West Gippsland

Native Vegetation Plan

2003

West Gippsland Catchment Management Authority

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Foreword

Due to our history and resource management record the West Gippsland Region has undergone dramatic changes since European settlement. These changes are most evident where there has been broad-scale clearing for agriculture, settlement and industry. This clearing of land has resulted in an 86% loss of the pre-European vegetation cover on freehold land, and much of the remaining native vegetation is in a degraded condition and fragmented state.

The loss of native vegetation has contributed to the natural resource problems that exist in our catchment today. The West Gippsland Native Vegetation Plan provides us with a framework and opportunity to make sure we protect and enhance, aiming for sustainable management of native vegetation within our region.

The Plan sets out directions and priorities for vegetation management within the region. It has been developed with the input and involvement of the community and will establish a framework for ensuring a sustainable future for the region's native vegetation. The Plan will act as a reference document for the conservation status of vegetation communities, it will also set regional priorities and targets, provide regional guidelines for referral authorities and identify gaps in knowledge and best management practices. The principles, information and strategies will ensure decision-making involving native vegetation is based on accurate scientific data and best management practices. The West Gippsland Native Vegetation Plan Consultative Committee views the plan as a living document, which will be reviewed as information changes.

This Native Vegetation Plan integrates and adds value to all our strategies and we believe that successful outcomes will be achieved through increased awareness and involvement. We look forward to participating in implementing the actions that will help the region to an ecologically sustainable future.

Liz Clay
Chair,
West Gippsland Catchment Management Authority

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Executive Summary

The West Gippsland Catchment Management Authority has prepared this Native Vegetation Plan to meet State policy requirements and provide strategic direction to native vegetation management across the region. The plan will become a component of the West Gippsland Regional Catchment Strategy which will provide a framework for the coordinated strategic implementation of catchment management across the region. The plan has been developed with extensive community input, reflecting priorities determined at the regional level.

The plan has been divided into the following sections:

1. **Introduction** – describes the scope of the plan and how it is to be used
2. **The West Gippsland Region** - describes the region in the past, present and future
3. **West Gippsland Native Vegetation** – describes the region's bioregions, the concept of Ecological Vegetation Classes, threatened species and threatening process
4. **Regional Priority Setting Definitions** – describes the concepts of Conservation Status, Conservation Significance and the 'Net Gain' principle
5. **Management Principles and Targets** – describes native vegetation principles, priorities, cost sharing arrangements, targets and forms of assistance and incentives
6. **Native Vegetation Plan Implementation** - describes ways of utilising native vegetation and outlines planning decision guidelines for the plan
7. **Actions and Recommendations** – contains a summary of actions required to implement the plan
8. **References**
9. **Appendices** – includes sections on legislative context, the history of the region, lists of rare and threatened flora and fauna, lists of Ecological Vegetation Classes, reserve details and a list of available incentives

Specifically, the implementation of the West Gippsland Native Vegetation Plan intends to achieve the Statewide goal of *"a reversal across the entire landscape of the long-term decline in the extent and quality of native vegetation, leading to a Net Gain" (DNRE 2002).* The plan will also work towards "*increasing the extent and condition of all EVC's to above self sustaining thresholds*"

The plan identifies two resource condition targets to achieve these goals:

- By the year 2040, formally protect the current extent of 100% of Endangered and Rare, 90% of Vulnerable and 35% of Depleted and Least Concern EVCs in the Gippsland Plain and Strzelecki Bioregions. By the year 2040 formally protect 100% of Endangered and Rare (current extent), 60% Vulnerable (current extent) and 15% of Depleted and Least Concern (pre European Cover) EVCs in the Highlands Southern Fall and East Gippsland Lowlands Bioregions.
- By the year 2050, extend EVCs with a with a current level of 0% cover to 5% of their former range, EVCs with a current level of >0% to 9% cover to 10% of their former range, EVC with a current level of 10% to 34% cover to 35% of their former range and EVCs with greater than 35% cover extended where strategically important.

The Plan acknowledges the need to have available a range of voluntary and financial measures to protect the Region's remaining remnant vegetation and that much of the work associated with remnant protection, enhancement, revegetation or rehabilitation is labor intensive. In recognition

of the broader public benefits many organisations and individuals are well prepared, experienced and willing to help in this task.

Acknowledgements

The completion of the West Gippsland Native Vegetation Plan has been assisted by funding from the Catchment and Water Division of DSE and Environment Australia through the Natural Heritage Trust (Bushcare).

The West Gippsland Catchment Management Authority gratefully acknowledges all those who contributed to the development of this Plan. Many thanks to the Steering Committee members overseeing the process, Liz Clay (Chair), Bronwyn Teesdale (Greening Australia), Jackie Tims (Latrobe Valley Field Naturalist Club), Ian Dench, David Bennett, Gail Gatt, Maurie Killeen, Edward Steenbergen, Lindsay Marriott, Richard Crooke, Martin Fuller (WGCMA), Allan Standering, Paul Smith (Bass Coast Shire Council), Raj Manihar (Baw Baw Shire Council), Allan Standering, Chris Rankin (South Gippsland Shire Council), Kevin Roberts (Latrobe City Counctil), Natalie Liddel (Wellington Shire Council), David Ziebell (DSE), Mike Harding (Gippsland Cultural Heritage Unit), Matt Bowler (West Gippsland CMA), Judy Alexander (GRP), John Davies (DSE) and Terri Rodaughan (WGCMA).

Many thanks to David Parkes who provided botanical data and analysis with regional contributions from John Davies, Alison Oates, Kim Devenish and Susan Taylor.

Glossary of terms and Abbreviations

Biodiversity	The variety of all life-forms, the different plants, animals and micro-organisms, the genes they contain, and the ecosystems of which they form a part.
Bioregions	Biogeographic areas that capture the patterns of ecological characteristics in the landscape or seascape, providing a natural framework for recognising and responding to biodiversity values.
Biolink	Corridors of native vegetation that link larger areas of native vegetation, providing safe passage for species through fragmented landscapes.
Broad Vegetation Types (BVT)	A classification that provides a simplified view of vegetation based on land system or biophysical attributes (such as geology, rainfall, elevation, soil type and landform). Each BVT will contain a mixture of EVCs, often in a recognisable pattern, however any one EVC can occur in more than one BVT
CAMBA	Chinese-Australian Migratory Bird Agreement
CAR	Comprehensive and Adequate Reserve
Clearing	In the context of discussions on NVR: lopping, destroying or removing native vegetation consisting of some or many individual trees, shrubs, grasses, herbs, vines, ferns; elsewhere in the Plan generally meaning the clearing of trees and the associated understorey of EVCs and FCs for the establishment of non-native pastures or crops (including plantations).
CMA	Catchment Management Authority
DSE	Department of Sustainability and Environment
Ecologically Sustainable	Management which if practised at the same site in perpetuity can be maintained without reducing the sites agricultural productivity or biodiversity.
Ecosystem	A landscape scale unit (eg the Red Gum Plains Ecosystem) that has a distinctive set of environmental features (climate, soils, EVCs and land forms). Ecosystems often support a particular land clearing and settlement history which closely links these cultural aspects to current land use.
Ecological Vegetation Class (EVC)	A type of vegetation classification that is described through a combination of its floristic, life form, and ecological characteristics, and through an inferred fidelity to particular environmental attributes. Each EVC includes a collection of floristic communities (i.e. a lower level in the classification that is based solely on groups of the same species) that occur across a biogeographic range, and although different in species, have similar habitat and ecological processes operating.
FC	Floristic community: consistently mappable assemblies of plants that occur in definable habitats, eg Gippsland Plains Lowland Forest.
Habitat- Hectare	A site based measure of quality and quantity of native vegetation that is assessed in the context of the relevant native vegetation type.
JAMBA	Japanese-Australian Migratory Bird Agreement
Local Seed Provenances	Establishing and revegetating using local indigenous species that come from as near as possible to the site of the same habitat being revegetated (provenance).
Native Vegetation	All plants, including trees, shrubs, herbs and grasses, that are indigenous to West Gippsland, that is, species that occurred in West Gippsland prior to 1750.
Net Gain	Net Gain is where, over a specified area and period of time, losses of native vegetation and habitat, as measured by a combined quality-quantity measure (habitat-hectare), are reduced, minimised and more than offset by commensurate gains.

1. Introduction

The West Gippsland Native Vegetation Plan has been developed under the auspices of the *West Gippsland Regional Catchment Strategy* and *Victoria's Native Vegetation Management – A Framework for Action.* It aims to provide the strategic direction for native vegetation management in the West Gippsland Catchment Management Authority region.

Native Vegetation in the West Gippsland Region

The management of native vegetation in the West Gippsland region has had an interesting history. From the broad-scale clearing undertaken by our region's early pioneers and settlers to the revegetation efforts by the Forest Commission and community groups such as Landcare and Farm Tree Groups. There has been a shift in attitude that has now placed a higher value on native vegetation.

Our region, like much of the rest of the country, experienced wide-scale clearing that opened up the region for settlement, agriculture and industry (see appendix 9.2). Whilst it is acknowledged that it was necessary to clear wide tracts of land to help provide our current standard of living, the clearing of native vegetation on freehold land has resulted in a loss of 86% of the pre-European settlement cover. When public land is taken into account, 48% of pre-1750 native vegetation cover remains, much of which is in a degraded state. Fragmentation as a result of clearance is the major cause of biodiversity loss. The region has over two hundred plant and one hundred and seven animal species which are now classified as rare or threatened. Unfortunately this decline continues today. Much of the remaining native vegetation is in a degraded condition and fragmented state.

Vegetation decline underpins many other catchment problems. It increases soil erosion, reduces water quality and quantity, compounds greenhouse impacts, exacerbates salinity and has allowed pest plants and animal to proliferate.

NRE Library – Forest Giants of Gippsland
Forest Giants like this one depicted at the turn of the century in South Gippsland are now a rarity.

A way forward

This Plan provides a framework that will assist in helping our region move towards protecting and enhancing native vegetation communities and the species that live there. It also contains actions and measures that will help protect and re-create their habitat as well as reduce the problem of habitat fragmentation. In addition, it will also address many of the other catchment issues that have resulted from the loss of native vegetation across the region.

As a community we have made many positive steps towards reducing the decline of our native vegetation. For example in the West Gippsland Landcare Networks alone 1113 hectares of land was revegetated and 1096 hectares of remnants protected in the 2001/02 year. Clearly the community has begun to embrace the concept of responsible management of native vegetation and has actively begun to arrest problems on both private and public land.

In developing the West Gippsland Regional Catchment Strategy (2003), a wide community consultation process involving 160 people highlighted that native vegetation was considered one of the highest natural assets under threat.

Native vegetation is valuable and is an asset that requires creative and sustained management. This Native Vegetation Plan provides a framework for the protection and reconstruction of native vegetation communities in the West Gippsland Region by defining community developed actions and highlighting priorities.

1.1 Why Have a Plan?

The Regional Catchment Strategy being developed in 2003 provides the framework within which the recommendations of the Native Vegetation Plan will be implemented.

It is envisaged that this Plan will be a vital tool and resource for a whole range of individuals and organisations involved in the management of native vegetation.

Intended Uses of the Plan:

- Act as a reference document for the conservation status of vegetation communities within CMA regions
- Provide strategic directions for protecting and enhancing remnants and establishing regional targets for vegetation types
- Develop regional priorities and targets for protection, enhancement and restoration of vegetation.
- Provide regional guidelines for responsible referral authorities in determining permit applications to remove, destroy or lop native vegetation
- Identify gaps in knowledge and best management practices for native vegetation retention, regeneration and planting across the catchment, and
- Identify appropriate opportunities for interaction with local landscape scale processes that provide additional detail for key natural resource management issues e.g. salinity management plans and biodiversity action plans.

How to Use the Plan

The West Gippsland Native Vegetation Plan is based on a number of science-based principles to help deliver it's outcomes. These are:

- **Bioregions** – areas that capture the ecological patterns and characteristics in the landscape or seascape, providing a natural framework on which to focus work and make management decisions. Refer to section 3.1 for an explanation of the six bioregions in the West Gippsland Region.

- **Ecological Vegetation Classes (EVC)** – floristic communities that exist under a common regime of ecological processes within a particular environment.

- **Net Gain** – is where, over a specified area and period of time, losses of native vegetation and habitat, as measured by a combined quality-quantity measure (habitat-hectare), are reduced, minimised and more than offset by commensurate gains (DNRE,2002).

- **Conservation Status** – the amount of a particular EVC remaining today compared to the amount or extent that existed prior to European Settlement.

- **Conservation Significance** – amount of particular vegetation type remaining since European Settlement taking into account the quality of the vegetation and presence/absence of threatened species.

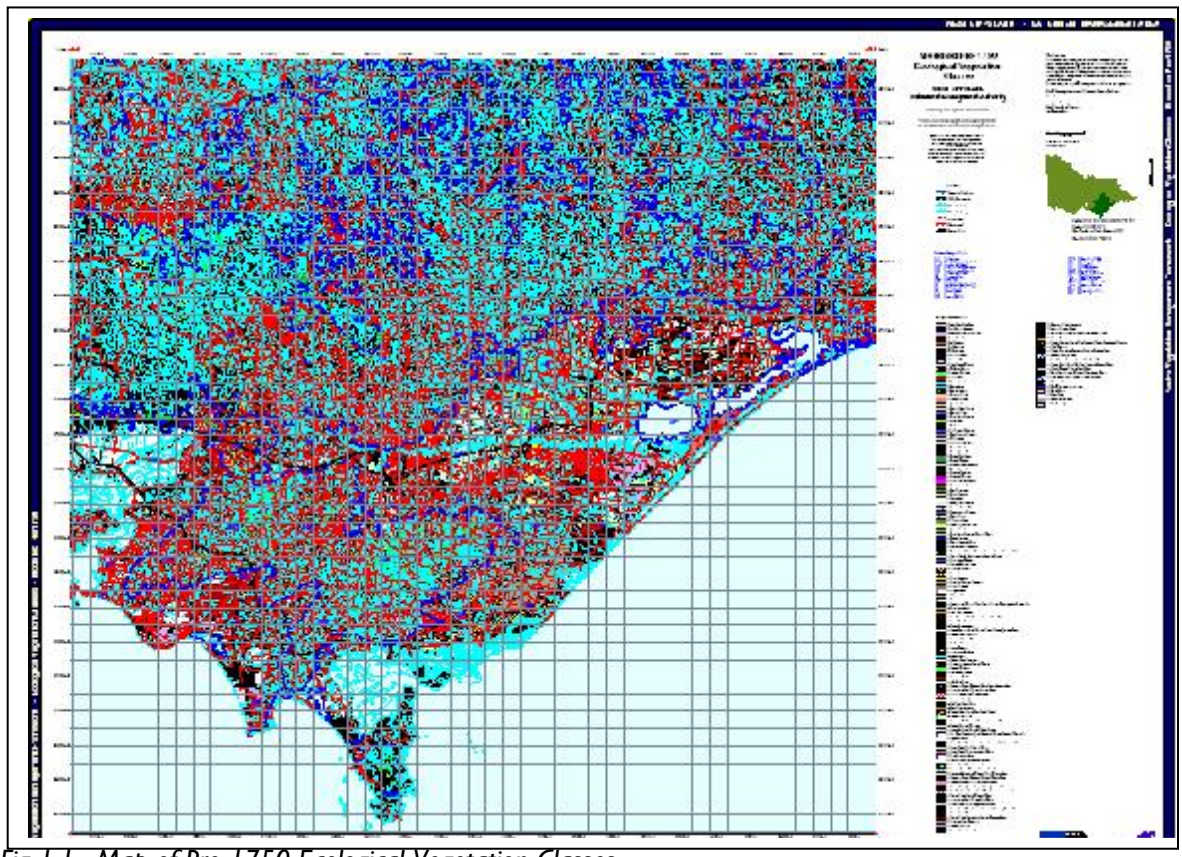


Fig 1.1 Map of Pre 1750 Ecological Vegetation Classes

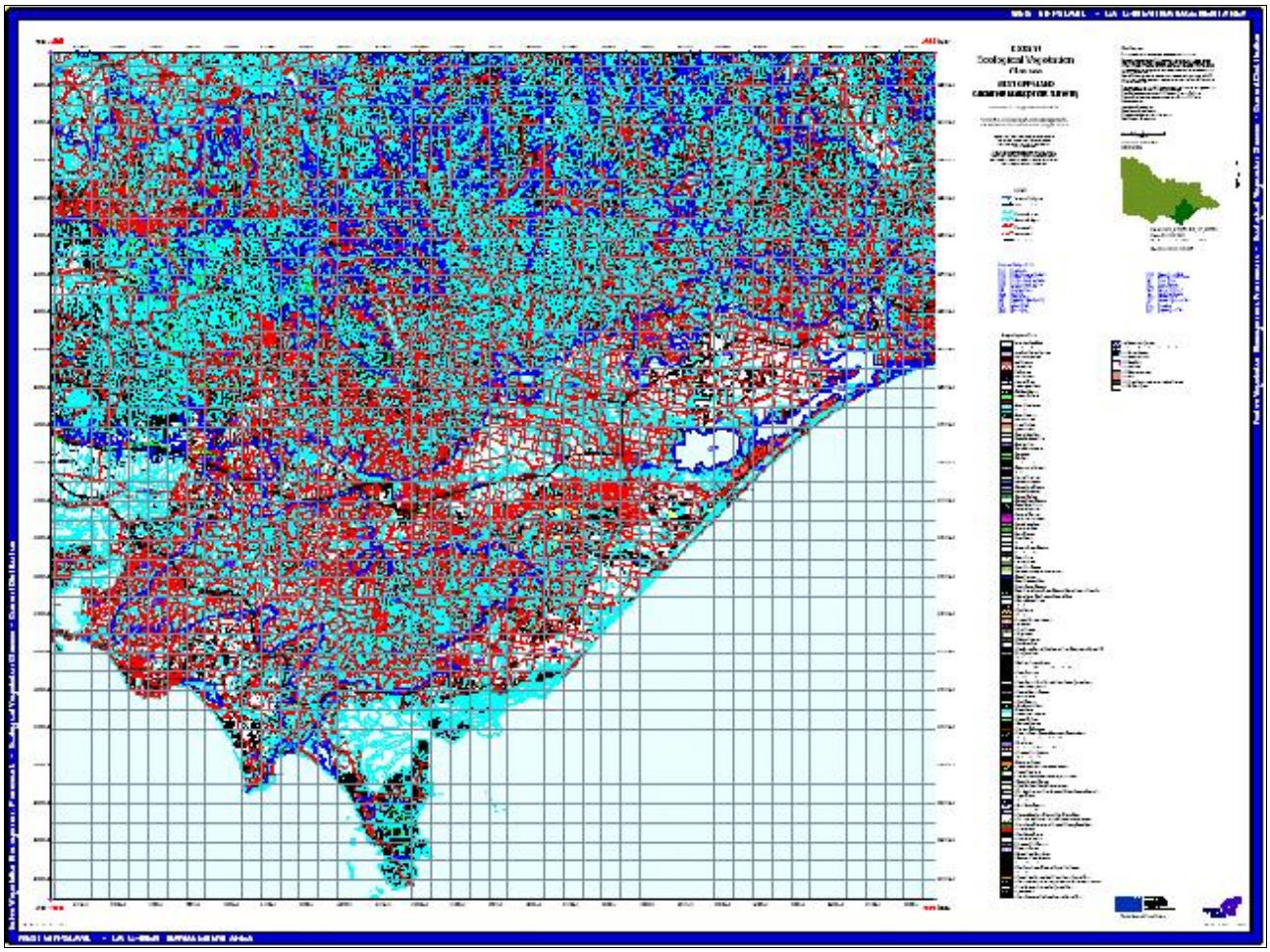


Fig. 1.2 Map of Current Ecological Vegetation Classes

1.2 Vision

In developing this plan a consultative process was run with a wide range of people and organisations with an interest in native vegetation. The consultative committee developed the joint vision below.

Native vegetation will be protected from further decline, its quality will be enhanced and fragmentation reduced through revegetation of priority areas with indigenous species.

To achieve this vision we need to know:

- Why native vegetation should be protected?
- The extent and type of native vegetation existing before 1750 (pre-European settlement).
- The extent and type of native vegetation that remains today.
- The ecological processes that affect native vegetation and our influence on them.
- What the community expects and the barriers to achieving community aims.

Prom Plains Landcare Group discussing native vegetation management in their area using Ecological Vegetation Class mapping.

This Plan seeks to begin to answer these questions and establish a solid framework for its implementation.

A range of actions, strategies and priorities will be required to work towards this vision. The benefits of working towards this vision will be an improvement in biodiversity, sustainable land use, water quality, soil erosion, greenhouse carbon storage, recreation values and community understanding.

1.3 Native Vegetation Aims

Through a process of public consultation and discussion with a wide range of interest groups the following aims have been developed for native vegetation in the West Gippsland region.

1. **To raise awareness and promote native vegetation throughout the region.**
2. **To identify and fill knowledge gaps in native vegetation and biodiversity management.**
3. **To promote land-use that includes long-term protection and enhancement of native vegetation.**
4. **To continually assess the type, extent and quality of native vegetation in the West Gippsland Region.**
5. **To ensure appropriate government incentives and regulatory mechanisms exist to protect and enhance native vegetation.**
6. **To ensure native vegetation revegetation efforts are strategic, have multiple benefits and utilise the best techniques available.**
7. **To manage native vegetation in an economically and environmentally sustainable manner.**

These aims form the platform of a range objectives and actions which are outlined in chapter 7.

1.4 Legislative and Policy Context

This plan translates the policy objectives of Victoria's Native Vegetation Management – A Framework for Action to the specific circumstances of the region. The Framework sets the State and reflects the National context of the plan.

The Victoria Planning Provisions require Local Government to give regard to the approved Regional Vegetation Plans when amending planning schemes and reviewing Municipal Strategic Statements.

When considering planning permit applications, Local Government "must consider the approved Regional Vegetation Plans" as stated in Clause 15.09-2 of the State Planning Policy framework (under the Planning and Environment Act, 1987).

Clearing of Native Vegetation requires a permit under Section 52.17 of the Planning Scheme

Australia is signatory to several international conventions on biodiversity conservation and meets its associated commitments through National and State agreements, strategies, policies and legislation.

There is a requirement for Local and State governments to consider these strategies and policies, and for landholders and government to comply with legislation relating to native vegetation when involved in decision-making processes. **Appendix 9.1** outlines these.

1.5 Plan Limitations

At this point it is worth noting limitations of the EVC data in this plan. Bioregional boundaries were developed at a scale of 1:100,000 which potentially may cause some errors. More accurate data is available but does not apply to the whole West Gippsland Region. It is acknowledged that the data used in the plan will improve with further mapping at a finer scale.

2. The West Gippsland Region

The West Gippsland Region is vast and diverse. It covers a large area and hosts a wide range of land uses including farming, mining and forestry. The natural features of the region including flora and fauna, water and coastal areas help define the region's appeal and help support a strong tourism and recreation industry.

2.1 The Region

This Native Vegetation Plan covers the West Gippsland Region as identified in Figure 2.1.

The West Gippsland Catchment Management Authority Region covers 17,685 square kilometres and has a regional population of approximately 200,500 (DOI, 2000). The major urban centres are: Warragul, Moe, Morwell, Churchill, Traralgon, Sale, Leongatha, and Wonthaggi.

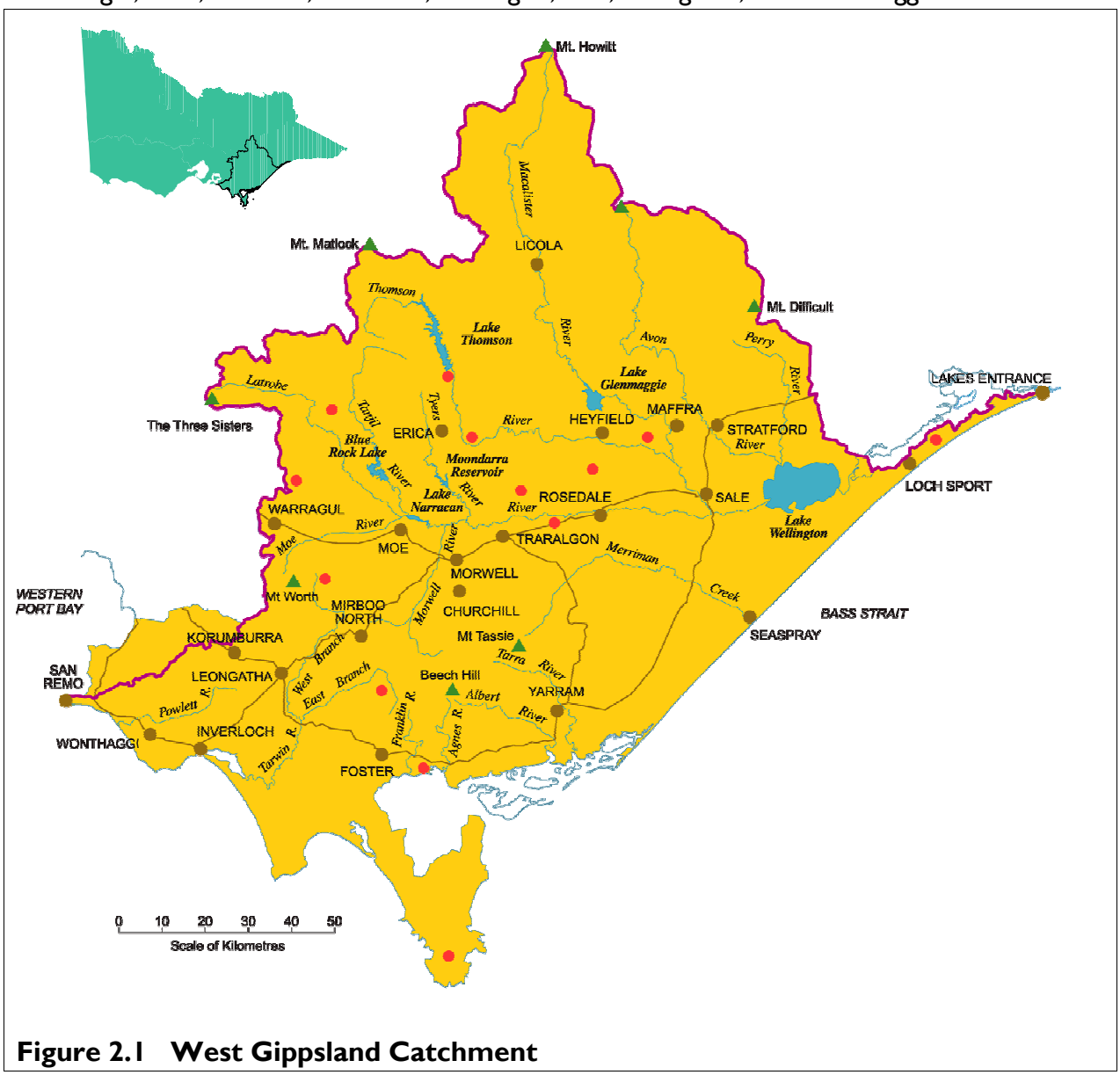


Figure 2.1 West Gippsland Catchment

The West Gippsland Catchment comprises five main municipalities and small parts of Delatite and East Gippsland. The main municipalities are:

- **Bass Coast**
- **Baw Baw**
- **Latrobe City**
- **South Gippsland**
- **Wellington**

The northern boundary of the Region is the eastern highlands, which form the foothills of the Great Dividing Range. Bass Strait is the southern boundary. The eastern highlands, Strzeleckis and the western half of the Region receive high rainfall, have deep soils and support native forest vegetation. The plains in the east are in the rain shadow of the highlands, where the native vegetation consists of woodland, grassy woodland, heathland and riparian complexes, with wetlands in low-lying areas.

The Region includes Wilsons Promontory, Baw Baw Plateau, Wonnangatta-Moroka Wilderness and the Gippsland Lakes which are among Victoria's most well recognised conservation areas. The Thomson River is registered as a heritage river (LCC, 1991) and the upper catchment of the Avon River, a declared Wilderness Area. Two wetlands in the Region, Corner Inlet and the Gippsland Lakes, are listed under the Ramsar Agreement as Wetlands of International Importance.

Agriculture, electricity, gas, water and forestry are the most significant contributors to the region's economy as well as mineral and extractive industries. Agricultural productivity within the region is a significant contributor to the value of livestock production in Victoria. Tourism currently stands as a major economic contributor to the region with ABS statistics citing $524mil (ABS, 2002) being spent in the region per year.

