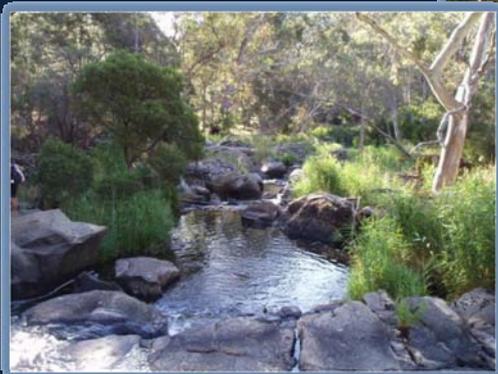


# Environmental Strategy



September 2011

This report has been prepared for:

**Strathbogie Shire Council**

*Council acknowledges the funding support provided by the Department of Sustainability and Environment to assist in development of this strategy.*

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**Photo captions – front cover**

Photo 1 – Apex walking track, Euroa

Photo 2 – Sevens Creek reserve, Euroa

Photo 3 – Rockpools on Sevens Creek, between Polly McQuinns and Goorum Falls

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# 1 The Environmental Strategy

The Environmental Strategy for the Strathbogie Shire is an important step for Council to deliver on its objective to “protect and enhance the environment for current and future generations”, which supports its vision of

*A vibrant diverse and caring community, building a sustainable future with enhanced liveability in a secure and stimulating environment.*

## Intent of the strategy

The Environmental Strategy aims to provide a coordinated approach to Council's actions and to ensure greater communication and endorsement of Council's environmental commitment, both internally and to the wider community. It provides a strategic context for the numerous environmental matters outlined in Council's policies and strategies.

The Environmental Strategy sets out a five year framework for Council to deliver on the environmental commitments in the Council Plan, guide investment in the areas of highest need and build on previous work by Council and the community to protect and enhance the region's natural and built environment. The Strategy identifies existing gaps in policy and focuses on Council's operations, services and responsibilities, as well as areas that can be influenced by advocacy and education.

- The intended outcomes and proposed actions for environmental issues affecting three areas of Council responsibility:
  - Development control
  - Management of natural and municipal assets
  - Community leadership, education and affairs
- The coordination, monitoring and evaluation of the strategy.

## Development of the Strategy

The development of the strategy has been supported by the Victorian Local Sustainability Accord and overseen by Council's Environmental Sustainability Committee, chaired by Councillor Malcolm Little (see Appendix 1 for full membership of the Committee).

There has been a range of input into the plan from Councillors, Council officers and representatives of the following organisations and general community members. These include:

- Goulburn-Valley Water (GVW)
- The Department of Primary Industries (DPI)
- The Department of Sustainability and Environment (DSE)
- Resource GV
- Goulburn Murray Water (GMW)
- Goulburn Broken Catchment Management Authority (GB CMA)

- Strathbogie Conservation Management Network
- Goulburn Broken Local Government Biodiversity Reference group
- Goulburn Broken Greenhouse Alliance

Community and stakeholder feedback on the draft Strategy was received during July 2010. Feedback was compiled and assessed during August to develop the final Environmental Strategy.

## 2 The Shire of Strathbogie

### 2.1 Population, economy and climate change

Strathbogie Shire is a rural municipality in north central Victoria, with the Strathbogie Ranges to the southeast and the Hume Freeway and Goulburn Valley highway running north-south through the municipality (Figure 2-1).



**Figure 2-1: Strathbogie Shire location**

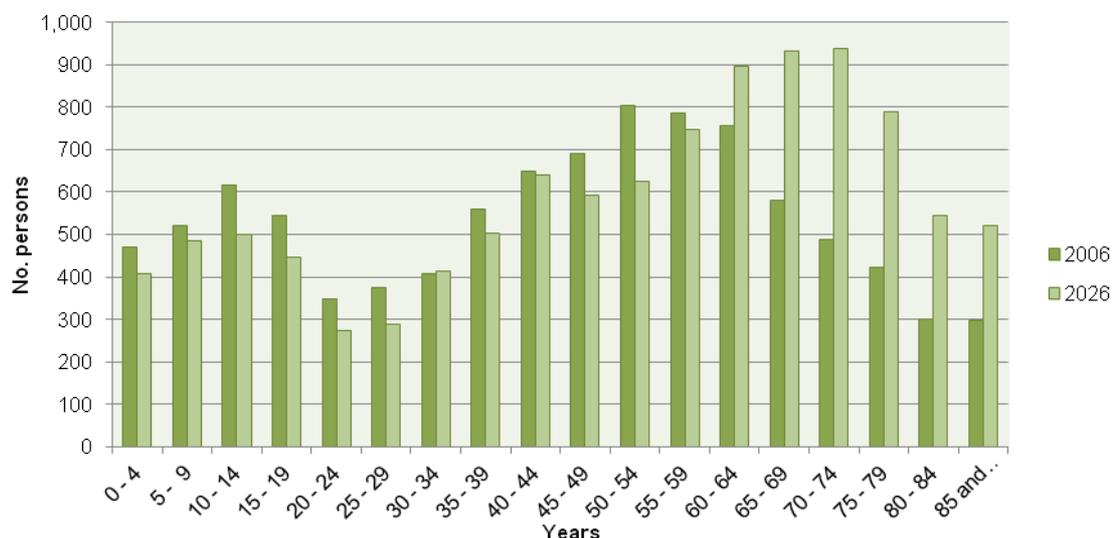
The shire's population of approximately 10,000 people predominantly live in the towns of Euroa, Nagambie, Violet Town, Avenel, Longwood, Ruffy and Strathbogie. Most of the shire is rural in nature, with significant areas of native vegetation on the ranges.

The main employers in the shire are agriculture (20%), manufacturing (15%) and retail (11%). Many residents travel to the neighbouring regional centres of Benalla, Shepparton and Seymour, as well as Melbourne, for employment.

The shire has three distinct agricultural regions: irrigation of horticulture and broadacre crops adjacent to the Goulburn River and Lake Nagambie, dryland cropping and mixed farming on the plains, and dryland grazing in the hills and ranges. The shire also has a growing equine industry and is becoming known as the 'Horse Capital of Victoria'.

Between 2001 and 2006, the shire's population grew at an annual average of 0.1%, with the average age of residents increasing. A recent rise in the popularity of the municipality as a lifestyle and retirement destination for people leaving Melbourne means that, while population growth is expected to increase by 0.5% annually, this growth will be increasingly comprised of older age groups and fewer children and young adults (Figure 2-2).

However, these population projections mask localised differences. Anecdotal evidence and demands on service provision indicate that the number of families with young children is growing in and around Nagambie, for example.



Source: DPCD 2008.

**Figure 2-2: Projected age distribution (2006 to 2026)**

Strathbogie Shire has a temperate climate, with average temperatures ranging between 7.7°C in winter and 20.1°C in summer and rainfall averaging 588mm, most of which falls in winter and spring (DSE 2008a). The climate in recent years however has been far from average. Between 1997 and 2009, the municipality, like much of Victoria, experienced the worst drought on record. In 2002 for example, annual rainfall fell below 325mm. In comparison, in 2010 rainfall exceeded 895mm.

The future climate in the Strathbogie Shire is expected to be drier and hotter than it is today. Average temperatures are predicted to increase by 0.8°C by 2030, while rainfall is predicted to fall by 3% with the greatest reductions expected in spring. Coupled with an increase in evaporation and a decrease in humidity, these changes are predicted to lead to reductions in runoff and therefore irrigation water supply and an increased incidence of bushfires.

Additionally, it is expected that there will be more hot days and potentially more heatwaves, fewer frosts, fewer days of rainfall but more intense rainfall events and a higher incidence of drought.

## 2.2 The natural and built environment

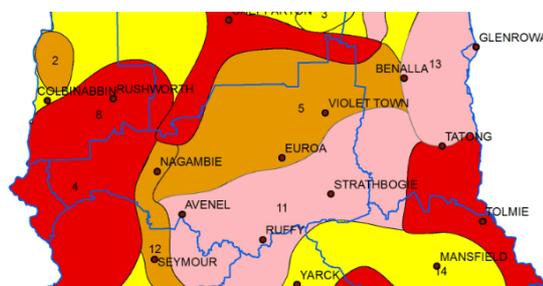
### Natural assets

The Strathbogie Shire has a wide range of landscapes and environments that support a great diversity of natural assets. Biodiversity assets comprise species and ecosystems or a geographic area that has relevance to a managing authority such as Council (DSE 2010). Within the shire these assets include, box woodland remnants on roadsides in the gently sloping plains, peatlands and spring soaks on the tablelands and River Red Gum on the floodplains.

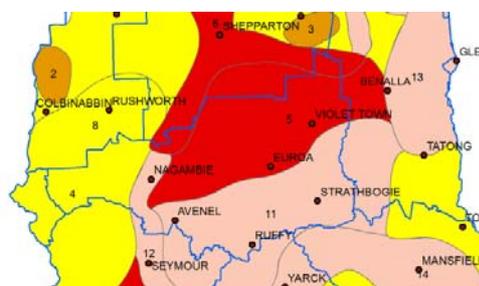
The Goulburn Broken Catchment Management Authority has a lead role in working with community and government to enhance land, water and biodiversity across all land tenure. The GBCMA rated the overall condition of biodiversity as poor in 1990 and again in 2009 (GBCMA 2009). Past clearing of vast tracts of native vegetation and ongoing incremental losses has meant that many species of plants and animals are threatened with extinction. Climate variability and climate change is placing additional pressures on ecological functions that sustain biodiversity (GBCMA 2010).

