appendix 1.

Over the past five years, there have also been a number of changes in policy and regulations that impact upon the natural environment. These include, but are not limited to:

- 2009 Victorian Bushfire Royal Commission Final Report Recommendations, including the new “roadside works for bushfire purposes exemption” (Victorian Bushfires Royal Commission 2010)
- Changes in the interpretation of the *Catchment and Land Protection Act* 1994 regarding responsibilities for rabbit and weed control on Council managed local roadsides (Roadside Weeds and Pest Working Party 2011)
- Reforms to Victoria’s native vegetation permitted clearing regulations – including amendments to the Victorian Planning Provisions, adopted December 2013 (DEPI 2013a)
- Development of a draft Victorian Waterways Management Strategy (DSE 2012).

Local plans and strategies have also recently been updated, or are currently being updated, and include:

- Regional Catchment Strategies (RCS) for the Goulburn Broken, Port Phillip and Westernport and North Central CMA regions. These RCS were released in early 2013 and identify each region’s key assets and threats and set priorities for environmental investment (GBCMA 2013a, PPWCMA 2013, NCCMA 2013a)
- Melbourne Water’s Healthy Waterways Strategy. This Strategy outlines the role that Melbourne Water will play in managing these waterways to improve waterway health over the next five years (Melbourne Water 2012)
- Waterway strategies for the Goulburn Broken and North Central CMA regions. Waterway strategies provide a new plan for managing the regions waterways for the next eight years (GBCMA 2013b, NCCMA 2013b).

Changes at all levels of government are likely to continue and further impact environmental policy and associated funding opportunities. This Strategy will be flexible in responding to, and accommodating, these changes.

Strategy principles

The Strategy is based on the following principles:

- The focus of the Strategy is the natural environment
- The Strategy emphasises the priorities and actions that Council can effectively control and influence to ensure that long-term sustainability of the natural environment. The work of other agencies and organisations can complement Council’s work. Such coordinated effort and investment is highly valued and sought after by Council
- The Strategy acknowledges that climate change is likely to impact the environment, economy and community of Mitchell Shire
- The Strategy recognises that the effect of external pressures on natural systems within the Shire is unpredictable. In particular the effect of climate change on natural environments is likely to be profound and unpredictable and exacerbate the pressures of population and land use change
- A whole-of-Council, partnership and community approach is needed to achieve long-term sustainability of clearly articulated environmental values
- Progressive revision of this Strategy may need to pursue the least undesirable of multiple environmental futures rather than pursue preservation of past conditions; and

- This is a Strategy for adaptive management. It recognises that environments are complex and there are few certain links between actions and desired outcomes. This Strategy assigns measurable targets to actions within each of the five priority areas and uses them to track change and inform learning, revision and improvement.

Key stakeholders

Successful implementation of the Environment Strategy requires a partnership between the Mitchell Shire Council, other natural resource management organisations and groups and the broader community. An overview of the key stakeholders who will play a critical role in facilitating the successful implementation of the Environment Strategy is provided in Table 1-1.

Table 1-1: Key stakeholders of the Environment Strategy

Stakeholder group	Stakeholder name
Catchment Management Authorities	<ul style="list-style-type: none"> ▪ Goulburn Broken Catchment Management Authority ▪ North Central Catchment Management Authority ▪ Port Philip and Westernport Catchment Management Authority
Government departments and agencies	<ul style="list-style-type: none"> ▪ Department of Environment and Primary Industries ▪ Parks Victoria ▪ Environment Protection Agency North East ▪ VicRoads ▪ Victrack ▪ VicRail
Water authorities	<ul style="list-style-type: none"> ▪ Goulburn-Murray Water ▪ Goulburn Valley Water ▪ Yarra Valley Water ▪ Melbourne Water ▪ Coliban Water
Indigenous community	<ul style="list-style-type: none"> ▪ Taungurung Clans Aboriginal Corporation ▪ Wurundjeri Tribe Land and Compensation Cultural Heritage Council
Community-based groups and organisations	<ul style="list-style-type: none"> ▪ Landcare ▪ Goulburn Broken Greenhouse Alliance ▪ Resource GV ▪ Country Fire Authority ▪ Victorian Farmers Federation ▪ Community Groups ▪ Youth Council
Community	<ul style="list-style-type: none"> ▪ General community



Australian Emperor Dragonflies on native Potamogeton waterplants, buzzed by an Inland Ringtail Damselfly (Photo: Robert Hollingworth)



Crimson Rosella feeding in native Fringe Myrtle, Tallarook Ranges (Photo: Robert Hollingworth)

Council's role in protecting and enhancing the natural environment

Roles and responsibilities

There are three interrelated areas of action in which Council works to affect custodianship of Mitchell Shire's natural environment. These three areas are referred to as Council's sphere of influence (Figure 2-1) and are described in more detail below.

These three spheres of influence have been considered when determining actions for each priority area. Actions have been identified that reflect where Council can control, influence and advocate for positive action for the natural environment within the Shire.

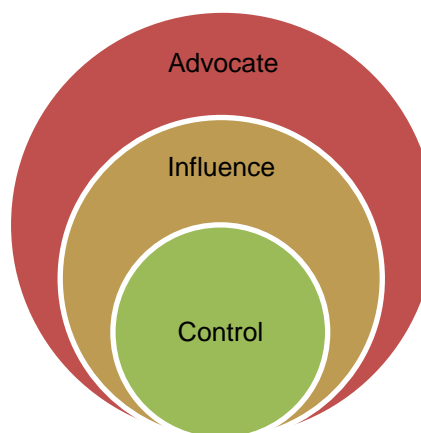


Figure 2-1: Council's sphere of influence environment

Control

Within Council's sphere of control sits a range of activities relating to the management of the natural environment that Council has direct responsibility for (or control over). Activities within Council's sphere of control include developing and implementing planning policy that ensures sustainable development in the Shire, managing Council reserves in a way that protects and enhances biodiversity values, undertaking community education and the delivery and support of specific environmental programs to protect and enhance key environmental assets.

Influence

In many cases, direct responsibility for the use and management of the natural environment sits with other agencies and organisations. These organisations, such as the Department of Environment and Primary Industries (DEPI), the Catchment Management Authorities (CMAs), Melbourne Water, Parks Victoria, VicRoads, VicTrack, VicRail, Metropolitan Planning Authority and the Department of Defence have primary responsibility for administering environmental legislation, developing strategies and plans and managing large areas of land with high environmental significance within the Shire. In these cases, Council has an important role in influencing all relevant National, State, regional, local and non-government agencies to achieve the best environmental outcomes for Mitchell Shire.

Council also has an important role to play in influencing the land management practices of private land managers within the Shire. Land stewardship is encouraged and supported by Council through programs that reward sustainable practices, such as rate rebate schemes and restorative works on private land. Council also influences sustainable land management through its role in writing and implementing planning policy that seeks to conserve Mitchell Shire's natural environment, for example by managing development near waterways and vegetation management controls.

Advocate

As an advocate, Council has a critically important role to share information about and promote the programs of other government organisations and community groups, for example Catchment Management Authorities, Melbourne Water and Landcare to the general community. Collaboration and coordination with other stakeholders can assist to increase the reach of these programs, offer resource efficiencies through combined effort and result in outcomes which contribute to the vision of this Strategy, those of other organisations and groups and the needs of the community.

Tools and resources available to achieve desired outcomes

Council has a range of tools and resources to achieve their desired outcomes in environmental management, these include:

- Mitchell Shire Council Plan 2012 - 2017
- Various State, regional and Council strategic plans, management plans and policies
- The Mitchell Planning Scheme
- Planning and Environment Act 1987
- Mitchell Shire Local Law No. 1 Community and Environment 2013
- The ability to source and provide resources and funds
- Skilled staff to prepare and implement suitable projects and programs
- Leading by example in its own management of the natural environment
- Support of local community and volunteer groups including Landcare, Committees of Management and other local community groups.

Our Shire's natural environment

Mitchell Shire extends from Melbourne's northern fringe to the farming country of north central Victoria. The Shire includes the townships of Beveridge, Upper Plenty, Clonbinane, Wallan, Kilmore, Wandong-Heathcote Junction, Broadford, Reedy Creek, Seymour, Pyalong, Tooborac, Puckapunyal and Tallarook and covers an area of approximately 2864km².

The Shire consists 73.6% freehold land, 11.5% crown land and 0.4% Council property. The Puckapunyal Military Base cover 14.5% of the Shire in area (Figure 3-1).

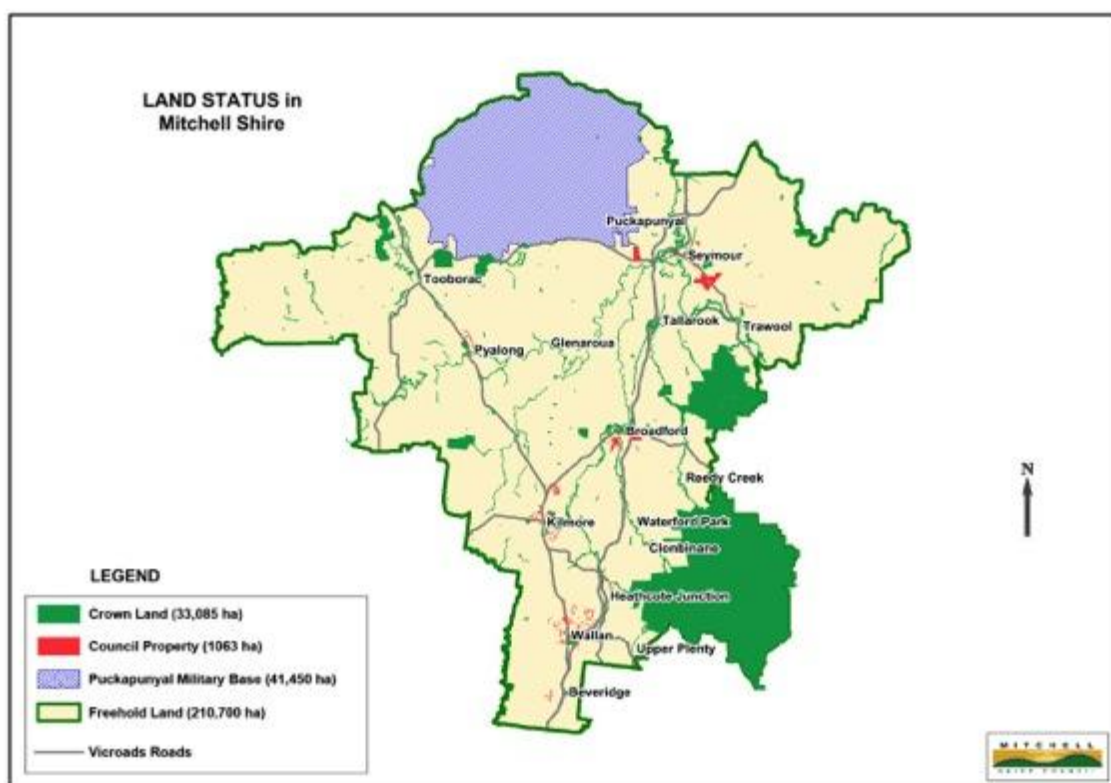


Figure 3-1: Land status in the Mitchell Shire

Mitchell Shire is fortunate to have many environmental and bushland reserves, which Council, together with the local community, manage to protect and enhance their environmental values. Currently Council manages 11 recreation and sporting reserves and approximately 40 local parks within the Shire, some of these are listed below:

- Australian Light Horse Memorial Park, Seymour
- Beckingdale Flora Reserve, Wallan
- Beveridge Spring, Beveridge
- Boulton Flora Reserve, Tallarook
- Colin Officer Flora Reserve, Broadford
- Dry Creek Reserve, Broadford
- Fleming Drive Flora Reserve, Broadford

- Goulburn River Walking Trail, Seymour
- Green's Pinch Reserve and Hamilton's Creek, Kilmore
- High Camp Flora Reserve, Highcamp
- Monument Hill Reserve, Kilmore
- Seymour Bushland Park, Seymour
- Tallarook Arboretum and Constructed Reed Bed, Tallarook
- Taylors Creek Linear Reserve, Wallan
- Tyaak Flora Reserve, Tyaak

Mitchell Shire is located within three water catchments. The Goulburn Broken catchment covers the majority of the Shire. The Port Phillip and Westernport catchment occupies the southern area and an area on the north west boundary of the Shire lies within the North Central catchment, as illustrated in Figure 3-2.