The Region comprises of six bioregions that are described in detail in section 3.1.

2.2 Regional Catchment Strategy Issues

The West Gippsland Regional Catchment Strategy (Exposure Draft 2003) identifies seven asset classes for the region. These assets are those things, systems or people that we value for conservation, resource exploitation or social reasons.

- **Water**
- **People and Communities**
- **Atmosphere and Climate**
- **Production**
- **Biodiversity**
- **Land**
- **Infrastructure**

The West Gippsland Regional Catchment Strategy (Exposure Draft 2003) Vision for managing biodiversity is that:

- **Valuable habitats are protected in well resourced and managed parks and reserves**
- **Habitats of threatened species are protected and enhanced to ensure their survival**
- **Habitats are restored and linked to allow native birds, fish and animals to recolonise areas from which they were lost**

The West Gippsland Regional Catchment Strategy (Exposure Draft 2003) objectives for managing Ecosystems and Biodiversity are to:

- **Support ongoing programs and planning processes aimed at the protection and enhancement of ecosystems and biodiversity assets**
- **Develop and share the best available information amongst all agencies and organisations involved in natural resources management**
- **Continue a coordinated approach to the identification of regional assets, threats and opportunities**.

Threats are actions or processes that have or could have negative consequences for the assets. In the West Gippland Regional Catchment Strategy (Exposure Draft 2003), these are identified as:

- **Inappropriate use, management and maintenance of assets** – including inappropriate land use, resource depletion, unsustainable use of the asset or poor management practices
- **Major events** – floods, drought, subsidence, fire, climate change
- **Pest plants and diseases** – weeds, rabbits, foxes, human illness, foot and mouth disease
- **Limited human capacity** – community fragmentation and decline, rural flight, volunteer burnout, lack of knowledge, limited abilities in strategic planning, lack of wisdom
- **Lack of resources** – insufficient, untimely or piecemeal funding support for resource management, economic imperatives of industry, lack of equipment
- **Population pressure** – increased visitation in areas not suited to large numbers of people, increasing population outside the area putting pressure on regional resources.

2.3 Historic Landuse

Land use in the West Gippsland region has had a profound influence on the type and location of vegetation that exists today.

Major landuses in the region that have influenced our vegetation include agriculture, the establishment of mining and forestry and the influence of fire on the landscape. Prior to this, the region's first inhabitants, Krowathurkooloong, Brabuwooloong, Brayakoloong and Bratowoloong Clan Groups, employed fire as a means of manipulating vegetation communities to provide different food sources in different areas.

A more detailed account of the influence of landuse is outlined in **Appendix 9.2**

2.4 Vegetation and Current Landuse

Land area in the Region is 1,714,947 hectares of which 54% (918,450 ha) is freehold and 46% public (769,712 ha).

Most native vegetation in the region is found on public land.

Vegetation on Private Land

Only 14% of the native vegetation in the region remains on private land. Certain land types have been cleared more than others and some remnants occur only on private land. The vegetation cover that does remain occurs as small isolated patches, or linear strips on public land along roadsides, rail reserves and streams. In general it is declining rapidly in extent and quality. These remnant 'islands' are exposed to a range of influences from the surrounding cleared agricultural land. Domestic stock, weeds, pest animals, wind, nutrients and chemical pollution carried in water run-off are all able to penetrate the remnant stands, degrading the vegetation and decreasing its habitat value for native species. These remnants are most vulnerable to edge effects.

Vegetation on Public Land

Public land in the region is used for a wide range of activities and consequently, is subject to a similarly wide range of management regimes, such as forest industries and conservation reserves (National and State Parks). Large tracts of public land, especially in the Strzelecki Ranges, are under long-term or perpetual lease to one major corporation for timber production. Australia Paper Plantations

sold its forest holdings to Hancock Victorian Plantations in September 2001. A new corporation, Grand Ridge Plantations was formed. All of the leased land and freehold property previously managed by Australia Paper Plantations is now managed by Grand Ridge Plantations. Public land is the main refuge of the over two hundred plant and one hundred and seven animal species that are classified as either rare or threatened in the Region (DNRE, 1995; **Appendix 9.3**).

Even though 86% of freehold land in the Region has been cleared for agriculture, significant values exist on private land and many landholders are willing to enhance and protect these values. The large blocks or biolinks of vegetation on public land which transverse private land such as rivers, streams and roadsides will form the framework around which much of the region's future vegetation management activities will be based.

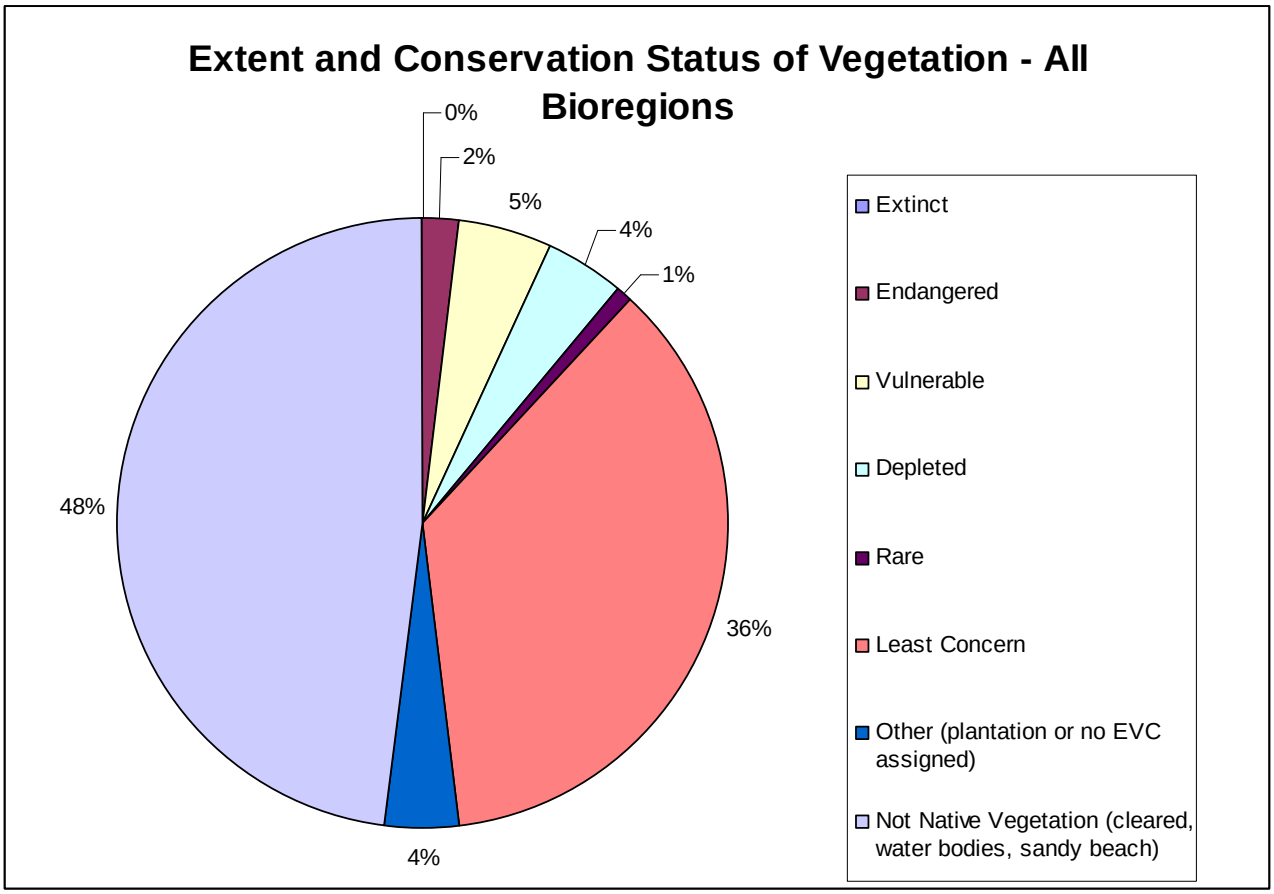


Figure 2.2 - Note, the data represented in this figure have been updated by new 2007 mapping. Refer to Appendix 9.4 for the new information.

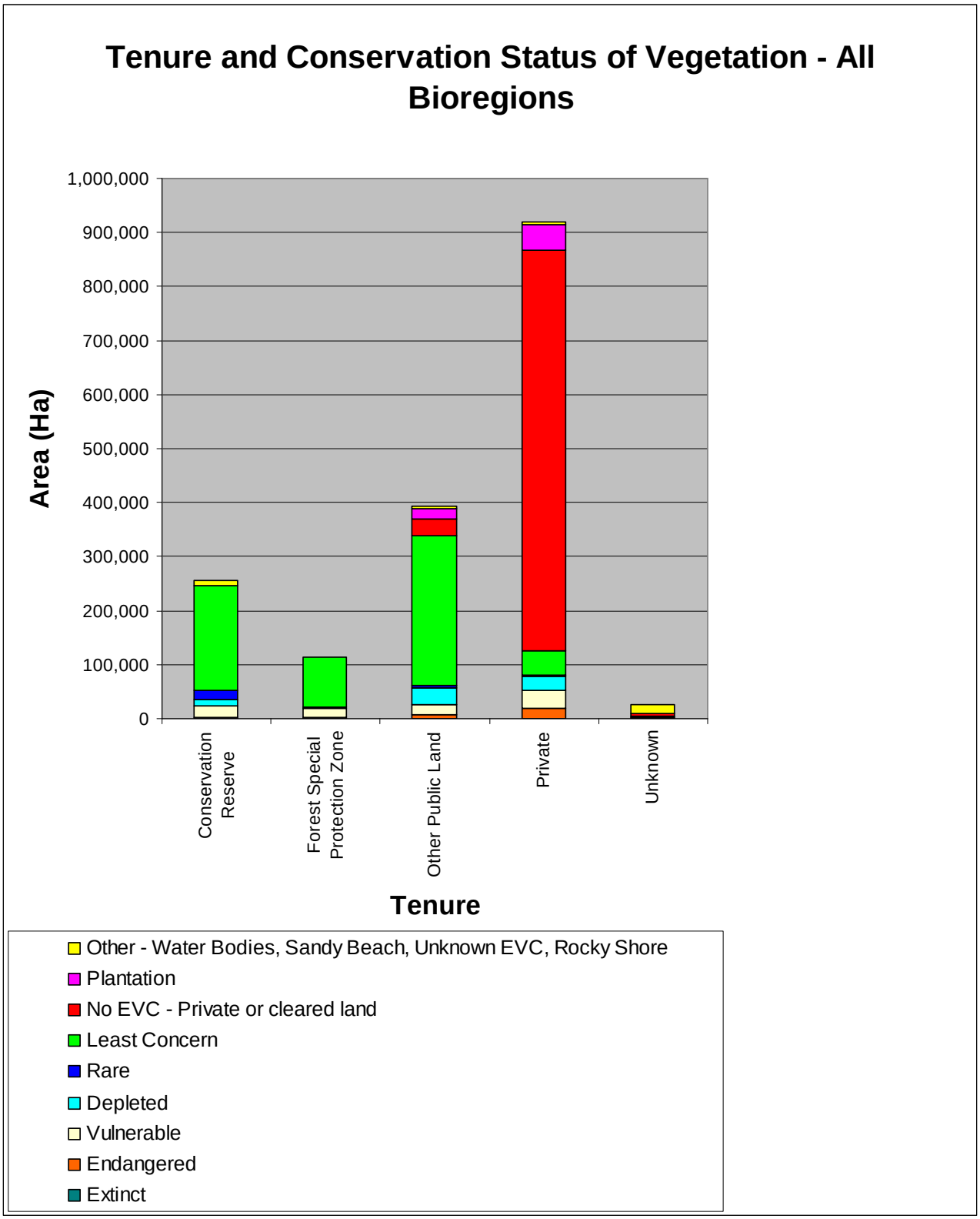


Figure 2.3 - Note, the data represented in this figure have been updated by new 2007 mapping. Refer to Appendix 9.4 for the new information.

Bioregion (% in WGCMA)	area (ha) / percentage %	Pre 1750 Area in WGCMA *ha* *%*	Area Cleared or never veg (O+N)* *ha* *%*	Area of Remaining Native veg (X+E+V+D+R+LC)* *ha* *%**	EVC Bioregional Conservation Status						Other veg (O) *ha* *%*	not veg (N) *ha* *%*
					X *ha* *%*	E *ha* *%*	V *ha* *%*	D *ha* *%*	R *ha* *%*	LC *ha* *%*		
Gippsland	area	748,529	599,320	149,208	0	16,638	62,460	6,861	6,654	56,596	33,098	566,222
Plain (60%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	80%	20%	*0.0%*	*11.2%*	*41.9%*	*4.6%*	*4.5%*	*37.9%*	na	na
Strzelecki	area	298,843	220,176	78,667	0	15,410	9,416	53,622	23	197	29,037	191,138
Ranges (87%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	74%	26%	*0.0%*	*19.6%*	*12.0%*	*68.2%*	*0.0%*	*0.2%*	na	na
Highlands -	area	509,967	53,312	456,654	0	448	11,043	8,617	6,893	429,653	1,107	52,205
Southern Fall (42%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	10%	90%	*0.0%*	*0.1%*	*2.4%*	*1.9%*	*1.5%*	*94.1%*	na	na
Wilsons	area	40,386	624	39,762	0	25	411	239	6,808	32,279	0	624
Prom (100%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	1%	98%	*0.0%*	*0.1%*	*1.0%*	*0.6%*	*17.1%*	*81.2%*	na	na
Victorian	area	96,627	1,169	95,458	0	0	6,989	0	1,047	87,422	0	1,169
Alps (13%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	1%	99%	*0.0%*	*0.0%*	*7.3%*	*0.0%*	*1.1%*	*91.6%*	na	na
East	area	20,594	12,410	8,184	0	72	131	2,636	9	5,335	5,632	6,778
Gippsland Lowlands (4%)	% of bioregion (the part in WGCMA) or *% of remaining native vegetation*	100%	60%	40%	*0.0%*	*0.9%*	*1.6%*	*32.2%*	*0.1%*	*65.2%*	na	na
TOTAL	**Area**	**1,714,947**	**887,012**	**827,935**	**0**	**32,593**	**90,450**	**71,976**	**21,432**	**611,483**	**68,874**	**818,136**
	% of all parts of bioregions or *% of remaining native vegetation*	**100%**	**52%**	**48%**	***0.0%***	***3.9%***	***10.9%***	***8.7%***	***2.6%***	***73.9%***	na	na

* includes all water bodies, sand etc because data does not discriminate between natural and man made
** includes areas that were cleared but have subsequently regenerated sufficiently well to recognise the EVC
other veg. = plantation or woody veg. no EVC assigned.
not veg. = cleared or water bodies or sandy beach

Table 2.1 EVC Bioregional Conservation Status – Note, the figures represented in this table have been updated by new 2007 mapping. Refer to Appendix 9.4 for the new information.

3. West Gippsland's Native Vegetation

Native vegetation in the West Gippsland region is both diverse and complex. The need for a useable and useful Native Vegetation Plan is timely.

This chapter outlines the West Gippsland region and its vegetation. It discusses the region's native vegetation, how it is classified along with processes that threaten its long-term viability.

3.1 Bioregions

In order to better understand the region and its natural systems this plan uses the concept of bioregions.

Bioregions can be defined as areas which capture ecological patterns and characteristics in the landscape or seascape, providing a natural framework on which to focus work and make management decisions. As bioregions reflect underlying environmental features, they can also be related to the patterns of use of land and sea.

Across Victoria, twenty-two bioregions types have been identified. Six of these exist in the West Gippsland region. See map below:

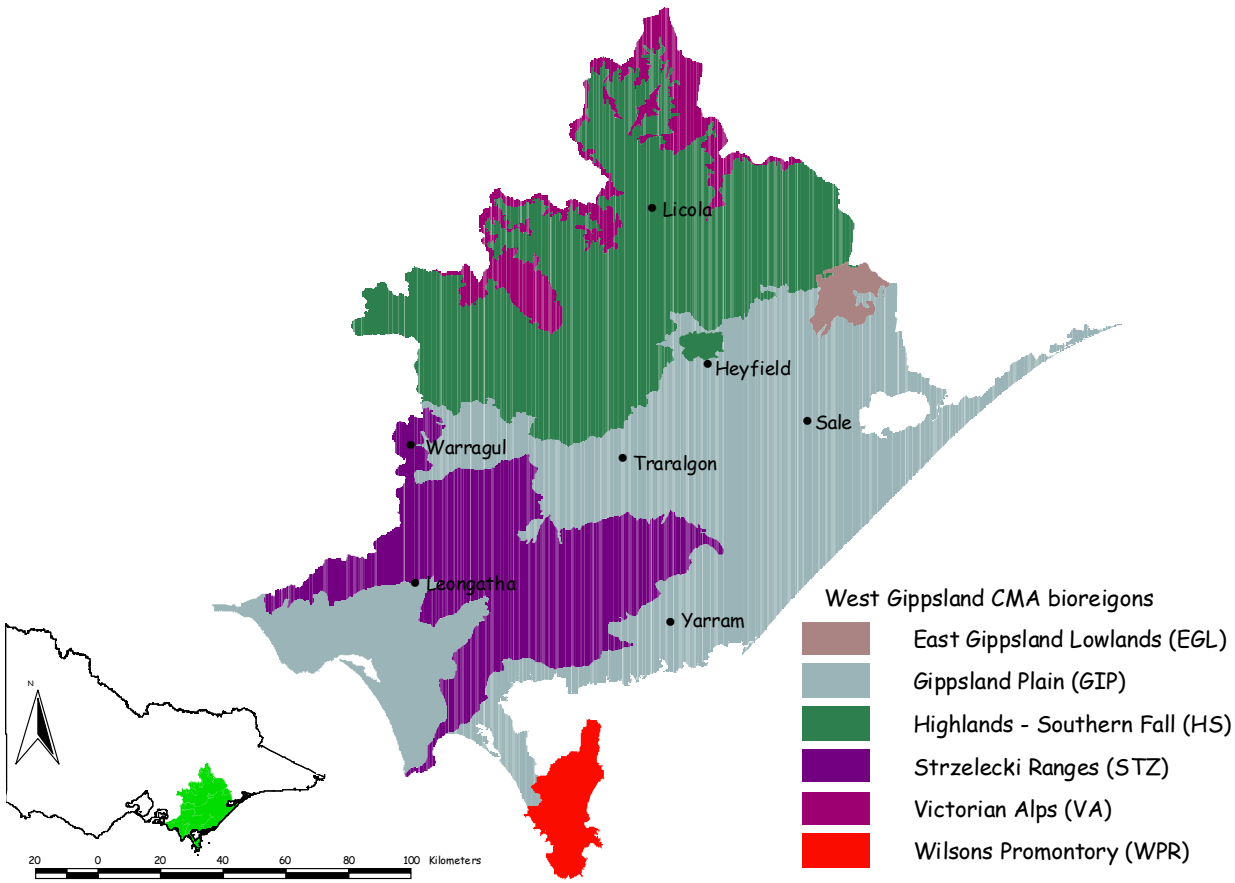


Figure 3.1 Bioregional Boundaries

Victorian Alps

This bioregion consists of a series of high plateaus and peaks along the Great Dividing Range, mostly above 1500ASL. It has a cool climate with snow in winter, a short summer and annual rainfall above 1000 mm and consists of a complex mosaic of ecological communities. Tree-less sub-alpine communities include grassland, shrubland, heathland and bog on the highest ground and in frost hollows in high valleys. These areas form isolated patches within the more widespread snowgum country of Sub-alpine Woodlands and, at montane altitudes, may include alpine ash forest. The major land uses are conservation, recreation, tourism, forestry and seasonal grazing. The sub-alpine areas have no large permanent settlements. Almost all of the bioregion is public land and includes parts of the Alpine and Baw Baw National Parks.

Highlands - Southern Fall

This bioregion includes mountain ranges and associated foothills of the Great Dividing Range, dissected uplands with moderate to steep slopes between 400 and 1200m in altitude. This bioregion has a temperate climate with warm summers and cool to cold winters. Rainfall, 1000 to 2000 mm annually, occurs throughout the year, but is greatest in winter and spring. Snow occurs above 900 m in winter. The vegetation is dominated by moist and dry foothill forest, with smaller occurrences of Lowland Forest, Heathy Woodland and Valley Grassy Forest. The major land uses are timber harvesting, plantations, water production, tourism and recreation, sheep and cattle grazing, dairying, mining of rock and gravel, and some gold.

Strzelecki Ranges

The Strzelecki Ranges are a deeply dissected range of hills that form the headwaters of several rivers. The lower foothills have deep soils suitable for agriculture. The climate is temperate with rainfall of 1000 mm, mostly in winter and spring. The deep soils support Wet Forest containing mountain ash, while Cool Temperate Rainforest containing myrtle beech is restricted to the most protected gullies. The lower drier hills were covered with Lowland Forest containing messmate-peppermint-gum and blue gum but this has been largely cleared for agriculture. Land use in the Strzeleckis includes timber harvesting, plantations, sheep and cattle grazing, dairying, conservation and tourism.

Gippsland Plain

This Bioregion represents part of Victoria's Coastal Plains bioregions. It includes lowland coastal and alluvial plains characterized by generally flat to gently undulating terrain. The coastline is varied and includes sandy beaches backed by dunes, cliffs and shallow inlets with extensive mud and sand flats. A number of rivers drain the bioregion. The area has a temperate climate with rainfall varying from 500 to 1100 mm, typically higher in winter. The vegetation includes lowland and foothill forests, heathy and grassy woodlands, and coastal scrub and grasslands. There has been substantial clearing of all vegetation types, particularly those on the deeper more fertile soils. The majority of the bioregion is private land, most of which has been cleared for agriculture. Tourism is a major industry along the coast.

Wilsons Promontory

The Wilsons Promontory bioregion is a spectacular area of rugged forested granite hills, tannin-stained creeks, heathy lowlands, sweeping white sandy beaches and prominent granite headlands surrounded by the cold waters of Bass Strait. This bioregion lies entirely within the Wilsons Promontory National Park. It is covered in natural vegetation, principally dry and moist forest, coastal scrub, heathland and heathy woodland. There are several significant vegetation communities and a large number of species. Land uses are conservation, tourism and recreation.

East Gippsland Lowlands
The East Gippsland Lowlands are represented at the eastern edge of the region. They contain coastal plains, river valleys, foothills and tablelands. The climate of the bioregion is temperate with rainfall from 800 to 1200 mm. The area is characterized by extensive, essentially continuous areas of forest and other heathy woodland, wetland and grassy woodland with small isolated areas of settlement in the river valleys, coastal plains and tablelands. Land use includes conservation, timber harvesting, sheep and cattle grazing, dairying, vegetable growing and tourism.

Other broad bioregions listed in Victoria's Biodiversity Strategy (DNRE, 1997) are **Wetlands**, **Rivers and Streams**, **Bays, Inlets and Estuaries** and **Open Coast**. These are however better considered as habitat types occurring within the six bioregions described above.

Wetlands are those naturally occurring depressions or floodplains that are covered temporarily or permanently by fresh, brackish or saline water. Wetlands support distinctive communities of plants and animals, including alpine bogs, floodplain billabongs, river red gum forests, coastal tea-tree swamps, large open lakes, shallow seasonal swamps, estuaries and intertidal mudflats. Uses of wetlands include tourism and recreation, study and education. They are also important to agriculture supporting waterbirds that feed on insect pests, providing sources of water for stock and opportunities for grazing and aquaculture.

Rivers and Streams are freshwater ecosystems that rise in the high country of the Victorian Alps or the Strzeleckis. Rivers and streams support a wide variety of flora and fauna. However, the biodiversity of plants and animals has not been adequately evaluated and many factors influence the ecology of this bioregion. Land uses such as extraction of water, forest harvesting, irrigation, agriculture, clearing of native vegetation and domestic and industrial discharges, affect the water quality and flow of rivers and streams.

Bays, Inlets and Estuaries are semi-coastal waters where freshwater inputs from catchments blend to varying extents with marine waters, giving a range in salinity, lower wave energy than the open coast and floors covered in soft sediments. The flora and fauna vary according to the biophysical characteristics of each bay or inlet. They support a rich invertebrate, fish and bird fauna and some are important breeding and nursery areas for fish. The major use of these waters is commercial and recreational fishing. Other uses include tourism, water sports and shipping.

Open Coast bioregion includes intertidal beaches, rock platforms, offshore islands and out to 5.5km from the shore. West of Wilsons Promontory the ocean is influenced by cool sub-Antarctic water while the east is influenced by the warm Eastern Australian Current. The Open Coast supports a diverse temperate fauna and flora that is largely endemic to southern Australia. Kelps and other algae dominate rock platforms and shallow subtidal reefs. Deeper reefs are covered in a diverse range of sessile invertebrates. *Amphibolis* seagrass beds are common in sand adjacent to shallow rocky reefs. Use of the bioregion includes fishing, oil and gas, conservation, recreation and tourism.

Biodiversity Action Planning

At the next spatial scale down from regional native vegetation plans, Biodiversity Action Plans (BAPs) will use a structured approach to identifying priorities and mapping significant areas for biodiversity conservation at the landscape scale. Bioregional Overview documents are plans which cover entire bioregions, while Zone Plans are developed at a scale usable by Landcare/Community to develop Local Action Plans. Native vegetation biodiversity properties identified in the Native Vegetation Plans are included in BAPs and supplemented by other biodiversity priorities (eg. Threatened species, wetlands and river health). Using existing information on biodiversity assets and current understanding of species requirements for habitat within the local landscape, BAPs identify the best options for restoring native vegetation to recover biodiversity. This approach can be mapped with related information on land and or water protection and land use potential to enable local communities to visualise how sustainable landscapes can be achieved.

This approach allows the knowledge of people in the local community to be used in applying the priorities identified in this plan. The Department of Sustainability and Environment are developing tools and undertaking research to support effective planning at the local landscape scale.

Within the West Gippsland region, the Gippsland Plain Bioregional Plan has been developed with Landscape Zones completed for the Prom Plains and Tarwin areas. Also of a high priority is the Strzelecki Bioregion.

3.2 Ecological Vegetation Classes

Native vegetation is described using a system of classification introduced by DNRE in the 1990's called Ecological Vegetation Classes (EVCs). They consist of one or a number of Floristic Communities (FC's) that exist under a common regime of ecological processes within a particular environment. Such a description allows a link to be made between vegetation patterns and broad landscape features such as coasts, lakes, plains, dissected terrain, plateaus and mountains and their respective climates, for example "Tussocky Herb-rich Foothill Forest" (Woodgate et al 1994). FC's are vegetation types that represent regional or special variants of a particular EVC. All of the FC's of one EVC occupy a similar habitat but may have a slightly different species complement.

EVCs are useful because they:

- describe the existing type and location of native vegetation,
- define native vegetation in an ecological context,
- provide a basis for meeting international, national and state obligations for biodiversity conservation,
- provide a basis for defining comprehensive, adequate and representative reserves, and
- set a benchmark for reconstruction of native vegetation.

The extent of pre-European settlement EVCs (pre-1750 EVCs) has also been modelled and mapped to provide data for rarity and threat analyses of each EVC, both Statewide and within the region. Partial coverage for the Region can be seen in maps published for the Gippsland Regional Forestry Agreement Process (Gippsland CAR Report, 1999).

EVC 1:25,000 and 1:100,000 mapping has been completed for the Region (RFA/CRA Report 1999). EVCs found in the Region have been described (Davies and Oates, 1998) and are listed in **Appendix 9.4**.

The relationship between geology, landforms, EVCs and Bioregions across a stylised diagram of the West Gippsland Region is depicted in figure 3.2. This diagram is useful as it helps provide an understanding of the region as a whole.