**Landscape zones supporting biodiversity**

Three landscape zones have been identified that group together high priority biodiversity assets (a summary of these assets i.e. birds, animals and plants, is outlined in Appendix 2). Extending from west to east these zones are: Goldfields, Longwood and Violet Town Plains and the Strathbogie Tablelands. Of these, the Goldfields zone is considered the highest priority for protection, while the Longwood and Violet Town Plains is considered the highest priority for restoration (Figures 2-3 a and b, blue line denotes the Strathbogie Shire boundary).



**Figure 2-3a Priorities for protecting environmental assets**



**Figure 2-3b Priorities for restoration and improving connectivity between assets**

**Legend**

Priority	Protection	Restoration and connectivity
VERY HIGH	Goldfields	Longwood and Violet Town Plains
HIGH	Strathbogie Tablelands	Strathbogie Tablelands
MEDIUM	Longwood and Violet Town Plains	
LOW		Goldfields

Source: adapted from GBCMA 2010

Prior to European settlement, the predominant vegetation on the Longwood and Violet Town Plains was the Plains Grassy Woodland ecological vegetation class. These comprised native grasslands, open woodlands and small Red Gum wetlands, dominated by Grey Box, Yellow Box and Buloke, with streamsides and wetlands supporting an overstorey of River Red Gum. It is estimated that less than 5% of its original extent remains across the Shire (DSE 2005b, DPI 2007b), with a substantial proportion of this being on local roadsides and the remainder as isolated and small remnants on private land. Current restoration efforts by Government, community groups and individuals, focus on increasing native vegetation extent and quality and improving the linkages between remnants.

The Strathbogie Tablelands support significant peatlands and spring soaks with localised areas of vegetation in very good condition. There are more than 400 perched bogs hosting threatened plant species.



*Perched bog, Strathbogie Tablelands  
Photo: Courtesy GB CMA*

A large proportion of the Goldfields zone resides on public land where it is afforded a high level of protection. Examples of this zone include parts of the Heathcote-Graytown National Park, which hosts several threatened fauna species including the Powerful Owl, the Brush-tailed Phascogale and the Squirrel Glider and the Costerfield and Redcastle-Graytown Forests where Box-Ironbark Forest is dominant. Little remains of this zone's biodiversity assets on the private land around these parks.

Of particular importance are the corridors between these zones that allow the movement and migration of species. In Strathbogie, creeks and roadsides form the main corridors between the tablelands and the plains.

There are three *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*<sup>1</sup> listed ecological communities residing within the Strathbogie shire. These are:



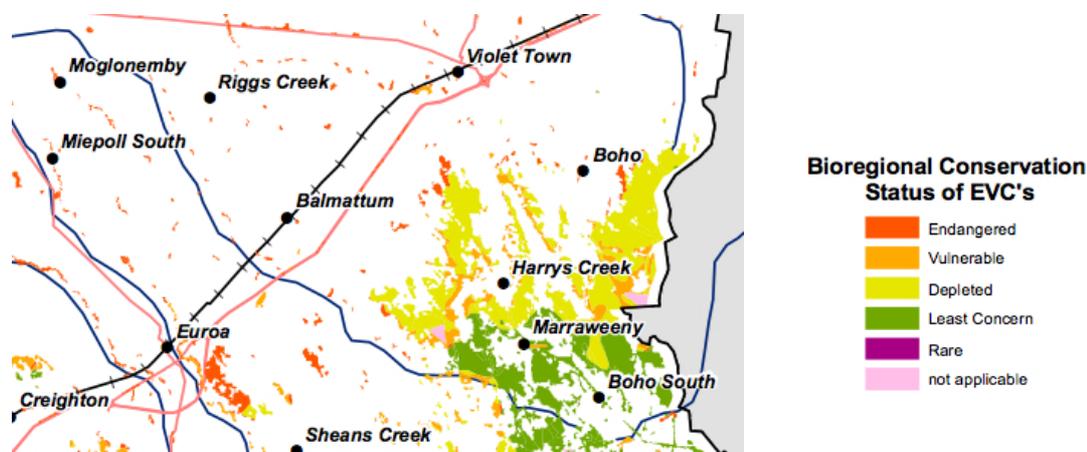
*Grey Box Grassy Woodland remnant*

- Grey Box Grassy Woodlands and Derived Native Grasslands of South Eastern Australia (Endangered: listed April 2010)
- Buloke Woodlands of the Riverina and Murray-Darling Depression Bioregions (Endangered: listed July 2000)
- White Box-Yellow Box-Blakely's Red Gum Woodland and derived Native Grassland (Critically endangered: listed May 2006).

There are 52 ecological vegetation classes represented in the Shire, with the most dominant classes being Dry Forest, Plains Woodland or Forest and Riverine Grassy Woodland or Forest. Almost 50% of the vegetated area is rated as 'depleted', with 7% considered 'endangered' and a further 6% considered 'vulnerable'. Typically the level of concern

<sup>1</sup> The EPBC Act is the Australian government's principal piece of environmental legislation and provides a legal framework to protect and manage nationally and internationally important flora, fauna, ecological communities and heritage places. <http://www.environment.gov.au/epbc/>

increases moving from the highlands, for example at Boho South, on to the plains at Violet Town or Euroa where remnants of native vegetation are scattered and more fragmented (Figure 2-4).



Source: GBCMA 2007

**Figure 2-4: Bioregional conservation status of native vegetation remnants within the Shire of Strathbogrie**

The Strathbogrie Ranges are the source of numerous waterways including the Seven and Honeysuckle Creeks (draining into the Goulburn River), and the Five Mile and Moonie Creeks (draining into the Broken River), with Mt Strathbogrie the highest point (1007m AHD). These waterways are rated as in "moderate" condition (DSE 2005a) with the upper reaches of the Seven Creeks identified as the highest priority for support and enhancement in the GBCMA's Regional River Health Strategy (GBCMA 2005).

There are important peatlands and spring-soak wetlands on the Strathbogrie Plateau. These support bog, shrubland, sedgeland and woodland communities. Perched bogs identified in the Strathbogrie landscape zone are rare habitats supporting many significant species and they occur mostly on freehold land (DPI 2007a).



*Seven Creek, Euroa*

The main threats to environmental asset sites within the Shire are:

competition from invasive weeds, habitat destruction due to livestock grazing, incremental native vegetation clearing, rabbits, foxes and unauthorised firewood collection and timber removal, changes in hydrology affecting wetlands (for example, interruptions to natural cycles of wetting and drying caused by dam construction, cultivation and roads), feral predators, inappropriate development, and water availability in rivers and streams. The effects of a changing climate will exacerbate the impact of some of these threats.

### **Built assets**

The Strathbogie Shire also has an extensive infrastructure network for a municipality with a relatively small population. Included in its list of assets, Council manages 2,200km of roads, 135 bridges, 39km of footpaths, 170 buildings and seven transfer stations.

## **3 Guiding principles**

The development of the Environmental Strategy has been guided by the following five principles:

- **Responsibility**

Priority will be given to threats and issues where Council has clear management responsibility and where actions are within Council's remit.

- **Significance**

Priority will be given to addressing threats having a significant impact on highly valued (whether nationally, regionally or locally) environmental assets and recognising opportunities that can have a significant impact on the sustainability of the community.

- **Capacity to effect change**

Priority will be given to addressing issues where actions are technically and financially feasible.

- **Community support**

Priority will be given to addressing threats and issues that the community consider significant and implementing actions where there is greatest community support.

- **Value for money**

Priority will be given to undertaking actions that have the best long-term return for a given level of effort.

These principles have guided the prioritisation and inclusion in the strategy of the Shire's environmental issues and proposed actions to address them.

## 4 Development Control

### 4.1 Introduction

The *Planning and Environment Act 1987* establishes a framework for planning the use, development and protection of land in Victoria. The objectives of the Act, relevant to this strategy include:

- Providing for the fair, orderly, economic and sustainable use, and development of land
- Providing for the protection of natural and man-made resources and the maintenance of ecological processes and genetic diversity
- Securing a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria
- Conserving and enhancing those buildings, areas or other places which are of scientific, aesthetic, architectural or historical interest, or otherwise of special cultural value.

Strathbogie Shire seeks to achieve these objectives through assessment of development proposals against the direction of its planning scheme. The Shire also acts on behalf of Commonwealth and State governments monitoring and ensuring compliance with a range of legislation such as native vegetation clearance controls.

This section of the strategy describes the priority actions for the Strathbogie Shire Council to implement over the next five years in the areas of:

- Planning scheme implementation
- Waste management
- Cultural heritage.

### 4.2 Planning Scheme implementation

#### 4.2.1 Intended outcomes

*Council will fully implement the program of environmental strategies as set out in the Municipal Strategic Statement.*

#### 4.2.2 Context

The Strathbogie planning scheme in its Municipal Strategic Statement at Clause 21.03 documents environmental values requiring protection and key threats and challenges to ensuring their protection. These are noted here.

- Protection of the Shires natural features and bioregions
- Protection of the Shires landscape
- Management of salinity and soil health
- Floodplain management
- Wildfire management

- Effective management of effluent disposal
- Protection of built and cultural heritage

At Clause 23.03-6 of the planning scheme the Shire has articulated the following objectives for protection of environmental values:

- To protect, maintain and enhance the biodiversity, river and streamflow health of the Shire
- To provide for the protection and management of the Shire's environmental and resource assets
- To conserve and protect sites of historic, cultural and natural significance
- To protect potable water catchments within the Shire
- To assist the protection and conservation of biodiversity, including native vegetation retention and provision of habitats for native plants and animals and control of pest plants and animals
- To protect areas susceptible to flooding from use and development that would increase the risk of loss of life and damage to property
- To minimise the risk to life, property, the natural environment and community infrastructure from wildfire
- To minimise erosion throughout the Strathbogie Ranges and along watercourses
- To protect hilltops and ridgelines from inappropriate or unsympathetic development
- To minimise salinity levels flowing from the catchment
- To ensure that landscape values are considered in assessing applications for a timber plantation.