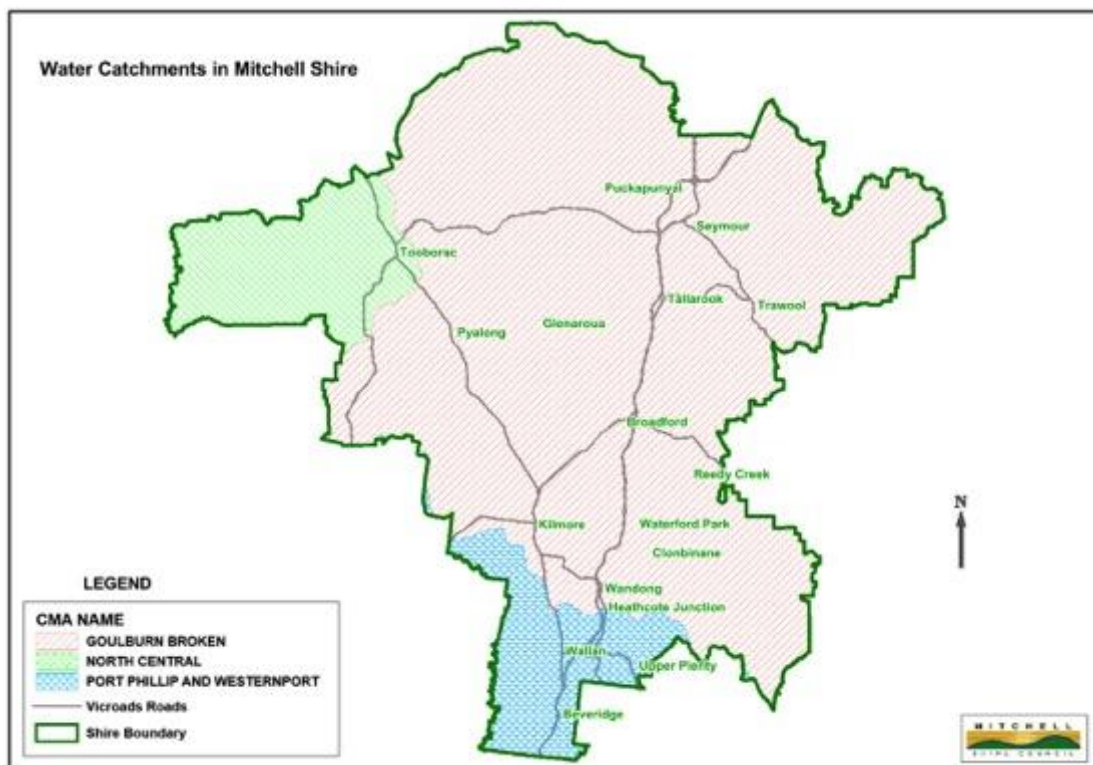


Figure 3-2: Water catchments of the Mitchell Shire

Landscapes of the Mitchell Shire

“The Shire has a diverse range of landscapes including steep to gently undulating sedimentary hills, dissected granite plateaus with gentle to steep slopes, undulating volcanic plains, and alluvial floodplains associated with major rivers and creeks. Climatic variation is pronounced with a higher rainfall and longer growing season in the southern portion of the Shire (Jones et al. 1996).”

Mitchell Shire’s underlying geological formations: the foundation of landscapes

Mitchell Shire is located at the meeting point of a number of Victoria’s significant geologies and landforms. The Shire takes in parts of the most eastern and northern points of the extensive Victorian Volcanic Plain, the third largest volcanic plain on earth, which stretches from just east of Beveridge westward to near the South Australian border. Several volcanic cones of geological and landscape significance fall within the Shire including Bald Hill, Mt Fraser, Spring Hill, Green Hill and Pretty Sally. Wallan is located on the junction of the northern edges of these volcanic fields being the westernmost point of the highlands of North-Eastern Victoria. Within Mitchell Shire, the ranges stretch from the forested foothills of Mt Disappointment through the cleared hills of Wandong and Clonbinane, to just west of Kilmore. The north eastern area of Mitchell Shire near Seymour is also flanked by this range. Another major landform edging into the Mitchell Shire are the hills of the Macedon Ranges, forming the western boundary. The Northern Highway to the north of Kilmore runs alongside this range with its spectacular granitic outcrops all the way to Pyalong, Heathcote and Emu Flat. The Seymour area forms part of the floodplains of the Goulburn River and its tributaries, extending into the northern alluvial plain that broadens and spreads to the Murray River.

There are four broad geologies represented in the Mitchell Shire comprising the eroded bedrock ranges (comprising sedimentary hills and metamorphic ridges), the granite hills, the riverine plains and the volcanic plains. The creek lines offer another landscape that dissects all geologies.

The eroded sedimentary ranges

From Tooborac across to Glenhope in the far north west lies the oldest of the Shire’s underlying geologies. These ancient gold-bearing hills ascend northward and westward beyond Mitchell into the central Victorian highlands surrounding Bendigo and Ballarat. They join with slightly younger and larger geologies to form the ranges flanking the Shire. These ranges were formed some 350-450 million years ago where particles of mud and sand were washed down from dry land to lie with the earth’s earliest insects and first fish in quiet muddy waters, deposited and compressed over many millions of years into thick layers of siltstone rock. Around 350 million years ago, these were lifted by violent movements in the earth’s crust to form the sharply sloping mountains, hills and gullies we see as part of the Great Divide and which are known locally as the Kinglake Ranges, the Brown Range and the Macedon Ranges. Directed east-west across Mitchell Shire from Mt William to Mt Disappointment, the Great Divide rises to around 700m above sea-level except where roughly halfway across the Shire it plunges to around 400m above sea level in the lower foothills around Kilmore and Wandong, known for this reason as the Kilmore Gap.

Granite hills

In the south-west of the Shire, the Macedon Ranges extend into Mitchell Shire framing the valley around Willowmavin and giving way to rounded granitic hills with their rocky outcrops along the Northern Highway through Pyalong and further west to Emu Flat. Granitic hills provide some of the more spectacular landscapes in the Shire. As well as the Pyalong granitic formations, granitic outcrops form the northern side of the Brown Range near Tallarook and Highlands. The more erosion resistant metamorphic ridges encircle the granite landforms in places, including around Mt Disappointment and more obviously around Tallarook and the Strathbogie Ranges. The aureoles were formed by heating and baking the surrounding sedimentary rocks as the granite pluton pushed toward the earth's surface more than 300 million years ago. The magma solidified below the surface and has been exposed by millions of years of slow erosion. Spectacular massive blocks of granite (or granodiorite) stand tall and rounded, gradually eroding their layers over time. Soils were formed with the mix of clays and sand and are well-textured and free-draining. Elevations reach around 500m in the granite hills.

The riverine plains

Commencing in the Goulburn Valley near Trawool and extending far beyond into the northern irrigation areas of Victoria, are the riverine plains. They are for the most part deep alluvial soils, comprising silts, sands and gravel, accumulating after being washed down in the flood waters of the Goulburn River. The Goulburn River, flows through the Shire from the Kinglake Ranges towards the Murray River and its major tributaries include Mollisons Creek, Sugarloaf Creek and Sunday Creek.

Ancient basalts and the newer volcanic plains

Cambrian basalts, the oldest rocks in Victoria extend from the Mount William Range in the north of the Shire to Heathcote, forming the Mount Camel Range.

Along the central sections of the Shire, especially west of Kilmore at High Camp and south of the Divide between Beveridge and Bylands, there is a different type of plain which is an extension of the Victorian basalt plains. These are the result of lava flows from the volcanoes erupting as recently as 10,000 years ago that dot the west of the state. Green Hill in Wallan as well as Bald Hill and Mt Fraser in Beveridge are prominent examples. These volcanoes filled many of the streams and valleys with newer basalt, creating a wide plateaux with low relief, swamplands and deep escarpments and gorges.

Waterways and wetlands

Mitchell Shire's creeks rise in the hills, flowing north into the Goulburn River or south into Port Phillip Bay depending on their position relative to the Great Divide. The Shire's waterways include larger permanent creeks and ephemeral creeks, drainage lines and swales. Wetlands were once associated with these waterways and varied from clear water to often swampy wetlands as evidenced around the Merri Creek at Beveridge and in the surrounding countryside. Areas behind lava flows became lakes or swamps, notably Hernes and Coomola Swamps and other plains around Wallan and Beveridge at the head of Merri Creek.



Mist in the Valleys, Mt Piper from Tallarook Ranges (Photo: Robert Hollingworth)



Near Zig Zag Road, Tooborac (Photo: Peter Geffert)

Vegetation types (bioregions) of the Mitchell Shire

The variable landscapes of Mitchell Shire are reflected in several Victorian Bioregions that occur within the Shire, as illustrated in Figure 3-3. Bioregions are a landscape-scale approach to classifying the environment using a range of attributes such as climate, geomorphology, geology, soils and vegetation. There are 28 bioregions identified within Victoria (DEPI 2014a). There are six Bioregions in the Mitchell Shire:

- Victorian Riverina
- Goldfields
- Central Victorian Uplands
- Highlands Northern Fall
- Highlands Southern Fall
- Victorian Volcanic Plain.

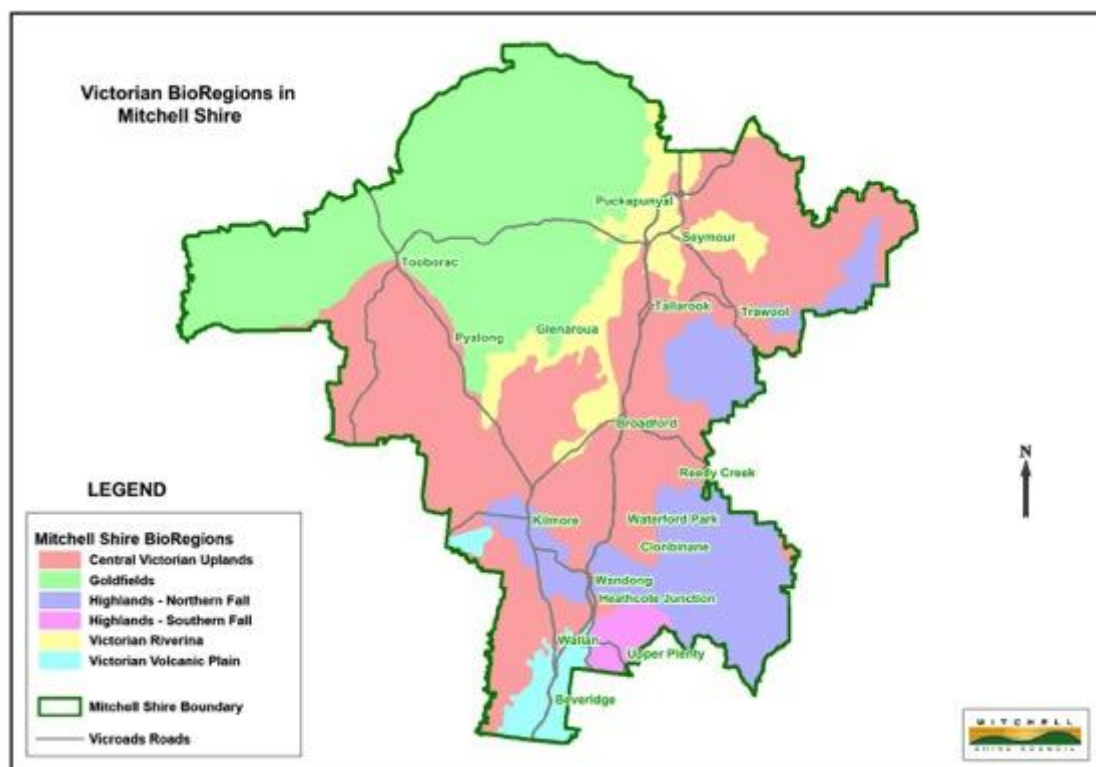


Figure 3-3: Victorian Bioregions represented in the Mitchell Shire

Ecological landscapes of the Mitchell Shire

Strong ecologies sustain our landscapes, and more critically provide humanity with ecosystem services like clean water, fresh air, food, fuel and energy. The use of these services has brought about changes resulting in significant degradation to the natural, or ecological, functions of Mitchell's landscapes. Steps are now being undertaken to restore the ecological function of these landscapes.