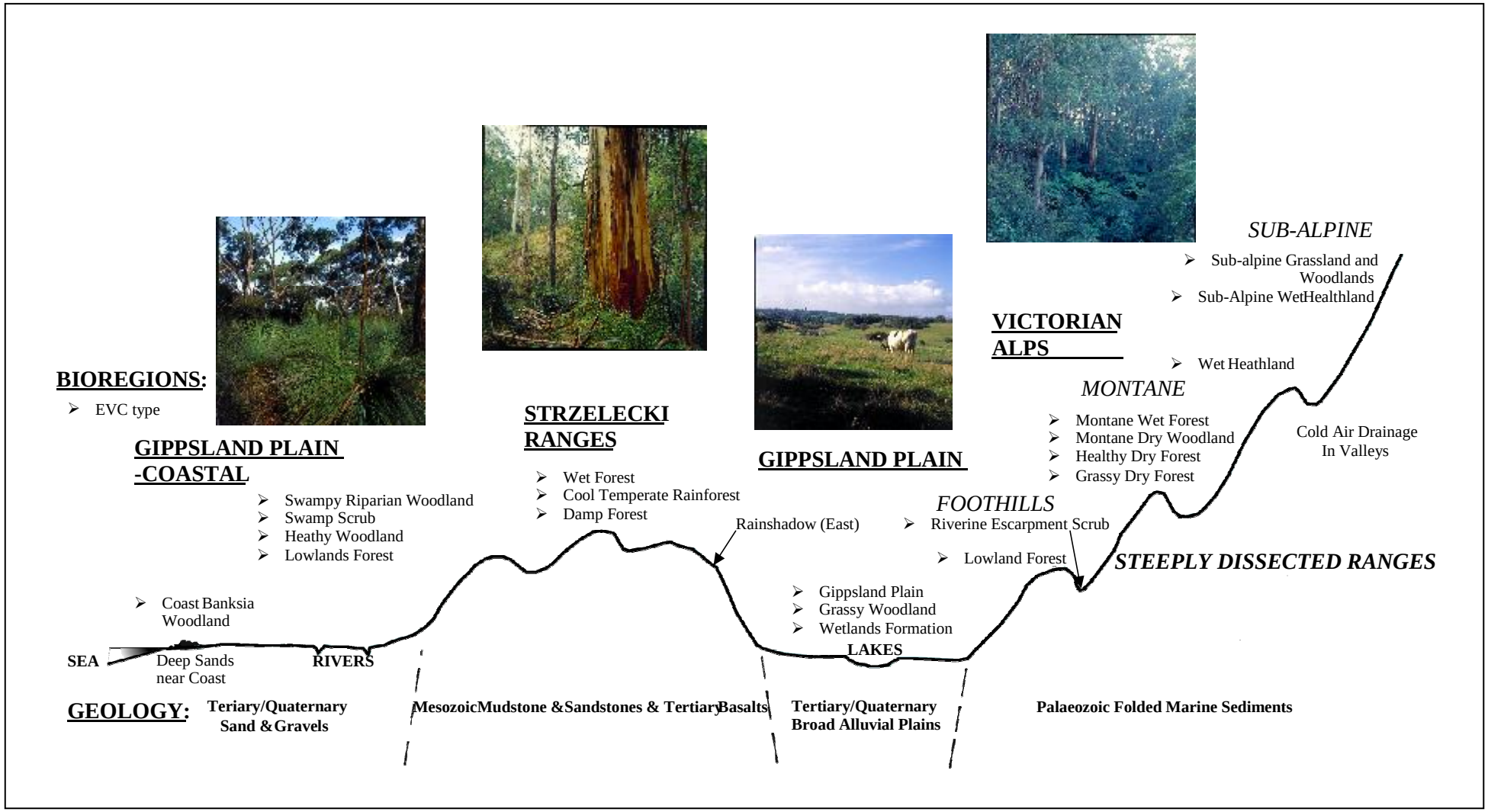


Figure 3.2 Landscape cross-section from the highlands to the sea indicating the changes in native vegetation (EVC) communities across the Region.

3.3 Threatened Species and Vegetation Communities

Appendix 9.4 shows those flora species and vegetation communities in the Region which are listed in Schedule 2 of the *Flora and Fauna Guarantee Act*, species and communities for which an Action Statement has been published, and other species and communities not yet listed in Schedule 2 but considered to be rare or threatened.

3.4 Processes Threatening Native Vegetation

Threatening processes bring about disruption to ecological processes, species loss, habitat degradation, and loss of biodiversity. Threatening processes work synergistically where one effect compounds or magnifies the effect of other events to cause the collapse of ecosystems and the extinction of the species that once lived there. This can lead to such profound changes as reduction in rainfall, rising water tables, plagues of pest species and salinisation (Environment Sport and Territories, 1995).

Listed below are the major threatening processes, and their effects, already documented for the Region. They are given here to illustrate the magnitude of the problems addressed by this Plan.

Habitat Loss

Habitat loss occurs whenever an area of native vegetation is either cleared or degraded to such an extent that its composition or structure is altered. The largest cause of loss within the Region is land clearance, with another being grazing. Habitat loss may be exacerbated by weed invasion, insect attack, exposure, hydrological changes, salting, altered fire regimes and further fragmentation. As a result of habitat loss, bird and animal species are lost which are important agents of seed dispersal. Overall, the effect of habitat loss is that many, often all, the individuals of a particular species are directly killed or displaced.

Isolated vegetation without links to other remnants is at risk

Fragmentation

Fragmentation arises when the connections between vegetation of the same or different types is severed. This break can occur through vegetation removal, weed invasion or other processes that degrade the intervening vegetation to the point where it becomes physically separated from neighboring intact stands. Disruption to balanced ecological processes is the result. Fragmentation is nationally recognised as a major cause of biodiversity loss (SOE 1995).

Incremental Loss/Depletion
Stock grazing can cause loss in habitat quality, including structural change. This results in the removal of understorey vegetation and destruction of replacement seedlings. Selective harvesting of a single species, such as tree ferns, firewood timber or logs, gradually changes the structure of a forest. Harvesting rotations, which stop the development of old growth forests, cause incremental losses of essential hollows vital for protection and breeding of many species of birds and mammals.

Weed Invasion
Weed invasion can lead to species extinctions and a severe and often rapid decline in the diversity of native species. The mechanisms of weed invasion include disturbance, fragmentation and exposure, edge effects, loss or suppression of native species and the collapse of ecological processes such as native species regeneration and altered fire or hydrological regimes. The agents of weed invasion are wind, water, fire, humans, animals and birds. Weeds produce large numbers of seed, they spread by runners or have deep tap roots capable of regenerating from the smallest piece, giving them selective advantages over native plant species. Mechanisms of dispersal include fleshy fruits attractive to animals, durable seeds that survive transport on the mud of vehicles, animals and boots, dumping of garden rubbish, hooks to attach to the fur and feathers or the clothes of people.

Altered Fire Regimes
Nearly all terrestrial ecological processes within the region are mediated by fire, its timing, intensity, frequency or absence. Since the advent of humans on this continent fire regimes have changed. Plants have adapted by growing in particular parts of the landscape that have specific fire regimes. Many species rely on fire for regeneration. Changes to the fire regime, which may be as little as a fire normally occurring in summer being switched to spring, can bring about local, regional or national extinctions of plants reliant on that particular fire regime. The effects can be drastic if the species is a key species in the EVC. Fire may be actively suppressed in small remnants of native vegetation or the frequency reduced and the intensity changed. The effects of altered fire regimes can lead to a simplification of the species composition and structure of the bush. This leads to imbalances unravelling the complex inter dependencies of species in remnants and the remnant can collapse. If a key species is removed the whole structure collapses.

Enhanced Greenhouse Effect
The increase in greenhouse gases caused by human activities and the resulting warming of the atmosphere is known as the enhanced greenhouse effect. It has been proposed that the increase in concentrations of greenhouse gases will lead to a greater amount of infra-red radiation being absorbed by the atmosphere and thus causing the Earth to become warmer. There are many uncertainties in these predictions with respect to timing, magnitude and regional patterns of climate change. A study of 42 species of fauna (6% of Victoria's terrestrial vertebrate fauna) indicated that nearly all will undergo reduction in bioclimatic range in response to climatic warming, the most extreme response being the extinction of bioclimatic range (Bennett, *et al*, 1991).

Disease
Like human populations native vegetation can also come under threat from disease. This is particularly relevant in situations where vegetation exists as a monoculture or is isolated as a vegetation population or as an individual tree.

The importance of biodiversity is paramount in providing a buffer from disease in a vegetation community. Examples of diseases that can threaten native vegetation include Cinnamon Fungus (*phytophthora cinnamoni*) which is known to occur in Wilsons Promontory National Park and Mullungdung State Forest and Myrtle Wilt. Increased fragmentation and intrusion by vehicles, people and stock is known to spread the fungal spores.

The recent appearance of the fungal disease "Munbilla Yellows" in South Australia, which is not known to occur in undisturbed bushland, reinforces the need to maintain the integrity of the remaining remnants in the region. In the early 1990's, stands of Swamp Paperbark (*Melaleuca ericifolia*) were heavily defoliated from infestations of Paperbark Sawfly in the South Gippsland area.

Victoria's Biodiversity Strategy (1997) also warns of the increasing fragmentation of native remnants leading to greater vulnerability to disease and insect attack as ecological processes break down.

4. Regional Priority Setting Definitions

This chapter outlines some of the key definitions that are used to help set priorities. It introduces the concept of **Conservation Status** and **Conservation Significance**. It also discusses the principle of **Net Gain** and how this can be used to meet the regional objectives for native vegetation management.

These principles are important, particularly for those requiring a thorough understanding of them and how they apply to decision making by natural resource management and planning professionals.

4.1 Conservation Status of Native Vegetation

Conservation Status refers to the amount of a particular EVC remaining today compared to the amount or extent that existed prior to European settlement. Or put another way, its former range.

Within this plan Conservation Status has be developed at the bioregional level.

For example, the Plains Grassland EVC within the Gippsland Plains bioregion now occupies 3% of its pre 1750 extent giving it an Endangered Conservation Status today.

The measure of Conservation Status is important as it forms the basis for a range of actions and management decisions that will flow from this plan.

- Assessment of the Conservation Status of vegetation types is traditionally based on the broad concepts of inherent rarity, degree of threat (including consideration of historic and on-going impacts) and importance for supporting other significant features (for example, as a drought refuge for native fauna).

The criteria detailed in table 4.1 have been used to assign a provisional **conservation status** for each combination of EVC and bioregion. **Appendix 9.4** outlines this clearly. It is important to stress that the status of each combination may be amended with time as more complete or better scale mapping of vegetation type and condition becomes available. Where an EVC is only a minor occurrence (M) in a bioregion, it is assigned the conservation status from an appropriate neighbouring bioregion, unless the occurrence is considered to represent a threatened floristic community.

Definitions used in the criteria are:

Subject to a threatening process	*includes currently acting threats that will lead to degradation (moderate or severe) OR risk of significant rapid change (e.g. rising groundwater; change of land use)*
majority	*greater than 50% of area*
minority	*greater than 10% and up to 50% of area*

severely degraded	*floristic and/or structural diversity is greatly reduced (and/or subject to a threatening process which will lead to an equivalent reduction) and unlikely to recover naturally in medium to long-term*
moderately degraded	*floristic and/or structural diversity is significantly reduced (and/or subject to a threatening process which will lead to an equivalent reduction) but may recover naturally with removal of threatening processes*
little to no degradation	*floristic and/or structural diversity is largely intact*
range	*area of smallest concave polygon which includes all occurrences*

Native vegetation has a key role in protecting the health of our waterways, and water quality. Ultimately this impacts on our coastal and estuarine areas.

Table 4.1 Bioregional Conservation Status of Ecological Vegetation Classes (EVCs)

STATUS		CRITERIA
Presumed Extinct	X	Probably no longer present in the bioregion (the accuracy of this presumption is limited by the use of remotely-sensed 1:100 000 scale woody vegetation cover mapping to determine depletion - grassland, open woodland and wetland types are particularly affected)
Endangered	E1	Contracted to less than 10% of former range; or Less than 10% pre-European extent remains;
	E2	Combination of depletion, degradation, current threats and rarity is comparable overall to E1: • 10 to 30% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC reduced to 30% or less of former range and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a majority of former area.
Vulnerable	V1	10 to 30% pre-European extent remains;
	V2	Combination of depletion, degradation, current threats and rarity is comparable overall to V1: • greater than 30% and up to 50% pre-European extent remains and moderately degraded over a majority of this area; or • greater than 50% pre-European extent remains and severely degraded over a majority of this area; or • naturally restricted EVC where greater than 30% pre-European extent remains and moderately degraded over a majority of this area; or • rare EVC cleared and/or moderately degraded over a minority of former area.
Depleted	D1	Greater than 30% and up to 50% pre-European extent remains;
	D2	Combination of depletion, degradation and current threats is comparable overall to D1 and: • greater than 50% pre-European extent remains and moderately degraded over a majority of this area;
Rare	R	Rare EVC (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as Endangered, Vulnerable or Depleted
Least Concern	LC	Greater than 50% pre-European extent remains and subject to little to no degradation over a majority of this area

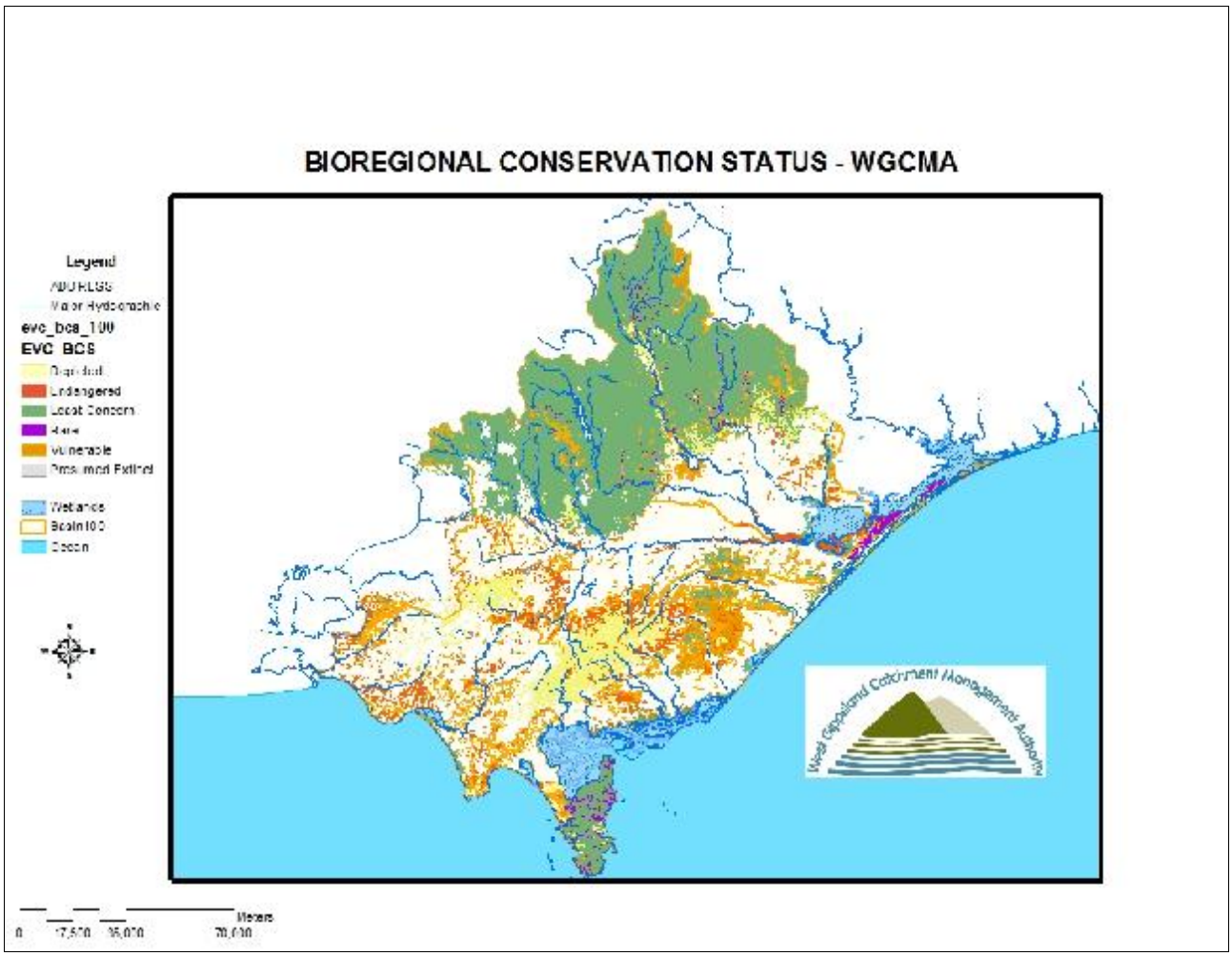
Geographic Occurrence of Ecological Vegetation Classes (EVCs) within Bioregions

Rare	R1 R2 R3	- total range generally less than 10 000 ha; or - pre-European extent in Victorian bioregion less than 1000 ha; or - patch size generally less than 100 ha
Naturally Restricted	NR	- pre-European extent in Victorian bioregion less than 10 000 ha.
Common	C	- pre-European extent in Victorian bioregion greater than 10 000 ha.
Minor	M	- pre-European extent in Victorian bioregion less than approximately 1% of Statewide extent

Using these criteria strategic priority setting across the Region can be made in the absence of field inspection and habitat quality information. Recognition of factors of significance for an EVC within the landscape enables the determination of priorities (Table 4.1).

All EVCs in West Gippsland have been prioritised (**Appendix 9.4**).

The allocation of a Strategic Regional Priority without site-based inspection will assist strategic decision-making. However, it must be recognized that the Strategic Regional Priority may be altered by biodiversity attributes determined by site assessment. Field assessment of quality is necessary to determine the Conservation Significance of the native vegetation (Table 4.2).



Bioregional Conservation Status Map of the West Gippsland Region

4.2 Conservation Significance

Conservation Significance builds on the concept of Conservation Status. Essentially it assesses the Conservation Status (amount of a particular vegetation type remaining since European settlement) and then takes into account site-specific information such as the quality of the vegetation community or the presence or absence of threatened species. It is generally a site-specific term.

Site-specific information used to assign Conservation Significance generally requires a measure of habitat quality to be assigned. This is also known as a Habitat Score.

The Habitat Score reflects the retention of largely natural quality (where complete retention = 1).

Categories for Conservation Significance and how they are derived can be seen in table 4.2.

Protecting (fencing) enhancement (planting) and management (weed control) of remnant vegetation.

Single Trees and Small Patches of Remnant Vegetation

The principle of Conservation Significance allows us to attribute value to single trees such as river red gum or a small patch of remnant vegetation.

For example taking into account site-specific information a single tree or a small patch of remnant vegetation could take on a "High" Conservation Significance classification due to the presence of outstanding habitat characteristics such as hollows and/or the presence of specific individual species.

Table 4.2 Differential priorities and identification of site based biodiversity attributes to be applied in regional targeting

BIODIVERSITY ATTRIBUTES			
CONSERVATION SIGNIFICANCE	VEGETATION TYPES		*OR* OTHER ATTRIBUTES
	Conservation Status[1]	Habitat Score[2]	
VERY HIGH	Endangered Vulnerable Rare	0.4 - 1 0.5 - 1 0.6 - 1	▪ sites with unique National Estate values ▪ sites identified as being of national significance as a relict, endemic, edge of range or other non-species values ▪ Ramsar Sites ▪ East Asian-Australasian Shorebird Site Network sites ▪ Other wetlands of international significance for migratory waterbirds ▪ areas identified as providing refuges (e.g. during drought) for threatened species ▪ best 50% of habitat for each threatened species[2] in a Victorian bioregion

Other factors that must be considered when making decisions:

- *riparian zone native vegetation*
- *high groundwater recharge potential or salinity discharge site*
- *very high erosion hazard*
- *susceptible to soil structure decline, water logging or landslips*
- *old growth vegetation*
- *area relatively undisturbed*
- *hollow bearing trees*
- *threatened community or species (FFG Act)*
- *listed as a Biosite in Bioregional Plan*
- *low presence of weeds*

HIGH	Endangered Vulnerable Rare Depleted	< 0.4 0.3 - 0.5 0.3 - 0.6 0.6 - 1	▪ sites with rare National Estate values ▪ sites identified as being of state significance for relictual, endemic, edge of range or other non-species values ▪ Wetlands listed in 'A Directory of Important Wetlands in Australia' ▪ Wetlands of national significance for migratory waterbirds ▪ areas identified as providing refuges (e.g. during drought) for rare species ▪ priority areas for the re-establishment of habitat for a threatened species (eg. as determined in a Biodiversity Action Plan) ▪ the remaining 50% of habitat for threatened species[2] in a Victorian bioregion ▪ best 50% of habitat for rare species[2] in a Victorian bioregion ***Other factors that must be considered when making decisions:*** ▪ *adjacent to riparian zone native vegetation* ▪ *moderately high groundwater recharge potential or slightly uphill of discharge site* ▪ *high erosion hazard or potential salinity discharge site* ▪ *moderately susceptible to soil structure decline, water logging or landslips* ▪ *medium presence of weeds*

MEDIUM	Vulnerable Rare Depleted Least Concern	< 0.3 < 0.3 0.3 - 0.6 0.6 - 1	▪ sites with uncommon National Estate values ▪ sites identified as being of regional significance for edge of range or other non-species values ▪ Wetlands of bioregional significance (based on application of National Land and Water Resources Audit criteria). ▪ the remaining 50% of habitat for rare species[2] in a Victorian bioregion ▪ best 50% of habitat for regionally significant species[2] ***Other factors that must be considered when making decisions:*** ▪ *away from riparian zone native vegetation* ▪ *moderate groundwater recharge potential* ▪ *moderate erosion hazard* ▪ *low susceptibility to soil structure decline, waterlogging or landslips* ▪ *medium to high presence of weeds*
LOW	Depleted Least Concern	< 0.3 < 0.6	***Factors to consider when making decisions*** ▪ *not adjacent to or within riparian zone native vegetation* ▪ *low groundwater recharge potential* ▪ *low erosion hazard* ▪ *well structured soil of depth greater than 150mm* ▪ *high presence of weeds* ▪

1. See table 4.1

2. conservation status of species determined with reference to NRE Victorian Rare or Threatened Flora and Fauna lists, as supplemented by the Native Vegetation Plan. The relative quality and suitability of habitat for threatened species depends on particular requirements and therefore must be estimated on a species-by-species and location-by-location basis by the relevant planning authority using the best available information.

4.3 The Net Gain Principle

The Net Gain principle has been developed to facilitate Victoria's Native Vegetation Framework primary goal:

'*A reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation, leading to a Net Gain*' (DNRE, 2002).

What is Net Gain?

'*Net Gain is the outcome for native vegetation and habitat where overall gains are greater than overall losses and where individual losses are avoided where possible. Losses and gains are determined by a combined quality-quantity measure and over a specified area and period of time. Gains may be either required offsets for permitted clearing actions or as a result of landholder and Government assisted efforts that are not associated with clearing*' (DNRE, 2002).

Consistent with the other goals of the Victorian Biodiversity Strategy, the Net Gain approach aims to achieve:

- Enhancement of biodiversity
- Improved land and water quality
- Amelioration of the impact of climate change

The Net Gain principle utilises the capacity for partial recovery of extent and quality in native vegetation through active intervention.

Implementation of the Net Gain principle is based on the adoption of a planned approach for development. The first step is the protection and enhancement of significant native vegetation values. Any proposed development should, through planning and design, avoid impact on native vegetation and habitats, and, where this is not possible, the impacts should be minimised. ***Only after these steps is it appropriate to consider offset of impacts on native vegetation.***

Offsets need to be closely linked to the nature of the impacts. The following offset criteria are intended to facilitate the linkage between impact and offset:

- Areas selected for enhancement or restoration should be the same Ecological Vegetation Class (EVC) as the area impacted.
- Areas selected for revegetation should be revegetated as the same EVC.
- The ecological function of the offsets should be similar or more effective, than the area impacted (e.g. Corridor values or breeding sites).
- The vegetation quality of areas proposed for offset should preferably be the same or better than the vegetation quality in the area being lost (or at least have the capacity to reach the same or better quality following offset works).

- Offsets should be within the same bioregion as the area impacted and preferably close by.

- Offsets should not be delayed, and, if possible, should take place before the loss. The time to equivalence should be minimised.

Quality Revegetation Projects will be vital to achieve Net Gain.

Net Gain embodies the principle that where losses are incurred, effort should be expended to balance the losses with commensurate gains. The extent of offset required for any particular loss scenario can be determined using the quality-quantity accounting system (habitat-hectares) developed by DSE and described in *Victoria's Native Vegetation Management Framework*.

The habitat quality component of habitat-hectares is modelled on the basis of commonly accepted indicators for native vegetation condition and viability. The number of habitat-hectares equals the habitat quality score multiplied by the area (in hectares) of the remnant stand. The habitat-hectares lost should be balanced by gains of an equal number of habitat-hectares obtained through a range of activities in line with the offset criteria outlined above.

Use of the habitat-hectares accounting system will facilitate the establishment of a complete picture of the native vegetation asset against which incremental losses can be evaluated. In the case of scattered trees in the landscape, compensatory plantings need to be determined by site specific information including gains that can be achieved within the broader landscape.

The habitat hectare assessment is a site-based measure of quality and quantity of native vegetation that is assessed in the context of the relevant native vegetation type. This measure can be consistently applied across the State. If it is assumed that an unaltered area of natural habitat (given that it is large enough and is within a natural landscape context) is 100% of its natural quality, then one hectare of such habitat will be equivalent to one habitat hectare. This is the quality multiplied by the quantity. Ten hectares of this high quality habitat would be equivalent to ten habitat hectares, and so on. If an area of habitat had lost 50% of its quality (say through weed invasion and loss of understory), then one hectare would be equivalent to 0.5 habitat hectares, 10 hectares would be equivalent to five habitat hectares, and so on.
(DNRE, 2002)

The broad approach to putting Net Gain into practice aims for:

- The use of measurable and relevant information to guide decisions and report outcomes.

- More consistency and certainty in planning enable proponents of large developments to calculate, at the feasibility stage, whether offset works are feasible and to estimate their cost.
- The ability to link across areas and scales and to provide a whole of landscape view.
- Mechanisms that are simple to understand and to deliver by natural resource planners and managers that are typically not specialists in conservation ecology.
- Robust results.
- Mechanisms that apply efficiently, equitably and transparently.

5. Management Principles and Targets

This section focuses on the range of guiding principles that will ensure our vegetation is managed responsibly into the future. It looks at these at both a Regional and State level.

This section also looks at establishing a hierarchy for actions. This is particularly relevant for decision-making processes, especially those involving the distribution of public funding, such as Government grants.

This chapter also covers issues surrounding "who pays" as well as establishing native vegetation targets for the region.

5.1 Principles for Native Vegetation Management

In any approach to threats to vegetation, the plan supports Victoria's Native Vegetation Management Framework hierarchy of "Protect, Avoid, Minimise and only then Mitigate with Offsets" (DNRE, 2002)

According Victorias Native Vegetation Management Framework (2002), the Statewide principles are:

1. Retention and management of remnant native vegetation is the primary way to conserve the natural biodiversity across the landscape.
    a. All native vegetation has value.
    b. Important habitats and populations of endangered species should be protected through voluntary or regulatory means.
    c. Biodiversity values are not restricted to threatened and depleted vegetation communities. An adequate proportion of each non-threatened vegetation community must also be managed principally for conservation.
    d. Large natural areas of remnant vegetation are of fundamental importance for nature conservation and are irreplaceable. All other things being equal, large remnants are inherently more valuable than small patches that total the same area.

2. The conservation of native vegetation and habitat in a landscape is dependent on the maintenance of catchment process.
    a. Maintaining ecological processes provides productivity salinity, water quality and other land management benefits.
    b. Native vegetation management strategies must be integrated with land protection and resource use, including productive agriculture, for both long-term success and for ensuring that land and water protection outcomes are achieved.

3. The cost of vegetation management should be equitably shared according to benefits accrued by the landholder, community and region
    a. Land managers have a responsibility to retain native vegetation.
    b. Public resources are to be directed to increasing the extent of native vegetation or to enhancing the quality of native vegetation through appropriate management.
    c. Public resources are to be used to facilitate voluntary actions by landholders and for shared investment in enhancing vegetation of conservation importance.

4. A landscape approach to planning native vegetation management is required. Goals for native vegetation management will be based on bioregions, or sub-units, within the Catchment Management Authority region. Priorities for vegetation management should be specific for each bioregion and catchment.
    a. Multiple patches of the same vegetation community should be retained or enhanced across their geographic range.
    b. The position of remnants in the landscape affects their conservation value.

5.2 Hierarchy of Actions for Setting Priorities

When government is dealing with the public, there needs to be a clear priority setting mechanism.