At Clause 23.03-7 the following strategies are outlined to achieve these objectives:

- Ensure on-site treatment and disposal facilities demonstrate adequate structural integrity, capacity and capability to handle, treat and dispose of wastewater without adverse impacts on land, surface water and groundwater systems
- Protect areas with significant environmental assets, such as native vegetation, wetlands and watercourses, through the application of appropriate overlays
- Reverse environmental degradation in areas affected by salinity, erosion and habitat decline through encouragement of use and developments conducive to environmental improvement and through inclusion of appropriate planning permit conditions
- Ensure that developments in visually sensitive areas use muted tones to minimise visual impact
- Ensure pest plant and animal management is part of an integrated approach to total catchment management
- Discourage development on visually sensitive hilltops and ridgelines
- Ensure all use and development of land in catchment areas accords with proper land management practices relating to revegetation, erosion control and management, vermin and weed eradication and management, salinity and flooding control

- Conserve and protect water catchment areas by discouraging uses and activities within catchment areas that have the potential to reduce water quantity, quality and aquatic biodiversity
- Discourage the clearing of native vegetation and unnecessary disturbance of topsoil
- Ensure that the natural drainage functions are retained, wherever possible, in the development of land for residential purposes
- Provide for the recognition, protection and management of the Shire's heritage assets
- Provide for an enhanced and sustainable environmental outcome for the Strathbogie Special Use Precinct through the adoption of best practice, improved natural resource management systems and the protection and restoration of biodiversity.

The environmental objectives and strategies will be implemented by (Clause 23.03-8):

- Zones and Overlays
  - Identify land affected by salinity and apply the Salinity Management Overlay
  - Identify land affected by erosion and apply the Erosion Management Overlay
  - Apply the Heritage Overlay to buildings and places identified as having heritage significance
- Apply the Environmental Significance Overlay and Vegetation Protection Overlay to areas identified as important to flora and fauna habitat and wetlands
- Apply the proposed Environmental Significance Overlay to any conservation areas that may be identified in the proposed Strathbogie Special Use Precinct
- Apply the Urban Floodway Zone to land identified as affected by flooding
- Apply the Flood and Land Subject to Inundation Overlays to land identified as affected by flooding
- Apply the Wildfire Management Overlay to areas where the intensity of wildfire is significant and likely to pose a threat to life and property
- Apply the Significant Landscape Overlay to protect the landscape value of identified areas
- Implement the Effluent Disposal and Waste Water Management in Unsewered Areas Local Planning Policy (Clause 22.02)
- Implement the *Hilltop and Ridgeline Protection* policy (Clause 22.03)
- Implement the Muted Tones policy (Clause 22.04)
- Implement the *Timber Plantations* policy (Clause 22.06)
- Require a Stream Flow Management Plan as part of consideration of any planning application for on-stream water storage
- Require a Whole Farm Plan, where appropriate, including a native vegetation plan, as part of consideration of any planning application for the use of a dwelling associated with an agricultural enterprise in the Farming Zone

The Shire has also identified further Strategic work to be undertaken (Clause 21.03-9):

- Identify and record those areas that are unsuitable for on-site treatment and disposal of effluent including septic systems and land applications. These areas would be closely linked with land capability mapping, groundwater and surface water quality assessments, floodway and drainage easements
- Identify and record areas that have prominent ridges and hilltops to ensure their protection from inappropriate use and development
- Complete and implement a Catchment Management Strategy for the Shire
- Develop Land Capability Assessment Guidelines
- Develop a Stormwater Management Plan
- Investigate the nature of environmental constraints and the need to apply relevant overlays in potable water catchments, flood prone areas in Nagambie and Violet Town and areas affected by erosion and salinity
- In partnership with the Goulburn Broken Catchment Management Authority and Goulburn-Murray Water, streamline the referral process and develop and implement a set of guidelines to ensure that consistent performance based criteria, reflecting best practice floodplain management, is provided to all stakeholders
- Investigate incentives which recognise the public good from private land managed explicitly for biodiversity, such as Trust for Nature Covenants

#### 4.2.3 Proposed actions

Council has outlined an ambitious program of strategy development and planning scheme amendments to achieve its environmental objectives that will require significant resources to achieve. The focus of the *Environmental Strategy* will be on assisting Council to deliver its program of environmental strategies with the actions noted in the following table of high priority.

No.	Action	Responsibility	Timeframe
4.1	Seek resource assistance from the Goulburn Broken CMA, DSE and DPI to prepare mapping and documentation to support implementation of: <ul style="list-style-type: none"> <li>▪ A Salinity Management Overlay</li> <li>▪ An Environmental Significance Overlay</li> <li>▪ A Vegetation Protection Overlay</li> </ul>	CEO Manager Planning and Development	3 years, subject to funding
4.2	Seek resources assistance from agencies and organisations (e.g. GVW, GMW, DSE, EPA, GB CMA and Department of Health) to develop a Catchment Management Strategy that would include consideration of: <ul style="list-style-type: none"> <li>▪ Development in potable water supply catchments and flood prone areas<sup>2</sup></li> <li>▪ Identify and record those areas that are unsuitable for on-site treatment and disposal of effluent including septic systems and land applications</li> <li>▪ Onsite treatment management including infrastructure maintenance and auditing programs.</li> </ul>	CEO Manager Planning and Development	3 years, subject to funding

<sup>2</sup> The GBCMA is the statutory authority for development in flood prone areas

No.	Action	Responsibility	Timeframe
4.3	As part of the next planning review consider inclusion as further strategic work: <ul style="list-style-type: none"> <li>Identify areas of landscape or natural bioregion significance and consider application of the Rural Conservation Zone</li> </ul>	Manager Planning and Development	3 years subject to funding

### 4.3 Waste Management

#### 4.3.1 Intended outcome

*Exploit the market niche for management and processing of green waste*

*Develop a new industry for Strathbogie*

#### 4.3.2 Context

Many Councils now provide a green waste collection service to residents. For urban municipalities this can create an issue in having the appropriate space and facilities to store and process into mulch. Intensive animal husbandry also generates a large amount of material e.g. bedding straw, manure that once processed, can be sold as garden compost. Strathbogie has identified an opportunity to provide a suitable location for green waste and rural industry waste management and processing.

#### 4.3.3 Proposed actions

4.4	Investigate potential amendments to the planning scheme to allow development of green waste composting.	CEO Manager Planning	2 years
4.5	Undertake strategic analysis to identify appropriate location for green waste and rural industry waste processing	Manager Planning	2 years

### 4.4 Cultural heritage

#### 4.4.1 Intended outcome

*That aboriginal cultural assets within Strathbogie are protected*

#### 4.4.2 Context

Evidence of the cultural activities of previous generations of Aboriginal people can be found in Strathbogie. Council understands the importance of ensuring the protection of Aboriginal cultural heritage and is seeking to ensure that future development does not compromise cultural heritage values.

#### 4.4.3 Proposed actions

4.6	Incorporate Aboriginal cultural heritage assessment into the Environmental Impact Assessments undertaken for new developments	Manager Planning and Development	2 years
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## 5 Management of natural and built assets

### 5.1 Introduction

Strathbogie Shire has abundant natural and built or infrastructure assets that provide habitat for rare and threatened flora and fauna species and have historical and cultural significance to the region.

The natural assets of the Shire support a rich array of biodiversity which can be defined as the range of all living things, including: animals and micro-organisms; the genes they contain and the eco-systems in which they exist. Every plant and animal makes an important contribution towards a healthy environment. A healthy environment provides natural services such as clean air and water, nutrient recycling in soils, barriers to pest weeds and animals, abatement of climate change, production of goods such as food, fibre, firewood and timber.

Council's two main hard asset groups are: physical infrastructure and community facilities. Physical infrastructure includes roads (sealed and unsealed), bridges, major culverts, paved footpaths, kerb and channel, underground drainage and jetties. Community facilities include buildings, waste management facilities, swimming pools, parks, reserves and playgrounds.

The overall purpose of asset management planning is: *To meet a required level of service in the most cost effective way (through the creation, operation, maintenance, renewal and disposal of assets) to provide for existing and future customers* (Shire of Strathbogie 2004).

The community expects assets to be managed so that costs are minimised while providing a desired level of service.

The majority of public land in the Shire is managed by organisations other than Council (for example, DSE, Parks Victoria and community based committees of management). It is not unusual, however, for Council to manage smaller areas adjoining these larger reserves. Council owned and managed public reserves are managed for a range of uses including active and passive recreation, nature conservation and open space. These approximate 140 hectares of land. Within townships they are mostly sporting fields, playgrounds and parkland.

Natural areas supporting native vegetation are also found within townships and may include waterway frontages, walking and cycling trails. Reserve areas are identified in the Strathbogie planning scheme as Public Conservation and Resource zones, Public Park and Recreation zones or Public Use zoned land. In its 2009-13 Council Plan, Council has committed to developing a shire-wide Parks Management Plan.

This section of the strategy describes the priority actions for the Strathbogie Shire Council to implement over the next five years in the areas of:

- Waterway management and flood mitigation
- Native vegetation management
- Invasive plants and animals
- Road maintenance and roadside management
- Fire prevention.