The most ecologically functioning landscapes have two important qualities: structural and biological diversity. Generally, the larger the area the more resilient the ecology is. Kinglake National Park, Mount Disappointment State Forest, Tallarook State Forest, Argyle State Forest, Goulburn River lands, Puckapunyal Military Area and Mt Piper represent some of the best examples of ecological function within Mitchell Shire.

Healthy ecological landscapes exist across the Shire in public and private land, large and small, rural and urban settings. Council managed environmental assets exist because they remain as largely intact remnants of the original ecosystems. Examples include Monument Hill in Kilmore, Colin Officer Reserve in Broadford and many of the roadsides across the Shire with important remnant native vegetation. A number of these landscapes are being rehabilitated by landowners, Landcare, community groups and Council, and are beginning to recover some of their former ecological function and perform as healthy and robust landscapes.

Endangered and threatened flora and fauna

There are six endangered ecological communities known to or likely to occur in the Mitchell Shire (DoE 2014b). An overview of the ecological communities and their conservation status under the *Environment Protection and Biodiversity Act 1999* is provided in Table 3-1.

Table 3-1: Endangered ecological communities in the Mitchell Shire

Ecological Community	Status
Buloke Woodlands of the Riverina and Murray- Darling Depression Bioregions	Endangered
Grassy Eucalypt Woodland of the Victorian Volcanic Plain	Critically Endangered
Grey Box (<i>Eucalyptus microcarpa</i>) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia	Endangered
Natural Temperate Grassland of the Victorian Volcanic Plain	Critically Endangered
Seasonal Herbaceous Wetlands (Freshwater) of the Temperate Lowland Plains	Critically Endangered
White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland	Critically Endangered

In addition to threatened ecological communities, Mitchell Shire is also home to 18 threatened flora species and 45 threatened fauna species (DEPI 2014b). An overview of the species and their listing under State (*Flora and Fauna Guarantee Act 1988*) and National (*Environment Protection and Biodiversity Act 1999*) legislation is provided in Appendix 2.

Environmental challenges in the Mitchell Shire

Mitchell Shire is one of the fastest growing regional municipalities in the state due to its proximity to Melbourne and the presence of major highways through the Shire and the north-south rail link. Rapid growth in the Shire creates environmental pressures from development and increased population in both urban and rural areas (Mitchell Shire Council 2014).

There is strong demand for land, especially in the southern reaches of the Shire, for smaller allotments for 'lifestyle' living and small enterprise farms. Subdivision is increasing pressures on stream quality and water availability. This includes the impacts of increased interception by more farm dams, nutrient laden run-off, and changes to hydrology and natural drainage paths.

Much of the Shire, particularly the steep granite and sedimentary areas, is highly susceptible to various land degradation problems. Sheet and gully erosion is a major concern on all steep to moderate slopes in this type of terrain (Jones et al. 1996).

The removal of native vegetation leading to a loss of native perennials and reduced groundcover has many environmentally detrimental effects including:

- Erosion and salinity; especially on vulnerable sedimentary soils or granite sands and in conjunction with waterways
- Weed invasion, due to a reduced amount of vegetative cover and other disturbance; and
- Loss of both the quantity and quality of native vegetation and wildlife habitat, leading to imbalances in the natural system.

Ecologically the Mitchell Shire area is highly valued due to the extent of connectivity of the remaining public forest areas and the rich diversity of native species. Intensive residential development in and around the forests and remnant vegetation areas threatens these linkages (GBCMA 2013a). This diversity is also threatened by climate change in the longer term.

Projected increases in average temperatures and reduced annual and seasonal rainfall will impact on agricultural production, ground cover and bush fire risk over the medium to long term. Severe bushfires followed the millennium drought in 2006 and 2009 and more recently over the summer of 2014. Climate pressures will also further impact biodiversity and agricultural production. These risks will need to be factored into managing natural, agricultural and urban areas in to the future.

Priority areas

Overview

Through the Strategy development consultation process, five priority areas were identified to guide Mitchell Shire's efforts in environmental management over the next ten years (Table 4-1). A vision and a range of desired outcomes and high level actions have been identified within each priority area.

Each high level action has an assigned timeframe whereby short term equates to the next 3 years, medium term is between 2016 and 2021 and long term means beyond 2021. There is a high degree of overlap between the five priority areas. Consequently, actions should not be considered and implemented in isolation.

Table 4-1: Overview of priority areas and vision statements

Priority areas		Vision
1	Biodiversity	Protect, enhance and connect landscapes by increasing the extent and quality of native habitat
2	Waterways and wetlands	Improve water quality, riparian condition and in-stream habitat of waterways and wetlands
3	Rural land use and management	Conserve and improve quality productive farming land and rural landscapes
4	Urban landuse, planning and development	Enable land use planning and development that respects and conserves Mitchell Shire's natural environment by anticipating, avoiding and reducing potential adverse impacts from increased population, economic and settlement growth
5	Resilient communities	Engage, empower and enable people to address the challenges and threats to Mitchell Shire's natural environment

Biodiversity

Vision

Protect, enhance and connect landscapes by increasing the extent and quality of native habitat.

Context

The proportion of private land in Mitchell Shire containing native vegetation is one of the highest among the councils on Melbourne's fringe and includes areas of State and national significance (DTPLI 2013a).

Roadside vegetation and wildlife corridors also contain pockets of remnant indigenous vegetation with rare, vulnerable and significant flora species. Some roadsides and other remnant vegetation corridors provide a valuable source of native seed stock and important habitat for wildlife (DTPLI 2013a).

At a glance

Biodiversity in Mitchell Shire

- There are 18 species of threatened flora recorded in Mitchell Shire.
- There are 45 threatened fauna species recorded in Mitchell Shire.
- More than 150 bird species have been recorded, and nine of these are considered threatened at State Level (Flora and Fauna Guarantee Act 1988).
- The predominant Ecological Vegetation Classes (EVCs) within the Goulburn Broken Catchment include Herb Rich Foothill Forest, Grassy Dry Forest and Shrubby Dry Forest. Several of these EVCs are considered endangered or vulnerable. Plains Grassy Woodland, Plains Grassland and Swampy Riparian Complex are widespread EVCs in the Port Phillip and Westernport Catchment. All of these EVCs are considered endangered. In the North Central Catchment, Grassy Woodland, Plains Grassy Woodland and Damp Sands Herb Rich Woodland EVCs are all endangered.
- Approximately 9,350 hectares are contained in national parks and public land conservation areas including Kinglake National Park, Mount Disappointment State Forest, Tallarook State Forest and Tooborac State Forests 1 and 2. The majority of this area is clustered along the eastern boundary of the Shire.

Source: DSE 2006, DTPLI 2013a, DEPI 2014b

Prior to European settlement, the vegetation of the Mitchell Shire was mainly a mixture of grassy and shrubby forests and grassy woodlands (DSE 2006). Clearing has reduced the natural bushland and has modified and impaired ecosystem functions throughout the Shire. Bushland has largely been reduced to small privately owned patches, public reserves including State forests and Council managed land, road reserves and waterways. These remnant areas are susceptible to ongoing degradation due to impacts along edges with other land uses and ongoing development, removal of firewood, 'tidying up', clearing for fire preparedness, grazing, weeds and pest animals, salinity and other land uses. The resulting fragmented landscape is susceptible to the gradual loss and extinction of local species and loss of biodiversity (DTPLI 2013a).

Fire protection works are planned according to the Municipal Fire Management Plan 2012. Planning of these works consider the land type, vegetation and conservation values of roadsides.

Desired outcomes

1. Threatened flora and fauna species within the Shire are protected
2. Inappropriate development and/or land use within or adjacent to areas of high biodiversity value is avoided
3. Revegetation for improved connectivity across the Shire is increased
4. The condition of native vegetation and habitat on Council managed land and priority roadsides is enhanced
5. Implementation of sustainable land management practices on private land to improve the extent and condition of native vegetation and habitat is encouraged and supported.

Existing programs

Mitchell Shire has a number of existing programs and plans that contribute towards the vision and desired outcomes for the biodiversity priority area. Existing programs and plans and their achievements to date are detailed in Table 4-2.

Table 4-2: Examples of existing programs for the biodiversity priority area

Programs and plans	Success to date
Significant roadsides mapping and signage program	More than 300 significant roadsides have been identified and signage erected. All roadsides are mapped within a GIS database.
Weed Control Program - Mitchell Shire Council is responsible for weed control on the land it owns or manages. Council proactively seeks funding for weed control along rural roadsides. Declared noxious weeds and environmental weeds are prioritised for control as part of an ongoing and integrated weed control program.	The Roadside Weed and Rabbit Control Program targets thirteen regionally controlled species and several WONS (Weeds of National Significance) i.e. Serrated Tussock, Gorse and Blackberry. These have been treated on roadsides since 2007 and there is an estimated 145 km of roadsides targeted for ongoing treatment. This includes the Enviromark Program of eleven roadsides where these weeds pose a high threat to agriculture and high value native vegetation.
Land Management Rebate granted to ratepayers undertaking environmental works including biodiversity protection and enhancement. Note: this program is currently under review.	Details are provided in Table 4.6 Rural land use and management
Development of reserve management plans	Vegetation Management Plans have been completed for Kilmore Hospital Reservoir and Beveridge Spring. The Monument Hill Management Plan was adopted by Council in early 2014 and Environmental action plans have been developed for 17 of the Shire's environmental and bushland reserves.

Programs and plans	Success to date
Conservation Covenant Program – annual grant program for properties with conservation covenants	There are currently 14 private properties covered by Trust for Nature conservation covenants are within the Shire covering an area of 265 hectares. Two Council reserves, the Colin Officer Flora Reserve in Broadford and Bushland Park in Seymour, are also covered by conservation covenants.
Rural Roadside Code of Practice – aims to protect the biodiversity values of the Shire’s rural roadsides and balance demands for public safety, adjacent farming practices, reduction of fire risk and provision of utility services.	Comprehensive weed control works specifications have been developed and are used by all contractors. Training for staff and contractors on roadside vegetation management and vehicle hygiene is also provided. Vegetation surveys have been completed for majority of rural roadsides.
National Tree Day	Mitchell Shire Council has supported National Tree Day activities in the Shire since 2001 by providing native plants, guards and stakes to the community and schools for planting on public land. The results of these planting days can be seen throughout the townships of the Shire. National Tree Day is held each year during late July/early August.