In the State Native Vegetation Framework, the following priorities are listed:

1) **Protection of remnants** (e.g. reservation, covenants, management agreements, fencing, de-stocking).

2) **Management of existing remnants** (weed control, vermin control, maintenance of the hydrological regime, revegetation for buffering, promoting/enhancing natural species and/or structural and/or age class and/or size class diversity).

3) **Enhancement of degraded remnants**.

4) **Enhancement of connectivity and integrity through re-creation of habitat** (including riparian revegetation) e.g. corridors, buffers, restoration of ecological processes.

5) **Revegetation for land degradation offset works**

6) **Re-creation of isolated areas of habitat**

7) **Revegetation works of lower order than above**

These priorities have been developed further to establish a mechanism for funding projects in the West Gippsland Region. See diagram below.

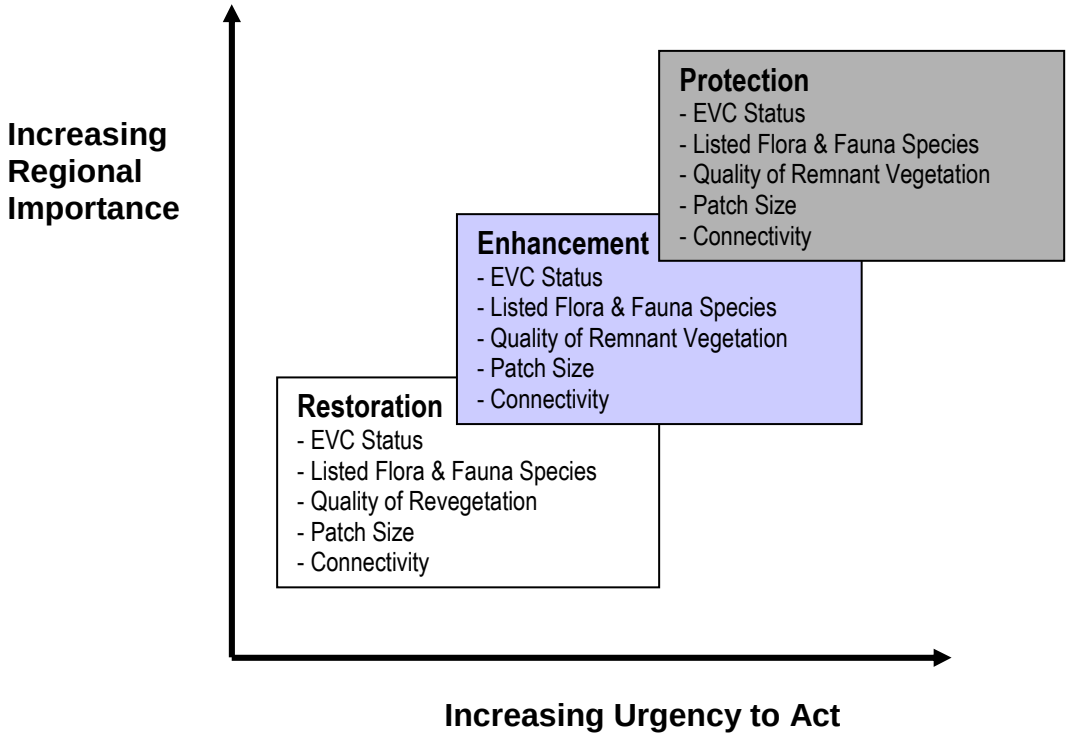


Figure 5.1 Hierarchy of Priorities

Primary Priorities

Protect – Conservation reserves, forest planning, local government planning, covenants, Land for Wildlife and incentives including fencing for stock and pest animal exclusion.
Enhance – Management of existing remnants – weed control, vermin control, maintenance of hydrological regimes, revegetation for buffering, promoting/enhancing natural species and /or structural and/or age class and/or size class diversity.
Restore – Re-creation of areas of habitat where possible

Secondary Priorities

EVC Status – Protect, enhance and restore EVC's that are of highest conservation status or have inadequate representation within a formal reserve system. See **appendix 9.4**
Listed Flora and Fauna Species – Priority to be given to projects that protect, enhance and restore habitat for significant flora and fauna species, see **appendix 9.3.** Areas protected under international agreements (Eg. Ramsar, JAMBA, CAMBA) will also have high priority.
Quality of Remnant Vegetation – Vegetation communities with high habitat-hectare scores to be given priority for protection and/or enhancement.
Patch Size – Large areas of remnant vegetation usually support greater biodiversity priorities and are usually more cost-effective to manage as compared to smaller areas. Focal species analysis of birds in the Gippsland Plain Bioregion indicates that any remnant over 10 hectares, and certainly all remnants over 30 hectares in area, are likely to have significantly more species than smaller remnants. These should be a priority.
Connectivity – Revegetation programs should target potential habitat links between remnant areas of vegetation.

Tertiary Priorities

Functionality – Projects may have other positive impacts such as improving stream bank stabilisation, minimising recharge, preventing soil erosion or improving water quality.
Viability – Areas subject to ongoing threats are of a lower priority than areas without identified threats .
Capacity – Projects in areas with community support and commitment are of higher priority.
Cost Benefit – Projects that show a greater biodiversity gain from lower costs will be of higher priority.

5.3 Cost Sharing and Native Vegetation Management

Cost sharing in native vegetation management activities is an important issue. This is particularly relevant where public funds are being used to restore and fix land management problems on private land. Though many problems occur on private land, the initial causes are often historic or not the fault of the present land manager. Activities and actions to address problems often require cost sharing between the existing land manager and tax payers as benefits are of major benefit to the broader community. Cost sharing arrangements need to be determined following agreement between all stakeholders and should reflect the extent to which all stakeholders contribute to the problem and those who benefit from better land management.

Responsibilities:

- It is the responsibility of governments and communities to ensure that mechanisms (legislation, organisations, regulations etc) are sufficient to support land managers in their efforts to manage native vegetation on freehold land

- It is the responsibility of land holders and the broader community (through education, levies, taxes, subsidies and extension advice) to manage landscapes in an ecologically sustainable manner

- It is the responsibility of land managers to manage biodiversity in an ecologically sustainable manner, the costs being shared according to benefit

- Governments and schools have a responsibility to educate the community on the benefits of biodiversity conservation

Duty of Care

The Industry Commission (1997) recommends that duty of care obligations, for all forms of land tenure, should be extended to include:

- all natural resources, including land, surface and ground water, flora and fauna

- biological diversity and ecological integrity

Many landholders are already making significant contributions to vegetation management, and are doing so without recompense. In part, this is because they can incorporate it readily into their land management. For instance, there are over eight-hundred Land for Wildlife properties in West Gippsland, fifty properties have been covenanted for conservation through the Trust for

Nature program with another forty currently under negotiation. In many cases, these landholders are voluntarily contributing to a conservation outcome that has enormous public benefit.

The requirements of sustainable agriculture by farmers are generally accepted. This duty of care also needs to embrace ecologically sustainable agriculture and land management. A practical way of assessing sustainability is to ask the question "Can the current management be repeated again and again into the future without affecting the long-term productivity of the land. If it can't, then the current management is not sustainable. The Industry Commission (1997) further states: *'under the proposed duty of care, farmers would be….required to prevent any loss of biodiversity where it was reasonable and practical to do so. The practical extent of what needs to be done would need to be set out in the code of practice for the particular locality'*.

The Industry Commission (1997) limits the obligations of landholders by stating 'as the costs of biodiversity conservation rise, at some point it becomes both inefficient and inequitable, unreasonable and impractical to expect individual land managers to fund biodiversity conservation as part of their duty of care'. It is at this point that governments and the community must step in to support the land manager in their task of management of native vegetation. Already, much of this support is in place, however much of it is short-term funding. The funding of native vegetation management and conservation on freehold land needs to be more strategic and long-term.

Wildlife corridor along unused railway land near Buffalo. The vegetation is acting as a valuable link between isolated areas of remnant vegetation

This Plan acknowledges that many landowners recognise that it is in their interest to protect biodiversity, in both the short and long term. In those cases where society's interest in protecting biodiversity coincides with the land user's interest, self–regulation may be a cost-effective and appropriately a non-interventionist strategy.

However in the majority of circumstances, there is a considerable gap between the public interest in biodiversity conservation and the private interests of individual land users. While the preservation of remnant vegetation may provide long term benefits to land users (acting as windbreaks, reducing salinity, etc) these benefits are less tangible and immediately realisable than the increase in short-term productivity which remnant removal promises. This is a major limitation of self-regulation and other motivational based approaches to biodiversity protection.

The Plan acknowledges the need to have available a range of voluntary and financial measures to protect the Region's remaining remnant vegetation. It must also ensure that it communicates these measures to all land managers. At the same time, the CMA is actively exploring with

Government, additional innovative approaches to protect native vegetation, on behalf of land managers. These include extending carbon sink values to existing native vegetation and not just vegetation planted since 1990.

Much of the work associated with remnant protection, enhancement, revegetation or rehabilitation is labor intensive. In recognition of the broader public benefits many organisations and individuals are well prepared, experienced and willing to help in this task

5.4 Native Vegetation Targets

Setting native vegetation targets in this plan is important. Firstly they will help protect and enhance ecological systems and ultimately protect biodiversity. They will also provide us with a long-term benchmark to measure our success and progress.

It is envisaged that these targets will not be reached by introducing new laws and regulations but are suggested as long-term goals which we will achieve if this plan is implemented well, and built around the capacity and willingness of the community to bring about these changes.

At the heart of native vegetation management is the need to protect and enhance the region's biodiversity. Vegetation clearing and decline has seen a loss of many unique flora and fauna species, many more are vulnerable, rare or threatened. Clearly halting and reversing vegetation decline is the key to preventing more species extinctions while the immediate target is to simply prevent any further decline in Native Vegetation Quality and Quantity and to connect isolated remnants.

The targets in this plan take two forms: Protection targets and Extent targets. Protection targets are concerned with the formal protection of existing Native Vegetation. This is the highest priority of the plan. It is important to clearly define what is meant by formal protection and gains in extent in the plan.

Formal Protection

"Formal protection includes reservations (see appendix 9.5) on public land and covenants and legislative procedures (eg. Section 173 and Planning Scheme Overlays) on private land."

What do we mean by gains in Extent?

Gains in extent can be defined as increasing the quality and quantity of existing EVCs and degraded landscapes through revegetation and natural regeneration. This includes regaining areas that are so depleted, they have no mapped identifiable EVC status, eg. Scattered native trees in a paddock.

For a detailed listing of areas that come under the Conservation Reserve category, please refer to **Appendix 9.5**, "What is a Reserve". Conservation Reserves currently account for 260,850 hectares of West Gippsland.

Both the 'protect' and 'extent' targets set out in the plan have the greatest impact on the Gippsland Plain and Strzelecki bioregions, and a lesser impact on the Highlands Southern Fall and East Gippsland Lowlands bioregions.

Both the Alpine and Wilsons Promontory Bioregions already meet or exceed the targets set out in this plan and as such there is little need for the plan to set further targets for these bioregions. Targets have also been excluded from minor occurrences of EVCs indicated as (M) in appendix 9.4. The reasoning behind this is that these EVCs are well represented in neighbouring bioregions.

In 1998, a perpetual licence was sold to Hancock Victoria Plantations (HVP) over 38,000ha of the Strzelecki State Forest for timber utilisation purposes under an act of parliament (VPC Act). Of this 38,000ha, 13,000ha was licenced softwood plantation, 7,400ha was hardwood plantation and the remainder is native vegetation. There is debate in sections of the community that some of the 7,400ha licenced hardwood Plantation is actually reforestation or regenerated native forest logging coupes and as such shouldn't be classified as plantation. It is not the intent of the Native Vegetation Plan to enter into this issue. Due to the legal standing of the licenced hardwood plantation and the fact that HVP are legally entitled to manage these plantations for commercial purposes within the requirements of the Planning and Environment Act (1987), the 7,400ha of hardwood plantation and the 13,000ha of softwood plantation can not be used in the target setting process. However the remaining 17,600 of native vegetation has been used in the target setting process.

The diagram below demonstrates how National Targets fit in with the Regional targets in this plan.

Target Framework for the Native Vegetation Plan

National Aspirational Outcomes

- Biodiversity and the extent, diversity and condition of native ecosystems are maintained or rehabilitated
- Populations of significant species and ecological communities are maintained or rehabilitated
- Ecosystem services and functions are maintained or rehabilitated

National Resource Condition Targets

- Integrity of native vegetation communities
- Significant native species and ecological communities
- Ecological significant invasive species

Regional Aspirational Targets (50 year timeframe)

- To increase the extent and condition of all EVC's to above self sustaining thresholds
- To achieve a net gain in native vegetation across the region

Formal Protection Targets			Extent Targets	
Conservation Status	**Target for Fragmented Bioregions by 2040**	**Target for Un-fragmented Bioregions by 2040**	**%Pre European Extent**	**Extent Target by 2050 across each bioregion**
Endangered	**100%** of Current Extent	**100%** of Current Extent	**0**	Selectively targeted for re-establishment work. Aim to achieve 5% of former range
Vulnerable	**90%** of Current Extent	**60%** of Current Extent	**>0-9**	10% of former range
Depleted	**35%** of Current Extent	**15%** of Pre European Cover	**10-34**	35% of former range
Least Concern	**35%** of Current Extent	**15%** of Pre European Cover	**>35**	Extended where strategically important
Rare	**100%** of Current Extent	**100%** of Current Extent		

Management Action Targets (1-5 year timeframe)

- Communication / Education
- Research and Monitoring
- Land Use Planning
- Strategic Investment
- Sustainable Native Vegetation Management

Fig 5.2 Hierarchy of Targets

Formal Protection Targets

Targets are based on the relative amounts of each Ecological Vegetation Community (EVC) we have left today in each bioregion relative to that which existed prior to European settlement. This is expressed as a % of pre-1750 extent. Targets have also been developed with large and small blocks of remnant vegetation in mind, or put another way, fragmented and unfragmented bioregions.

Bioregions which have less than 35% pre-European vegetation cover left are called Fragmented bioregions. Thirteen of Victoria's 22 bioregions are classified as fragmented. Two are in the West Gippsland Region: the Gippsland Plain and Strzelecki Ranges. Protection targets are set higher for these bioregions.

The idea behind targets as outlined in JANIS (1997), is that across each bioregion, at least 15% of each EVC should be represented as part of a formal reserve system. For some bioregional EVCs this 15% formal reserve target has already been achieved with opportunities to build on a solid foundation now possible.

EVCs classified as Endangered have less than 10% pre-European cover remaining and as such all remaining areas need to be protected. With EVCs classified as Vulnerable the aim is to protect 60% or 90% of what is left depending on whether an EVC is located in a fragmented or unfragmented bioregion. Whilst for Depleted and Least Concern EVCs the aim is to permanently protect either 35% of what remains or 15% of pre European extent depending on whether an EVC is located in a fragmented or unfragmented bioregion. These targets as they relate to West Gippsland are summarised in the table below.

Conservation Status		Target for Fragmented Bioregions by 2040	Target in Ha	Target for Un-fragmented Bioregions by 2040	Target in Ha
Endangered	E	**100%** of Current Extent	24,789	**100%** of Current Extent	336
Vulnerable	V	**90%** of Current Extent	38,577	**60%** of Current Extent	2008
Depleted	D	**35%** of Current Extent	10,229	**15%** of Pre European Cover	315
Least Concern	LC	**35%** of Current Extent	36	**15%** of Pre European Cover	1,206
Rare	R	**100%** of Current Extent	653	**100%** of Current Extent	2,373
		FRAGMENTED BIOREGIONS Strzelecki Ranges & Gippsland Plains		**UN-FRAGMENTED BIOREGIONS** Highland Southern Fall & East Gippsland Lowlands	

Table 5.2 Summary of EVC Protection Targets by Conservation Status

These protection targets can be expressed on a bioregional basis – see table below

Bioregion	Protection Target by 2040	Target in Ha/Yr
Gippsland Plain	44,797	1,211
Strzelecki	29,486	797
Highlands Southern Fall	4,615	125
East Gippsland Lowlands	1,623	44

Table 5.3 Summary of EVC Protection Targets by Bioregion

It is important to note at this point that the targets in this plan are set with a goal in mind but should not be viewed as an end point. Targets will be reviewed on a regular basis.

In each of these cases, targets are aiming for permanent protection as part of a formal reserve system or legislative processes on private land such as covenants. It is envisaged that this process can be supplemented through voluntary activities on private such as voluntary protection and enhancement of remnant native vegetation which is currently underway through movements such as Landcare and other non-Government Organisations, supported through incentive systems such as the Natural Heritage Trust and local government schemes. This will further add to the grand total of vegetation protected across the region.

Through a combination of formal reserves and voluntary vegetation protection and enhancements schemes we will greatly increase our chances of retaining habitat for all our native flora and fauna in the future.

This plan includes Special Protection Zones (SPZ's) within State Forest in its tally of "protected" areas. In West Gippsland SPZ's account for 114,720 hectares of public land. SPZ's don't have the formal legislative protection of a conservation reserve making them easier to rescind. It is the view of this plan that Conservation Reserves are more in line with the spirit of JANIS criteria than are SPZ's. As such, it would be preferable if future protection of public land takes the form of conservation reserves rather than SPZ's.

It is not the intent of this Plan to force landholders achieve these targets at a farm level, rather the goal is to achieve this target in the long-term across each bioregion, through a combination of formal reserves and voluntary vegetation protection and enhancement activities, many of which have already commenced. For example, the 2002/03 Bush Tender trial in the West Gippsland Region has resulted in 20 landholders successfully bidding and approximately 280 hectares of vegetation undergoing various management agreements ranging from 6 years without formal protection to 6 years including formal protection.

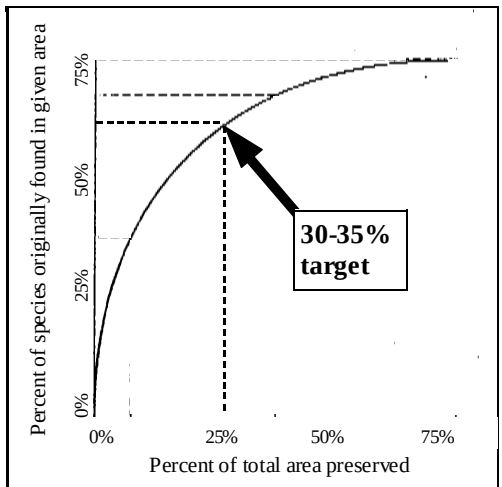
Whilst it is unrealistic to legislate to achieve a landscape target it is worthwhile developing a long-term guiding principle to achieve a 35% vegetation cover of high quality and diverse species to help protect biodiversity. Such a target would have at least a 50-year timeframe. The information box presented below provides some rationale for this figure.

How much native vegetation do we need?

The question of how much native vegetation we need to support biodiversity is complex and difficult. Balancing social and economic outcomes will always generate debate and ultimately compromise. As such, based on a number of studies a figure of 35% landscape cover has been offered.

The 35% principle

Research has demonstrated that in a landscape which has 35% native vegetation, 75-80% of species could still survive; but below that level, extinctions accelerate rapidly. The National Forest Policy recommends that the Regional Forest Agreements reserve a minimum 15% of the pre-European extent of each type EVC, but even if the recommendation is implemented, it is seriously inadequate unless there is substantial additional native vegetation protected and established across the landscape.



Relationship between species loss and habitat loss

The species-area relationship

There is much scientific research on the relationship between species and habitat area. This started with research on the species of oceanic islands, but it quickly became apparent that the same principles applied to "habitat islands" in the broader rural landscape. There is a clear and consistent relationship across hundreds of studies between species and habitat area (e.g. Simberloff 1986, 1992). As a rule of thumb, by the time 50% of the native vegetation has been cleared, 90% of species will still be present, but by the time 90% has been cleared, only 50% of species will remain. The rate of decline accelerates as more native vegetation is cleared.

Species and populations—implications for biodiversity conservation

First, populations decline. When population decline reaches 70-90%, species ranges start to decline, and by the time habitat is down to 30-35%, populations may already have declined by 95%. So by the time people start to notice, populations have already suffered catastrophic declines.

Supporting studies

These results are supported by the work of Barrett (2000) who recommended 30% native vegetation on farms based on findings from the Bird Atlas survey, and Andren *et al* (1994) who found that below 30%, the combined effect of patch size and isolation resulted in population declines greater than those due to the habitat loss. If this is the critical threshold for biodiversity, one would also expect to find impacts on farming systems, and Walpole (1999) found pasture production on farms peaked when 34% of the farm was native vegetation.

Extent Targets

Extension targets are designed primarily to reduce the level of threat to each EVC by increasing their extent where possible. Ideally, for EVCs currently classed as Endangered, the aim is to bring their extent up to such a level that eventually they may no longer be Endangered, but Vulnerable. For EVCs presently in the Vulnerable category, the ideal is to bring their extent up so that they are no longer Vulnerable, but Depleted. In a number of cases, these ideals equate to unfeasibly large areas, so some revisions have been made.

EVCs with less than 1% of their pre-European extent left have a 5% target. It is important to note at this point that some of these EVCs may be extremely difficult to recreate and extend, therefore they are identified in the plan as important for reestablishment research and feasibility work. EVCs with 1-9% left have a 10% target. EVCs with 10-34% left have a 35% target. In the case of Damp Forest in the Strzelecki Ranges Bioregion and Lowland Forest in the Gippsland Plain Bioregion, the 35% target has been revised down to 25% for reasons of feasibility. For those EVCs presently above the 35% target, the plan allows for further extension work wherever strategically

important to do so. However, the majority of extension work will concentrate on Endangered and Vulnerable EVCs.

%Pre European Extent	Extent Target by 2050 across each bioregion	Target in Ha
0	Selectively targeted for re-establishment work. Aim to achieve 5%	11,837
>0-9	10%	13,981
10-34	35%	29,263
>35	Extended where strategically important	6,000 not assigned to particular EVCs in Appendix 9.1

*In the cases of Damp Forest in the Strzelecki Bioregion and Lowland Forest in the Gippsland Plain Bioregion, the 35% target has been revised down to 25% for reasons of feasibility.

Table 5.4 Summary of EVC Extent Targets by % Pre European Extent

These extent targets can be expressed on a bioregional basis – see table below

Bioregion	Extent Target by 2050	Target in Ha/Yr
Gippsland Plain	38,886	827
Strzelecki	15,679	336
Highlands Southern Fall	434	9
East Gippsland Lowlands	82	2

Table 5.5 Summary of EVC Extent targets by Bioregion

Private and Leased Public Land

The importance of management of native vegetation on private land and how it will compliment targets is worthy of a special mention.

Within the region 100,000 hectares of native vegetation exists on private and leased public land. The majority of this is found in the Strzelecki Ranges, Gippsland Plain and Highlands-Southern Fall Bioregions. Within the Strzelecki Bioregion, Grand Ridge Plantations manage 32,000ha of native vegetation.

The remaining 60% is found on private land mostly as fragmented remnant vegetation existing as relatively small patches.

The survival of this vegetation relies on landholders actively managing and enhancing these remnants. Measures such as excluding stock, establishing supplementary indigenous planting and undertaking active weed control will be vital to its long-term survival. Also important will be establishing corridors and vegetation links that are compatible with and enhance agricultural systems. This could include a vegetation corridor having the duel benefit of acting as a windbreak, helping to lower a saline water table or utilising difficult to manage or eroding gullies, creeks and steep slopes. Such measures will be pivotal in reducing remnant vegetation isolation and ultimately help integrate private land remnant vegetation into the wider vegetation network.

Landholder incentives to achieve this vision already exist, however scope exists to build better schemes and mechanisms to help protect these very important fragmented patches that exist on private land. A summary of current incentives can be found in **Appendix 9.6.**

5.5 Assistance and Incentives

To implement this plan and achieve our long-term native vegetation management goals the use of advice, incentives and grants will be important.

Because good native vegetation management is in the interest of the broader public it is reasonable to expect that incentives, grants and advice should be made accessible to landholders who are chartered with the responsibility of managing native vegetation on our behalf.

Many organisations and agencies have a role in providing these services. Some key contacts are listed below.

The list of incentives and schemes available to landholders to assist in managing native vegetation is long and changes often. **Appendix 9.6** attempts to capture these. Ensuring incentive schemes and grants are promoted and made freely accessible will be an important action resulting form this Plan.

ISSUE	AGENCY/ ORGANISATION	ADVICE AVAILABLE
Fauna management	DSE/DSE	Identification and advice on habitat and benefits
Land for Wildlife	DSE/DSE	Mechanisms, procedures and benefits
Private Native Forestry	Greening Australia (Victoria), DSE/DSE	Forestcare program offers professional forestry advice on management options in native forests.
Property covenanting	Trust for Nature	Mechanisms, procedures and benefits
Plant establishment	Greening Australia (Victoria), DSE/DSE	Methods of propagation, seed sources, seed banks, contacts
Remnant vegetation protection	WGCMA, DSE/DSE, Councils, Greening Australia (Victoria), Trust for Nature	Technical advice on types of EVCs present, fencing subsidies available, remnant protection incentives and management
Revegetation	WGCMA, DSE/DSE, Councils, Greening Australia (Victoria)	Species lists, fencing incentives, species to plant, weed control, land management agreements
Whole farm planning	DSE/DSE	Mechanisms, procedure, funding and benefits

Table 5.6 Extension services available for landholders with, or wanting to establish native vegetation on their land.

6. Native Vegetation Plan Implementation

This chapter explores in more detail the issues of native vegetation utilisation and the Native Vegetation Retention planning decision-making processes. It also looks at the application of the Net Gain principle.

This chapter is particularly relevant to people involved in planning decisions such as Local Government Officers and DNRE staff. It should also help clarify these issues for other members of the public.

6.1 Utilisation of Native Vegetation

Ecologically sustainable utilisation of native vegetation is to be supported within the region. Although not suitable for high priority sites, utilisation options for native vegetation may provide an incentive to retain, manage and extend vegetation.

Properly managed indigenous plant produce, such as seed, cut flowers and foliage, bush food, timber and nectar production (apiary), can be a sustainable use of native vegetation. It is worth noting seed collecting on public land requires a permit. Demand for these products will encourage native plants to be established on currently cleared land. Native plants are increasingly valued for landscaping and land protection works.

Currently "private native forestry" logging occurs on private land where native forest is regenerated after logging. This is regulated under Local Government Planning controls and the Code of Forest Practice.

The addition of any perennial woody vegetation to the landscape will have indirect benefit to off site native vegetation by changing catchment hydrology especially water tables, protecting soil, providing some structural diversity and limited floristic diversity, providing shelter by adding landscape roughness, providing microclimates and buffering from more incompatible landuses such as residential or grazing land. These benefits will increase if the species used in plantations and rural or urban developments are native, indigenous, floristically and structurally diverse or have corridors and nodes of indigenous vegetation running through them. The benefits will be offset if the species are environmental weeds, particularly if allowed to spread. In plantations incremental revegetation can occur in gullies as opposed to the incremental clearing that can occur with irresponsible forestry, grazing land, house blocks or roadsides.

Grazing of native grasslands, under careful management, may in some circumstances actually enhance the survival of endangered native vegetation communities. The low maintenance requirements of deep rooted perennial native grasses means they can be valuable components of pastures, especially in dry or low fertility areas.

Tourism utilising native vegetation has largely been occurring within areas managed by Parks Victoria however increasing ranges of passive and active ventures are being developed in private native forests. Ecotourism provides an opportunity for public understanding of native vegetation.

Native vegetation and associated biota also provides material for research into new chemicals, drugs and fibre.

Thrips in Citris Orchids – Case Study

It was found that a species of mite was present in the soil of properties that managed to avoid major thrip problems in citris orchids. Properties with bare ground or monocultures such as Lucerne were hit worse with thrips. "The mixed vegetation properties had year round pollen to provide alternative sources of protein to the mites, thus maintaining their populations and readying these predators to hit the thrip population as it increased" (DSE, 2001/02). This has rolled into an approach that relies upon native vegetation to provide habitat for the mites.

Words from an Organic Farmer

"In our organic system we want nature to do most of the work". "Apples are the secondmost chemically managed crop in the world but since we have provided the necessary habitat (native trees) we have an extensive diversity of creatures working for us". "We have not needed to use any pesticides for the last 15 years."