## 5.2 Waterway management and flood mitigation

### 5.2.1 Intended outcomes

*That development and use of frontage areas maintains or improves river, wetland and floodplain health.*

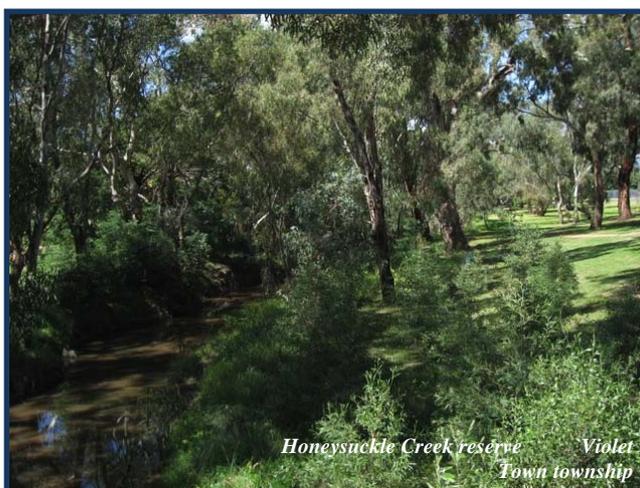
*Council undertakes appropriate in-stream and frontage works in township areas to mitigate against flood risk.*

*Council and the GBCMA work cooperatively to provide balanced management of risks to river and stream health and flooding within townships.*

### 5.2.2 Context

The most significant threats to waterways, lakes and wetlands in the Shire are declining riparian vegetation, livestock access, pollution from urbanisation and pest plants and animals.

The GBCMA is the caretaker of river health for the Goulburn Broken region and provides regional leadership on issues related to river health. The Shire manages relatively small areas in and around waterways with the majority being managed by private



landholders. DSE is reviewing grazing licences on frontages held by landholders across Victoria and providing them with the option of transferring licences from grazing to riparian management licences.

Council as the committee of management is responsible for the maintenance of some land abutting waterways, including parklands and various infrastructure such as paths and trails, for example. In some cases, Council removes fallen timber and deposited debris to maintain open space and minimise flood risks. Flooding is a regular occurrence on many of the creeks and rivers within the Shire, including the Honeysuckle and Long Gully creeks in Violet Town and the Sevens Creek in Euroa. There have been four large floods since 1916 with the most recent being during spring 2010 extending into the summer of 2011

The GBCMA is the responsible Authority for “works on a waterway” under bylaw and all works (those that can impact on the physical stability and health of a waterway and neighbouring properties) within the waterway require approval by the Authority.

These overlapping responsibilities can be best addressed through collaboration between Strathbogie Shire Council and the GBCMA to develop management plans for individual creeks. These plans would identify the uses of different reaches of the creek and the differential management that results from this.

### 5.2.3 Proposed actions

No.	Action	Responsibility	Timeframe
5.1	Develop in consultation with the GBCMA a model management plan for the Castle Creek	Director, Development and Infrastructure Manager, Project & Works	12 months
5.2	In consultation with the GBCMA, use the Castle Creek model management plan to develop plans for: <ul style="list-style-type: none"> <li>▪ Honeysuckle Creek</li> <li>▪ Sevens Creek</li> <li>▪ Hughes Creek</li> </ul>	Director, Development and Infrastructure Manager, Project & Works	3 years

## 5.3 Road maintenance and roadside management

### 5.3.1 Intended outcomes

*Roadsides are well maintained and safe for road users and are considerately managed to retain and enhance conservation and other values*

### 5.3.2 Context

The Council managed road network in the Strathbogie Shire comprises 2230 km of roads, of which 95% are rural roads.

The road reserve comprises the land from fence line to fence line. Within the reserve are the road formation and the roadside. The road formation consists of formed pavement layers, a wearing course (either sealed or unsealed) and its drainage system, which is usually a table drain on either side of the formation. The roadside is the land from the upside of the table drain to the adjacent fence line.



Roadsides often provide valuable refuge for remnants of vegetation, native habitat and sources of indigenous seed stock in otherwise cleared landscapes. Council has a responsibility to monitor and protect the conservation values of roadsides as well as maintain the safe and efficient function of the road.

The nature of the roadside will vary according to terrain and other natural environmental features. Table drains are not always readily defined and there can be either cut or fill batters and/or embankments in close proximity to the road formation. The roadside will support combinations of exotic and native vegetation, of varying structure, including different heights and densities of plant communities.

These factors in conjunction with road classification (and desired maintenance standards) will affect decisions about appropriate management of the road formation and roadside. Council is committed to ensuring that local roads meet designated quality and performance standards and provide service levels (in terms of safety and efficiency) that meet the needs of the community.

The management of rural roadsides demands multiple objectives to be fulfilled. There are sometimes tensions between the competing outcomes of roadside management. Stakeholders share different views on how best to manage these conflicts and it is the role of Council to make judgements on how to achieve a balance.

Roadside management aims to:

- Protect and enhance the safe and efficient function of rural roads, with attention to drainage and sight lines, for example
- Protect and enhance the function and values of rural roadsides, with attention to preserving environmental, heritage, recreational values
- Manage risks on roadsides, with attention to weed invasion, utility and services provision, fire prevention and road maintenance
- Meet Council's legislative responsibilities, with attention to multiple Acts of Parliament to do with a range of matters, for example, native vegetation protection, fire prevention, emergency management and road safety
- Promote the value and function of roadsides to the community, through education on matters including timber removal for firewood, grazing and droving of livestock.

While the Strathbogie shire has responsibility for the management of local roads and roadsides, it also needs to take into account the legislative responsibilities of various other agencies and individuals under different Acts and Regulations (State and Federal). These include the Department of Sustainability and Environment, Country Fire Authority (CFA), Department of Primary Industries (DPI), service providers (e.g. Telstra, Powercor) and landholders, for example.

Council's Roadside Management Plan (under review in 2011) provides guidance on how roadsides are managed in the shire. The Strathbogie Council along with seven other municipalities is a partner on the Goulburn Broken Local Government Biodiversity Reference Group (GB LGBRG) that has developed tools with application to roadside management (Roadside Biodiversity Risk Management Protocols, 2007) and is currently working on a Backbone to Biolinks project.

### 5.3.3 Proposed actions

No.	Action	Responsibility	Timeframe
5.3	Review and finalise Council's Draft Roadside Management Plan (2003) that will provide strategic direction on roadside management	Director, Development and Infrastructure Manager, Project & Works	6 months
5.4	Finalise the Strathbogie shire's Service Management Plan that contains a code of practice for works on roadsides and other Council managed land	Director, Development and Infrastructure Manager, Project & Works	12 months

No.	Action	Responsibility	Timeframe
5.5	Plan for and instigate environmental training for Council staff on roadside management	Director, Development and Infrastructure Manager, Project & Works	12 months

## 5.4 Native vegetation

### 5.4.1 Intended outcomes

*Environmental values of Council managed land, especially roadsides and other public reserves, are protected and enhanced.*

*Native vegetation on Council land is managed within legislative requirements according to best practice guidelines.*

### 5.4.2 Context

Remaining native vegetation outside larger state managed public land areas, occurs mainly on roadsides and on private land, including waterways and steeper and less arable areas. Around 97% of the Longwood and Violet Town Plains area occurs on private land with over 95% of native vegetation cover cleared.

Additional remnants reside on smaller public reserves that may or may not be managed by Council. The native vegetation remaining on private land is highly fragmented and usually occurs as isolated and small remnants. These remnants are often of poor quality with limited diversity. They lack understory and ground litter and although in many instances they are depleted and degraded, these areas can provide critical habitat for vulnerable and endangered species.

Remnants of native vegetation on reserves and roadsides face numerous threats. These include but are not limited to:

- Invasion by pest plants (agricultural and environmental weeds) and animals (mainly rabbits) onto roadsides and public reserves from adjacent land (public and private)
- Incremental clearing and loss of native vegetation through encroachment of farming activities and urban development
- Further habitat removal due to unauthorised firewood collection or fire prevention activities
- Livestock damage due to droving or longer term grazing



- Incremental damage from excessive soil disturbance and vegetation clearing during road maintenance and construction works
- The installation and maintenance of services on roadsides.

Rare, threatened and significant flora and fauna in Victoria are protected under the *Flora and Fauna Guarantee Act 1988*. There are also *Environment Protection and Biodiversity Conservation (EPBC) Act 1999* listed communities residing within the Shire. Some rare and threatened flora and fauna need specific protection and management. Council will continue to partner with State and regional authorities with natural resource management responsibilities to identify and protect road segments with rare, threatened and significant flora and fauna.

### **Native vegetation removal**

Victoria's Native Vegetation Management Framework (DSE 2002) is integral to State government's policy on vegetation management. The overarching goal of the framework is to achieve a reversal in the decline in the extent and quality of native vegetation leading to a net gain in native vegetation. 'Net Gain' is the outcome where overall gains are greater than overall losses (assessed by a combined quality-quantity 'habitat-hectare' measure) and where individual losses of native vegetation are avoided where possible.

In practice, Council's application of the 'Net gain' principle means retaining existing native vegetation and avoiding clearance wherever feasible. Where removal is unavoidable, Council aims to minimise disturbance and administer suitable offsets. Since the introduction of the framework in 2002, Council is required to document all clearing of native vegetation that has occurred under permit on Council land. This forms the basis for Council's native vegetation offsets register (Appendix 3).