Sundew Mangalore (Photo: Lesley Dalziel)

Actions

Table 4-3: Actions for the biodiversity priority area

No:	Action:	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
1	Work in partnership with Catchment Management Authorities, the Department of Environment and Primary Industries and Melbourne Water to identify, map and collate biodiversity assets within the Shire	1, 2	PA, BT & SP	Control & Influence	Ongoing	1
2	Work in partnership with agencies and community on local biolink projects	3	PA	Control & Influence	Ongoing	1
3	Develop and implement a Pest Plant and Animal Strategy	4	PA	Control	Short	1
4	Review and update the Rural Roadside Code of Practice	4	PA	Control	Short	1
5	Encourage greater rigour when implementing the Fire Management Plan to ensure it is a balanced approach to fire protection considering fuel reduction and biodiversity needs	4	PC & PA	Control	Ongoing	1
6	Develop, implement and regularly review environmental action plans for Shire reserves	4	PA	Control	Ongoing	1
7	Review incentives for the protection of remnant native vegetation and habitat e.g. Land Management Rebate and Conservation Covenant Program	5	PA	Control	Ongoing	1
8	Promote and enforce the law within the municipality, particularly, native vegetation clearing, rubbish dumping and earthworks.	1, 2, 5	PC	Control	Ongoing	1
9	Monitor up-to-date information about climate change impacts on biodiversity and respond to recommended actions	1	All	Influence	Ongoing	2
10	Review and update planning provisions (e.g. Vegetation Protection Overlay and Environmental Significance Overlay) to ensure areas of high biodiversity value are appropriately identified and protected	1, 2	SP	Control	Long	2
11	Investigate the feasibility of creating new Flora Reserves for areas of high biodiversity value	1,2	PA	Control	Medium	2

No:	Action:	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
12	Develop a register of significant trees in the Shire and implement suitable controls to ensure their protection	1,2	SP & PA	Control	Ongoing	2
13	Undertake, promote and support existing revegetation programs in the Shire e.g. through community environment groups, Landcare and Catchment Management Authorities	3	PA	Control & Influence	Ongoing	2
14	Minimise threats from livestock grazing and/or recreational uses on Council owned and managed land	4	PA	Control	Ongoing	2
15	Develop guidelines for weed control contractors to map infestations and report annually	4	PA	Control	Short	2



Blue Wren (Photo: Charles Elliot)

Waterways and wetlands

Vision

Improve water quality, riparian condition and in-stream habitat of waterways and wetlands.

Context

Mitchell Shire lies within three water catchments. The majority of the Shire is within the Goulburn Broken Catchment, while the south of the Shire is part of the Port Phillip and Westernport Catchment, and a small area on the north-west boundary lies within the North Central catchment. There are three Catchment Management Authorities (CMA) with jurisdiction over waterways within the Mitchell Shire.

Mitchell Shire has many waterways that have environmental, economic and social benefits. Significant Mitchell Shire waterways include:

- Goulburn River, Sunday, Dry, Sugarloaf, Mollison, Kilmore, Kurkarak, Ryan's, Dabyminga, Whiteheads, Prices, Cameron's, Gardiners, Percival and Mt. William Creeks all in the Goulburn Broken Catchment
- Merri, Taylors, Wallan, Strathaird, Deep, Boyds and Mittagong Creeks in the Port Phillip Catchment; and
- Pohlman's, Wild Duck, Mt Ida and Pipers Creeks in the North Central Catchment.

At a glance

Waterways and wetlands of Mitchell Shire

- The Goulburn River is the largest waterway in the Shire and is classified as a Heritage River (*Heritage Rivers Act 1992*).
- Special Water Supply Catchments supply water for human consumption and include Wallaby Creek, Sunday Creek, Mollison Creek and the catchment areas of Lake Eppalock (Mitchell Shire Council 2008).
- Threatened species associated with wetlands and waterways that are found within Mitchell Shire include (DSE 2006):
 - Growling Grass Frog (*Litoria raniformis*)
 - Eastern Great Egret (*Ardea modesta*)
 - Australasian Bittern (*Botaurus poiciloptilus*)
- The headwaters area of the Merri Creek comprises the Wallan Taylors, Strathaird and Mittagong creeks, and contains important grasslands, grassy woodlands and wetland areas, including the nationally significant Hernes Swamp (a grassy wetland or freshwater meadow) and the Bald Hill Grassland (MCMC 2009).

Being located at the top of several catchments, the salt loads in waterways contribute to salinity problems downstream. Clearing of land, especially along ridgelines has significantly contributed to the increased salt loads in our water and soils, affecting both stream health and agricultural productivity (DTPLI 2013a).

Reduced environmental flows and diminishing river health will continue to be influenced by effluent and nutrient impacts from septic systems, increasing numbers of stock and domestic farm dams that have diverted flows from reaching the river and creek systems. Urban stormwater run-off, drainage from unsealed roads, excessive use of some agricultural chemicals and unsustainable land management practices have also added to the deterioration of water quality (DTPLI 2013a).

Desired outcomes

1. Areas of remnant native vegetation identified in riparian zones and wetlands within the Shire are protected and enhanced in alignment with CMA and Melbourne Water Waterway Strategies
2. Inappropriate development and/or land use on or adjacent to waterways and wetlands is avoided
3. Implementation of sustainable land management practices on private land to improve river health is encouraged and supported
4. The quality of stormwater run-off is improved.

Existing programs and plans or strategies

Mitchell Shire has a number of existing programs and plans or strategies that contribute towards the vision and desired outcomes for the waterways and wetlands priority area. Existing programs and plans or strategies and their success to date are detailed in Table 4-4.

Table 4-4: Examples of existing programs and plans or strategies for the waterways and wetlands priority area

Programs	Success to date
Tallarook Constructed Reed Bed – constructed wetland to treat grey water and stormwater before it enters the Dabyminga Creek	This 2003/2004 project included Council accepting management responsibility for the land from DEPI, drainage and excavation work, design and installation of a litter trap, construction of a reed bed, fencing works and planting indigenous species to reduce the total phosphorus and nitrates entering the Dabyminga Creek.
Plans or strategies	Success to date
Stormwater Management Plan – protect urban stormwater quality throughout the Shire	In partnership with Melbourne Water, a water sensitive urban design feature has been implemented at Wallan transfer station (priority project 5) where a rainwater garden filters runoff water that is reused for Council maintenance activities.
Waste Management Strategy	Details are provided in Table 4.10 Resilient communities

Plans or strategies	Success to date
Waterway enhancement works	Mitchell Shire Council operates a comprehensive weed control program on Council managed land; this includes waterways such as the Kilmore Creek, Taylors Creek, Wallan and South Creek, Seymour. The program includes revegetation to introduce competition to the weed species and enhance the environmental values of these waterways.
Domestic Wastewater Management Plan	The Mitchell Shire Domestic Wastewater Management Plan (DWMP) aims to minimise the impact of domestic wastewater on public health and environmental values within the municipality. The Mitchell Shire DWMP was prepared using the Municipal Association of Victoria (MAV) Model Municipal Domestic Wastewater Management Plan (July 2005) with assistance from the Country Towns Water Supply and Sewerage Program. The Mitchell Shire DWMP is currently under review.



Fishing (Photo: Elisha Kubale)

Actions

Table 4-5: Actions for the waterways and wetlands priority area

No:	Action:	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
1	Work in partnership with Catchment Management Authorities and Melbourne Water to identify and map waterway and wetland assets within the Shire	1, 2	PA & SP	Control & Influence	Ongoing	1
2	Review and update planning provisions to ensure significant waterways and wetlands are appropriately identified and protected	1, 2	SP	Control	Long	1
3	Protect and enhance the environmental values of waterways, wetlands and water bodies on Council managed land	1, 2, 3	PA & ACC	Control	Ongoing	1
4	Commit to improving water quality in waterways, wetlands and water bodies throughout the Shire through regulations, strategies and programs	4	PA, ES & PC	Control	Ongoing	1
5	Support the delivery of actions out of the Goulburn Broken and North Central Waterways Strategies and Melbourne Water's Healthy Waterways Strategy	1, 2, 3, 4	PA, SP & ES	Influence	Ongoing	2
6	Promote and support existing river health programs in the Shire e.g. through Landcare, Catchment Management Authorities and Melbourne Water	3	PA	Influence & Advocate	Ongoing	2
7	Advocate for a review of waterway frontage licences to assist in the conservation of our waterways	2,3	PA	Influence	Ongoing	2
8	Review incentives for the protection of riparian native vegetation and habitat e.g. Land Management Rebate	3	PA	Control	Ongoing	2
9	Continue to implement or expand use of Water Sensitive Urban Design in all developments	4	PA, ES & PC	Control & Influence	Ongoing	2
10	Prepare Development Guidelines for the protection of waterways and incorporate into the planning scheme	2	PA, PC & SP	Control	Medium	3

Rural land use and management

Vision

Conserve and improve quality productive farming land and rural landscapes.

Context

Agriculture, forestry and fishing represent approximately 6% of the Shire's estimated economic output (DTPLI 2013a). The majority of rural areas in Mitchell Shire are used for agricultural purposes, including beef and wool farming, forestry and timber production, viticulture, olive production and other small enterprise farms.

Most of the rural area of the Shire is utilised for agricultural purposes, including beef and wool farming, forestry and timber production, viticulture and olive production (Mitchell Shire Council 2013b).

The Mitchell Shire Council Economic Development and Tourism Strategy (2010) includes actions to:

- Proactively target potential growth industries where the Shire has a competitive advantage. Particular opportunities have been identified in the equine industry, health and education sectors, transport, logistics and warehousing, value-added agriculture, viticulture, organic farming, and in new technologies such as solar; and
- Undertake a review of rural lands to facilitate viable enterprises and to support potential agricultural-related tourism opportunities.

Sustainable land management occurs when land is managed to improve land health (DoE 2014a). This includes maintenance of the stock of productive soil, fresh water, forests and clean air and other renewable resources. As the population grows and land use changes, it is important that land within the Shire is managed sustainably so that valued landscape features, visual amenity and ecological qualities of the area are protected. This will also ensure that the natural landscapes continue to provide important opportunities for tourism and economic development into the future (DTPLI 2013a).

The Shire's close proximity to Melbourne and attractive landscape features is driving an increasing demand for smaller 'lifestyle' lots, small enterprise farms and rural residential development. The environmental impacts and outcomes of this increasing demand are mixed. In some cases, subdivision can reduce grazing pressure, increase tree planting and natural regeneration, and attract environmentally conscious residents who undertake more intensive land management efforts. In other cases, increased subdivision has had negative effects by increasing pest plants and animals, overgrazing of smaller lots, noise pollution, water pollution from septic tanks and reducing inflows to natural waterways by additional farm dams (DTPLI 2013a). Tree clearing for construction of buildings and fences and fire prevention, removal of habitat for firewood, and illegal clearing are also negative impacts of subdivision.

At a glance**Rural land use and management in Mitchell Shire**

- The natural resources and rural areas of Mitchell Shire support approximately \$25 million worth of agricultural production annually.
- The highest quality agricultural land is associated with the alluvial areas covering almost 50,000ha, in particular the river terraces above the Goulburn River.
- The Shire is characterised by many small landholdings. Of the 4,661 parcels in multi-lot properties, only 23% are over 40ha.