Utilisation of Native Grasses

Property owners in Newry are managing their Gippsland Plains Grassy Woodland with the goals of increasing biodiversity as well as making an income. Over 68 grasses and flowers have been identified on their property with some species regarded as locally or regionally rare and restricted. They have very few weeds and use minimal chemicals. There is no superphosphate used as this has the potential to damage native grasses. "The property not only produces quality beef cattle but also native grass seed for sale – a classic example of diversification". Conservation and Agriculture working together for long term environmental and economic outcomes.

In accordance with Section 3.1.2.1 of "The Code of Forest Pracies for Timber Production" lodgement of a Plantation Development Notice enables the Plantation Owner to notify of the intention to establish and manage trees for wood production or other commercial purposes.

The Conservation Status of native vegetation listed in **appendix 9.4** will assist determination of which EVCs may be utilised and those which require protection due to their rarity, threatened status or regional significance. Special consideration is required for Depleted EVCs in relation to any utilisation permits because of threatening processes.

Forestry issues are particulary complex and largely handled through the Regional Forest Agreement.

6.2 Plantation Management

Grand Ridge Plantations

The Code of Forest Practice permits harvesting of all plantation trees, however Grand Ridge Plantations are committed to high environmental performance. For example:

- -Hardwood coupe boundaries are marked prior to logging to protect native vegetation
- -Cool Temperate Rainforests are protected with buffers
- -Hardwood plantation buffers are left intact to protect permanent streams
- -No machinery entry into hardwood plantation buffers or filters (excluding authorised crossings) is allowed
- -Roads are continuously upgraded throughout the estate
- -No ground based harvesting occurs on slopes greater than 30°

In addition to these operational practices, Grand Ridge Plantations are undertaking numerous studies and management plans. For example:

- -Assessment of biodiversity in plantations
- -Water Quality assessment (forested versus logged v's agriculture)
- -Fauna surveys (Tiger Quoll, Koalas, Strzelecki Burrowing Crayfish)
- -Development of a Flora and Fauna Database
- -Operational Management Plan for Strzelckis
- -Vegetation Mapping

6.3 Decision Making for the Planning Permit Process

The Native Vegetation Retention Process

Since 1989 the State Government has had legislation in place to prevent the removal and destruction of native vegetation after amendments were introduced to the Planning and Environment Act 1987 which cover all local government planning schemes in Victoria.

The broad aim of these planning controls is to protect and conserve native vegetation from further decline and in doing so reduce the impact of land and water degradation and protect the State's biodiversity. While these controls have been successful in reducing native vegetation clearance statewide, it is estimated that we are still losing 2500 hectares a year of native vegetation cover (DNRE, 2002) and changes to vegetation quality remain unmeasured.

The Native Vegetation Controls (NVR) under the Victorian Planning Provisions (VPP), require a permit to remove, lop or destroy native vegetation, but are subject to a wide range of exemptions. Native vegetation is defined as trees, shrubs, herbs and grasses that are indigenous to Victoria.

It is anticipated that a more accurate tracking system currently being developed by DSE will be able to more readily and accurately identify changes to the regions native vegetation status through clearing and roadside grazing permits.

It is important that the Criteria for Achieving Net Gain, (Table 6.1 and 6.2) that are designed to help planners and land managers in the planning permit environment, are used in conjunction with the various environmental overlays employed by Shires to help determine priorities. In this way the intent of the NVR legislation, which aims to prevent further land degradation, can be more fully realised as issues such as slope, salinity, wetlands and sensitive coastal areas are fully considered.

Application of the Net Gain Principle

In applying the Net Gain approach to protection and clearance decisions at the on-ground level the steps are:

1. To avoid adverse impacts, particularly through vegetation clearance
2. If impacts cannot be avoided, to minimize impacts through appropriate consideration in planning processes and expert input to project design or management
3. Only after these steps have been taken should offsets (actions undertaken to achieve commensurate gains) be considered.

The following characteristics are the way in which the Net Gain goal will be achieved by implementation programs:

- continued effort to avoid clearing, with an improved focus on the most significant native vegetation
- active management aimed primarily at improving the quality of existing remnants
- long-term commitment by landholders and Government to the management task
- developing understanding by landholders of the need for extensive revegetation
- increasing the capacity of landholders and rural communities to undertake vegetation protection and revegetation works.

(DNRE, 2002)

Under the Net Gain principle as explained in section 4.3, there is an expectation that vegetation losses incurred through the permit process will be offset by vegetation establishment or protection which will result in a net gain in extent and quality.

Tables 6.1 and 6.2 form the basis of the guidelines for achieving a net gain in the quality and quantity of native vegetation through the NVR Process.

At the Statewide level, the Native Vegetation Management – A Framework for Action identifies the contribution of the net outcome and considers both quality and quantity in both gain and loss.

Losses in extent include:

- Permanent clearing of native vegetation, both approved and illegal
- Incremental reduction of woodlands through tree decline

Losses in quality include:

- On-going decline resulting from insufficient management of threatening processes
- Impact of forest product harvesting and mining operations
- Impact of wildfires and fuel-reduction burns

Gains in extent include:

- New areas of revegetation primarily for biodiversity conservation
- New areas of revegetation for land protection, greenhouse or other purposes which have included sufficient locally indigenous species to be considered part of the native vegetation estate

Gains in quality will include:

- Improved management of threatening processes within existing native vegetation including both active and improvement (e.g. control of weeds) and avoidance of further impacts by landholders agreeing to forego permitted uses (e.g. stock grazing, harvesting timber for on-farm use)
- Recovery from forest product harvesting and mining operations
- Recovery from wildfires
- Supplementary plantings into depleted existing native vegetation

It is worth noting at this point that not all native vegetation communites can be replaced, which is partly a reflection of table 6.2.
For example, the Gippsland Plain Grassy Woodland which is down to 2% of its former range, contains a mixture of grass and herbs which are for the most part, difficult to propagate, purchase and establish within an agricultural system.

Table 6.1 Summary of Responses and Offset Criteria graded according to Conservation Significance

Source (Victoria's Native Vegetation Management – A Framework for Action)

Conservation Significance	Very High	High	Medium	Low
Response to proposal to clear & offset	***In keeping with the principles in Section 4 and in the context of the Net Gain approach which has, as a priority, the avoidance of further permanent losses of native vegetation through clearing***			
	Clearing not permitted unless exceptional circumstances apply (i.e. impacts are an unavoidable part of a development project, with approval of the Minister for Conservation and Environment (or delegate) based on considerations of environmental, social and economic values from a statewide perspective)	***clearing generally not permitted***		***clearing may be permitted but only as part of an appropriate sustainable use response as determined by the responsible planning authority***
If some clearing is to be permitted, the following offset requirements must be met				
Net outcome	***substantial net gain i.e. at least 2 X the calculated loss in habitat hectares[1]***	***net gain i.e. at least 1.5 X the calculated loss in habitat hectares[1,]***	***equivalent gain i.e. at least 1 X the calculated loss in habitat hectares[1, 2]***	***equivalent gain i.e. at least 1 X the calculated loss in habitat hectares[1, 2]***
Formal agreement to achieve and secure offset	Requirements to achieve offsets must be identified in the associated management agreements &/or the permit conditions. Gains must be of an on-going and secure nature. Once achieved the offset must be maintained and the relevant planning authorities must maintain adequate and readily accessible records of agreed offset arrangements (ultimately on the Native Vegetation Permit Tracking system)			
Like-for-Like				
vegetation or habitat type of offset	the same vegetation/ habitat type	the same vegetation/habitat type OR a Very High significance vegetation/ habitat in the same Bioregion	Any EVC in the Bioregion OR a Very High or High significance vegetation/ habitat in an adjacent Bioregion	
landscape role	Similar or more effective ecological function AND land protection function as impacted by the loss	Similar or more effective ecological function OR land protection function as impacted by the loss	Similar or more effective land protection function as impacted by the loss	
quality objectives for offset	The existing vegetation proposed as the basis of an offset must be at least			
	90% of the quality in the area being lost.	**75%** of the quality in the area being lost	**50%** of the quality in the area being lost	
	The proportion of revegetation included in the offset (in habitat hectares) is limited to			
	10%	25%	50%	100%

[1] Gains can include active improvements of quality and/or avoiding potential losses of quality by agreement to forego permitted uses. Note that applying all of the following offset criteria (where relevant) may require more than the minimum habitat hectares specified by these multipliers

[2] Where gains are achieved in vegetation/habitat of a higher significance than the vegetation lost, then the amount of the offset will be proportionally reduced (eg. offsetting losses in medium conservation significance with very high conservation significance gains will reduce the amount of the offsets required by half, i.e. the medium multiplier divided by the very high multiplier)

Conservation Significance		Very High	High	Medium	Low
Large old tree[4] objectives for offset		**For remnant patches of native vegetation that contain large old trees[4]** for each large old tree removed as part of permitted clearing[3]:			
		8 other large old trees to be protected AND 40 new trees to be recruited[5]	4 other large old trees to be protected AND 20 new trees to be recruited[5]	2 other large old trees to be protected AND 10 new trees to be recruited[5]	no specific 'other large old tree protection' offset required
		For parcels of land greater than 4 ha and with 8 or more scattered old trees[4] / ha for each large old tree removed as part of permitted clearing[3]:			
		8 other large old trees to be protected 40 new trees to be recruited[5]	4 other large old trees to be protected 20 new trees to be recruited[5]	2 other large old trees to be protected 10 new trees to be recruited[5]	10 new trees to be recruited[5]
		for each medium old tree removed as part of permitted clearing[3]:			
		4 other medium old trees to be protected 20 new trees to be recruited[5]	2 other medium old trees to be protected 10 new trees to be recruited[5]	1 other medium old tree to be protected 5 new trees to be recruited[5]	5 new trees to be recruited[5]
		For parcels of land greater than 4 ha with less than 8 scattered old trees[4] / ha, or For parcels of land less than 4 ha with any number of scattered old trees[4] / ha ***for each medium or large old tree removed as part of permitted clearing[3]*** *P = Protection, R = Recruitment / plantings, LTB = Large Tree Benchmark* or – consistent with the Native Vegetation Management Framework the maximum protection option (shaded row) is preferred in every case. However at the discretion of the planning authority, an option with lower protection numbers and higher recruitment numbers may be selected if this provides a better sustainable land-use outcome.			
	Very Large (≥ 1.5 LTB)	6 other very old large trees to be protected and 30 to be recruited[5]	4 other very old large trees to be protected and 20 to be recruited[5]	2 other very large old trees to be protected and 10 to be recruited[5]	1 other very large old tree to be protected and 5 to be recruited[5]
		OR	OR	OR	OR
		400 to be recruited[5]	200 to be recruited[5]	100 to be recruited[5]	50 to be recruited[5]
	Large (≥ 1 LTB)	4 other large old trees to be protected and 20 to be recruited[5]	2 other large old trees to be protected and 10 to be recruited[5]	1 other large old tree to be protected and 5 to be recruited[5]	
		OR	OR	OR	
		200 to be recruited[5]	100 to be recruited[5]	50 to be recruited[5]	10 to be recruited[5]
	Medium (≥ 0.75 LTB)	2 other medium old trees to be protected and 10 to be recruited[5]	1 other medium old tree to be protected and 5 to be recruited[5]	1 other medium old tree to be protected and 5 to be recruited[5]	
		OR	OR	OR	
		100 to be recruited[5]	50 to be recruited[5]	10 to be recruited[5]	5 to be recruited[5]
Vicinity		Gains must be within the same bioregion, and within the same priority landscape zone*[6] as the loss where considered appropriate by the planning authority	Gains must be within the same bioregion as the loss	Gains must be within the same bioregion as the loss **OR** an adjacent bioregion if offsets are in Very High or High significance vegetation	
Timing		Offsets to be initiated prior to the loss	Offsets to be initiated as soon as possible after loss occurs but no more than 1 year (seasonal requirements to be considered)		

[3] these offsets are only required as a consequence of native vegetation clearing which requires and receives a planning permit, and not where tree removal is exempt from the requirement to have such a permit

[4] old trees, large or medium, are defined as individuals of key long-lived dominant tree species (as specified in the relevant EVC benchmark) that are greater than certain diameters (for large or medium) at 1.3 m above ground level

[5] on a case-by-case basis at the discretion of the planning authority, this requirement to recruit new trees may be either through plantings to a prescribed standard (e.g. species composition, density, survivorship) and/or through regeneration associated with protection of other old trees. Recruitment should meet the timing criterion below. Any plantings that have been undertaken by the landholder since 1989 and that meet all the relevant offset criteria, can be used to meet this requirement.

Table 6.2 Timber Harvesting Offset Criteria

Summary of Offset Criteria for Harvesting Timber from Naturally-established Native Forest on Private Land
Source (Victoria's Native Vegetation Management – A Framework for Action)

Conservation Significance	Very High	High	Medium	Low
Response to proposal	Harvesting generally not permitted*[1]		Harvest and regeneration will generally be permitted as part of sustainable land use option	
Net outcome of offset			Regeneration undertaken according to the following criteria will be considered to have achieved sufficient offset	
Vegetation or Habitat Type of offset			same as harvested	
Landscape role			same as harvested	
Quality objectives for offset			Only the following EVCs will be considered for timber harvesting in the West Gippsland Region[1]: Strzelecki Ranges Bioregion • Wet Forest • Heathy Woodland East Gippsland Lowlands Bioregion • Lowland Herb-rich Forest • Lowland Forest • Herb-rich Foothill Forest Highlands – Southern Fall Bioregion • Lowland Herb-rich Forest • Grassy Woodland • Shrubby Dry Forest • Damp Forest • Lowland Forest • Herb-rich Foothill Forest • Wet Forest • Shrubby Foothill Forest • Shrubby Damp Forest • Shrubby Foothill Forest / Damp Forest Complex • Grassy Dry Forest • Valley Slopes Dry Forest Ecological Vegetation Classes and flora species respond differently to harvesting regimes. Clearfall harvesting may not be appropriate for certain species due to their particular regenerative properties, alternatively it may be the only appropriate option eg. Mountain Ash. It is strongly advised that professional guidance is sought on an appropriate regime PRIOR to permit application. **For both Clearfall and Selective Harvesting** Harvesting must be in accordance with the Code of Forest Practices for Timber Production (1996) and the Planning and Environment Act. The Code of Forest Practices for Timber Production (1996) is a statutory code – part of section 52.18 of	

[1] unless harvesting is currently allowed on public land within the same bioregion for areas of vegetation which have equivalent conservation values.

			the Victorian Planning Provisions. Harvesting is not permitted in the Wilsons Promontory, Gippsland Plain and Victorian Alps Bioregions[1]. Harvesting is not permitted in EVCs classified as Endangered. Harvesting is not permitted in EVCs classified as Vulnerable or Rare where quality is greater than 0.3 (habitat score). Harvesting is not permitted in EVCs classified as Depleted or Least Concern where current extent in that bioregion is less than 100 ha. Retention of the number of seed/habitat trees it to be determined in the harvesting plan, prior to approval. All harvesting applications must include an appropriate long-term rehabilitation and management action plan. **For Clearfall Harvesting** Regeneration should be managed so that it has the best opportunity to reach a target of 50% of the quality of the vegetation that was harvested within 10 years and ultimately the same quality as required within permit conditions.
Vicinity			same as harvested
Timing			Regeneration to be initiated as soon as possible after harvesting but no more than one year (seasonal requirements to be considered by planning authority)
Security of offset			Planning permit conditions to apply until the regeneration achieves the equivalent quality of the vegetation that was harvested (excluding the large old tree component)

7. Actions & Recommendations

Preventing any further decline in the regions native vegetation resource, both in quality and quantity is the rationale that underpins the following course of action. That current losses can be turned around, no matter how modest through the recommended actions in this section being considered doth realistic and achievable within a sensible time frame.

This Chapter summarises the guidelines to this Plans implementation with associated timelines and most appropriate stakeholder responsibility.

The success of this Plan is dependent on the adoption by all stakeholders across the region.

Revegetation of creeks, gullies and other sensitive environments will have many benefits for our region.

Whilst ambitious, this Plan sets new directions for native vegetation management. A great deal of work has gone into its development over a three-year development phase.

There have been large steps in the development of native vegetation information by Government agencies and authorities, much of which has been presented for the first time in this Plan. In many ways the development and introduction of this knowledge has been driven by the broader community through an increased desire to protect, enhance and utilise native vegetation. To achieve this, strong partnerships need to be nurtured between all stakeholders.

– NATIVE VEGETATION PLAN IMPLEMENTATION

7.1 COMMUNICATION / EDUCATION

The future protection and management of native vegetation depends heavily on raising the profile and understanding of native vegetation and the issues that impact on it. Native vegetation on private land is particularly vulnerable with some vegetation types less able to withstand the pressures of modern land use. For this reason, the awareness of native vegetation values by the landholder with the associated goodwill to protect these values is vital if progress is to be made in preserving the regions native vegetation values. Too often vegetation communities are threatened or even lost, simply because too few knew of their existence or the mechanisms required for their survival.

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
Develop, promote and distribute user-friendly native management resources.	Conduct presentations / workshops with all shires on West Gippsland's Native Vegetation Plan.	2003	WGCMA/DSE
	Provide a reference copy of the Native Vegetation Plan to all libraries, Shire offices, DSE/CMA shop fronts in the region and key organisations and groups.	2003	WGCMA/DSE
	Develop a summary brochure emphasising the key points and concepts of Regional Native Vegetation Plan.	2003/04	WGCMA/DSE
	Develop fact sheets on key principles of Native Vegetation Plan and EVCs.	2004	DSE
	Develop and update an internet information site with links to native vegetation information and current events.	2003	WGCMA/DSE
	Resource an Officer to develop and deliver native vegetation segment to TAFE Whole Farm Planning courses.	2004	DSE
	Utilise existing Portfolio Group to review and revise NVP on a 5 year cycle.	2003	WGCMA/DSE
Promote and encourage the implementation of vegetation management to the	Annually promote and encourage 8 Best Practice examples of remnant vegetation protection or enhancement.	2003	DSE
	Develop and distribute Native Vegetation Guides for each Local Government Area.	2003/04	DSE/WGCMA

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
highest technical standard.	Develop a revegetation guide for West Gippsland which is reviewed annually.	2003/04	DSE/WGCMA
	Develop and provide updated planting guides and EVC lists to all nurseries.	2003/04	DSE
	Produce an information brochure of the regions seedbanks and distribute to all potential suppliers and customers.	2004	DSE
	Regional training officers undertake annual vegetation extension planning seminars across all shires and agencies annually.	2004	DSE/GA
	Continued development of Bushcare Discussion Group as a means of identifying and distributing up to date and unique management techniques.	2003	WGCMA/DSE
Establish better communication between agencies and individuals working in native vegetation management.	Annual forum with each landcare (and other) networks to develop projects based on local input.	2004	DSE
	Develop a communication / public awareness strategy to engage the community in native vegetation management.	2004	WGCMA/DDSE
To achieve a coordinated approach to native vegetation management in West Gippsland.	Appoint a consultant to develop a resource inventory that identifies resources (people and budgets) and assess their adequacy.	2004	WGCMA/DSE
	Annually review resource inventory above.	2004	WGCMA/DSE
	Build a contact list of Natural Resource Management people indicating their area of expertise.	2003	WGCMA/DSE
To engage industry in native vegetation protection and enhancement activities, operations and events.	Annual awards for Best Practice - Remnant vegetation protection and Revegetation.	2004	DSE/WGCMA
To raise awareness	Appoint an officer to reconcile threatened EVC's with individual properties and consult with owners on best	2004	DSE

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
and encourage greater knowledge and uptake of incentive schemes	management of these areas. Reporting and justification by all levels of government on funds spent and works completed through incentive schemes being offered at that time. Annual update for extension officers on native vegetation incentive schemes and tax benefits. Bi-annual advertising in regional newspapers of incentive schemes with instruction on how to obtain further information.	 2004 2003 2003	 All DSE/WGCMA WGCMA

7.2 RESEARCH AND MONITORING (TRACKING THE QUALITY AND QUANTITY OF NATIVE VEGETATION)

The development of this Plan has clarified the need to obtain accurate information on the regions native vegetation where none currently exists. Only recently have threatened vegetation communities been identified in a Gippsland wide EVC mapping project.

Large-scale revegetation projects in the region have highlighted the need for more cost effective establishment methods and the difficulty facing land managers in sourcing difficult to propagate or uncommon species.

Inherent in any plan of action is the ability to be able to determine whether progress is being made. Public funds spent in retaining and increasing areas of native vegetation need to demonstrate a clear benefit to the taxpayer and the landholder.

Techniques that measure the extent of native vegetation cover, such as remote sensing are improving all the time. Obtaining a clear picture of the quality of the remaining vegetation or the regions' biodiversity is much more difficult to measure and will require creative evaluation techniques on the part of land managers.

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
1) To integrate and coordinate knowledge needs across the region.	Establish a special task group to identify and prioritise research needs.	2004	WGCMA/DSE
	Continue technical training and extension services in revegetation techniques and vegetation management to interested parties by holding bi-annual field days on onground techniques and management.	2003	DSE/GA
	Annual briefings to all Implementation Committees and relevant Portfolio Groups on native vegetation projects.	2003	WGCMA/DSE
	Biodiversity Portfolio Group to explore ways of making EVC maps available to stakeholders.	2003	WGCMA
	Resource an Officer to hold annual workshops with shire planners and counsellors on native vegetation issues.	2003	DSE
	Employ a project officer to develop 'Best Management Practices' on private land for each EVC to be presented in field guide form.	2003	DSE
Quantify in economic terms, the benefits of native vegetation.	Commission an independent body to prepare and publicise an economic report on the value of native vegetation to the region involving consultation with the community.	2003	WGCMA/DSE
	Conduct feasibility studies on recreating EVC's that are currently listed as Extinct (0% Current Extent)	2003/04	DSE/Research Organisations

To develop a region-wide vegetation monitoring system.	Establish CAMS reporting system by employing a CAMS project officer	2003	WGCMA/DSE
	Bi-annual CAMS training courses for staff. Expand CAMS system.	2003	DSE/WGCMA
	Identify and monitor key indicator species for each bioregion.	2003/04	DSE/WGCMA
	Approach all Shires and encourage them to use the Native Vegetation Permit Tracking System.	2003/04	DSE
	Establish a monitoring and evaluation component in all publicly funded native vegetation projects.	2003	All
	Ensure that local government permits for clearing and roadside grazing are monitored.	2003	LG/DSE
	Future CMA/DSE on-ground projects to be monitored utilising CAMS.	2003	WGCMA/DSE
	Ensure 5% of vegetation project costs is to be offset for officer project monitoring.	2003	All
To ensure EVC data, database and maps are up-to-date and accurate.	Bi-annual review of EVC mapping program.	2003	DSE/WGCMA
	Mapping of Bioregional boundaries at a scale of 1:25,000	2003	DSE
To ensure implementation of Native Vegetation Plan	Annual monitoring and reporting on Native Vegetation Plan Actions.	2003	WGCMA/DSE

7.3 LAND USE PLANNING (PUBLIC GOOD V'S PRIVATE BENEFIT)

Striking a balance between land-use and the needs and expectations of the community for native vegetation protection and the associated land and water issues that come with it, will require a high degree of cooperation between the general community and all levels of government. Clearly one of the main players will be local government through the influence of their planning schemes. At a property level however, whole farm planning can also have a significant benefit if adoption rates are high.

Native vegetation has clear private and public benefits and as such there is a strong case for providing assistance to private land managers who manage native vegetation on their own land for the public good. Because the public benefit of protecting native vegetation is so well understood there is also an expectation that it be protected through regulatory mechanisms if incentives fail to reach the mark. Where incentive schemes are working they need to be maintained and encouraged as the preferred option over regulatory mechanisms which are often costly and difficult to enforce.

AIMS	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
Develop mechanisms and means to enable planning for native vegetation management.	DSE to develop a point of contact for Shire Planners to develop a closer relationship	2003	DSE
	DSE and Shire Planners to meet quarterly to ensure regulatory mechanisms are consistent between Shires.	2003	DSE/LG
	Highlight two development case studies per year displaying economic benefits of retaining native vegetation in agricultural systems. (Eg.carbon trading, increased top soil return etc.)	2003/04	DSE/WGCMA
	Provide planners in all shires with native vegetation information for inclusion into overlays, planning schemes and municipal strategic statements eg. EVC layers	2003/04	DSE/WGCMA
	Annual training forum with all shires in utilising native vegetation permit tracking system for activities such as clearing permits, firewood collection, burning and roadside grazing.	2003/04	DSE
	Resource an Officer to work with VicRoads, DSE, Local Government and Utility Providers to facilitate seed collection into works contracts.	2003	DSE
	Promote 'Biodiversity on Farms' project to industry including Environmental Management Systems	2003/04	DSE
	To monitor planning permits which have a native vegetation component over a 5-year period.	2004	DSE/LG
	Ensure adherence to permit conditions for harvesting of non timber products	2004	LG/DSE
	Native Vegetation Officer to organise annual seminar to define current regulatory framework and responsibilities between agencies, local authorities and the community.	2003/04	DSE
To develop a variety of incentives schemes to help encourage improved native vegetation management	Native vegetation resource inventory to include investigation into market based incentives, equitable incentives and corporate investment schemes.	2003	DSE/WGCMA
	Promote and develop shire rebate schemes which reward good land management.	2003	DSE/LG

7.4 A STRATEGIC INVESTMENT IN A VALUABLE RESOURCE

Limited resources necessitate the need for a "best bang for our buck" approach to funding works on native vegetation management. The removal of native vegetation for agricultural developments over the last 150 years has led to some serious land degradation problems. Repairing saline or eroded sites often requires the reinstatement of native vegetation. With cooperation between land managers it would be hoped that a high level of biodiversity could also be achieved in this type of work.

As the majority of endangered and depleted EVCs occurs across private land, it follows that the skill and enthusiasm of private landholders is a resource worth investing in to strengthen the capacity of the community to implement change.

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
To develop, promote and implement targeted projects and programs that have strategic regional value.	Bioregional Action Plans for each bioregion – help identify threatened species distribution, EVC priorities, reasons for decline of EVC's, the role of fire, identify key indicator species and future monitoring.	2003/04	WGCMA/DSE
	Appoint an officer to develop Local Action Plans across the region which will all include a section on links with the Native Vegetation Plan and Biodiversity Action Plans and contain target indicators which show adoption of these plans.	2003/04	DSE/WGCMA
	Native Vegetation Officer and Bushcare Facilitator to assist group coordination of Local Action Plans.	2004	WGCMA/DSE
	All Local Action Plans to be approved by CMA for consistency and alliance with Native Vegetation Plan and Bioregional Plans.	2003	WGCMA/DSE
	Native Vegetation Plan to be utilised in Investment Planning Process	2003	WGCMA/DSE

To achieve multiple and integrated outcomes for natural resources management projects and programs.	Ensure Bushcare Facilitator is involved in the development of future plans liked to the native vegetation plan eg. Regional Catchment Strategy. Ensure that the West Gippsland Native Vegetation Plan has clear functional links with existing and future land management plans, both within and beyond the scope of the DSE/CMA sphere of influence. Eg. Shire roadside management plans, salinity plans, weed management plans, wildlife corridor strategies, Landcare group strategic plans and municipal fire prevention plans.	2003 2003	All All

7.5 SUSTAINABLE NATIVE VEGETATION MANAGEMENT

Native vegetation management is in the interest of everyone in the region. As such all have an obligation to ensure native vegetation is management in a socially, economical and environmentally sustainable manner. Adopting this "triple bottom line" approach highlights the different dimensions we need to consider when managing native vegetation. Getting this balance right is paramount.