Native vegetation removal is regulated through Councils local planning scheme. Section 12.01 of the Victorian Planning Provisions, provides an overarching policy framework for native vegetation management. The objectives for local planning authorities include:

- Assist in the protection of conservation values of national parks and conservation reserves
- Assist in the conservation of the habitats of threatened and endangered species
- Address potentially threatening processes
- Assist in the reestablishment of links between isolated habitat remnants
- Apply the three step process (as described in the Victorian Native Vegetation Framework)

**Step 1:** AVOID adverse impacts on native vegetation

**Step 2:** MINIMISE impacts through consideration of the Planning Process

**Step 3:** Identify appropriate OFFSET options

Under section 52.17 of the Victorian Planning Provisions, a planning permit is required to remove, lop or destroy native vegetation unless a relevant exemption applies.

Council manages native vegetation removal on roadsides in accordance with a written agreement with DSE that sits under the local government public roads exemption. The exemption comprises amendment VC49 to Clause 52.17 of the *Victoria Planning Provisions* (VPP) and was gazetted in September 2010. This amendment provides for a process where there is a range of exempt works that can be undertaken in order to maintain the safe and efficient function of roads without application for a planning permit for vegetation removal. *Managing Native Vegetation on Roadsides – a guide for implementing agreements under the Local Government Public Roads exemption* (DSE 2009), outlines a shared approach between DSE, the Municipal Association of Victoria (MAV) and local government authorities to provide a common understanding of how the exemption will be implemented by DSE and councils.

Under this agreement, Council is required to notify DSE prior to vegetation removals and to keep records (except for lopping and trimming where less than one third of the canopy is removed). Offsets are not required for these removals, but may be volunteered by Council to recognise and mitigate losses.

DSE and Council will work together to develop practical approaches to achieve the Victorian Government's Net Gain objective for native vegetation, while ensuring the safe and efficient operation of the local road network. DSE and Council will also seek to achieve consensus on the operational elements of the use of the exemption by actively facilitating problem-solving approaches. There are further opportunities in working together to simplify and streamline administrative processes for meeting native vegetation requirements of projects that are not covered by the exemption.

### 5.4.3 Proposed actions

No.	Action	Responsibility	Timeframe
5.6	In consultation with DSE, maintain a register of native vegetation removals and gains since 2002	Asset management	Ongoing
5.7	Prepare a strategic vegetation offset management plan	Asset management	12 months
5.8	Partner with DSE and GBCMA to obtain resources to update the assessment and mapping of conservation values on roadsides and other public reserves	Asset management	12 months, subject to funding

## 5.5 Invasive plants and animals

### 5.5.1 Intended outcomes

*Reduce the impact of invasive plants and animals on the economic, environmental and social values of the Shire.*

*Assisting with identifying and controlling emerging and high risk pest threats in the shire.*

*Continue support to community groups undertaking invasive pest control and complementing these works through programs on adjacent roadsides.*

## 5.5.2 Context

### Roles and responsibilities

Many different invasive plants and animals threaten land, water and biodiversity in the Strathbogie Shire. They present threats to primary production, native flora and fauna, and the recreation and amenity of Council owned and managed land assets.

The management of invasive plants and animals is a function or duty that falls to many different groups within the municipality. All land managers and members of the community have a role to play in controlling weeds in the Shire. Under the Catchment and Land Protection Act 1994 (CaLP Act), Council as a land manager for public reserves has a legal responsibility to: *“eradicate regionally prohibited weeds; and prevent the growth and spread of regionally controlled weeds; and prevent the spread of, and as far as possible eradicate, established pest animals.”*

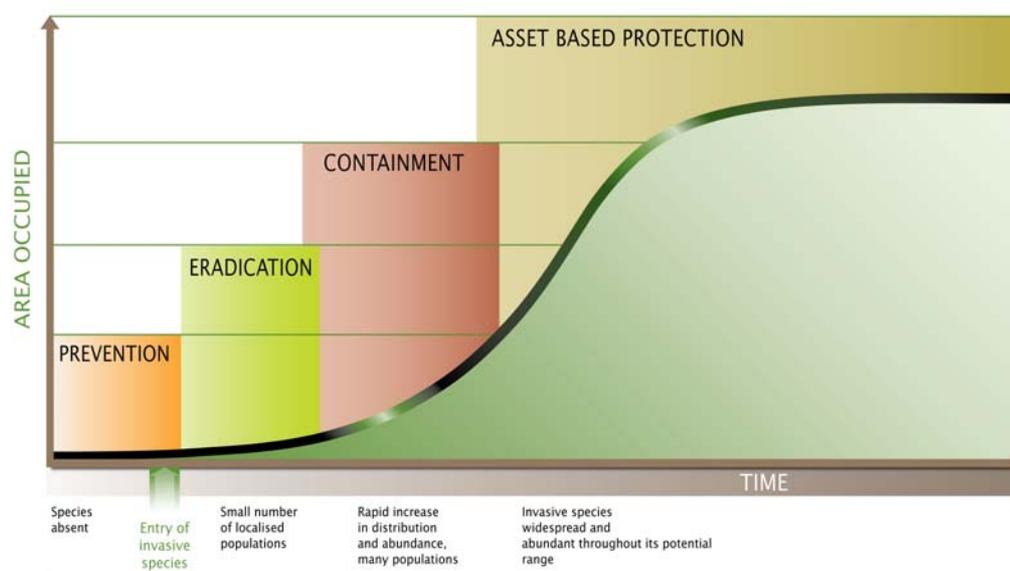
Treating weed infestations and pest animals such as rabbits are common activities in the management of parks and natural reserves, streetscapes and recreation facilities, and in roadside management. While management of invasive plants and animals are among the responsibilities of Council as a landowner, Council also plays an important community leadership and support role for the community in their management of invasive pests.

### State government biosecurity approach

Risk management principles are the basis for a biosecurity approach to invasive plants and animals control. A ‘generalised invasion curve’ (Figure 4-1) illustrates four different approaches to invasive plants and animals management: prevention, eradication, containment and asset based protection.

The approach emphasises that prevention and eradication of new and emerging high-risk species will generally be more cost-effective than managing an invasive species once it has become widely established.

Prevention, eradication and containment measures are used before a target species is widespread and abundant within its potential range. The approach encourages land managers to mostly operate at the left hand side of the curve. In these situations, directly treating infestations of those species is the most effective and efficient means of control. This is also known as the species-led approach. This generally applies to weeds that are declared (under the CaLP Act) as state or regionally prohibited weeds. Activities to reduce the spread of these weeds are the focus of DPI and CMA funding.



**Figure 4-1 Generalised invasion curve for invasive plants and animals.**

When an invasive species is abundant and widespread, the most cost effective approach is to protect priority assets. Assets include things like recreational parkland, waterway frontages, wetlands, areas of agricultural land, popular fishing areas, parks with high cultural or historical significance or stands of intact native vegetation. Adopting an asset protection approach means that priorities can be set among the many Council managed assets threatened by invasive plants and animals.

This approach also ensures that the Strathbogie Shire is well positioned to work in partnership with the community and other government organisations involved in invasive plant and animal management, including the DSE, DPI, Parks Vic and the GBCMA, across all land tenures. This will also increase the impact of invasive plant and animal management programs through sharing knowledge and resources, working across land tenures and decreasing management costs through better coordination (DPI & DSE 2009).

#### **Invasive plants and animals control on roadsides**

The responsibility for managing invasive plants and animals on local roadsides is currently unclear. Council staff work in partnership with other land managers to recognise high-risk species and surveillance is centered on the pathways of entry and spread of invasive species. The GBCMA's *Invasive Plant and Animal Strategy* notes the following pathways in the region:

- Deliberate introduction of plants and seed via businesses
- Inadvertent introduction by community members
- Vectors or transport mechanisms e.g. contaminated goods/produce, vehicles, equipment and water.

These pathways should be targeted for preventative actions. Of specific relevance to Councils asset management activities include vehicles and machinery being washed down thoroughly before moving from one site to the next (referred to as vehicle hygiene). Similarly,

there are also established procedures for managing fodder coming into the Shire from elsewhere, particularly during or following emergencies like drought or fire.

These practices when combined with training weed spotters can minimise the introduction of new high risk species and increase the likelihood that they will be detected early.

### Existing partnerships

The DPI's *Building the Capacity of Local Government to Respond to Pests* program provides funding to councils for invasive pest control works on Council owned and managed land. The Strathbogie Shire Council is working directly with Landcare groups to undertake weed control on roadsides and public reserves under this program. At the same time, the GBCMA provides grants to community groups for invasive pest control and other natural resource management works. Council works complement the work done by landholders in areas where there is a strong community commitment to managing weed infestations. Council also supports the work being undertaken by conservation management networks (CMNs) in this area.

### 5.5.3 Proposed actions

No.	Action	Responsibility	Timeframe
5.9	Understand the biosecurity approach to management of invasive plants and animals and assist with identifying and controlling emerging and high risk pest threats in the shire	Director, Development and Infrastructure Manager, Project & Works	Ongoing
5.10	Seek DPI funding for training Council staff in the identification of high risk weeds in the form of the Weed Spotters Program managed by DPI.	Director, Development and Infrastructure Manager, Project & Works	12 months, subject to funding
5.11	Enhance the capacity of committed community groups to undertake invasive weed control and complement these works through programs on adjacent roadsides (e.g. Landcare) by facilitating applications for funding	Director, Development and Infrastructure Manager, Project & Works	Ongoing
5.12	Develop an environmental management plan for council managed public reserves that includes pest plant and animal control	Director, Development and Infrastructure Manager, Project & Works	2 years

## 5.6 Fire prevention

### 5.6.1 Intended outcomes

*Coordinated fire prevention and mitigation works to ensure safety for the community that respects environmental and landscape values in the Shire.*

### 5.6.2 Context

Extreme and dangerous fire risk is associated with persistent low rainfall and the occurrence of hot dry conditions coupled with depleted water supplies in communities. These conditions were prevalent during the prolonged drought affecting much of Australia during the past decade.