Source: DTPLI 2013a

Much of Mitchell Shire is highly susceptible to land degradation problems, particularly the steep granite and sedimentary areas. The condition of soils used for agriculture drives production and environmental sustainability in a productive landscape. The soils on the hill slopes are susceptible to sheet and gully erosion due to poor drainage and dispersible clay subsoils with hard setting surfaces. When there is low groundcover these soils are even more susceptible. Grazing pressure needs to be carefully managed in cleared hill country to prevent soil erosion. Some of the steeper areas in the north west of the Shire, the Tallarook Ranges, Kilmore East hills, ridges and valleys west of Wallan and the outskirts of the Seymour and Broadford townships have potential erosion issues which means that these areas need to be managed to ensure continuous groundcover to protect their soils.

There are also considerable salt stores in these landscapes contributing to high levels of soluble salts entering some streams. Localised groundwater flows in fractured rock aquifers within sandstone bedrock (and between soil layers in weathered granite) tend to be mostly confined to sub catchment divides discharging at the break of slope and in valley floors causing dryland salinity. Since the millennium drought water tables have stabilised in many areas and the risk of further salinisation in these catchments has substantially reduced.

Pest plant and animals can invade and threaten all land uses. This is particularly evident at the boundary of public land and freehold land areas. The types of invasive species of concern include foxes, cats, gorse, blackberry, serrated tussock and paterson's' curse (GBCMA 2013a).

Desired outcomes

1. High quality productive farming land is protected from incompatible development or activities
2. Development and land use is respectful of landscape values
3. Implementation of sustainable land management practices on private rural land is encouraged and supported.

Existing programs

Mitchell Shire has a number of existing programs that contribute towards the vision and desired outcomes for the rural land use and management priority area. Existing programs and their success to date are detailed in Table 4-6.

Table 4-6: Examples of existing programs for the rural land use and management priority area

Programs	Success to date
Land Management Rebate - granted to ratepayers occupying properties greater than four hectares, (9.9 acres) subject to environmental targets being achieved (pest plant and animals, salinity, erosion and loss of native flora and fauna). Note: this program is currently under review.	In the 2012/13 rebate year 1,520 out of a total eligible 2,925 Mitchell Shire properties received the Land Management Rebate. This is a 52% participation rate, which is an increase of 1% from the 2011/12 year. Council committed in the order of \$270,000 for the land management rebate in the 2012/13 year.
Supporting Landcare in the Shire	Mitchell Shire Council has supported many Landcare projects over the last decade, including partnering with Landcare at the Seymour and Kilmore shows, providing office space for the South-West Goulburn Landcare Coordinator, supporting the FarmBlitz program and being a member of the South West Goulburn Landcare Network.
Pest control program – implementing Council's Roadside Weed and Rabbit Control program	Details are provided in Table 4.2 Biodiversity
New Rural Landholder Kits	The Mitchell Shire Environmental Programs Unit has been sending out New Rural Landholder Kits every six months to properties over two hectares in size. The kit includes information on native vegetation, weeds, local environmental community groups, fire prevention and environmental contacts. Over the past 14 years over 2,000 kits have been delivered to new rural landholders.
Conservation Covenant Program	Details are provided in Table 4.2 Biodiversity

Actions

Table 4-7: Actions for the rural land use and management priority area

No:	Action:	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
1	Promote and support existing land management programs in the Shire e.g. through Landcare, industry groups, Catchment Management Authorities and the Department of Environment and Primary Industries	3	PA	Influence & Advocate	Ongoing	1
2	Review existing incentives for sustainable land management e.g. Land Management Rebate	3	PA	Control	Ongoing	1
3	Identify and map high quality agricultural land within the Shire and incorporate into the Mitchell Planning Scheme	1	SP	Control	Medium	1
4	Continue to assist in the promotion and distribution of information on sustainable land management practices		PA	Control	Ongoing	1
5	Develop a Rural Areas Strategy to detail planning controls that will provide clear direction for the appropriate use and development of rural areas within the Shire	1, 2	SP	Control	Medium	2
6	Review the land capability study of the Shire	1	SP	Control	Long	3

Urban land use, planning and development

Vision

Enable land use planning and development that respects and conserves Mitchell Shire's natural environment by anticipating, avoiding and reducing potential adverse impacts from increased population, economic and settlement growth.

Context

Mitchell Shire is in a period of transition as it prepares itself for significant population growth. In 2009, the State Government, following the release of Melbourne@5Million and Delivering Melbourne's Newest Sustainable Communities, expanded the metropolitan Urban Growth Boundary to include land surrounding the township of Beveridge, namely land between Old Sydney Road and the Melbourne – Sydney Railway line. In 2012, the State Government, following the logical inclusions investigation, moved the Urban Growth Boundary and the northern growth corridor of Melbourne, and it now includes Wallan as well as land surrounding Beveridge (Mitchell Shire Council 2013a).

This corridor is expected to become home to an additional 100,000 people over the coming decades. It is also anticipated that other townships within the Shire will also continue to benefit from significant growth as a result of their proximity to Melbourne (Mitchell Shire Council 2013). Growth in boundary areas, for example, Kalkallo, will also add pressure to Mitchell Shire services.

Adequate supply of residential dwellings, appropriate infrastructure, open space and transport options will be important elements in accommodating growth as well as attracting visitors to the area. This presents an opportunity for Council to employ innovation and leadership in sustainable development.

At a glance

Urban growth in Mitchell Shire

- At the time of the 2011 Census, Mitchell had an estimated resident population of 35,092 demonstrating a continued growth of more than 2% each year since 2006.
- Mitchell's age profile is youthful. Over 35% of the population is aged below 25, whilst only 18% of the population are aged 60 years or over.
- Population is concentrated in the townships of Wallan, Kilmore, Seymour, Broadford, Wandong-Heathcote Junction and the Puckapunyal Army Base west of Seymour.
- The expansion of the Melbourne growth corridor into the southern part of the Shire is expected to accommodate an additional population in the order of 100,000 in the coming decades.

Source: Mitchell Shire Council 2013a

Sustainable development aims to meet present human needs without compromising the environment and the needs of future generations (Brundtland 1987). Council is well placed to demonstrate leadership in sustainable development ensuring that land use planning decisions protect productive farmland and natural resources, including landscape aesthetics. There are many challenges for Council in achieving sustainable development. These include, but are not limited to:

- Retaining valuable farming land and protecting it from inappropriate and/or incompatible development
- Managing development pressures in areas of high biodiversity value, including wetlands and waterways
- Advocating for and planning for more sustainable, environmentally sensitive urban developments and settlements, including building regulation reform
- Providing sustainable transport options.

Desired outcomes

1. Well planned and sustainable urban growth and development, incorporating open space, access to services, retail/trade and transport
2. Rural living qualities including open space, landscape amenity and easy access to the natural environment are maintained
3. Growth in local agricultural food production in urban/rural fringe areas, particularly on productive alluvial and volcanic soils.

Existing plans or strategies

Mitchell Shire has a number of existing plans and strategies that contribute towards the vision and desired outcomes for managing the urban land use, planning and development priority area. Existing plans or strategies and their success to date are detailed in Table 4-8.

Table 4-8: Examples of current plans and strategies for the management of the urban land use, planning and development priority area

Plans and strategies	Success to date
Mitchell Open Space Strategy – provides a planning and development framework for the provision of open space and off road trails in the Shire to 2023	Council has planted along trail corridors to enhance the scenic and amenity value of Chittick Park, Seymour and Taylors Creek, Wallan. Further planting involving the community include: the Say G'day trail, Wandong, Lions and Goulburn Parks in Seymour, Whitemans Reserve, the Island Reserve and The Bottom common in Broadford, Kilmore Creek and the walking trail between Hidden Valley and William St, Wallan.
Sustainable Resource Management Strategy – outlines Mitchell Shire's commitments to energy and water reduction	One of the high priority actions of the Sustainable Resource Management Strategy is to develop Ecologically Sustainable Design principles for inclusion in the local planning scheme to guide all future urban development.

Plans and strategies	Success to date
Mitchell Planning Scheme including Municipal Strategic Statement (MSS)	<p>Council has two roles in relation to the Mitchell Planning Scheme: Responsible Authority for the administration of the Scheme through the assessment of planning permit proposals and as Planning Authority, responsible for tailoring the Scheme to address specific local issues.</p> <p>Council completed a review of its Planning Scheme in 2012. In line with the recommendations of that review, local planning policy is being strengthened and significant strategic work will be undertaken over the coming years to inform the development of comprehensive planning controls. This is part of an ongoing process of continuous improvement.</p>



(Photo: Catriona Smith)

Actions

Table 4-9: Actions for the urban land use, planning and development priority area

No:	Action	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
1	Embed custodianship of natural environmental values within structure planning processes so that growth is managed and natural assets are protected simultaneously	1, 2	SP & PC	Control	Ongoing	1
2	Use up-to-date data sets to revise planning provisions aimed at protecting the Shire's natural environmental assets	1, 2	SP	Control	Ongoing	2
3	Use professional ecological advice in the assessment of planning applications that have the potential to impact on the natural environment	1, 2	PC	Control	Ongoing	2
4	Investigate opportunities to advocate for reform of regulations and controls drafted by State and Federal governments so that ESD outcomes can be achieved and demonstrated more easily in new developments	1, 2	SP & PC	Advocate	Long	2
5	Investigate opportunities for more innovative design of rural living subdivisions e.g. that allow for smaller rural 'lifestyle' blocks whilst balancing larger scale agricultural practices	1, 2	SP & PA	Control	Medium	3
6	Support the identification and promotion of appropriate agricultural enterprises suitable for smaller lots (agribusiness)	3	AC	Influence	Medium	3

Resilient communities

Vision

Engage, empower and enable people to address the challenges and threats to Mitchell Shire's natural environment.

Context

People are the Shire's greatest asset in protecting and enhancing the natural environment. The Mitchell Environment Advisory Committee provides an advisory role to Council on environmental matters.

Mitchell Shire is well positioned to broaden and strengthen community interest in local environmental and sustainability issues by building on its existing network of community-based natural resource management (NRM) groups and other community organisations. There are also opportunities to recognise the links between humans and the natural environment, including the many cultural and social values the environment holds.

At a glance

Community environment networks in Mitchell Shire

There are many volunteers and community environment groups making a valuable contribution to the natural environment of Mitchell Shire, including:

- 12 Landcare Groups: Reedy Creek, Tallarook, Glenaroua, Nulla Vale Pylaong West, Sunday Creek/Dry Creek, Willowmavin, Highlands, Whiteheads Creek, Baynton Sidorio, Deep Creek, Upper Maribyrnong and Merriang District.
- South West Goulburn Landcare Network
- Hughes Creek Catchment Collaborative
- Friends of Merri Creek
- Friends of Mount Piper
- Wallan Environment Group
- BEAM-Mitchell Environment Group (incorporating the Friends of Monument Hill, Kilmore)
- Broadford Land Management Group
- Bushland Park Committee of Management
- Light Horse Memorial Park Committee of Management
- Save Monument Hill Community Group
- Australian Plants Society Mitchell
- Wandong Heathcote Junction Community Group
- Transition Towns Initiative – Mitchell.

Source: Mitchell Shire Council 2013a

Strengthening people's connections to the natural environment and building ecological literacy, is important in developing resilient communities particularly in a time of climate change. Climate change presents complex challenges with the potential to generate the following impacts:

- Impacts to agriculture through reduced rainfall, increased temperatures and extreme weather events such as drought, fire, heat waves and flooding
- Increased threat of bushfire and flood creating increased demand for preparedness and emergency response
- Increased pressure on habitat supporting remaining biodiversity
- Impacts to community health and wellbeing, recreational impacts, for example, through reduced water availability and increased cost of resources such as water, electricity and petrol
- Limited capacity for already vulnerable members of the community to adapt to extreme weather events such as heat, fire and floods, for example, low-income residents and the elderly (DTPLI 2013a).