OBJECTIVES	ACTION	DATE	STAKEHOLDER RESPONSIBILITY
To investigate and encourage native sustainable industries and ensure sustainable use of vegetation resources	Resource an Officer to nurture development of seedbanks in the region.	2003	DSE
	Establish an accreditation program for native seed collectors including a section on permits required in protected areas.	2004	DSE
	Present Bioregional Action Plans to Forestry industry.	2004	DSE/WGCMA
	Continuation of Forest Care Project to 2005.	2004	GA
	Ecotourism / industry awards for preserving or including biodiversity in operations	2004	WGCMA/DSE
	Development of a project that collects baseline EVC condition data using the habitat-hectare model. This will enable measurement EVC condition improvement in future projects. .	2003/04	WGCMA/DSE

To achieve the West Gippsland Native Vegetation Protection Target (Pg. 50)	Development of current programs and networks: • Trust for Nature • Land for Wildlife • Landcare • Greening Australia • Community Groups to protect 2136ha/yr of priority EVC's identified in native vegetation plan. Bush Tender program developed as an ongoing program in the region	2003-08 2003	WGCMA/DSE/TFN/LFW/Landcare/GA/Commuinity DSE/WGCMA
To achieve the West Gippsland Native Vegetation Extent Target (Pg. 53)	Development of current programs and networks: • Landcare • Greening Australia • CMA/DSE • Community Groups to extend native vegetation cover by 1172ha/yr using priority EVCs identified in native vegetation plan. All future revegetation projects funded in the region to take place in the Gippsland Plain and Strzelecki Bioregions.	2004-08	WGCMA/DSE/Landcare/GA/Community

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9. Appendices

9.1 Legislative and Policy Context

International Agreements

- Earth Summit Rio de Janeiro 1992: Convention on Biological Diversity (1993)
- Kyoto Protocols: The United Nations Framework Convention on Climate Change (1994)
- Ramsar Convention
- Chinese-Australian Migratory Bird Agreement (CAMBA)
- Japanese-Australian Migratory Bird Agreement (JAMBA)

National Policy

- The National Strategy for the Conservation of Australia's Biological Diversity (1996)
- Endangered Species Protection Act (1992)
- The National Strategy for Ecologically Sustainable Development (1992)
- National Greenhouse Response Strategy
- National Weed Strategy, National Feral Animal Control Program
- Bushcare – The National Vegetation Initiative, Natural Heritage Trust
- The National Forest Policy Statement – A New Focus for Australi'a Forests (1992)
- Plantations for Australia: the 2020 Vision (1999)
- National Framework for the Management and Monitoring of Australia's Native Vegetation (ANZECC, 1999)
- Environment Protection and Biodiversity Act (1999).

Victorian Legislation

- *Catchment and Land Protection Act* (1994)
- *Water Act* (1989)
- *Flora and Fauna Guarantee Act* (1988)
- *Planning and Environment Act* (1987)
- *Local Government Act (*1989)
- *Coastal Management Act* (1995)
- *Victorian Conservation Trust Act* (1972)

Local Government & Regional Planning

Bass Coast, Baw Baw, South Gippsland,
LaTrobe City Wellington

Regional Policies & Strategies

- West Gippsland Regional Catchment Strategy
- Gippsland Regional Forest Agreement
- Action Plans:
  - Biodiversity
  - Local Area Plans
  - Gippsland Coastal Waters
  - Gippsland Lakes & Coastal Weeds
  - Rabbits
  - Waterways
  - Salinity
  - Roadside Management
  - Crown Frontage Management
  - Water Quality / Nutrient Management

Victorian Policy Regulations & Strategies

- Victoria's Native Vegetation Management – A Framework for Action (2002)
- Private Forestry in Victoria 2002-2005
- Victorian River Health Strategy (2002)
- Victorias Greenhouse Strategy (2002)
- Victorias Salinity Management Framework (2000)
- Managing Victoria's Catchments – Partnerships in Action (1997)
- Victoria's Biodiversity Strategy 1997
- Greenhouse Action: Responding to a Global Warning (1998)
- Code of Forest Practice for Timber Production, Revision No.2 (1996)
- Native Vegetation Retention Controls (1989)
- Victorian Planning Provisions (1996)
- Pest Plants and Animals strategies
- State Environment Policy on salinity and nutrient pollution

West Gippsland Native Vegetation Plan

Regional Management Plan

- Works programs
- Funding Applications (Regional Assessment)
- Education

Partnerships

Landholders CAS (NRE) Flora & Fauna (NRE) Land for Wildlife
(NRE)Forestry Services Parks Victoria Trust for Nature Landcare
Greening Australia (Victoria) Broader Community Local Government Industry

9.2 Historic Landuse

The first human immigrants in the Region were the Kooris (Hayes, 1998) and there is evidence from carbon-dated material that humans have occupied Victoria for at least 40,000 years (Chapman et al, 1987; Morgan, 1997). During that time there have been significant climate changes, the last ice age being about 18,000 years ago, when Tasmania was connected by a land bridge to mainland Australia and the sea level was 180 m lower. The climate was colder and drier, Bass Strait was a semi arid, windy plain and there was no rainforest in Gippsland. As the ice melted the sea rose to its present level about 7,000 years ago and the climate became wetter (Bowler, 1991; Bennett et al, 1991).

The Koori people had a sustainable hunting, fishing and gathering lifestyle which had its impact changing both native vegetation patterns and faunal populations. The swamps and wetlands of the lower reaches of the rivers provided plenty of vegetable food as well as duck and swan eggs and eels and fish. Kangaroos and possums for meat were plentiful on the coastal plains and the forested uplands. Regular burning was used to flush out animals, produce new growth for kangaroos to feed on and keep the paths clear in swamps for food gathering. The grassy woodland and grassland vegetation of the plains was fashioned by regular burning (Gott and Conran, 1991; Collett, 1994).

At the time of the arrival of the next immigrants in 1835, the Koori population of Victoria was estimated to be 15,000; by 1881 that number had been reduced to 780. Of the 14,000 Kooris who disappeared many were victims of introduced diseases to which they had no resistance, others were killed by Europeans who were taking over the land (Hayes, 1998). New settlers, spreading east from Melbourne and south from New South Wales, selected land for sheep and cattle and, with timber millers, cleared the forests. By 1844 Gippsland had more than 300 non-aboriginal people living on stations with 400 horses, 20,000 cattle and 62,000 sheep (Collett, 1994).

The first gold rush in the Region began in 1862 when alluvial gold was found near Walhalla. The mines in Walhalla produced gold for about 50 years and the surrounding forests provided 34,000 tons of timber to the mining companies each year, denuding the hillsides. The mine closed in 1911 (C&E, undated). More gold was found in 1870 in Foster but the rush was smaller, the gold yield declined within 10 years, and people turned their attention to land selection for agriculture (Collett, 1994). Following the decline in mining, forest utilization was limited to small amounts of timber for fencing and farm buildings (Lennon, 1992).

After the gold rushes land selection for agriculture was greatly expanded. The increased number of people put pressure on the government for better communications and services and led to the development of railways. The effect of the railways was to assist the development of the dairy industry, butter factories being built in many towns (McRae, 1976). The grassy woodlands of the Gippsland plains provided both rich grazing and a source of timber. Forest red gum trees were widely used for railway sleepers, to fuel the boilers of the sugar beet and milk factories at Maffra, to line the streets of Melbourne and to construct wharves.

Tin was mined from Coopers Creek on the Thomson River from 1863 to 1881, Mt Hunter in Wilsons Promontory National Park from 1920 to 1936, and from Toora in the 1890s. Tin mining at Toora depended on great quantities of water, which were obtained first from the Franklin and later, in 1912, from the Agnes River. The mining operation involved high pressure blasting with a jet of water to wash the tin free. In the process it washed thousands of tons of soil, clay, sand and stone from a hillside in the upper reaches of the Tin Mine Creek down through a series of settlement dams to separate the tin and gold before flowing into a large silt trap in the valley. Over the years, due to breakdowns in the channels and sediment dams, and high rainfall, the dams would wash away, transporting tons of mud and sand down the Franklin River. This had a huge impact on water quality and left the river choked with sand bars. Farmers and fishermen complained bitterly about the pollution of the water in both the river and Corner Inlet. The last company to operate the mine closed it in 1928. The reserves of washed sand on the old mine site are still being utilized today (Vale and Everitt, 1988).

Coal was mined in Korumburra in the 1880s, Jumbunna and Outtrim in the 1890s and Wonthaggi from 1910 to 1968. As with gold, the history of coal towns was a quick rush, instant success, a couple of decades in operation then decline to ghost towns. The mines used the local timber resources, clearing the forests (Morgan, 1997). Brown coal was first found by Europeans in the La Trobe Valley in 1873. In 1896 its commercial use began and in 1918 the State set up an electricity commission in the La Trobe River valley (Lennon, 1992).

In spite of the enthusiasm for agriculture and mining, the importance of conserving areas of natural bush was not overlooked. Environmentalists began lobbying for a National Park at Wilsons Promontory in 1888 and it became recognized as a sanctuary in 1896 and declared as one of Victoria's first national parks in 1908 (Collett, 1994).

Acclimatization societies of the 1860s actively encouraged the introduction of exotic plants and animals to Australia. Although not directly responsible for rabbits, foxes and thistles, they did introduce sparrows and starlings and advocated the widespread planting of blackberries (Rolls, 1969).

The early pastoralists' main problems were land tenure and animal diseases. To them was added a more significant threat with the arrival of the rabbit in Gippsland in 1896. Control measures included netting fences, trapping, digging out of burrows and complete clearing. Despite the growing battle with rabbits and associated soil erosion problems, overall prosperity and agricultural development continued and this prompted Rural Settlement Policies and Soldier Settlement Schemes following the First World War (McRae, 1976). Many returned soldiers had no farming experience, settled on blocks which were too small, too steep and the soil too impoverished to be viable and they walked off the land (Collett, 1994).

The pulpwood industry was first established in 1936 when Australian Paper Manufacturers Limited (APM) installed a plant at Maryvale for the manufacture of paper (McRae, 1976). Practically all eucalypt species native to the mountain and mixed foothill forests of the Region are suitable for pulpwood. By 1950, APM began establishing softwood plantations and since then have expanded to plantations of suitable eucalyptus species. Timber from both native forests and plantations is used in the production of paper. Many of the abandoned farms in the Strzeleckis became pine or eucalypt plantations.

A significant agent of natural selection in the evolution of native ecosystems was fire (Woodgate, et al, 1994). Both aboriginal and non-aboriginal inhabitants used fire and fire suppression as a management tool. Early pastoralists used fire to clear the land and there were extensive wild fires in the Region in 1898, 1939, 1944 and 1983 (Harle, 1997). Today fire is used for fuel reduction and to promote regeneration, acting both as a threatening process and a management tool.

Agriculture since the Second World War has continued to follow a traditional, European-style model. Broad scale clearing, interference with water flows and planting of exotics have caused serious environmental degradation, such as dieback, soil erosion, alteration of water flows, loss of native habitats and biota, and weed infestation. While the introduction of irrigation has increased pasture production and consequent stocking rates, it is not without cost. Problems in salinity associated with irrigation in the Macalister Irrigation District first appeared in the 1980s (Regional Catchment Strategy, 1997).

The history of land use in the Region, since European settlement, is one of short-lived booms, depletion of the resource and consequent decline. Tensions between exploitation and conservation of a diminishing natural resource base are on-going.

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9.3 Rare and Threatened Flora & Fauna of West Gippsland

Key

E	Species presumed endangered in Australia	**d**	Species that are not rare in Victoria in the wild state, yet are considered threatened as their regeneration is problematic or less than necessary to replace losses and the populations are continuing to decrease
V	Species presumed vulnerable in Australia	**L**	Listed under the Flora and Fauna Guarantee Act 1988
R	Species presumed rare in Australia	**N**	Nominated under the Flora and Fauna Guarantee Act 1988
r	Species presumed rare in Victoria	**AS**	Action Statement produced under the Flora and Fauna Guarantee Act 1988
K	Species presumed poorly known in Australia		
k	Species presumed poorly known in Victoria		

Alps Bioregion Flora

NAME	SCIENTIFIC NAME	STATUS	FFG
Alpine Bent	*Agrostis meionectes*	R r	
Alpine Bootlace Bush	*Pimelea axiflora ssp. alpina*	r	
Alpine Colobanth	*Colobanthus affinis*	r	
Alpine Cranesbill	*Geranium sessiliflorum ssp. brevicaule*	r	
Alpine Finger-fern	*Grammitis poeppigiana*	r	
Alpine Groundsel	*Senecio pectinatus var. major*	r	
Alpine Marianth	*Rhytidosporum inconspicuum*	r	
Alpine Stackhousia	*Stackhousia pulvinaris*	r	
Alpine Tuft-rush	*Oreobolus pumilio ssp. pumilio*	r	
Alpine Wattle	*Acacia alpina*	r	
Austral Dandelion	*Taraxacum aristum*	Rr	
Avon Tussock-grass	*Poa* sp. aff. *gunnii*	r	
Baw Baw Berry	*Wittsteinia vacciniacea*	r	
Baw Baw Daisy	*Brachyscome obovata*	r	
Baw Baw Snow-gum	*Eucalyptus pauciflora ssp. acerina*	r	
Benambra Club-sedge	*Isolepis gaudichaudiana*	v	
Brittle Bladder-fern	*Cystopteris tasmanica*	R r	
Cobra Greenhood	*Pterostylis grandiflora*	r	
Common Spleenwort	*Asplenium trichomanes*	r	
Cliff Cudweed	*Euchiton umbricola*	r	
Clover Glycine	*Glycine latrobeana*	V v	L
Creeping Coprosma	*Coprosma perpusilla ssp. perpusilla*	r	
Crested Hair-grass	*Koeleria cristata*	r	
Cryptic Heath	*Epacris celata*	r	
Cupped Bush-pea	*Pultenaea vrolandii*	r	
Cushion Carraway	*Oreomyrrhis pulvinifica*	v	
Delicate Bush-pea	*Pultenaea tenella*	r	
Dense Midge-orchid	*Genoplesium nudiscapum*	v	
Dwarf Buttercup	*Ranunculus millanii*	r	
Dwarf Violet	*Viola improcera*	R k	
Eichler's Buttercup	*Ranunculus eichlerianus*	R r	
Erect Midge-orchid	*Genoplesium arrectum*	R r	
Fine-leaf Snow-grass	*Poa clivicola*	r	
Fir Clubmoss	*Huperzia australiana*	r	
Fog Club-sedge	*Isolepis montivaga*	r	
Forest Sedge	*Carex alsophila*	r	
Gippsland Hemp Bush	*Gynatrix macrophylla*	r	

Graceful Sun-orchid	*Thelymitra simulata*	r	
Gunn's Alpine Buttercup	*Ranunculus gunnianus*	r	
Hair Sedge	*Carex capillacea*	R r	
Hairy Anchor Plant	*Discaria pubescens*	R v	L
Hairy Eyebright	*Euphrasia lasianthera*	r	
Lady's Mantle	*Alchemilla sp. 1*	r	
Lilac Berry	*Trochocarpa clarkei*	r	
Maidenhair Spleenwort	*Asplenium hookerianum*	V e	
Mallee Ash	*Eucalyptus kybeanensis*	r	
Matted Brooklime	*Gratiola nana*	v	
Matted Rice-flower	*Pimelea biflora*	r	
Mountain Broom-heath	*Monotoca oreophila*	R r	
Mountain Coral heath	*Epacris microphylla var. rhombifolia*	r	
Mountain Cress	*Drabastrum alpestre*	R v	L
Mountain Mitrewort	*Schizacme montana var. montana*	r	
Mountain Sedge	*Carex gunniana var. brevoir*	r	
Mountain Water-fern	*Blechnum vulcanicum*	v	
Mountain Wheat-grass	*Australopyrum velutinum*	r	
Native Wintercress	*Barbarea grayi*	v	
Oval-leaf Grevillea	*Grevillea miqueliana*	r	
Raleigh Sedge	*Carex raleighii*	R r	
Rock Poa	*Poa saxicola*	v	
Rock Tussock-grass	*Poa petrophila*	v	
Sharp-leaf Woodrush	*Luzula acutifolia ssp. acutifolia*	r	
Sickle-leaf Rush	*Juncus falcatus*	r	
Silver Carraway	*Oreomyrrhis argentea*	v	
Sky Lily	*Herpolirion novae-zelandiae*	r	
Small-leaf Star-hair	*Astrotricha parvifolia*	R v	
Snow Aciphyll	*Aciphylla glacialis*	v	
Snow Coprosma	*Coprosma nivialis*	r	
Snow Heath	*Epacris petrophila*	r	
Snow Pennywort	*Diplaspis nivis*	r	
Snow Pratia	*Lobelia gelida*	V v	
Snow Speedwell	*Derwentia nivea*	R r	
Snow Wallaby-grass	*Rytidosperma nivicolum*	r	
Snowdrop Wood-sorrel	*Oxalis magellanica*	r	
Spinning Gum	*Eucalyptus perriniana*	r	
Spreading Clubmoss	*Lycopodium scariosum*	r	
Stalked Guinea-flower	*Hibbertia pedunculata*	r	
Strawberry Buttercup	*Ranunculus collinus*	r	
Subalpine Baeckea	*Baeckea latifolia*	r	
Swamp Water-starwort	*Callitriche palustris*	k	
Tasman Club-sedge	*Isolepis alpina*	k	
Tasmanian Fleabane	*Erigeron tasmanicus*	v	
Thick Bent-grass	*Deyeuxia crassiuscula*	r	
Tingaringy Gum	*Eucalyptus glaucescens*	r	
Tiny Bent	*Agrostis australiensis*	r	
Tiny Flannel-flower	*Actinotus bellidioides*	x	
Tiny Violet	*Viola sieberiana s.s.*	k	
Tuft-rush	*Oreobolus oxycarpus ssp. oxycarpus*	r	
Tufted Hair-grass	*Deschampsia caespitosa*	r	
Turquoise Coprosma	*Coprosma moorei*	r	
Tussock Woodrush	*Luzula alpestris*	r	
Victorian Richea	*Richea victoriana*	r	
Water Blinks	*Montia fontana ssp. amporitana*	k	
Wedge Oschatzia	*Oschatzia cuneifolia*	R r	
Winged Water-starwort	*Callitriche umbonata*	v	

East Gippsland Lowland Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Prostrate Cone-bush	*Isopogon prostratus*	e	L
Purple Diuris	*Diuris punctata var. punctata*	v	L
Slender Wire-lily	*Laxmannia gracilis*	r	
Small-leaf Star-hair	*Astrotricha parvifolia*	R v	
Variable Bossiaea	*Bossiaea heterophylla*	r	

East Gippsland Uplands Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Aniseed Boronia	*Boronia galbraithiae*	V v	L
Gippsland Hemp Bush	*Gynatrix macrophylla*	r	
Golden Pomaderris	*Pomaderris aurea*	r	
Pinkwood	*Beyeria viscosa*	r	
Sandfly Zieria	*Zieria smithii*	r	
Small-leaf Bush-pea	*Pultenaea foliolosa*	r	
Tangled Pseudanthus	*Pseudanthus divaricatissimus*	R r	
Twin-flower Tea-tree	*Leptospermum emarginatum*	r	

Gippsland Plains Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Annual Bitter-cress	*Cardamine paucijuga s.s.*	v	
Austral Trefoil	*Lotus australis*	k	
Beardless Bog-sedge	*Schoenus imberbis*	r	
Bear's-ears	*Cymbonotus lawsonianus*	r	
Blotched Sun-orchid	*Thelymitra benthamiana*	v	
Blue Mat-rush	*Lomandra glauca s.s.*	k	
Bog Gum	*Eucalyptus kitsoniana*	R r	
Brickmaker's Saw-sedge	*Gahnia grandis*	v	
Broad-lip Leek-orchid	*Prasophyllum patens*	r	
Bunchy Flat-sedge	*Cyperus polystachyos*	k	
Bushy Hedgehog-grass	*Echinopogon caespitosus*	e	
Bushy Pepper-cress	*Lepidium desvauxii*	r	
Button Wrinklewort	*Rutidosis leptorhynchoides*	E e	L (AS)
Clover Glycine	*Glycine latrobeana*	V v	L
Coast Ballart	*Exocarpus syrticola*	r	
Coast Bitter-bush	*Adriana quadripartita*	v	
Coast Bitter-bush	*Adriana quadripartita (pubescent form)*	v	
Coast Bush-pea	*Pultenaea canaliculata*	r	
Coast Fescue	*Austrofestuca littoralis*	v	
Coast Grey-box	*Eucalyptus bosistoana*	r	
Coast Mistletoe	*Muellerina celastroides*	r	
Coast Pomaderris	*Pomaderris oraria*	R r	
Coast Pomaderris	*Pomaderris oraria ssp. oraria*	R r	
Coast Stackhousia	*Stackhousia spathulata*	k	
Coast Wirilda	*Acacia retinodes var. uncifolia*	r	
Cobbler's Tack	*Glossocardia bidens*	v	
Cobra Greenhood	*Pterostylis grandiflora*	r	
Common Hornwort	*Ceratophyllum demersum*	k	
Cream Spider-orchid	*Caladenia patersonii s.s.*	k	
Creeping Rush	*Juncus revolutus*	r	
Crested Water-milfoil	*Myriophyllum lophatum*	k	
Crimson Berry	*Cyathodes juniperina*	v	

Currant-wood	*Monotoca glauca*	r	
Dark Mignonette-orchid	*Microtis orbicularis*	v	
Dark-flower Rush	*Juncus phaeanthus*	r	
Dwarf Bottlebrush	*Callistemon subulatus*	r	
Dwarf Kerrawang	*Rulingia prostrata*	E e	L (AS)
Eastern Spider-orchid	*Caladenia fragrantissima ssp. orientalis*	E e	L
Fairy Caladenia	*Caladenia alata*	k	
Fibre-ball Weed	*Posidonia australis*	r	
Fisch's Greenhood	*Pterostylis fischii*	r	
Forde Poa	*Poa fordeana*	k	
Forest Sedge	*Carex alsophila*	r	
Fringed Helmet-orchid	*Corybas fimbriatus*	r	
Gaping Leek-orchid	*Prasophyllum correctum*	E e	L (AS)
Giant Honey-myrtle	*Melaleuca armillaris ssp. armillaris*	# r	
Gilgai Blown-grass	*Agrostis aemula var. setifolia*	v	
Gilgai Blown-grass	*Agrostis billardierei var. filifolia*	v	L
Gippsland Greenhood	*Pterostylis alveata*	v	
Glistening Saltbush	*Atriplex billardierei*	v	
Golden Dodder	*Cuscuta tasmanica*	k	
Golden Grevillea	*Grevillea chrysophaea*	r	
Golden Pomaderris	*Pomaderris aurea*	r	
Green Leek-orchid	*Prasophyllum lindleyanum*	v	
Green Scentbark	*Eucalyptus fulgens*	r	
Green-comb Spider-orchid	*Caladenia dilatata s.s.*	k	
Grey Beard-heath	*Leucopogon attenuatus*	r	
Gully Grevillea	*Grevillea barklyana*	R v	L (AS)
Hairy Hop-bush	*Dodonaea boroniifolia*	r	
Heath Platysace	*Platysace ericoides*	r	
Hoary Rapier-sedge	*Lepidosperma canescens*	r	
Holey Plains Mint-bush	*Prostanthera galbraithiae*	V v	
Ivy Flat-pea	*Platylobium triangulare*	k	
Ivy-leaf Duckweed	*Lemna trisulca*	k	
Lacy Wedge-fern	*Lindsaea microphylla*	r	
Lanky buttons	*Leptorhynchos elongatus*	e	
Large White Spider-orchid	*Caladenia venusta*	R r	
Lax Twig-sedge	*Baumea laxa*	r	
Leafy Greenhood	*Pterostylis cucullata*	V v	L (AS)
Leafy Wallaby-grass	*Austrodanthonia bipartita s.s.*	k	
Limestone Blue Wattle	*Acacia caerulescens*	V v	
Limestone Pomaderris	*Pomaderris oraria ssp. calcicola*	R r	
Lizard Orchid	*Burnettia cuneata*	R r	
Maiden's Gum	*Eucalyptus globulus ssp. maidenii*	r	
Maroon Leek-orchid	*Prasophyllum frenchii*	E e	L
Marsh Saltbush	*Atriplex paludosa ssp. paludosa*	r	
Mealy Saltbush	*Atriplex pseudocampanulata*	r	
Metallic Sun-orchid	*Thelymitra epipactoides*	E e	L
Mountain Kangaroo Apple	*Solanum linearifolium*	r	
Naked Sun-orchid	*Thelymitra circumsepta*	v	
Native Orache	*Atriplex australasica*	k	
Netted Brake	*Pteris comans*	r	
Open Marshwort	*Nymphoides geminata*	r	
Orange-tipped Caladenia	*Caladenia aurantiaca*	r	
Otway Bush-pea	*Pultenaea prolifera*	r	
Paddock Love-grass	*Eragrostis leptostachya*	#k	
Pale Grass-lily	*Caesia parviflora var. minor*	k	
Paper Flower	*Thomasia petalocalyx*	r	
Pink Zieria	*Zieria veronicea*	r	
Pinkwood	*Beyeria viscosa*	r	
Plum Orchid	*Thelymitra mucida*	v	
Prom She-oak	*Allocasuarina media*	K k	

Prostrate Cone-bush	*Isopogon prostratus*	e	L
Purple Diuris	*Diuris punctata var. punctata*	v	L
Ribbed Thryptomene	*Thryptomene micrantha*	r	
River Swamp Wallaby-grass	*Amphibromus fluitans*	V k	
Rosy Baeckea	*Baeckea ramosissima ssp. prostrata*	r	
Rough-grain Love-grass	*Eragrostis trachycarpa*	v	
Ruddy Bent	*Agrostis rudis*	r	
Rush Lily	*Sowerbaea juncea*	r	
Sandfly Zieria	*Zieria smithii*	r	
Scented Spider-orchid	*Caladenia fragrantissima*	e	
Sea Nymph	*Amphibolis antarctica*	k	
Shingle Fireweed	*Senecio diaschides*	r	
Shore Spleenwort	*Asplenium obtusatum* ssp. *northlandicum*	E v	
Short-awned Wheat-grass	*Elymus multiflorus*	k	
Silver Everlasting	*Argentipallium dealbatum*	r	
Slender Bitter-cress	*Cardamine tenuifolia*	k	
Slender Leek-orchid	*Prasophyllum parviflorum*	v	
Slender Tick-trefoil	*Desmodium varians*	k	
Slender Wire-lily	*Laxmannia gracilis*	r	
Small Chocolate-lily	*Arthropodium sp. 3 (aff. strictum)*	k	
Small Spider-orchid	*Caladenia parva*	k	
Small-leaf Bush-pea	*Pultenaea foliolosa*	r	
Small-leaf Star-hair	*Astrotricha parvifolia*	R v	
Smooth Nardoo	*Marsilea mutica*	# k	
Southern Bearded Greenhood	*Pterostylis tasmanica*	k	
Southern Blue Gum	*Eucalyptus globulus ssp. globulus*	r	
Southern Spider-orchid	*Caladenia australis*	k	
Southern Varnish Wattle	*Acacia verniciflua (southern variant)*	k	
Spicy Everlasting	*Ozothamnus argophyllus*	r	
Spiral Sun-orchid	*Thelymitra matthewsii*	V v	L
Spurred Helmet-orchid	*Corybas aconitiflorus*	r	
Stalked Guinea-flower	*Hibbertia pedunculata*	r	
Star Cucumber	*Sicyos australis*	v	
Sticky Wattle	*Acacia howittii*	R r	
Strzelecki Gum	*Eucalyptus strzeleckii*	V v	
Swamp Everlasting	*Bracteantha palustris*	V v	
Swamp Greenhood	*Pterostylis tenuissima*	V v	
Tall Wallaby-grass	*Austrodanthonia sp. (syn. Danthonia procera)*	k	
Thick-lip Spider-orchid	*Caladenia tessellata*	V r	
Thin Pondweed	*Potamogeton australiensis*	k	
Tiny Arrow-grass	*Triglochin minutissimum*	r	
Tough Scurf-pea	*Cullen tenax*	e	L
Tree Geebung	*Persoonia arborea*	v	
Tuberous Tassel	*Ruppia tuberosa*	k	
Tufted Club-sedge	*Isolepis wakefieldiana*	r	
Tunstall's Greenhood	*Pterostylis tunstallii*	v	
Upright Panic	*Entolasia stricta*	k	
Variable Bossiaea	*Bossiaea heterophylla*	r	
Varied Mitrewort	*Mitrasacme polymorpha*	k	
Viscid Daisy-bush	*Olearia viscosa*	v	
Water Parsnip	*Berula erecta*	k	
Wavy Swamp Wallaby-grass	*Amphibromus sinuatus*	v	
Wedge Guinea-flower	*Hibbertia diffusa*	r	
Wetland Blown-grass	*Agrostis avenacea var. perennis*	k	
White Mangrove	*Avicennia marina ssp. australasica*	r	
Wine-lipped Spider-orchid	*Caladenia oenochila*	K v	
Winged Water-starwort	*Callitriche umbonata*	v	
Wiry Bog-sedge	*Schoenus carsei*	r	
Woolly Waterlily	*Philydrum lanuginosum*	v	
Yarra Gum	*Eucalyptus yarraensis*	R k	