Under Section 43 of the *Country Fire Authority Act 1958*, it is Council's responsibility to 'take all practicable steps to prevent the occurrence of fires on, and minimise the danger of the spread of fires on any road under its care and management'.

The Strathbogie Shire's *Municipal Fire Prevention Strategy 2007* outlines fire prevention and mitigation works that ensures environmental and landscape values are respected.

Following the hearings at the 2009 Victorian Bush Fires Commission new guidelines, *Roadside Fire Management Works: CFA guidelines and procedures* (CFA 2010) provide a process for brigades and CFA Areas to follow when planning non-emergency roadside fire management works. They are intended to assist those with a legal responsibility to maintain roads, by providing advice and information on planning effective roadside fire management.

The 2009 Victorian Bushfires Royal Commission has recommended that the State amend the exemptions in clause 52.17 of the Victorian Planning Provisions to ensure that they allow a broad range of roadside works capable of reducing fire risk. Moreover it is recommended that the State provide Councils with adequate guidance on resolving the competing tensions arising from the legislation affecting roadside clearing.

Council can also reduce the fire risk to property and people by controlling development in fire zones through its planning scheme and Wildfire Management Overlay. The 2009 Victorian Bushfires Royal Commission recommended the State Government amend the Victorian Planning Provisions to ensure they 'give priority to the protection of human life, adopt a clear objective of substantially restricting development in the areas of highest bushfire risk and provide clear guidance for decision makers' (VBRC 2010).

Council will also need to consider the potential impacts of climate change and appropriate adaptation approaches that will increase community resilience and reduce fire risk. The Strathbogie Council has participated in the development of the Goulburn Broken Local Government Regional Climate Change Adaptation Plan.

### 5.6.3 Proposed actions

No.	Action	Responsibility	Timeframe
5.13	Consult with local State agency representatives on how to implement recommendations from the Victorian Bush Fire Royal Commission	Municipal fire prevention officer	Ongoing

## 6 Community leadership, education and affairs

### 6.1 Introduction

Across Australia, communities are making proactive attempts to use fewer resources, reduce their greenhouse gas emissions, adapt to the unavoidable impacts of climate change and minimise their overall impact on the environment. The Strathbogrie shire is assisting their community in this transition by educating residents on how to conserve water and energy, improving recycling services, planning for higher fuel prices and climate change, advocating for better transport infrastructure and services and supporting community groups in their efforts to promote sustainable living practices and behaviour change. The Strathbogrie shire is leading by example and assessing and changing their own practices to reduce their impact on the environment.

Council has an important function to lead, educate and advocate on behalf of the community. A mix of education, incentives and regulation provides a strong and balanced policy base for changing behaviour towards more sustainable practices.

This section of the strategy describes the priority actions for the Strathbogrie Shire Council to implement over the next five years in the areas of:

- Water conservation
- Supporting the community to live more sustainably.

It also briefly describes existing plans and actions that address the issues of:

- Waste minimisation and management
- Energy conservation
- Climate change adaptation and mitigation.

### 6.2 Water conservation

#### 6.2.1 Intended outcome

*Council's water use efficiency will improve and demonstrate to the community the benefits of saving water.*

#### 6.2.2 Context

During the recent drought, inflows into rivers and water storages in Victoria's share of the River Murray system were 44% below those experienced prior to 1997 (DSE 2009). In Strathbogrie, this required drought response plans be prepared in 2006 for the Euroa-Violet Town and Longwood supply systems and an assessment of yield and storage options be conducted in 2006 for the Longwood supply system.

Climate change is expected to put further pressure on existing supplies. In the Murray-Darling Basin, with Goulburn Valley Water (GVW) estimating that medium climate change will result in a 22% reduction in streamflow by 2055 (GVW 2007, p.128). Additionally, hotter, drier weather and changes in population will likely result in greater water demand.

As the manager of urban water supply in the Strathbogie Shire, GVW has developed a water supply and demand strategy that balances predicted urban water demand and available water resources over the next 50 years. To achieve a balance, GVW is intending to undertake a range of demand management measures and system capacity upgrades as required. GVW estimates that these measures will be adequate for urban water supply into the future.

The Strathbogie Shire Council is a significant water user in the region, consuming water for its administration and public buildings, municipal pools, parks and gardens and open spaces, works depots and public amenity facilities.

### 6.2.3 Proposed actions

Action no.	Action	Responsibility	Timeframe
6.1	Develop a sustainable water use plan that: <ul style="list-style-type: none"> <li>▪ Documents Council's current water use</li> <li>▪ Sets targets for reductions in water use</li> <li>▪ Investigates measures to reduce water use or access sustainable alternative sources (such as stormwater, recycled water) for high use sites</li> <li>▪ Seeks funding to implement water saving measures<sup>3</sup></li> <li>▪ Reports on progress against targets.</li> </ul>	Manager, Projects & Works	1 – 2 years
6.2	Communicate Council's water use savings to the community	Manager, Communications	Ongoing

## 6.3 Supporting the community

### 6.3.1 Intended outcome

*Strathbogie communities are informed about sustainable practices and supported to live sustainably.*

### 6.3.2 Context

In addition to reducing energy use and waste creation, residents and businesses can reduce their impact on the environment by consuming more locally produced food, goods and services and changing their patterns of consumption. Local governments can play a role in facilitating these changes in behaviour and in educating the community about sustainable practices. This can include communicating concepts of sustainability to the community, supporting positive changes such as school and community gardens and providing services that allow people to reduce their consumption of goods and services.

Sustainability groups, organisations and programs active in the Strathbogie shire include:

- **GV Community Energy** undertakes community engagement and education programs to reduce energy consumption and improve community resilience.

<sup>3</sup> Water saving measures on the Goulburn River system may be eligible for funding under the second component of the *Strengthening Basin Communities* program

- The **Sustainable Communities Program** runs workshops for residents, local businesses and organisations on a range of topics including sustainable housing, keeping chooks, environmental farm planning and gardening. As a part of this program, the councils have also provided a 50% rebate on compost bins and worm farms.
- The Violet Town Action Group's **EcoLiving Centre** educates the community on living more sustainably and demonstrates practical solutions to energy reduction.
- The **Backbone to Biolinks project** is being managed by the Goulburn Broken Local Government Biodiversity Reference Group, which is convened by the Moira Shire Council and provides a collaborative forum for local government and relevant agency partners. The project is developing an information package that focuses on biolinks and their importance in linking native vegetation remnants across all land tenures.

The Strathbogie Shire Council has provided organisational and, in some cases, financial support to these and projects. The Council will continue this support and assist in the dissemination of important information and lessons from these projects through its media sources.

### 6.3.3 Proposed actions

Action no.	Action	Responsibility	Timeframe
6.3	Continue support for the <i>Sustainable Communities Program</i> , the Violet Town <i>EcoLiving Centre</i> and GV Community Energy and the <i>Backbone to Biolinks</i> project.	Manager, Projects & Works	Ongoing
6.4	Promote and disseminate information from the <i>Sustainable Communities Program</i> , the Violet Town <i>EcoLiving Centre</i> , GV Community Energy and the Local Government Biodiversity Reference Group.	Manager, Communications	Ongoing

## 6.4 Waste minimisation and management

### 6.4.1 Intended outcomes

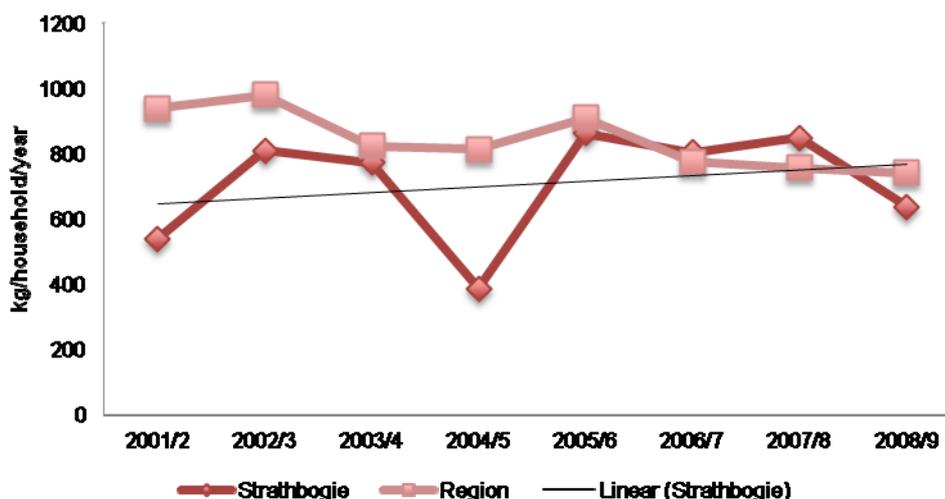
*Council meets its legislative requirements for waste management.*

*Council works with the community and industry to minimise waste creation and increase recycling and recovery efforts.*

### 6.4.2 Context

Under the *Local Government Act 1989* and other legislation providing direction on issues such as health and planning, local governments are responsible for the collection, management and disposal of waste.

In 2005, Sustainability Victoria set targets for reducing solid waste generation and increasing waste recovery. An interim report has found councils, particularly small rural councils, are having difficulty meeting interim targets. Additionally, regional data suggests kerbside waste generation in Strathbogie is remaining static or slightly increasing while declining in neighbouring councils (Figure 6-1).