There is an important role for Council to play in building community resilience through increasing community awareness and mobilising community members to take local action.

Desired outcomes

1. A shared vision for community environmental sustainability is developed
2. The knowledge, skills and capacity of the community to understand and practice natural resource management is increased
3. Adaptation to drying seasonal conditions and climate change through better bushfire preparedness and understanding of the impacts on biodiversity and water supply
4. The connections between people and the natural environment in which they live is increased
5. Partnerships with agencies, industry, landholders and community groups are strengthened to achieve shared environmental goals
6. Local people respect, value and care for the natural environment directly, and in the way that they choose to live.

Existing plans or strategies

Mitchell Shire has a number of existing plans that contribute towards the vision and desired outcomes for the resilient communities priority area. Existing plans and their success to date are detailed in Table 4-10.

Table 4-10: Examples of existing plans or strategies for the resilient communities priority area

Plans	Success to date
Municipal Fire Management Plan	<p>Council reduces fire threat by implementing the Municipal Fire Management Plan and carrying out an annual program of works aimed at reducing fire risk across the community. This includes:</p> <ul style="list-style-type: none"> • Inspections of private land within township and low density residential areas to assess properties for fire hazards and issuing of Fire Prevention Notices detailing works to be undertaken to reduce the risk. • Roadside weed control and assessment of dangerous trees • Slashing the sides of all accessible roads in townships and rural areas in the lead up to the fire season • Regular mowing of areas within townships to reduce fuel loads.
Mitchell 2020 Community Plan – describes the Council and community's vision and priorities for the next 10 years and establishes a shared basis for joint planning, service delivery and advocacy	<p>Activities being implemented through the Mitchell 2020 Community Plan include; Land Management Rebate, National Tree day activities, Councils support of Clean up Australia day, environmental reserve action plans, support for Landcare and the Landcare FarmBlitz program. The Community Plan has also guided the development of the Council Plan and Municipal Strategic Statement.</p>
Municipal Health and Wellbeing Plan	<p>The Municipal Health and Wellbeing Plan (MHWP) identifies community priorities and seeks to build a healthier, more liveable community through delivering improved services in strong partnership settings and reducing inequalities and disadvantage. The MHWP aims to build a healthier, more resilient, connected community; protect and enhance our natural environment and strengthen our local economy. Creating a balance between these environments will improve the overall health and wellbeing of current and future residents</p>
New Rural Landholders Kit	<p>Details are provided in Table 4.6 Rural Land Use and Management</p>
Mitchell Open Space Strategy	<p>Details are provided in Table 4.8 Urban land use, planning and development</p>
Waste Management Strategy	<p>The Mitchell Shire Waste Management Strategy has been developed as part of the commitment that Mitchell Shire Council has made to provide sustainable solutions to the collection, disposal and resource recovery from waste generated within the community.</p>

Actions

Table 4-11: Actions for the resilient communities priority area

No:	Action:	Desired outcome:	Responsible department:	Sphere of influence:	Timeframe:	Priority:
1	Implement and/or support existing community education programs on bushfire risk, prevention, preparedness response and recovery in partnership with the CFA	3	O & BT	Control & Influence	Short	1
2	Integrate concepts regarding community environmental sustainability into future Council strategies, policies and programs.	1	All Council	Control	Medium	2
3	Review and implement existing information kit for new rural landholders	2	PA	Control	Short	2
4	Implement and/or support existing education programs (workshops, seminars, field days and publications) on environmental and sustainable land management for Council staff and the community	2	PA	Control & Influence	Ongoing	2
5	Ensure information for all new and prospective landholders (urban and rural) includes information on fire risk, environmental assets and threats, local community environmental groups and Shire environmental programs	2,3	PA & BT	Control	Ongoing	2
6	Collaborate with and support initiatives undertaken by community environmental groups and Committees of Management e.g. group activities, Golden Sun Moth monitoring, Mynah bird trapping, Clean Up Australia Day	4	PA	Influence	Ongoing	2
7	Implement and/or support existing education programs on climate change (predictions, impacts, mitigation, adaptation) for Council staff and the community	2	All	Influence	Ongoing	3
8	Support environment education in schools (primary, secondary and tertiary)	2	PA	Influence	Ongoing	3
9	Support the establishment of new environmental groups across the Shire, particularly areas of limited activity	2, 4	PA	Influence	Ongoing	3
10	Promote existing natural areas through the provision of new infrastructure to increase community access to the natural environment and increase awareness and appreciation of our natural environment	3	PA	Control	Ongoing	3
11	Provide opportunities for young people to become better connected and more active in their local environment	3	CS	Control	Ongoing	3

Monitoring and evaluation framework

Background

Evaluation is an essential component of program planning and management and is a key driver for the successful implementation of an adaptive management approach for this Strategy.

In the short term, adopting an adaptive management approach will encourage flexibility, responsiveness and local decision making to adapt the actions specified within this Strategy to the rapidly changing conditions and needs of the environment.

Over a longer time frame the adaptive management approach will seek to evolve the directions of the Strategy to adapt in response to its own successes and failures, as well as to changes in climate, greater scientific knowledge and changing priorities and other factors.

To support an adaptive management approach, evaluation processes for the Environment Strategy have been broken down into two interrelated components:

- **Monitoring:** the regular collection and analysis of information to assist timely decision-making, ensure accountability and provide the basis for evaluation and learning
- **Evaluation:** periodic assessment of the appropriateness, efficiency, effectiveness, impact, and legacy.

Monitoring and evaluation approaches can be used to assess the impact of a program against its desired outcomes and promote accountability.

Well planned monitoring and evaluation also plays an important role in supporting decision-making that focuses on continuous improvement and allowing program managers to adapt policies, programs and investment in response to risks and opportunities.

The framework developed for the Mitchell Shire Environment Strategy consists of three core elements including:

- A hierarchy of desired outcomes described through a program logic
- A monitoring and evaluation framework, including indicators, targets, data collection methods and key evaluation questions
- Implementation arrangements.

Program logic

The Environment Strategy program logic forms the basis of the framework and is outlined below in Figure 5-1. The program logic provides a clear connection between activities and the hierarchy of desired outcomes that the Strategy aims to achieve over time.

Implementation of the Environment Strategy will focus on the delivery of all immediate and intermediate outcomes within the 10-year period.

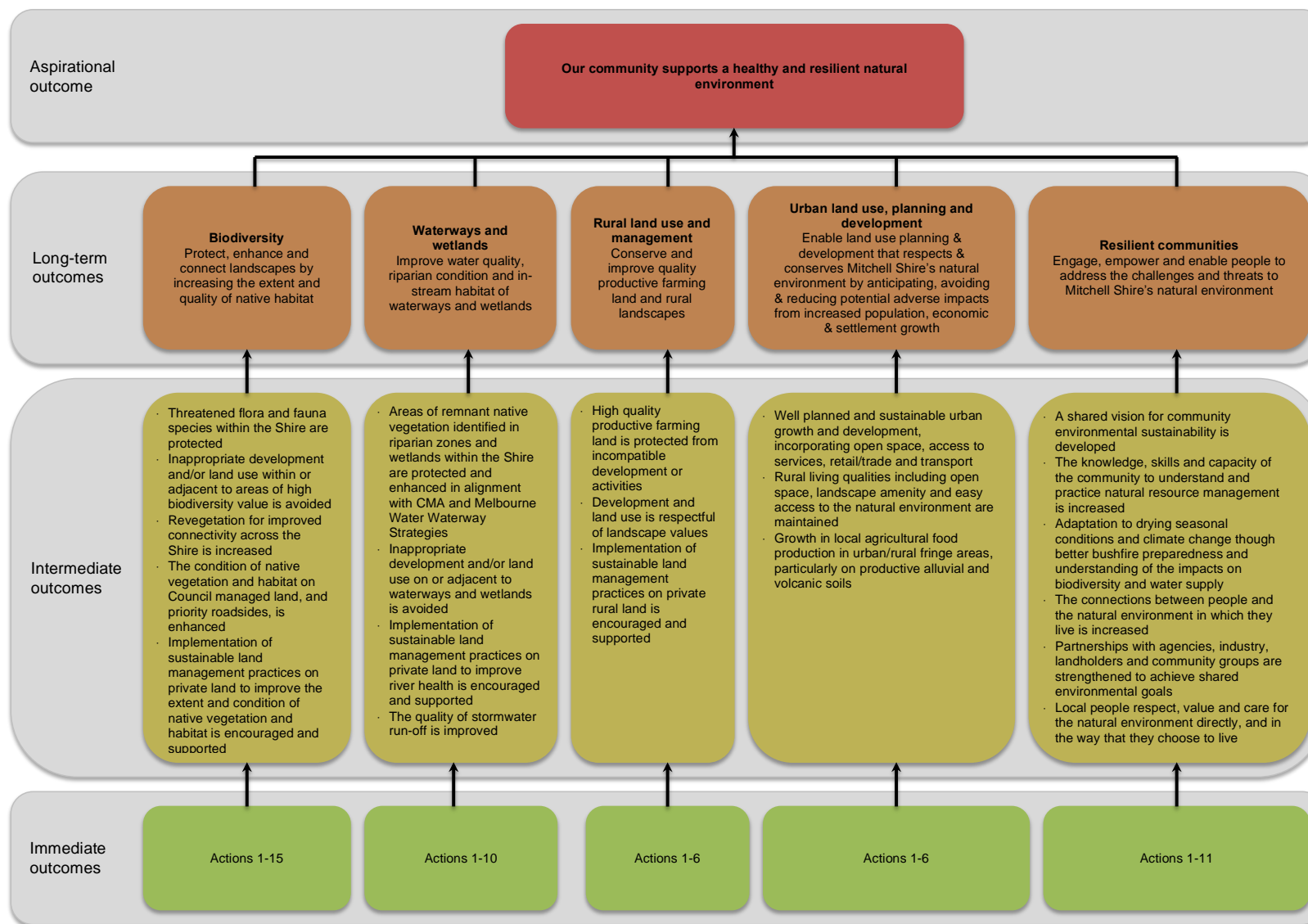


Figure 5-1: Program logic for the Mitchell Shire Environment Strategy

Monitoring and evaluation framework

Indicators, targets and monitoring and evaluation methods

The successful delivery of the Mitchell Shire Environment Strategy can be determined by assessing whether the desired outcomes (intermediate outcomes within the program logic) have been achieved within the intended 10-year timeframe. To guide monitoring and evaluation approaches, each desired outcome must be assigned a target or measure, against which specific information and data can be collected using various monitoring and evaluation methods.

Table 5-1 outlines the indicator and proposed data collection methods for measuring the success (or otherwise) of each of the desired outcomes across the five priority areas. The timing of the implementation of the data collection methods is also outlined.