Yellow Milk-vine	*Marsdenia flavescens*	r	
Yellow Sea-lavender	*Limonium australe*	r	
Yellowwood	*Acronychia oblongifolia*	r	

Southern Fall Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Alpine Bent	*Agrostis meionectes*	R r	
Alpine Finger-fern	*Grammitis poeppigiana*	r	
Alpine Groundsel	*Senecio pectinatus var. major*	r	
Alpine Marianth	*Rhytidosporum inconspicuum*	r	
Alpine Tuft-rush	*Oreobolus pumilio ssp. pumilio*	r	
Alpine Wattle	*Acacia alpina*	r	
Austral Moonwort	*Botrychium australe*	v	
Austral Dandelion	*Taraxacum aristum*	R r	
Austral Trefoil	*Lotus australis*	k	
Avon Tussock-grass	*Poa* sp. aff. *gunnii*	r	
Baw Baw Berry	*Wittsteinia vacciniacea*	r	
Baw Baw Daisy	*Brachyscome obovata*	r	
Baw Baw Pepper	*Tasmannia vickeriana*	R r	
Baw Baw Snow-gum	*Eucalyptus pauciflora ssp. acerina*	r	
Bear's-ears	*Cymbonotus lawsonianus*	r	
Blue Mat-rush	*Lomandra glauca s.s.*	k	
Blue-leaf Tussock-grass	*Poa sieberiana var. cyanophylla*	r	
Bristly Shield-fern	*Lastreopsis hispida*	r	
Brittle Bladder-fern	*Cystopteris tasmanica*	R r	
Brock Knawel	*Scleranthus brockiei*	r	
Bushy Hedgehog-grass	*Echinopogon caespitosus*	e	
Cliff Cudweed	*Euchiton umbricola*	r	
Clover Glycine	*Glycine latrobeana*	V v	L
Cobbler's Tack	*Glossocardia bidens*	v	
Cobra Greenhood	*Pterostylis grandiflora*	r	
Common Spleenwort	*Asplenium trichomanes ssp. trichomanes*	r	
Common Spleenwort	*Asplenium trichomanes*	r	
Compact Hook-sedge	*Uncinia compacta*	v	
Creeping Coprosma	*Coprosma perpusilla ssp. perpusilla*	r	
Crested Hair-grass	*Koeleria cristata*	r	
Cryptic Heath	*Epacris celata*	r	
Cupped Bush-pea	*Pultenaea vrolandii*	r	
Dark Mignonette-orchid	*Microtis orbicularis*	v	
Dark-flower Rush	*Juncus phaeanthus*	r	
Delicate Bush-pea	*Pultenaea tenella*	r	
Dense Midge-orchid	*Genoplesium nudiscapum*	v	
Dense Mint-bush	*Prostanthera decussata*	r	
Dusky Violet	*Viola fuscoviolacea*	r	
Dwarf Buttercup	*Ranunculus millanii*	r	
Dwarf Violet	*Viola improcera*	R k	
Dwarf Zieria	*Zieria cytisoides*	r	
Eastern Bitter-cress	*Cardamine microthrix*	k	
Eichler's Buttercup	*Ranunculus eichlerianus*	R r	
Errinundra Shining Gum	*Eucalyptus denticulata*	r	
Fine-leaf Snow-grass	*Poa clivicola*	r	
Fin-fruit Fireweed	*Senecio laticostatus*	V v	
Fir Clubmoss	*Huperzia australiana*	r	
Fisch's Greenhood	*Pterostylis fischii*	r	
Fluffy-fruit Wood-sorrel	*Oxalis thompsoniae*	k	
Forest Sedge	*Carex alsophila*	r	
Fringed Helmet-orchid	*Corybas fimbriatus*	r	
Fringed Rice-flower	*Pimelea ligustrina ssp. ciliata*	r	
Gippsland Hemp Bush	*Gynatrix macrophylla*	r	

Golden Grevillea	*Grevillea chrysophaea*	r	
Golden Pomaderris	*Pomaderris aurea*	r	
Graceful Sun-orchid	*Thelymitra simulata*	r	
Green Leek-orchid	*Prasophyllum lindleyanum*	v	
Green Scentbark	*Eucalyptus fulgens*	r	
Grey Beard-heath	*Leucopogon attenuatus*	r	
Grey Groundsel	*Senecio georgianus*	X x	
Grey Scentbark	*Eucalyptus ignorabilis s.s.*	r	
Ground Spleenwort	*Asplenium appendiculatum* ssp. *appendiculatum*	r	
Gully Grevillea	*Grevillea barkylana*	R r	L (AS)
Gunn's Alpine Buttercup	*Ranunculum gunnianus*	r	
Hairy Hopbush	*Dodonaea boroniifolia*	r	
Heath Platysace	*Platysace ericoides*	r	
Honey Caladenia	*Caladenia hildae*	r	
Hypsela	*Hypsela tridens*	k	
Large Duckweed	*Spirodela polyrhiza*	k	
Leafy Greenhood	*Pterostylis cucullata*	V v	L (AS)
Leafy Wallaby-grass	*Austrodanthonia bipartita s.s.*	k	
Lacy Wedge-fern	*Lindsaea microphylla*	r	
Lady's Mantle	*Alchemilla sp. 1*	r	
Large-leaf Ray-flower	*Cyphanthera anthocercidea*	R r	
Lemon-scented Boronia	*Boronia citrata*	R v	
Licola Dampiera	*Dampiera galbraithiana*	r	
Lilac Berry	*Trochocarpa clarkei*	r	
Liverwort	*Adelanthus bisetulus*	r	
Lizard Orchid	*Burnettia cuneata*	R r	
Long Clubmoss	*Huperzia varia*	v	
Long Pink-bells	*Tetratheca stenocarpa*	R r	
Long-tongue Summer Greenhood	*Pterostylis aestiva*	r	
Maidenhair Spleenwort	*Asplenium hookerianum*	V e	L
Mallee Ash	*Eucalyptus kybeanensis*	r	
Matted Lignum	*Muehlenbeckia axillaris*	r	
Matted Water-starwort	*Callitriche sonderi*	k	
Mountain Aciphyll	*Aciphylla simplicifolia*	r	
Mountain Bird-orchid	*Chiloglottis jeanesii*	r	
Mountain Broom-heath	*Monotoca oreophila*	R r	
Mountain Cress	*Drabastrum alpestre*	R v	L
Mountain Dampiera	*Dampiera purpurea*	r	
Mountain Coral Heath	*Epacris microphylla var. rhombifolia*	r	
Mountain Kangaroo Apple	*Solanum linearifolium*	r	
Mountain Leafless Bossiaea	*Bossiaea bracteosa*	r	
Mountain Leek-orchid	*Prasophyllum montanum*	R r	
Mountain Mat-rush	*Lomandra oreophila*	r	
Mountain Mitrewort	*Schizacme montana var. montana*	r	
Mountain Pink-bells	*Tetratheca procumbens*	v	
Mountain Water-fern	*Blechnum vulcanicum*	v	
Mountain Wheat-grass	*Australopyrum velutinum*	r	
Naked Beard-orchid	*Calochilus imberbis*	r	
Naked Sun-orchid	*Thelymitra circumsepta*	v	
Narrow-leaf Star-hair	*Astrotricha linearis*	r	
Native Wintercress	*Barbarea grayi*	v	
Nunniong Everlasting	*Ozothamnus rogersianus*	r	
One-flower Early Nancy	*Wurmbea uniflora*	r	
Open Marshwort	*Nymphoides geminata*	r	
Orange-tipped Caladenia	*Caladenia aurantiaca*	r	
Outcrop Guinea-flower	*Hibbertia hermanniifolia*	R r	
Oval-leaf Grevillea	*Grevillea miqueliana*	r	
Parrot-pea	*Dillwynia sieberi*	r	
Pinkwood	*Beyeria viscosa*	r	
Pinnate Goodenia	*Goodenia macmillanii*	v	

Poison Rice-flower	*Pimelea pauciflora*	r	
Prawn Greenhood	*Pterostylis pedoglossa*	v	
Purple Diuris	*Diuris punctata var. punctata*	v	L
Raleigh Sedge	*Carex raleighii*	R r	
Ribbed Thryptomene	*Thryptomene micrantha*	r	
Round-leaf Zieria	*Zieria robusta*	r	
Rough Eyebright	*Euphrasia scabra*	K e	L (AS)
Rough-grain Love-grass	*Eragrostis trachycarpa*	v	
Rush Lily	*Sowerbaea juncea*	r	
Sandfly Zieria	*Zieria smithii*	r	
Scented Daisy-bush	*Olearia adenophora*	R r	
Sharp Mountain Tussock-grass	*Poa labillardierei var. acris*	v	
Shingle Fireweed	*Senecio diaschides*	r	
Short-awned Wheat-grass	*Elymus multiflorus*	k	
Sky Lily	*Herpolirion novae-zelandiae*	r	
Slender Bitter-cress	*Cardamine tenuifolia*	k	
Slender Fork-fern	*Tmesipteris elongata ssp. elongata*	v	
Slender Mud Grass	*Pseudoraphis paradoxa*	e	
Slender Saw-sedge	*Gahnia microstachya*	r	
Slender Tick-trefoil	*Desmodium varians*	k	
Slender Tree-fern	*Cyathea cunninghamii*	R v	L
Slender Violet-bush	*Hybanthus monopetalus*	r	
Slender Wire-lily	*Laxmannia gracilis*	k	
Small Star Plantain	*Plantago glacialis*	v	
Small-leaf Bush-pea	*Pultenaea foliolosa*	r	
Small-leaf Star-hair	*Astrotricha parvifolia*	R v	
Smooth Nardoo	*Marsilea mutica*	k	
Snow Aciphyll	*Aciphylla glacialis*	v	
Snow Coprosma	*Coprosma nivialis*	r	
Snow Pennywort	*Diplaspis nivis*	r	
Snow Pratia	*Lobelia gelida*	V v	
Snow Speedwell	*Derwentia nivea*	R r	
Snow Wallaby-grass	*Rytidosperma nivicolum*	r	
Snowdrop Wood-sorrel	*Oxalis magellanica*	r	
Southern Varnish Wattle	*Acacia verniciflua (southern variant)*	k	
Sparkling Mint-bush	*Prostanthera rhombea*	v	
Spicy Everlasting	*Ozothamnus argophyllus*	r	
Spinning Gum	*Eucalyptus perriniana*	r	
Sprawling Cassia	*Senna aciphylla*	r	
Spreading Clubmoss	*Lycopodium scariosum*	r	
Stalked Guinea-flower	*Hibbertia pedunculata*	r	
Star Plantain	*Plantago muelleri*	v	
Sticky Bertya	*Bertya cunninghamii*	r	
Sticky Wattle	*Acacia howittii*	R r	
Strawberry Buttercup	*Ranunculus collinus*	r	
Subalpine Baeckea	*Baeckea latifolia*	r	
Summer Fringe-sedge	*Fimbristylis aestivalis*	k	
Tailed Eyebright	*Euphrasia caudata*	r	
Tall Astelia	*Astelia australiana*	V v	L (AS)
Tangled Pseudanthus	*Pseudanthus divaricatissimus*	R r	
Tasmanian Fleabane	*Erigeron tasmanicus*	v	
Thick Bent-grass	*Deyeuxia crassiuscula*	r	
Tingaringy Gum	*Eucalyptus glaucescens*	r	
Tiny Bent	*Agrostis australiensis*	r	
Tiny Flannel-flower	*Actinotus bellidoides*	x	
Tiny Violet	*Viola sieberiana s.s.*	k	
Tough Scurf-pea	*Cullen tenax*	e	L
Tree Geebung	*Persoonia arborea*	v	
Tuft-rush	*Oreobolus oxycarpus ssp. oxycarpus*	r	
Tufted Hair-grass	*Deschampsia caespitosa*	r	

Tufted Knawel	*Scleranthus diander*	r	
Turquoise Coprosma	*Coprosma moorei*	r	
Tussock Woodrush	*Luzula alpestris*	r	
Twiggy Lignum	*Muehlenbeckia diclina ssp. stenophylla*	r	
Twin-flower Tea-tree	*Leptospermum emarginatum*	r	
Variable Goodenia	*Goodenia heterophylla ssp. heterophylla*	r	
Velvet Mint-bush	*Prostanthera incana*	v	
Victorian Buttercup	*Ranunculs victoriensis*	r	
Victorian Richea	*Richea victoriana*	r	
Water Blinks	*Montia fontana ssp. amporitana*	k	
Wedge Guinea-flower	*Hibbertia diffusa*	r	
Wedge Oschatzia	*Oschatzia cuneifolia*	R r	
Winged Water-starwort	*Callitriche umbonata*	v	

Strzelecki Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Blue Mat-rush	*Lomandra glauca s.s.*	k	
Bog Gum	*Eucalyptus kitsoniana*	R r	
Bristly Shield-fern	*Lastreopsis hispida*	r	
Broad-lip Leek-orchid	*Prasophyllum patens*	r	
Coast Pomaderris	*Pomaderris oraria ssp. oraria*	R r	
Coast Pomaderris	*Pomaderris oraria*	R r	
Cobra Greenhood	*Pterostylis grandiflora*	r	
Common Hornwort	*Ceratophyllum demersum*	k	
Cream Spider-orchid	*Caladenia patersonii s.s.*	k	
Currant-wood	*Monotoca glauca*	r	
Dense Leek-orchid	*Prasophyllum spicatum*	V v	
Dwarf Brooklime	*Gratiola pumilo*	K r	
Eastern Spider-orchid	*Caladenia fragrantissima ssp. orientalis*	E e	L
Fairy Lanterns	*Thismia rodwayi*	R v	L
Fairy Caladenia	*Caladenia alata*	k	
Filmy Maidenhair	*Adiantum diaphanum*	e	L (AS)
Fisch's Greenhood	*Pterostylis fischii*	r	
Fringed Helmet-orchid	*Corybas fimbriatus*	r	
Gippsland Greenhood	*Pterostylis alveata*	v	
Green Leek-orchid	*Prasophyllum lindleyanum*	v	
Green Scentbark	*Eucalyptus fulgens*	r	
Green-comb Spider-orchid	*Caladenia dilatata s.s.*	k	
Heath Platysace	*Platysace ericoides*	r	
Hypsela	*Hypsela tridens*	k	
Lacy Wedge-fern	*Lindsaea microphylla*	r	
Large White Spider-orchid	*Caladenia venusta*	R r	
Lizard Orchid	*Burnettia cuneata*	R r	
Long Clubmoss	*Huperzia varia*	v	
Mealy Saltbush	*Atriplex pseudocampanulata*	r	
Naked Sun-orchid	*Thelymitra circumsepta*	v	
Netted Brake	*Pteris comans*	r	
Orange-tipped Caladenia	*Caladenia aurantiaca*	r	
Oval Fork-fern	*Tmesipteris ovata*	r	
Prawn Greenhood	*Pterostylis pedoglossa*	v	
River Hook-sedge	*Uncinia nemoralis*	r	
River Swamp Wallaby-grass	*Amphibromus fluitans*	V k	
Rush Lily	*Sowerbaea juncea*	r	
Scented Spider-orchid	*Caladenia fragrantissima*	e	
Silver Everlasting	*Argentipallium dealbatum*	r	
Slender Bitter-cress	*Cardamine tenuifolia*	k	
Slender Fork-fern	*Tmesipteris elongata* spp. *elongata*	v	
Slender Leek-orchid	*Prasophyllum parviflorum*	v	

Slender Tick-trefoil	*Desmodium varians*	k	
Slender Tree-fern	*Cyathea cunninghamii*	R v	L
Southern Blue Gum	*Eucalyptus globulus ssp. globulus*	r	
Sticky Wattle	*Acacia howittii*	R r	
Strzelecki Gum	*Eucalyptus strzeleckii*	V v	
Spurred Helmet-orchid	*Corybas aconitiflorus*	r	
Thick-lip Spider-orchid	*Caladenia tessellata*	k	
Wetland Blown-grass	*Agrostis avenacea var. perennis*	k	
Yarra Gum	*Eucalyptus yarraensis*	R k	
Yellow Sea-lavender	*Limonium australe*	r	

Wilsons Promontory Bioregion

NAME	SCIENTIFIC NAME	STATUS	FFG
Beech Finger-fern	*Grammitis magellanica ssp. nothofageti*	v	
Blotched Sun-orchid	*Thelymitra benthamiana*	v	
Bog Gum	*Eucalyptus kitsoniana*	R r	
Brickmaker's Saw-sedge	*Gahnia grandis*	v	
Broad-leaf Prickly Moses	*Acacia verticillata var. latifolia*	r	
Broad-lip Leek-orchid	*Prasophyllum patens*	r	
Bushy Pepper-cress	*Lepidium desvauxii*	r	
Cabbage Fan-palm	*Livistonia australis*	v	
Cherry Rice-flower	*Pimelea drupacea*	v	
Crimson Berry	*Cyathodes juniperina*	v	
Coast Ballart	*Exocarpus syrticola*	r	
Coast Bush-pea	*Pultenaea canaliculata*	r	
Coast Fescue	*Austrofestuca littoralis*	v	
Coast Hollyhock	*Malva* sp. aff. *australiana*	v	
Coast Needlewood	*Hakes decurrens ssp. platytaenia*	r	
Coast Pomaderris	*Pomaderris oraria ssp. oraria*	R r	
Coast Wirilda	*Acacia retinodes var. uncifolia*	r	
Creeping Rush	*Juncus revolutus*	r	
Currant-wood	*Monotoca glauca*	r	
Dark Mignonette-orchid	*Microtis orbicularis*	v	
Fibre-ball Weed	*Posidonia australis*	r	
Fringed Helmet-orchid	*Corybas fimbriatus*	r	
Golden Dodder	*Cuscuta tasmanica*	k	
Green Leek-orchid	*Prasophyllum lindleyanum*	v	
Green-striped Greenhood	*Pterostylis chlorogramma*	V v	
Ground Spleenwort	*Asplenium appendiculatum* ssp. *appendiculatum*	r	
Hoary Rapier-sedge	*Lepidosperma canescens*	r	
Island Celery	*Apium insulare*	r	
Jungle Bristle-fern	*Cephalomanes caudatum*	r	
Lacy Wedge-fern	*Lindsaea microphylla*	r	
Lax Twig-sedge	*Baumea laxa*	r	
Leafy Pepper-cress	*Lepidium foliosum*	v	
Lizard Orchid	*Burnettia cuneata*	R r	
Long Clubmoss	*Huperzia varia*	v	
Narrow-lipped Spider-orchid	*Caladenia leptochila*	k	
Native Pepper-cress	*Lepidium pseudohyssopifolium*	k	
Netted Brake	*Pteris comans*	r	
Oval Fork-fern	*Tmesipteris ovata*	r	
Oval Sea-wrack	*Halophila australis*	k	
Oval Wedge-fern	*Lindsaea trichomanoides*	R e	
Paper Flower	*Thomasia petalocalyx*	r	
Prawn Greenhood	*Pterostylis pedoglossa*	v	
Prom She-oak	*Allocasuarina media*	K k	
River Hook-sedge	*Uncinia nemoralis*	r	
Rock Banksia	*Banksia saxicola*	r	

Ruddy Bent	*Agrostis rudis*	r	
Rush Lily	*Sowerbaea juncea*	r	
Sandfly Zieria	*Zieria smithii*	r	
Shore Spleenwort	*Asplenium obtusatum ssp. northlandicum*	v	
Silurian Leek-orchid	*Prasophyllum pyriforme s.s.*	k	
Silver Everlasting	*Argentipallium dealbatum*	r	
Slender Fork-fern	*Tmesipteris elongata spp. elongata*	v	
Slender Rice-flower	*Pimelea linifolia ssp. linoides*	r	
Slender Tree-fern	*Cyathea cunninghamii*	R v	L
Small Shade-nettle	*Australina pusilla ssp. pusilla*	r	
Small Spider-orchid	*Caladenia parva*	k	
Southern Blue Gum	*Eucalyptus globulus ssp. globulus*	r	
Southern Spider-orchid	*Caladenia australis*	k	
Southern Xanthosia	*Xanthosia tasmanica*	r	
Starry Daisy-bush	*Olearia stelluata*	k	
Tawny Leek-orchid	*Prasophyllum constrictum s.s.*	k	
Thick-lip Spider-orchid	*Caladenia tessellata*	V r	
Thin Pondweed	*Potamogeton australiensis*	k	
Trailing Coast Poa	*Poa poiformis var. ramifer*	r	
Tunstall's Greenhood	*Pterostylis tunstallii*	v	
Variable Bossiaea	*Bossiaea heterophylla*	r	
Varied Mitrewort	*Mitrasacme polymorpha*	k	
Water Parsnip	*Berula ?erecta*	k	
White Mangrove	*Avicennia marina ssp. australasica*	r	
Wiry Bog-sedge	*Schoenus carsei*	r	

West Gippsland Rare Or Threatened Fauna List

Key

T	Presumed extinct in Australia. No reasonable doubt that the last individual has died.	**v**	Vulnerable in Victoria. Faces a high risk of extinction in the wild in the medium-term future.
E	Endangered in Australia. Faces a very high risk of extinction in the wild in the near future.	**l**	Lower risk – near threatened in Victoria. Likely to move into a threatened category should current declines continue or catastrophes befall the species.
V	Vulnerable in Australia. Faces a high risk of extinction in the wild in the medium-term future.	**i**	Data deficient. Inadequate information available to make a direct or indirect assessment of the risk of extinction based on distribution of the species or population status.
x	Presumed extinct in Victoria. No reasonable doubt that the last individual has died.	**r**	Rare in Victoria.
c	Critically Endangered in Victoria. Facing an extremely high risk of extinction in the wild in the immediate future.	**L**	Listed under the Flora and Fauna Guarantee Act 1988
e	Endangered in Victoria. Faces a very high risk of extinction in the wild in the near future.	**N**	Nominated under the Flora and Fauna Guarantee Act 1988
		AS	Action Statement produced under the Flora and Fauna Guarantee Act 1988

NAME	SCIENTIFIC NAME	STATUS	FFG
Alpine Bog Skink	*Pseudemoia cryodroma*	v	L
Alpine Tree Frog	*Litoria verreauxii alpina*	c	
Australasian Bittern	*Botaurus poiciloptilus*	e	N
Australasian Gannet	*Morus serrator*	v	
Australian Bustard	*Ardeotis australis*	c	L
Australian Fur Seal	*Arctocephalus pusillus*	v	

Australian Grayling	*Prototroctes maraena*	V v	L
Australian Mudfish	*Galaxias cleaveri*	e	L
Australian Whitebait	*Lovettia sealii*	v	L
Baillon's Crake	*Porzana pusilla*	v	N
Barking Owl	*Ninox connivens*	e	N
Barred Galaxias	*Galaxias fuscus*	E c	L (AS)
Baw Baw Frog	*Philoria frosti*	E c	L (AS)
Black Falcon	*Falco subniger*	e	
Black-faced Cormorant	*Phalacrocorax fuscescens*	v	
Blue-billed Duck	*Oxyura australis*	v	L
Broad-toothed Rat	*Mastacomys fuscus*	I	
Brolga	*Grus rubicundus*	v	L
Brush-tailed Phascogale	*Phascogale tapoatafa*	v	L
Caddisfly	*Plectrotarsus gravenhorstii*	i	
Caddisfly	*Tanjistomella verna*	v	
Calanoid copepod	*Boekella nyoraensis*	r	
Cape Barren Goose	*Cereopsis novaehollandiae*	v	
Caspian Tern	*Sterna caspia*	v	
Common Bent-wing Bat	*Miniopterus schreibersii*	v	L
Common Diving-Petrel	*Pelecanoides urinatrix*	I	
Cox's Gudgeon	*Gobiomorphus coxii*	e	L
Crested Tern	*Sterna bergii*	I	
Dingo	*Canis familaris dingo*	i	
Dwarf Galaxias	*Galaxiella pusilla*	I	L
Eastern Curlew	*Numenius madagascariensis*	I	
Eastern Quoll	*Dasyurus viverrinus*	x	L (AS)
Fairy Prion	*Pachyptila turtur*	I	
Fairy Tern	*Sterna nereis*	v	L
Freckled Duck	*Stictonetta naevosa*	e	L
Giant Burrowing Frog	*Heleioporus australiacus*	e	L (AS)
Giant Gippsland Earthworm	*Megascolides australis*	V v	L (AS)
Glossy Black-Cockatoo	*Calyptorhynchus lathami*	v	L
Glossy Grass Skink	*Pseudemoia rawlinsoni*	I	
Glossy Ibis	*Plegadis falcinellus*	v	
Great Egret	*Ardea alba*	e	L
Grey Goshawk	*Accipiter novaehollandiae*	I	
Grey-headed Flying-fox	*Pteropus poliocephalus*	v	
Ground Parrot	*Pezoporus wallicus*	v	L
Gull-billed Tern	*Sterna nilotica*	e	N
Harpactacoid copepod	*Canthocamptus dedeckkeri*	i	
Harpactacoid copepod	*Canthocamptus sublaevis*	i	
Helmeted Honeyeater	*Licnenostomus melanops*	E e	L (AS)
Hemiphlebia Damselfly	*Hemiphlebia mirabilis*	v	L (AS)
Hooded Plover	*Thinornis rubricollis*	e	L (AS)
Humpback Whale	*Megaptera novaeangliae*	V e	
Intermediate Egret	*Ardea intermedia*	c	L
Lace Monitor	*Varanus varius*	i	
Large Ant Blue Butterfly	*Acrodipsas brisbanensis*	r	L (AS)
Leadbeater's Possum	*Gymnobelideus leadbeateri*	E e	L (AS)
Leathery Turtle	*Dermochelys coriacea*	V e	
Lewin's Rail	*Rallus pectoralis*	e	
Lilly Pilly Burrowing Crayfish	*Engaeus australis*	r	
Little Bittern	*Ixobrychus minutus*	e	N
Little Egret	*Egretta garzetta*	c	L
Little Tern	*Sterna albifrons*	v	L (AS)
Long-footed Potoroo	*Potorous longipes*	E e	L (AS)
Magpie Goose (re-introduced)	*Anseranas semipalmata*	e	
Martin's Toadlet	*Uperoleia martini*	i	
Masked Owl	*Tyto novaehollandiae*	e	L
Mt Donna Buang Stonefly	*Riekoperla darlingtoni*	v	L

Murray SpinyCrayfish	*Euastacus armatus*	i	
Nankeen Night Heron	*Nycticorax caledonicus*	v	
Narracan Burrowing Crayfish	*Engaeus phyllocercus*	r	L
New Holland Mouse	*Pseudomys novaehollandiae*	c	L (AS)
Orange-bellied Parrot	*Neophema chrysogaster*	E c	L (AS)
Pacific Gull	*Larus pacificus*	I	
Painted Snipe	*Rostratula benghalensis*	e	
Pied Cormorant	*Phalacrocorax varius*	I	
Plains-wanderer	*Pedionomus torquatus*	V e	L
Powerful Owl	*Ninox strenua*	e	L
Red-chested Button-quail	*Turnix pyrrhothorax*	v	
Regent Honeyeater	*Xanthomyza phrygia*	E c	L (AS)
Royal Spoonbill	*Platalea regia*	v	
Small Ant Blue Butterfly	*Acrodipsas myrmecophila*	e	L
Smoky Mouse	*Pseudomys fumeus*	e	
Sooty Owl	*Tyto tenebricosa*	v	L
South Gippsland Spiny Crayfish	*Euastacus neodiversus*	r	
Southern Horseshoe Bat	*Rhinolophus megaphyllus*	v	L
Southern Myotis	*Myotis macropus*	I	
Southern Right Whale	*Eubalaena australis*	E c	L
Spot-tailed Quoll	*Dasyurus macalatus*	V e	L (AS)
Spotted Tree Frog	*Litoria spenceri*	E c	L
Square-tailed Kite	*Lophoictinia isura*	e	N
Stonefly	*Thaumatoperla flaveloa*	v	
Stonefly	*Thaumatoperla alpina*	r	L
Stonefly	*Thaumatoperla robusta*	r	
Striped Gudgeon	*Gobiomorphus australis*	v	
Strzelecki Burrowing Crayfish	*Engaeus rostrogaleatus*	r	
Swamp Antechinus	*Antechinus minimus*	I	
Swamp Skink	*Egernia coventryi*	v	
Swift Parrot	*Lathamus discolor*	E e	L
Tasmanian Pademelon	*Thylogale billardierii*	x	L (AS)
Tyler's Toadlet	*Uperoleia tyleri*	i	
Warragul Burrowing Crayfish	*Engaeus sternalis*	e	L
Whiskered Tern	*Chlidonias hybridus*	I	
White-bellied Sea-Eagle	*Haliaeetus leucogaster*	e	L (AS)
White-faced Storm-Petrel	*Pelagodroma marina*	v	
Yellow-bellied Sheathtail Bat	*Saccolaimus flaviventris*	v	