**Figure 6-1: Household waste generation in Strathbogie compared to the Goulburn Valley region**

The Strathbogie Shire Council has recently changed how it manages waste. Rather than operate its own landfill site at Violet Town, the Council now transports collected garbage to one of its neighbouring councils' landfills. Challenges for the Council include rehabilitation of the decommissioned Violet Town landfill site and management of their transfer stations. The Council has committed to developing a Strategic Waste Disposal Plan in 2011/12 that will address these challenges.

Additionally, Council is working with ResourceGV to trial a third bin for green waste.

Strathbogie will continue to participate in regional forums provided by the Regional Waste Management Group and GB Greenhouse Alliance to gain knowledge from the experience of other municipalities in reducing their overall waste footprint on the region.

### 6.4.3 Proposed actions

Action no.	Action	Responsibility	Timeframe
6.5	Investigate potential to reduce plastic bag use at local stores	Manager, Projects & Works	6 months
6.6	Set a target for reversing the rising trend in domestic waste generation, and investigate ways to reduce the recyclables and green organics component of landfilled waste in the shire	Manager, Projects & Works	12 months
6.7	Work in conjunction with Resource GV when developing Council's Strategic Waste Disposal Plan,	Manager, Projects & Works	6 months

## 6.5 Energy conservation

There are a number of concerns about the long-term use of fossil fuel energy sources. Firstly, they are primarily derived from fossil fuels that, upon burning, release greenhouse gases and contribute to climate change. Transport alone generates 16% of Victoria's total greenhouse gas emissions (AGO 2008) while buildings account for approx. 28% of which residential buildings are responsible for more than half (DSE 2005).

Secondly, there are concerns that supplies of fossil fuels are falling, particularly those of oil.

Finally, the price of electricity in particular has risen significantly in recent years and is likely to rise further as a result of the cost of replacing ageing infrastructure and meeting renewable energy policies. The introduction of a price on carbon will lead to price rises across all energy sources, although the affect will be smaller than recent increases (Garnaut 2011). Energy price rises are particularly important for rural households and those on lower incomes as they spend a greater proportion of their income on electricity and fuel.

There are a range of incentives and education programs to encourage reduced energy consumption amongst residents, businesses and the community. In Strathbogie Shire in particular, GV Community Energy has undertaken behaviour change programs and a bulk-buying scheme for grid-connected solar PV and facilitates the uptake of solar power systems and hot water services to take advantage of federal government rebates.

Additionally, the Council is assisting the Strathbogie community to reduce its energy use by creating paths and facilities to support walking and cycling for transport and recreational purposes and advocating for implementation of the Northern Victorian Regional Transport Strategy.

To manage its own energy use, Council has an approved *Carbon Management Response Plan* and committed in its Council Plan to capture and report its energy use data and financial expenditure for scope 2 emissions, train staff in low energy photocopier and car use, review Council's public lighting policy and prepare and implement a green procurement policy for fleet purchase.

## 6.6 Climate change adaptation and mitigation

The impacts of climate change and efforts to mitigate climate change will be felt across many aspects of community life, from changes in biodiversity through increases in the incidence of extreme events to changes in the economy. Likewise, actions to adapt to climate change and its mitigation can be undertaken by a range of people in different organisations.

For much of the past decade, local governments have focused on playing a part in mitigating climate change through understanding and trying to reduce their organisational and communities' carbon footprints. Increasingly, there is a recognition that councils also need to plan for and adapt to the changing climate.

A number of strategies and plans have been or are being developed in the Strathbogie Shire that considers climate change mitigation and adaptation. These include:

- The Strathbogie Shire Council has an approved *Carbon Management Response Plan* (discussed above) to identify, reduce and, if necessary, offset its greenhouse gas emissions.
- The Goulburn Broken Greenhouse Alliance, of which Strathbogie Shire Council is a member, has recently released a regional adaptation plan that identifies actions local government members can consider in developing their environmental management strategies (GBGA 2011). These include:

- Reviewing infrastructure design guidelines and business continuity plans in light of climate change projections
  - A developing heatwave strategy
  - Establishing priorities for the operation of public assets during periods of reduced water availability and high heat.
- The Strathbogie Shire Council is currently developing a *Strengthening Strathbogie in a Changing Climate* strategy to enhance Council's understanding of and to plan for the risks posed by and implications of climate change and mitigation policies for the Strathbogie community and economy. The development of this strategy will follow a formal risk assessment process and involve a range of stakeholders throughout the municipality.

## 7 Strategy coordination, monitoring and evaluation

### 7.1 Introduction

Effective implementation of the Environmental Strategy will require:

- Engagement with regional agencies, authorities and other municipalities
- Processes for monitoring and evaluation.

The focus in developing environmental actions has been on areas for which the Strathbogie Shire Council is responsible. A summary table of all actions within the Environmental Strategy is provided in Appendix 5.

### 7.2 Stakeholders

The implementation of the strategy will require coordination and engagement with regional agencies and authorities that have corresponding areas of responsibility and the community. The roles of major stakeholders with respect to the strategy are as follows:

#### **Department of Primary Industries (DPI)**

DPI has responsibility for biosecurity including pest plant and animal planning and control. It will be an integral partner in implementing actions 5.6, 5.7 and 6.2.

#### **Department of Sustainability and Environment (DSE)**

DSE has responsibility to enhance land, water and biodiversity of State owned land and is Victoria's lead government department for sustainable management of land, water and biodiversity resources. It will be an integral partner in implementing actions 5.3, 5.4, 5.8 and 6.5.

#### **Goulburn Broken Catchment Management Authority (GBCMA)**

GBCMA is a statutory authority established by the Victorian Government and has a lead role in working with community and Government to enhance land, water and biodiversity across all land tenure. It will be an integral partner in implementing actions 4.1, 5.1 and 5.2.

#### **Goulburn-Murray Water (G-MW)**

G-MW is the resource manager for the northern Victorian water systems. It will be central to implementation of action 4.2.

#### **Goulburn Valley Water**

GVW has responsibility for providing urban water supply services in the Strathbogie Shire. It also captures data on water use by site and organisation. GVW will be engaged to assist in identifying high water use sites and identify measures to reduce water consumption and alternative sources of supply as required. It will be integral to implementation of actions 4.2 and 7.1 – 7.3.

### **Strathbogie community and community groups**

The Strathbogie community and community groups is a major stakeholder of the strategy. They will be integral to implementation of actions 5.3, 5.4, 7.4, 7.5 and 7.6 and will be consulted in the implementation of actions 4.1, 4.2, 5.5, 5.8 and 6.1.

## **7.3 Review, monitoring and evaluation**

Council proposes the monitoring and evaluation of the Environmental Strategy focus on the implementation of actions identified in the strategy and the outcomes of these. This will occur in two timeframes: an annual review to coincide with the Council's budget review and development process, and a final review after five years at the end of the life of the strategy.

The annual review would consist of:

- For those actions that require resources in addition to Council's existing allocations:
  - Assessing the implementation of actions included in the previous year's budget
  - Identifying actions for inclusion in the forthcoming budget
- For those actions considered part of council staff's existing roles:
  - Checking that those identified for implementation were completed
  - Assessing the extent of progress (in percentage terms) for all actions and identifying, where necessary, steps to hasten progress
- For completed actions, evaluation of the efficacy in achieving the intended outcomes
- Reporting of progress against actions in Council's Annual report.

This evaluation of completed actions should include, where possible, assessing how successful the action was and whether it achieved that which it set out to achieve. The evidence required in each case will differ, but may include measuring:

- Attendance of staff at training and knowledge gained
- Application of new knowledge through its inclusion in Council's management plans
- Level of stakeholder engagement in development of specific management plans
- External funding achieved for water-saving projects
- Level of compliance of planning permit approvals with planning policy relevant to environmental management and protection.

The final review will be conducted in 2016, at the end of the life of the strategy, and will combine the annual reports to:

- Assess overall implementation of the actions identified in the strategy
- Identify outcomes achieved by the strategy.

## References

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## **Appendix 1: Environmental Sustainability Committee membership**

Chair: Cr. Malcolm Little, Hughes Creek Ward

Members:

- Janet Hagen, Ruffy
- Bertram Lobert, Boho
- Cr. Neil Murray, Mount Wombat Ward
- Cr. Howard Myers, Honeysuckle Creek Ward
- Timothy Purbrick, Nagambie
- Doug Robinson, Violet Town
- Shirley Saywell, Euroa
- William Wells, Boho South
- Jennifer Wilson, Longwood East

## Appendix 2: Key environmental assets by landscape zone within the Strathbogie shire

Landscape zones	Area (ha)	Priority environmental sites	Focal fauna species	Example, priority vegetation communities
Goldfields	175,200	954	Brush-tailed Phascogale Brown Tree Creeper Squirrel Glider Grey-crowned Babbler Powerful Owl Swift Parrot Bush-stone Curlew Tree Goanna	Box Ironbark: – Threatened species include, Buloke, Summer Fringe Sedge, Narrow Goodenia, Rising Star Guinea Flower, Large Fruit Fireweed, Yellow Star
Longwood and Violet Town Plains	244,700	Not specified	Squirrel Glider Jacky Winter Brush-tailed Phascogale Rufous Whistler Brown Treecreeper Grey-crowned Babbler Bush-stone Curlew Sacred Kingfisher Tree Goanna Diamond Firetail	Plains Grassy Woodland: – Dominated by Grey Box, Red Gum, Acacia, Eutaxia, Dillwynea, Kangaroo & Wallaby Grass – Threatened species include, Grey Box, Buloke, Leek Orchids, Purple Diuris, Hickory Wattle Wetlands (ephemeral): – Threatened species include, ridged Water-Milfoil, Striped Milfoil, Slender Eater Milfoil, Winged Water-starwort, Riverina bitter-cress, Swamp Billy-buttons
Strathbogie Tablelands	217,100	2192	Brush-tailed Phascogale Long-nosed Bandicoot White-eared Honeyeater Bush-stone Curlew Sacred Kingfisher Diamond Firetail Eastern Yellow Robin Crested Shrike-tit	Herb-rich Foothill Forest: – Threatened species include, Ausfields Wattle, Hairy Hop Bush, Yarra Gum, Silky Brown top, Cupped Bush Pea, Crimson Spider Orchid, Euroa Guinea-Flower Riparian systems and Bogs: > 50 perched bogs, – Threatened species include, Fir Clubmoss, Highland Bush-pea, Rough Twig-sedge, Water Blinks
Total	637,000	Greater than 3,000	16 fauna species	5 dominant communities