Table 5-1: Monitoring and evaluation framework

Outcome:	Target:	Data collection methods:	Responsible department:	Timing:
Priority Area: Biodiversity				
1. Threatened flora and fauna species the Shire are protected	All native vegetation areas of significance are identified and mapped	Review of native vegetation mapping	PA	2019
	At least two new Flora Reserves are approved and gazetted by 2019	Review of Flora Reserves	PA	2019
2. Inappropriate development and/or land use within or adjacent to areas of high biodiversity value is avoided	All identified high value biodiversity areas are protected by a Vegetation Protection Overlay (VPO), Environmental Significance Overlay (ESO) or Conservation Covenant by 2019	Spatial review of planning zones, overlays and conservation covenants	SP	2019
	All identified significant trees in the Shire are protected by appropriate planning controls	Review of significant trees register and planning scheme	PA and SP	2019
3. Revegetation for improved connectivity across the Shire is increased	A minimum of 30% of Council vegetation offsets are located within identified 'potential biolinks' and are consistent with minimum standards	Review of vegetation offsets	PA	Annual monitoring

Outcome:	Target:	Data collection methods:	Responsible department:	Timing:
	A minimum of 50% of Council offsets are located within the Shire	Review of vegetation offsets	PA	Annual monitoring
4. The condition of native vegetation and habitat on Council managed land, and priority roadsides, is enhanced	10% increase in vegetation condition on Council land and priority roadsides by 2019	Condition assessment of native vegetation on Council Land and priority roadsides	PA	2015 Baseline assessment Annual monitoring 2019 Review against baseline
	Implementation of Council weed control program targeting at least 10 weed species, 15 reserves and 150km roadside annually	Weed surveys	PA	Annual monitoring
5. Implementation of sustainable land management practices on private land to improve the extent and condition of native vegetation and habitat is encouraged and supported	The number of rural landholders implementing desired pest plant and animal and native flora and fauna practices is increased by 20% by 2019.	Rural land management survey	PA	2015 Baseline assessment Biennial survey 2019 Review against baseline
	The number of rural landholders participating in the Conservation Covenant Program has increased by 5% by 2019	Review of a sample of successful Conservation Covenant Program applications	PA	2015 Baseline assessment Annual monitoring 2019 Review against baseline
Priority Area: Waterways and wetlands				
1. Areas of remnant native vegetation identified in riparian zones and wetlands within the Shire are protected and enhanced in alignment with CMA and Melbourne Water Waterway Strategies	All remnant native vegetation in riparian zones is protected by a Vegetation Protection Overlay (VPO), Environmental Significance Overlay (ESO) or Conservation Covenant by 2019	Spatial review of planning zones, overlays and conservation covenants	SP	2019

Outcome:	Target:	Data collection methods:	Responsible department:	Timing:
2. Inappropriate development and/or land use on or adjacent to waterways and wetlands is avoided	Development Guidelines for the protection of Waterways are developed and incorporated into the planning scheme by 2019	Review of planning scheme	SP & PA	2019
3. Implementation of sustainable land management practices on private land to improve river health is encouraged and supported	The number of rural landholders implementing desired waterways and wetlands practices is increased by 20% by 2019	Rural land management survey	PA	2015 Baseline assessment Biennial survey 2019 Review against baseline
4. The quality of stormwater run-off is improved	Water-sensitive urban design stormwater management systems implemented in all new Council and private subdivisions	Review of planning permits	ES	2019
	The quality of urban stormwater is maintained by 2019	Review of water quality data	ES	Annual monitoring
Priority Area: Rural land use and management				
1. High quality productive farming land is protected from incompatible development or activities	Rural Areas Strategy is developed and integrated into the local planning scheme by 2019	Review of strategy and planning scheme	SP	2019
2. Development and land use is respectful of landscape values	All identified areas of landscape significance are protected by appropriate planning controls by 2019	Spatial review of planning zones, overlays	SP	2019
3. Implementation of sustainable land management practices on private rural land is encouraged and supported	The number of rural landholders implementing desired pest plant and animal and soil erosion practices is increased by 20% by 2019	Rural land management survey	PA	2015 Baseline assessment Biennial survey 2019 Review against baseline

Outcome:	Target:	Data collection methods:	Responsible department:	Timing:
Priority Area: Urban land use, planning and development				
1. Well planned and sustainable urban growth and development, incorporating open space, access to services, retail/trade and transport	Custodianship of natural environmental values is embedded within structure planning processes by 2019	Review of structure planning processes Review of planning scheme	SP	2019
2. Rural living qualities including open space, landscape amenity and easy access to the natural environment are maintained				
3. Growth in local agricultural food production in urban/rural fringe areas, particularly on productive alluvial and volcanic soils	The number of registered productive food businesses in the Shire has increased by 5% by 2019	Review of register of productive food businesses	AC	2019
	Participation in farmers markets has increased by 10% by 2019	Review of farmers market stall holders	AC	Annual monitoring
Priority Area: Resilient communities				
1. Integrate concepts regarding community environmental sustainability into future Council strategies, policies and programs where appropriate.	Concepts regarding community environmental sustainability are integrated into Council strategies, policies and programs.	Internal survey	All Council managers	Annual monitoring
2. The knowledge, skills and capacity of the community to understand and practice natural resource management is increased	75% of participants in education programs report an increase in knowledge and skills as a result of their participation in the program	Participant evaluation	PA	Annual monitoring
	50% of participants in education programs report an intention to change practices/behaviour and a result of their participation in the program	Participant evaluation	PA	Annual monitoring
	One new community environment group is established by 2019	Review of active community environment groups	PA	2019

Outcome:	Target:	Data collection methods:	Responsible department:	Timing:
	Information about Mitchell Shire's natural environment is disseminated through five extension mediums each year (e.g. hard-copy publications, signs, webpages, social media)	Review of communication materials	PA & BT	Annual monitoring
3. Adaptation to drying seasonal conditions and climate change through better bushfire preparedness and understanding of the impacts on biodiversity and water supply	Implement and revise the Goulburn Broken Greenhouse Alliance (GBGA) Climate Change Adaptation Plan in conjunction with the GBGA.	Review of climate change adaptation plan	All	2019
4. The connections between people and the natural environment in which they live is increased	Five community environmental days are held each year, such as National tree Day and/or Clean up Australia Day	Review of community environmental events	PA & O	Annual monitoring
5. Partnerships with agencies, industry, landholders and community groups are strengthened to achieve shared environmental goals	Council has partnered with other stakeholders on three projects to achieve shared environmental goals by 2019	Review of partnership projects	All	2019
6. Local people respect, value and care for the natural environment directly, and in the way that they choose to live	Community awareness of natural assets and threats has increased by 20% by 2019	Community environment survey	PA	2015 Baseline assessment Biennial survey 2019 Review against baseline
	The proportion of the community demonstrating desired behaviours has increased by 20% by 2019	Community environment survey	PA	2015 Baseline assessment Biennial survey 2019 Review against baseline

Key Evaluation Questions

Key evaluation questions (KEQs) define a line of enquiry to enable the measurement of success for each of the outcome levels in the program logic. The key evaluation questions for this plan are outlined below in Table 5-2.

Table 5-2: Key evaluation questions

Key Evaluation Questions	Sub-Questions
Impact What is the evidence of progress toward the desired outcomes of the Environment Strategy?	<ul style="list-style-type: none"> ▪ To what extent have the desired outcomes been achieved? ▪ What contribution has the Environment Strategy made towards the stated purpose? ▪ What were the anticipated and unintended consequences of the Environment Strategy? Why did they arise?
Effectiveness Were the planned actions delivered, and to the standard required?	<ul style="list-style-type: none"> ▪ To what extent have the planned actions and targets been achieved? ▪ How effective was the delivery model at achieving the desired outcomes? ▪ What hindered effective delivery of the Strategy?
Appropriateness Have the actions been delivered within scope, budget and expected timeframes, and in line with appropriate governance and risk management practices?	<ul style="list-style-type: none"> ▪ Were the actions consistent with relevant legislative responsibilities, policies and priorities? ▪ Did the actions and the way they were undertaken align with stakeholder needs and expectations? ▪ Were the actions delivered within budget and time constraints? ▪ What have been the advantages and disadvantages of the delivery model?
Efficiency Has the Mitchell Shire Council demonstrated efficiency and economy in relation to the delivery of the desired outcomes?	<ul style="list-style-type: none"> ▪ To what extent did the program attain the highest value from the available resources? ▪ Could the same outcomes be achieved more simply and for less cost next time?
Legacy What will be the lasting impact of the Environment Strategy?	<ul style="list-style-type: none"> ▪ What evidence is there that the actions will continue? ▪ Are there any examples where actions have resulted in additional work? ▪ Will the program continue to have an impact after its completion?

Strategy implementation cycle

Implementation of the Environment Strategy will be managed by the Parks and Assets Department within the Mitchell Shire Council. This includes strategic ownership of the delivery of actions contained within the strategy and responsibility for implementation of the monitoring and evaluation framework.

As part of the adaptive management program, Council will establish an internal implementation team to assist with the implementation and reporting on the Environment Strategy action plan which will evaluate the success of the actions and targets in this Strategy and modify

implementation to achieve better results. This will include representation from each of Council's departments.

The implementation cycle of the Environment Strategy extends over ten years and is outlined in Figure 5-2. Implementation of the Strategy will be guided by an annual action plan that will provide a detailed implementation plan for each of the identified actions including tasks, responsibility, timing and budget. Action plans will be prepared, reviewed and reported on each year commencing in 2015/16.

The Environment Strategy will be reviewed at the mid-term (five years) to determine progress against the desired outcomes, identify opportunities for improvement and provide recommendations on revisions to the identified outcomes and actions in light of emerging risks and opportunities. An end-of-term evaluation will also be conducted after 10 years.

These program evaluations will analyse and synthesis data against the Key Evaluation Questions drawing on the results from recommended monitoring and evaluation methods defined through the Monitoring and Evaluation Framework. Additional data collection methods, including stakeholder interviews, case studies and review of other data and documentation will also inform these evaluations.

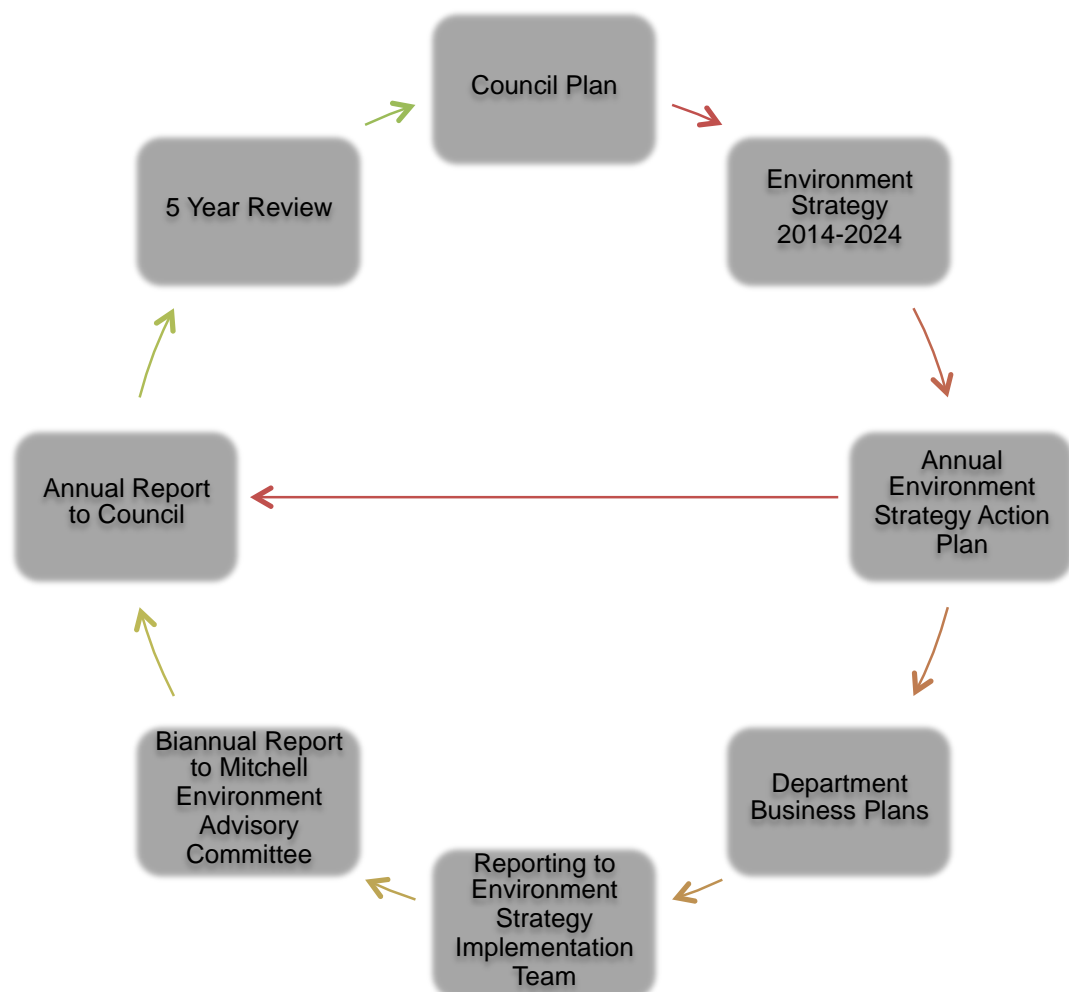


Figure 5-2 Strategy implementation cycle

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Acronyms

CFA	Country Fire Authority
CMA	Catchment Management Authority
DEPI	Department of Environment and Primary Industries
DoE	Department of the Environment
DSE	Department of Sustainability and Environment
DTPLI	Department of Transport, Planning and Local Infrastructure
DWMP	Domestic Wastewater Management Plan
EPBC	Environment Protection and Biodiversity Conservation Act
ESD	Ecologically Sustainable Development
ESO	Environmental Significance Overlay
EVC	Ecological Vegetation Class
FFG	Flora and Fauna Guarantee Act
GBCMA	Goulburn Broken Catchment Management Authority
GBGA	Goulburn Broken Greenhouse Alliance
MAV	Municipal Association of Victoria
MCMC	Merri Creek Management Committee
MHWP	Municipal Health and Wellbeing Plan
MW	Melbourne Water
NCCMA	North Central Catchment Management Authority
PPWCMA	Port Phillip and Westernport Catchment Management Authority
RCS	Regional Catchment Strategy
VPO	Vegetation Protection Overlay

Appendix 1: Strategic and legislative framework

National

Legislation	Policy Strategy and Agreements
<ul style="list-style-type: none"> Aboriginal and Torres Strait Islander Heritage Act 1984 Australian Heritage Commission Act 1975 (Register of the National Estate) Environment Protection and Biodiversity Conservation Act 1999 Native Title Act 1993 Water Act 2007 	<ul style="list-style-type: none"> A Directory of Important Wetlands in Australia (EA 2001) Australia's Biodiversity Conservation Strategy 2010–2030 Australian Pest Animal Strategy 2007 National Framework for the Management and Monitoring of Australia's Native Vegetation (2001) National Indigenous Reform Agreement (Closing the Gap) National Water Quality Management Strategy (1992) Strategy for Australia's National Reserve System 2009–2030 The Australian Weeds Strategy (revised 2007) Wetlands Policy of the Commonwealth Government of Australia 1997

State

Legislation	Policy Strategy and Agreements
<ul style="list-style-type: none"> Aboriginal Heritage Act 2006 Catchment and Land Protection Act 1994 Climate Change Act 2010 Conservation, Forests and Lands Act 1987 Cooperative Management Agreement 2004 Crown Land (Reserves) Act 1978 Environment Protection Act 1970 Fisheries Act 1995 Flora and Fauna Guarantee Act 1988 Forests Act 1958 Heritage Rivers Act 1992 Land Act 1958 National Parks Act 1975 Parks Victoria Act 1998 Planning and Environment Act Reference Areas Act 1978 State Environment Protection Policy (Waters of Victoria) 2003 Sustainable Forests (Timber) Act 2004 Traditional Owner Settlement Act 2010 Assessment Council Act 2001 Victorian Conservation Trust Act 1972 Water Act 1989 Wildlife Act 1975 	<ul style="list-style-type: none"> Biosecurity Strategy for Victoria 2009 Indigenous Partnership Framework 2007-10 (reviewed 2010) Invasive Plants and Animal Policy Framework 2010 Our Water Our Future (DSE 2004) Native Vegetation Management – A Framework for Action (Revised 2005) Policy for Sustainable Recreation and Tourism on Victoria's Public Land 2002 State Environment Protection Policy (Waters of Victoria 1988) State Environment Protection Policy (Groundwaters of Victoria) 1997 Sustainability Charter for Victoria's State Forests 2006 2009 Victorian Bushfires Royal Commission Victorian Bushfire Strategy 2008 Victorian Landcare Program Strategic Plan 2012 Victorian Flood Management Strategy 1998 Victorian Planning Provisions 1998-1999 Victorian River Health Strategy 2002 (under review as at May 2012) Victoria's Nature based Tourism Strategy 2008–2012 Victoria's Salinity Management Framework 2000

Regional

Legislation	Policy Strategy and Agreements
<ul style="list-style-type: none"> N/A 	<ul style="list-style-type: none"> Hume Regional Growth Plan Hume Strategy for Sustainable Communities (Hume Strategy) Northern Region Sustainable Water Strategy North Central River Health Strategy 2005 Vegetation Plan 2005 North Central Dryland Management Plan 2008 North Central Floodplain Management Strategy 1999 North Central Community Engagement Strategy 2008 Goulburn Broken Biodiversity Strategy 2010-15 Goulburn Broken Land Health Statement 2012 Goulburn Broken Invasive Plants and Animals Strategy 2010 Goulburn Broken Regional River Health Strategy Addendum 2010 Goulburn Broken Water Quality Strategy 1996-2016 Goulburn Broken Floodplain Management Strategy 2002-12 Port Phillip and Westernport Healthy Waterways Strategy 2013 Port Phillip and Westernport Native Vegetation Plan 2006 Port Phillip and Westernport Rabbit Action Plan 2003 Port Phillip and Westernport Weed Action Plan 2003

Appendix 2: Threatened flora and fauna in the Mitchell Shire

Threatened flora in the Mitchell Shire

Scientific name	Common name	EPBC*	FFG*
<i>Acacia ausfeldii</i>	Ausfeld's Wattle		.
<i>Caladenia concolor</i>	Crimson Spider-orchid	.	.
<i>Callitriche umbonata</i>	Winged Water-starwort		.
<i>Carex tasmanica</i>	Curly Sedge	.	.
<i>Comesperma polygaloides</i>	Small Milkwort		.
<i>Cullen parvum</i>	Small Scurf-pea		.
<i>Cullen tenax</i>	Tough Scurf-pea		.
<i>Dianella amoena</i>	Matted Flax-lily	.	.
<i>Diuris palustris</i>	Swamp Diuris		.
<i>Dodonaea procumbens</i>	Trailing Hop-bush	.	
<i>Eucalyptus yarraensis</i>	Yarra Gum		.
<i>Glycine latrobeana</i>	Clover Glycine	.	.
<i>Lepidium hyssopifolium</i>	Basalt Peppercross	.	.
<i>Plantago aff. gaudichaudii</i> (Lowland Swamps)	Swamp Plantain		.
<i>Pomaderris vacciniifolia</i>	Round-leaf Pomaderris		.
<i>Senecio psilocarpus</i>	Swamp Fireweed	.	
<i>Thismia rodwayi</i>	Fairy Lanterns		.
<i>Xanthorrhoea glauca</i> subsp. <i>angustifolia</i>	Grey Grass-tree		.
<i>Xerochrysum palustre</i>	Swamp Everlasting	.	.

Threatened fauna in the Mitchell Shire

Scientific name	Common name	EPBC*	FFG*
<i>Acrodipsas brisbanensis</i>	Large Ant Blue		.
<i>Acrodipsas myrmecophila</i>	Small Ant Blue		.
<i>Anseranas semipalmata</i>	Magpie Goose		.
<i>Anthochaera Phrygia</i>	Regent Honeyeater	.	.
<i>Ardea modesta</i>	Eastern Great Egret		.
<i>Botaurus poiciloptilus</i>	Australasian Bittern	.	.
<i>Burhinus grallarius</i>	Bush Stone-curlew		.
<i>Calamanthus pyrrhopygius</i>	Chestnut-rumped Heathwren		.
<i>Chthonicola sagittatus</i>	Speckled Warbler		.
<i>Delma impar</i>	Striped Legless Lizard	.	.

<i>Egretta garzetta nigripes</i>	Little Egret		.
<i>Euastacus armatus</i>	Murray Spiny Crayfish		.
<i>Gadopsis bispinosus</i>	Two-spined Blackfish		.
<i>Galaxias rostratus</i>	Flat-headed Galaxias		.
<i>Grantiella picta</i>	Painted Honeyeater		.
<i>Grus rubicunda</i>	Brolga		.
<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle		.
<i>Hydroprogne caspia</i>	Caspian Tern		.
<i>Lathamus discolor</i>	Swift Parrot	.	.
<i>Litoria raniformis</i>	Growling Grass Frog	.	.
<i>Maccullochella macquariensis</i>	Bluenose Cod (Trout Cod)	.	.
<i>Maccullochella peelii</i>	Murray Cod	.	.
<i>Macquaria ambigua</i>	Golden Perch		.
<i>Macquaria australasica</i>	Macquarie Perch	.	.
<i>Melanodryas cucullata cucullata</i>	Hooded Robin		.
<i>Miniopterus schreibersii</i> GROUP	Common Bent-wing Bat		.
<i>Nematalosa erebi</i>	Bony Herring		.
<i>Ninox connivens connivens</i>	Barking Owl		.
<i>Ninox strenua</i>	Powerful Owl		.
<i>Oreoica gutturalis gutturalis</i>	Crested Bellbird		.
<i>Oxyura australis</i>	Blue-billed Duck		.
<i>Pedionomus torquatus</i>	Plains-wanderer	.	.
<i>Petaurus norfolcensis</i>	Squirrel Glider		.
<i>Phascogale tapoatafa</i>	Brush-tailed Phascogale		.
<i>Pomatostomus temporalis temporalis</i>	Grey-crowned Babbler		.
<i>Porzana pusilla palustris</i>	Baillon's Crake		.
<i>Prototroctes maraena</i>	Australian Grayling	.	.
<i>Rhinolophus megaphyllus megaphyllus</i>	Eastern Horseshoe Bat		.
<i>Rostratula australis</i>	Australian Painted Snipe	.	.
<i>Stagonopleura guttata</i>	Diamond Firetail		.
<i>Stictonetta naevosa</i>	Freckled Duck		.
<i>Synemon plana</i>	Golden Sun Moth	.	.
<i>Tandanus tandanus</i>	Freshwater Catfish		.
<i>Turnix pyrrhothorax</i>	Red-chested Button-quail		.
<i>Tyto tenebricosa tenebricosa</i>	Sooty Owl		.

*Environment Protection and Biodiversity Conservation Act 1999 (EPBC), Flora and Fauna Guarantee Act 1988 (FFG)

BEVERIDGE, WALLAN, UPPER
ENTY, CLONBINANE, HEATHCO
NCTION, WANDONG, BYLANDS
RBES, KILMORE, KILMORE EAST
ERFORD PARK, SUNDAY CRE
RANDING, WILLOWMAVIN, HI
AMP, NULLA VALE, GLENAROUA
SUGARLOAF CREEK, HILDENE
AROOK, TRAWOOL, WHITEHEA
EEK, SEYMOUR, PUCKAPUNYA
GHLANDS, TARCOMBE, NORTH
HWOOD, TOOBORAC, GLENHO
HOPE EAST, MIA MIA, HEATHC
H BROADFORD WALLAN UP

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