Source: DSE (2005b); DSE (2005c), DPI (2007a), DPI (2007b), DSE (2008b)

## Appendix 3: Reporting on vegetation removal

### 1 Project description

1	Project name	
1.1	Location	
1.2	Project description	
1.3	Project type	
1.4	Notification of DSE or GBCMA	YES NO

### 2 Native vegetation removal

2	Date of removal	
2.1	Bioregion & Ecological Vegetation Class	
2.2	Bioregional conservation status	
2.3	Quantity of native vegetation removed in hectares	Ha: No. trees: Size class of trees according to EVC benchmark:
2.4	Site GIS mapped	Coordinates:

### 3 Native vegetation reinstated

3	Date of revegetation	
3.1	Bioregion & Ecological Vegetation Class	
3.2	Quantity of native vegetation reinstated in hectares	Ha planted Ha direct seeded:
3.3	Site GIS mapped	Coordinates:

### 5 Net gain or loss of native vegetation

5.1	Quantity of native vegetation removed	No. Ha
5.2	Quantity of native vegetation reinstated	No. Ha
5.3	Net gain or loss	No. Ha

### 6 Offset management plan (typically identifies)

6.1	Native vegetation losses	Value provided in habitat hectares
6.2	Native vegetation offset targets	Required to achieve a net gain
6.3	Offset proposal and actions to achieve net gain	Details of proposed offset site and management actions required to implement the plan

Source: adapted from DSE (2009)

## Appendix 4: Stakeholder issues raised outside the scope of the strategy

Issue	Description	Appropriate management
Water requirements for new residential developments	GVW develops a water supply-demand strategy for the region that includes assumptions regarding growth in population and therefore water requirements in new residences. To ensure GVW has sufficient time to plan supply for regions, it is important that growth in new residential developments is consistent with the projections in the strategy.	Planning scheme and Local Planning Policy Framework Strathbogie Shire Council – Land Use Strategy
Water requirements for industrial development	GVW develops new water supply infrastructure for industrial development where required. To ensure this investment is efficient, a strategic approach to new industrial developments is required.	Planning scheme and Local Planning Policy Framework Strathbogie Shire Council – Land Use Strategy Strathbogie Shire Council – Industrial Land Study
Development to use wastewater from Nagambie's treatment plant	In the near future, the Nagambie wastewater treatment plant will be producing treated wastewater in excess of its current arrangements for use and disposal. There is an opportunity to develop industries close to this site to use this treated wastewater.	Strathbogie Shire Council – Economic development strategy

## Appendix 5: Summary of actions in the Environmental Strategy

<b>DEVELOPMENT CONTROL</b>			
<b>Planning scheme implementation</b>			
<b>No.</b>	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
4.1	Seek resource assistance from the Goulburn Broken CMA, DSE and DPI to prepare mapping and documentation to support implementation of: <ul style="list-style-type: none"> <li>▪ A Salinity Management Overlay</li> <li>▪ An Environmental Significance Overlay</li> <li>▪ A Vegetation Protection Overlay</li> </ul>	CEO Manager Planning and Development	3 years, subject to funding
4.2	Seek resources assistance from agencies and organisations (e.g. GVW, GMW, DSE, EPA, GB CMA and Department of Health) to develop a Catchment Management Strategy that would include consideration of: <ul style="list-style-type: none"> <li>▪ Development in potable water supply catchments and flood prone areas</li> <li>▪ Identify and record those areas that are unsuitable for on-site treatment and disposal of effluent including septic systems and land applications</li> <li>▪ Onsite treatment management including infrastructure maintenance and auditing programs.</li> </ul>	CEO Manager Planning and Development	3 years, subject to funding
4.3	As part of the next planning review consider inclusion as further strategic work: <ul style="list-style-type: none"> <li>▪ Identify areas of landscape or natural bioregion significance and consider application of the Rural Conservation Zone</li> </ul>	Manager Planning and Development	3 years subject to funding
<b>Waste management</b>			
4.4	Investigate potential amendments to the planning scheme to allow development of green waste composting.	CEO Manager Planning	2 years
4.5	Undertake strategic analysis to identify appropriate location for green waste and rural industry waste processing	Manager Planning	2 years
<b>Cultural heritage</b>			
4.6	Incorporate Aboriginal cultural heritage assessment into the Environmental Impact Assessments undertaken for new developments	Manager Planning and Development	2 years
<b>MANAGEMENT OF NATURAL AND BUILT ASSETS</b>			
<b>Waterway management and flood mitigation</b>			
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.1	Develop in consultation with the GBCMA a model management plan for the Castle Creek	Director, Development and Infrastructure Manager, Project & Works	12 months

5.2	In consultation with the GBCMA, use the Castle Creek model management plan to develop plans for: <ul style="list-style-type: none"> <li>▪ Honeysuckle Creek</li> <li>▪ Sevens Creek</li> <li>▪ Hughes Creek</li> </ul>	Director, Development and Infrastructure Manager, Project & Works	3 years
<b>Road maintenance and roadside management</b>			
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.3	Review and finalise Council's Draft Roadside Management Plan (2003) that will provide strategic direction on roadside management	Director, Development and Infrastructure Manager, Project & Works	6 months
5.4	Finalise the Strathbogie shire's Service Management Plan that contains a code of practice for works on roadsides and other Council managed land	Director, Development and Infrastructure Manager, Project & Works	12 months
5.5	Plan for and instigate environmental training for Council staff on roadside management	Director, Development and Infrastructure Manager, Project & Works	12 months
<b>Native vegetation</b>			
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.6	In consultation with DSE, maintain a register of native vegetation removals and gains since 2002	Asset management	Ongoing
5.7	Prepare a strategic vegetation offset management plan	Asset management	12 months
5.8	Partner with DSE and GBCMA to obtain resources to update the assessment and mapping of conservation values on roadsides and other public reserves	Asset management	12 months, subject to funding
<b>Invasive plants and animals</b>			
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.9	Understand the biosecurity approach to management of invasive plants and animals and assist with identifying and controlling emerging and high risk pest threats in the shire	Director, Development and Infrastructure Manager, Project & Works	Ongoing
5.10	Seek DPI funding for training Council staff in the identification of high risk weeds in the form of the Weed Spotters Program managed by DPI.	Director, Development and Infrastructure Manager, Project & Works	12 months, subject to funding

5.11	Enhance the capacity of committed community groups to undertake invasive weed control and complement these works through programs on adjacent roadsides (e.g. Landcare) by facilitating applications for funding	Director, Development and Infrastructure Manager, Project & Works	Ongoing
5.12	Develop an environmental management plan for council managed public reserves that includes pest plant and animal control	Director, Development and Infrastructure Manager, Project & Works	2 years
	<b>Fire prevention</b>		
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
5.13	Consult with local State agency representatives on how to implement recommendations from the Victorian Bush Fire Royal Commission	Municipal fire prevention officer	Ongoing
<b>COMMUNITY LEADERSHIP, EDUCATION AND AFFAIRS</b>			
	<b>Water conservation</b>		
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
6.1	Develop a sustainable water use plan that: <ul style="list-style-type: none"> <li>▪ Documents Council's current water use</li> <li>▪ Sets targets for reductions in water use</li> <li>▪ Investigates measures to reduce water use or access sustainable alternative sources (such as stormwater, recycled water) for high use sites</li> <li>▪ Seeks funding to implement water saving measures</li> <li>▪ Reports on progress against targets.</li> </ul>	Manager, Projects & Works	1 – 2 years
6.2	Communicate Council's water use savings to the community	Manager, Communications	Ongoing
	<b>Supporting the community</b>		
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
6.3	Continue support for the <i>Sustainable Communities Program</i> , the Violet Town <i>EcoLiving Centre</i> and GV Community Energy and the <i>Backbone to Biolinks</i> project.	Manager, Projects & Works	Ongoing
6.4	Promote and disseminate information from the <i>Sustainable Communities Program</i> , the Violet Town <i>EcoLiving Centre</i> , GV Community Energy and the Local Government Biodiversity Reference Group.	Manager, Communications	Ongoing
	<b>Waste minimisation and management</b>		
	<b>Action</b>	<b>Responsibility</b>	<b>Timeframe</b>
6.5	Investigate potential to reduce plastic bag use at local stores	Manager, Projects & Works	6 months
6.6	Set a target for reversing the rising trend in domestic waste generation, and investigate ways to reduce the recyclables and green organics component of landfilled waste in the shire	Manager, Projects & Works	12 months
6.7	Work in conjunction with Resource GV when developing Council's Strategic Waste Disposal Plan.	Manager, Projects & Works	6 months