9.4 Ecological Vegetation Classes of West Gippsland 2007 Update, Bioregional Conservation Status, Tenure and Depletion Information

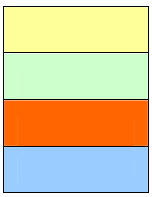
Data Source : Department of Sustainabilty and Environment – Melboune

Glossary:

EVC bioregional conservation status		
X	presumed extinct	Probably no longer present in the bioregion (or, if present, below the resolution of available mapping)
E	endangered	< 10% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
V	vulnerable	10 - 30% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
D	depleted	> 30% and up to 50% of pre-European extent remains (or a combination of depletion, loss of quality, current threats and rarity that gives a comparable status)
R	rare	Rare (as defined by geographic occurrence) but neither depleted, degraded nor currently threatened to an extent that would qualify as endangered, vulnerable or depleted
LC	least concern	> 50% or pre-European extent exists and subject to little to no degradation over a majority of this area
na	not applicable	The map unit is not a distinct native vegetation type and therefore conservation status is not applicable
EVC geographic occurrence		
R	rare	Total range generally < 10 000ha or pre-European extent in Victorian bioregion < 1000ha or patch size generally < 100ha
NR	naturally restricted	Pre-European extent in Victorian bioregion < 10 000ha
C	common	Pre-European extent in Victorian bioregion > 10 000ha
M	minor	Pre-European extent in Victorian bioregion less than approx. 1% of statewide extent
tbd	to be determined	Not enough of the bioregion has been mapped to make any estimate of geographic occurrence
na	not applicable	The map unit is not a distinct native vegetation type and therefore geographic occurrence is not applicable
Map unit type		
aggregate		A a generalised label for a small area containing more than one discernable EVC. For example, wetlands occurring within a given ecological context (e.g. saline, brackish or freshwater lakes; billabongs; mineralised drainage-lines on grey-clay basalt derived soils). While the range of EVCs, which can be expressed in these situations, can be determined, the scale and intricacy can be prohibitive to resolution of the component EVCs, especially for the purpose of broader-scale mapping.
EVC		A pure occurrence of an Ecological Vegetation Class
complex		Contain influences of two or more defined EVCs that cannot be differentiated at the site scale.
generic wetland		A generic mapping unit largely based on the Departments pre-1750 wetland mapping layer (wet_1788) and that was used in early EVC mapping. This will be replaced following the recent revision of the statewide EVC wetland typology. A generic wetland lookup table provides information on the a blend between two or more EVCs that cannot be separately mapped at any scale
mosaic		Containing two or more defined EVCs that cannot be differentiated at the scale of mapping.
no EVC id.		Woody or non-woody vegetation from remote-sensing but no EVC or general vegetation group assigned as yet
no nat TC		Private land with no native tree cover as identified from remote-sensing
no veg		An area where native vegetation has never been (e.g. sandy beach or natural lake) or has permanently gone (e.g. quarry or artificial lake)
unknown		Not assessed as yet

Key:

EVC bioregional conservation status information



Pale yellow highlight = priority EVC's (E, V, D, R)

Pale green highlight = least concern EVC's

Orange highlight = increase in 2007 Bioregional Conservation Status rating

Blue highlight = decrease in 2007 Bioregional Conservation Status rating

2007 EVC Bioregional Conservation Status, Tenure and Depletion Information

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
GipP	19	Riparian Shrubland	E	NR	EVC	2038	15	0	15	68	630	0	713	35%	2%
GipP	29	Damp Forest	E	M	EVC	5021	434	197	630	308	1249	0	2187	44%	29%
GipP	32	Warm Temperate Rainforest	E	R	EVC	162	1	17	18	10	9	0	37	23%	49%
GipP	34	Dry Rainforest	E	R	EVC	6	6	0	6	0	0	0	6	100%	100%
GipP	45	Shrubby Foothill Forest	E	NR	EVC	1403	4	0	4	41	236	0	281	20%	1%
GipP	53	Swamp Scrub	E	C	EVC	79456	6572	54	6627	2502	9355	54	18538	23%	36%
GipP	55	Plains Grassy Woodland	E	C	EVC	103701	663	0	663	410	13125	20	14219	14%	5%
GipP	56	Floodplain Riparian Woodland	E	C	EVC	20914	146	2	148	1709	3950	64	5870	28%	3%
GipP	74	Wetland Formation	E	na	generic wetland	366	251	0	251	0	110	0	362	99%	69%
GipP	82	Riverine Escarpment Scrub	E	R	EVC	163	6	0	6	1	103	0	110	67%	5%
GipP	83	Swampy Riparian Woodland	E	C	EVC	14004	22	0	22	723	770	24	1538	11%	1%
GipP	123	Riparian Forest/Warm Temperate Rainforest Mosaic	E	na	mosaic	89	1	0	1	5	9	0	15	16%	5%
GipP	125	Plains Grassy Wetland	E	NR	EVC	987	0	0	0	12	60	0	71	7%	0%
GipP	126	Swampy Riparian Complex	E	NR	aggregate	7265	2	0	2	53	809	0	864	12%	0%
GipP	127	Valley Heathy Forest	E	C	EVC	2098	0	0	0	4	220	0	224	11%	0%
GipP	132	Plains Grassland	E	C	EVC	35634	382	0	382	70	2104	17	2573	7%	15%
GipP	141	Sandy Flood Scrub	E	NR	EVC	2069	375	0	375	185	745	0	1305	63%	29%
GipP	164	Creekline Herb-rich Woodland	E	NR	EVC	1009	186	540	726	144	30	0	900	89%	81%
GipP	169	Dry Valley Forest	E	M	EVC	110	0	0	0	4	4	0	8	7%	0%
GipP	175	Grassy Woodland	E	C	EVC	3439	0	0	0	57	284	0	340	10%	0%
GipP	195	Seasonally Inundated Shrubby Woodland	E	M	EVC	131	1	0	1	23	13	0	36	28%	2%
GipP	259	Plains Grassy Woodland/Gilgai Wetland Mosaic	E	na	mosaic	18866	3	118	121	4	1937	8	2070	11%	6%
GipP	311	Berm Grassy Shrubland	E	R	EVC	0	0	0	0	0	0	0	0	100%	100%

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
GipP	315	Shrubby Foothill Forest/Damp Forest Complex	E	M	complex	9	0	0	0	0	2	0	3	31%	0%
GipP	334	Billabong Wetland Aggregate	E	R	aggregate	487	0	0	0	11	264	1	275	56%	0%
GipP	637	Swamp Scrub/Damp Sands Herb-rich Woodland/Wet Heathland Mosaic	E	na	mosaic	4	0	0	0	0	4	0	4	93%	0%
GipP	638	Swamp Scrub/Wet Heathland Mosaic	E	na	mosaic	1128	51	0	51	0	132	0	183	16%	28%
GipP	639	Swamp Scrub/Plains Grassy Forest Mosaic	E	na	mosaic	67	0	0	0	0	3	0	4	5%	0%
GipP	687	Swamp Scrub/Plains Grassland Mosaic	E	na	mosaic	22217	41	221	262	64	1394	5	1725	8%	15%
GipP	688	Swampy Riparian Woodland/Swamp Scrub Mosaic	E	na	mosaic	4081	9	13	22	45	467	2	536	13%	4%
GipP	690	Floodplain Riparian Woodland/Billabong Wetland Mosaic	E	na	mosaic	3056	0	0	0	2	147	0	148	5%	0%
GipP	863	Floodplain Reedbed	E	R	EVC	575	2	0	2	7	82	1	92	16%	2%
GipP	902	Gully Woodland	E	R	EVC	11	0	0	0	5	0	0	5	41%	0%
GipP	914	Estuarine Flats Grassland	E	R	EVC	1	1	0	1	0	0	0	1	68%	100%
GipP	924	Grassy Woodland/Swamp Scrub Mosaic	E	na	mosaic	4222	2	0	2	7	284	0	293	7%	1%
GipP	925	Damp Sands Herb-rich Woodland/Swamp Scrub Mosaic	E	na	mosaic	2258	59	0	59	134	103	0	296	13%	20%
GipP	2	Coast Banksia Woodland	V	NR	EVC	3056	632	0	632	25	686	0	1342	44%	47%
GipP	3	Damp Sands Herb-rich Woodland	V	C	EVC	45758	6965	0	6965	1101	8984	64	17115	37%	41%
GipP	12	Wet Swale Herbland	V	R	EVC	100	100	0	100	0	0	0	100	100%	100%
GipP	16	Lowland Forest	V	C	EVC	83094	4891	3888	8778	5709	11801	68	26356	32%	33%
GipP	17	Riparian Scrub/Swampy Riparian Woodland Complex	V	na	complex	2690	1	0	1	1	599	0	600	22%	0%
GipP	18	Riparian Forest	V	NR	EVC	1210	44	2	45	379	236	42	702	58%	6%
GipP	23	Herb-rich Foothill Forest	V	NR	EVC	302	1	0	1	29	36	0	66	22%	1%
GipP	47	Valley Grassy Forest	V	M	EVC	570	0	0	0	2	249	0	252	44%	0%
GipP	61	Box Ironbark Forest	V	R	EVC	216	0	0	0	3	54	0	57	26%	0%

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
GipP	136	Sedge Wetland	V	NR	EVC	1776	412	58	470	204	560	1	1235	70%	38%
GipP	151	Plains Grassy Forest	V	C	EVC	65610	1669	8698	10368	5739	10322	37	26465	40%	39%
GipP	163	Coastal Tussock Grassland	V	NR	EVC	1145	937	0	937	1	13	0	950	83%	99%
GipP	191	Riparian Scrub	V	C	EVC	11806	1873	2135	4008	1681	1605	19	7312	62%	55%
GipP	309	Calcareous Swale Grassland	V	R	EVC	558	556	0	556	0	0	0	556	100%	100%
GipP	681	Deep Freshwater Marsh	V	NR	generic wetland	6935	2131	0	2131	1088	2136	31	5386	78%	40%
GipP	691	Aquatic Herbland/Plains Sedgy Wetland Mosaic	V	na	mosaic	1054	195	0	195	8	518	0	722	68%	27%
GipP	698	Lowland Forest/Heathy Woodland Mosaic	V	na	mosaic	9638	60	0	60	7	809	4	881	9%	7%
GipP	795	Lowland Forest/Damp Sands Herb-rich Woodland Mosaic	V	na	mosaic	11091	948	0	948	49	4507	0	5504	50%	17%
GipP	858	Coastal Alkaline Scrub	V	C	EVC	3544	3541	0	3541	0	0	0	3541	100%	100%
GipP	878	Damp Sands Herb-rich Woodland/Swamp Scrub Complex	V	na	complex	5104	331	0	331	2	295	0	628	12%	53%
GipP	900	Coastal Saltmarsh/Coastal Dune Grassland/Coastal Dune Scrub/Coastal Headland Scrub Mosaic	V	na	mosaic	0	0	0	0	0	0	0	0	0%	0%
GipP	921	Coast Banksia Woodland/Coastal Dune Scrub Mosaic	V	na	mosaic	890	27	0	27	506	89	0	622	70%	4%
GipP	1106	Damp Heathy Woodland/Lowland Forest Mosaic	V	na	mosaic	46356	199	0	199	58	5123	3	5383	12%	4%
GipP	1	Coastal Dune Scrub/Coastal Dune Grassland Mosaic	D	na	mosaic	9898	5410	0	5410	565	1740	0	7714	78%	70%
GipP	7	Clay Heathland	D	R	EVC	646	325	237	563	8	74	0	645	100%	87%
GipP	8	Wet Heathland	D	C	EVC	8129	531	331	862	129	811	0	1803	22%	48%
GipP	30	Wet Forest	D	M	EVC	260	0	2	2	9	56	0	68	26%	3%
GipP	159	Clay Heathland/Wet Heathland/Riparian Scrub Mosaic	D	na	mosaic	526	0	0	0	0	242	0	243	46%	0%
GipP	160	Coastal Dune Scrub	D	C	EVC	31	31	0	31	0	0	0	31	100%	100%

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
GipP	161	Coastal Headland Scrub	D	NR	EVC	562	190	0	190	83	111	0	384	68%	49%
GipP	162	Coastal Headland Scrub/Coastal Tussock Grassland Mosaic	D	na	mosaic	186	0	0	0	67	15	0	81	44%	0%
GipP	307	Sand Heathland/Wet Heathland Mosaic	D	na	mosaic	1009	374	0	374	29	91	0	495	49%	76%
GipP	686	Wet Heathland/Damp Heathland Mosaic	D	na	mosaic	7085	112	66	179	1	233	0	413	6%	43%
GipP	877	Lowland Herb-rich Forest	D	NR	EVC	730	24	7	31	10	389	4	434	60%	7%
GipP	879	Coastal Dune Grassland	D	R	EVC	34	34	0	34	0	0	0	34	100%	100%
GipP	935	Estuarine Wetland/Estuarine Swamp Scrub Mosaic	D	na	mosaic	302	0	0	0	55	57	1	114	38%	0%
GipP	6	Sand Heathland	R	R	EVC	7529	6367	0	6367	396	442	0	7205	96%	88%
GipP	73	Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic	R	na	mosaic	3	3	0	3	0	0	0	3	100%	100%
GipP	875	Blocked Coastal Stream Swamp	R	R	EVC	29	29	0	29	0	0	0	29	100%	100%
GipP	9	Coastal Saltmarsh	LC	C	EVC	7594	4886	0	4886	219	1404	64	6574	87%	74%
GipP	10	Estuarine Wetland	LC	NR	EVC	7851	3308	0	3308	370	2072	0	5750	73%	58%
GipP	21	Shrubby Dry Forest	LC	M	EVC	8	0	0	0	0	5	0	5	60%	0%
GipP	48	Heathy Woodland	LC	C	EVC	39860	12708	3268	15976	5512	7067	32	28588	72%	56%
GipP	140	Mangrove Shrubland	LC	NR	EVC	2976	2294	0	2294	65	128	43	2530	85%	91%
GipP	316	Shrubby Damp Forest	LC	M	EVC	1	0	0	0	0	0	0	1	81%	51%
GipP	969	Exotic Non-native vegetation	na	na	no nat TC	0	218	66	284	6780	34126	611	41801	na	1%
GipP	982	No EVC assigned - need editing	na	na	no EVC id.	84	62	0	62	0	10	0	72	na	86%
GipP	985	Sandy Beach	na	na	no veg	1049	955	0	955	59	3	0	1017	na	94%
GipP	990	Non Vegetation	na	na	no veg	0	2116	159	2276	11849	451995	941	467060	na	0%
GipP	992	Water Body - Fresh	na	na	no veg	23582	6895	0	6895	15013	1292	3	23203	na	30%
GipP	995	Water - Ocean	na	na	no veg	64	46	0	46	17	1	0	64	na	71%
GipP	998	Water Body - man-made	na	na	no veg	0	0	0	0	473	230	561	1264	na	0%
GipP	1107	Water Body - estuary	na	na	no veg	1415	1391	0	1391	0	1	0	1392	na	100%

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
EGL	55	Plains Grassy Woodland	E	M	EVC	1305	0	0	0	17	631	0	647	50%	0%
EGL	125	Plains Grassy Wetland	E	M	EVC	19	0	0	0	0	1	0	1	3%	0%
EGL	141	Sandy Flood Scrub	E	M	EVC	9	0	0	0	0	2	0	2	23%	0%
EGL	151	Plains Grassy Forest	E	NR	EVC	417	0	0	0	0	55	0	55	13%	0%
EGL	169	Dry Valley Forest	V	NR	EVC	159	0	0	0	29	19	0	48	30%	0%
EGL	795	Lowland Forest/Damp Sands Herb-rich Woodland Mosaic	V	na	mosaic	50	0	0	0	0	19	0	19	38%	0%
EGL	877	Lowland Herb-rich Forest	D	C	EVC	7142	26	665	692	1649	1181	2	3522	49%	20%
EGL	19	Riparian Shrubland	R	M	EVC	5	0	5	5	0	0	0	5	100%	99%
EGL	32	Warm Temperate Rainforest	R	R	EVC	2	0	2	2	0	0	0	2	100%	100%
EGL	82	Riverine Escarpment Scrub	R	R	EVC	1	0	0	0	1	0	0	1	100%	2%
EGL	16	Lowland Forest	LC	C	EVC	10911	28	612	640	2540	2436	0	5615	51%	11%
EGL	21	Shrubby Dry Forest	LC	C	EVC	399	0	7	7	373	18	0	398	100%	2%
EGL	23	Herb-rich Foothill Forest	LC	M	EVC	1	0	0	0	1	0	0	1	67%	0%
EGL	316	Shrubby Damp Forest	LC	NR	EVC	102	0	0	0	100	2	0	102	100%	0%
EGL	969	Exotic Non-native vegetation	na	na	no nat TC	0	0	4	4	52	5868	0	5925	na	0%
EGL	990	Non Vegetation	na	na	no veg	0	3	1	4	49	4127	0	4179	na	0%
WPro	31	Cool Temperate Rainforest	E	R	EVC	142	142	0	142	0	0	0	142	100%	100%
WPro	53	Swamp Scrub	E	M	EVC	28	28	0	28	0	0	0	28	100%	100%
WPro	3	Damp Sands Herb-rich Woodland	V	M	EVC	87	87	0	87	0	0	0	87	100%	100%
WPro	161	Coastal Headland Scrub	V	R	EVC	404	392	0	392	0	0	0	392	97%	100%
WPro	858	Coastal Alkaline Scrub	D	M	EVC	14	14	0	14	0	0	0	14	100%	100%
WPro	2	Coast Banksia Woodland	R	R	EVC	289	288	0	288	0	0	0	288	100%	100%
WPro	5	Coastal Sand Heathland	R	R	EVC	23	21	0	21	0	0	0	21	93%	100%
WPro	6	Sand Heathland	R	R	EVC	769	769	0	769	0	0	0	769	100%	100%
WPro	10	Estuarine Wetland	R	R	EVC	220	220	0	220	0	0	0	220	100%	100%
WPro	11	Coastal Lagoon Wetland	R	R	EVC	59	59	0	59	0	0	0	59	100%	100%
WPro	12	Wet Swale Herbland	R	R	EVC	75	75	0	75	0	0	0	75	100%	100%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
WPro	32	Warm Temperate Rainforest	R	R	EVC	1108	1108	0	1108	0	0	0	1108	100%	100%
WPro	74	Wetland Formation	R	na	generic wetland	48	47	0	47	0	0	0	47	99%	100%
WPro	136	Sedge Wetland	R	R	EVC	69	69	0	69	0	0	0	69	100%	100%
WPro	140	Mangrove Shrubland	R	M	EVC	15	15	0	15	0	0	0	15	100%	100%
WPro	154	Bird Colony Shrubland	R	R	EVC	48	25	0	25	0	0	0	25	51%	100%
WPro	163	Coastal Tussock Grassland	R	R	EVC	198	140	0	140	0	0	0	140	71%	100%
WPro	192	Montane Rocky Shrubland	R	R	EVC	115	115	0	115	0	0	0	115	100%	100%
WPro	307	Sand Heathland/Wet Heathland Mosaic	R	na	mosaic	3327	3326	0	3326	0	0	0	3326	100%	100%
WPro	310	Wet Rocky Outcrop Scrub	R	R	EVC	516	516	0	516	0	0	0	516	100%	100%
WPro	875	Blocked Coastal Stream Swamp	R	M	EVC	0	0	0	0	0	0	0	0	100%	100%
WPro	876	Spray-zone Coastal Shrubland	R	R	EVC	47	41	0	41	0	0	0	41	88%	100%
WPro	1	Coastal Dune Scrub/Coastal Dune Grassland Mosaic	LC	na	mosaic	1481	1477	0	1477	0	0	0	1477	100%	100%
WPro	8	Wet Heathland	LC	NR	EVC	5953	5953	0	5953	0	0	0	5953	100%	100%
WPro	9	Coastal Saltmarsh	LC	M	EVC	129	129	0	129	0	0	0	129	100%	100%
WPro	16	Lowland Forest	LC	M	EVC	3872	3870	0	3870	0	0	0	3870	100%	100%
WPro	18	Riparian Forest	LC	M	EVC	45	45	0	45	0	0	0	45	100%	100%
WPro	29	Damp Forest	LC	NR	EVC	3673	3673	0	3673	0	0	0	3673	100%	100%
WPro	30	Wet Forest	LC	NR	EVC	3948	3948	0	3948	0	0	0	3948	100%	100%
WPro	45	Shrubby Foothill Forest	LC	NR	EVC	3783	3783	0	3783	0	0	0	3783	100%	100%
WPro	48	Heathy Woodland	LC	NR	EVC	3297	3297	0	3297	0	0	0	3297	100%	100%
WPro	72	Granitic Hills Woodland	LC	NR	EVC	3969	3968	0	3968	0	0	0	3968	100%	100%
WPro	73	Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic	LC	na	mosaic	225	225	0	225	0	0	0	225	100%	100%
WPro	191	Riparian Scrub	LC	NR	EVC	2173	2172	0	2172	0	0	0	2172	100%	100%
WPro	969	Exotic Non-native vegetation	na	na	no nat TC	0	0	0	0	0	0	0	0	na	100%
WPro	985	Sandy Beach	na	na	no veg	257	251	0	251	0	0	0	251	na	100%
WPro	986	Rocky Shore	na	na	no veg	252	239	0	239	0	0	0	239	na	100%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
WPro	990	Non Vegetation	na	na	no veg	0	32	0	32	0	0	0	32	na	100%
WPro	992	Water Body - Fresh	na	na	no veg	11	11	0	11	0	0	0	11	na	100%
WPro	993	Bare Rock/Ground	na	na	no veg	72	71	0	71	0	0	0	71	na	100%
WPro	995	Water - Ocean	na	na	no veg	14	14	0	14	0	0	0	14	na	100%
HSF	31	Cool Temperate Rainforest	E	R	EVC	1213	51	882	933	271	8	0	1213	100%	77%
HSF	53	Swamp Scrub	E	NR	EVC	284	2	0	2	1	87	0	90	32%	2%
HSF	55	Plains Grassy Woodland	E	M	EVC	220	0	0	0	5	74	0	79	36%	0%
HSF	56	Floodplain Riparian Woodland	E	NR	EVC	77	0	1	1	15	38	0	54	70%	2%
HSF	126	Swampy Riparian Complex	E	C	aggregate	549	0	0	0	0	105	0	105	19%	0%
HSF	132	Plains Grassland	E	M	EVC	44	0	0	0	0	3	0	3	6%	0%
HSF	151	Plains Grassy Forest	E	NR	EVC	1033	6	0	6	35	169	8	217	21%	3%
HSF	259	Plains Grassy Woodland/Gilgai Wetland Mosaic	E	na	mosaic	11	0	0	0	0	1	0	1	12%	0%
HSF	3	Damp Sands Herb-rich Woodland	V	M	EVC	9	0	0	0	9	0	0	9	100%	0%
HSF	17	Riparian Scrub/Swampy Riparian Woodland Complex	V	na	complex	777	393	0	393	35	98	0	526	68%	75%
HSF	47	Valley Grassy Forest	V	C	EVC	1186	425	24	449	29	520	0	998	84%	45%
HSF	59	Riparian Thicket	V	NR	EVC	6	0	6	6	0	0	0	6	100%	100%
HSF	61	Box Ironbark Forest	V	NR	EVC	7287	883	0	883	770	2637	0	4289	59%	21%
HSF	127	Valley Heathy Forest	V	NR	EVC	345	0	64	64	1	100	0	165	48%	39%
HSF	169	Dry Valley Forest	V	C	EVC	8184	1585	1828	3413	2566	1131	0	7110	87%	48%
HSF	191	Riparian Scrub	V	M	EVC	245	0	0	0	0	21	0	21	9%	0%
HSF	7	Clay Heathland	D	M	EVC	20	15	5	20	0	0	0	20	100%	100%
HSF	37	Montane Grassy Woodland	D	NR	EVC	25	0	21	21	0	4	0	25	100%	83%
HSF	159	Clay Heathland/Wet Heathland/Riparian Scrub Mosaic	D	na	mosaic	1273	1076	0	1076	104	32	0	1212	95%	89%
HSF	175	Grassy Woodland	D	NR	EVC	3687	794	109	902	10	1928	0	2840	77%	32%
HSF	877	Lowland Herb-rich Forest	D	NR	EVC	6223	766	211	977	1464	2865	0	5307	85%	18%
HSF	19	Riparian Shrubland	R	R	EVC	429	146	115	261	126	37	0	423	99%	62%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
HSF	28	Rocky Outcrop Shrubland	R	R	EVC	108	69	4	73	2	32	0	107	99%	68%
HSF	32	Warm Temperate Rainforest	R	R	EVC	23	6	16	23	0	0	0	23	100%	100%
HSF	44	Sub-alpine Treeless Vegetation	R	na	mosaic	17	1	3	5	12	0	0	17	99%	28%
HSF	192	Montane Rocky Shrubland	R	R	EVC	89	84	4	89	0	0	0	89	100%	100%
HSF	16	Lowland Forest	LC	C	EVC	61547	7898	6226	14124	20151	13636	12	47924	78%	29%
HSF	18	Riparian Forest	LC	C	EVC	12528	2768	3770	6538	4032	788	0	11357	91%	58%
HSF	20	Heathy Dry Forest	LC	C	EVC	21951	7113	5831	12944	8757	147	0	21849	100%	59%
HSF	21	Shrubby Dry Forest	LC	C	EVC	115105	34056	24857	58912	50142	5246	0	114300	99%	52%
HSF	22	Grassy Dry Forest	LC	C	EVC	5468	2278	822	3100	1012	1045	0	5157	94%	60%
HSF	23	Herb-rich Foothill Forest	LC	C	EVC	45410	19877	6671	26548	17284	1114	0	44945	99%	59%
HSF	27	Blackthorn Scrub	LC	R	EVC	1	0	0	0	1	0	0	1	100%	0%
HSF	29	Damp Forest	LC	C	EVC	102109	7635	13804	21439	60614	7348	19	89420	88%	24%
HSF	30	Wet Forest	LC	C	EVC	37964	1087	6169	7255	27920	1356	0	36531	96%	20%
HSF	35	Tableland Damp Forest	LC	R	EVC	241	49	41	91	151	0	0	241	100%	38%
HSF	36	Montane Dry Woodland	LC	NR	EVC	2446	1038	235	1273	1165	0	0	2438	100%	52%
HSF	38	Montane Damp Forest	LC	NR	EVC	1415	410	133	543	835	23	0	1400	99%	39%
HSF	39	Montane Wet Forest	LC	NR	EVC	598	19	36	55	543	0	0	598	100%	9%
HSF	41	Montane Riparian Thicket	LC	M	EVC	99	25	0	25	9	0	0	34	35%	73%
HSF	43	Sub-alpine Woodland	LC	M	EVC	6	3	3	6	0	0	0	6	100%	100%
HSF	45	Shrubby Foothill Forest	LC	C	EVC	25611	1758	4125	5883	15673	1649	0	23205	91%	25%
HSF	48	Heathy Woodland	LC	M	EVC	2018	839	293	1132	714	72	0	1918	95%	59%
HSF	73	Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic	LC	na	mosaic	2417	1868	174	2041	374	0	0	2416	100%	85%
HSF	82	Riverine Escarpment Scrub	LC	NR	EVC	4220	1339	1265	2604	1433	146	0	4183	99%	62%
HSF	177	Valley Slopes Dry Forest	LC	NR	EVC	1397	369	747	1115	22	229	0	1367	98%	82%
HSF	201	Shrubby Wet Forest	LC	NR	EVC	1251	6	342	348	903	0	0	1251	100%	28%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
HSF	315	Shrubby Foothill Forest/Damp Forest Complex	LC	na	complex	7987	204	1693	1897	5766	244	0	7908	99%	24%
HSF	316	Shrubby Damp Forest	LC	C	EVC	24103	6422	6197	12620	11221	223	0	24064	100%	52%
HSF	320	Grassy Dry Forest/Heathy Dry Forest Complex	LC	na	complex	154	153	0	153	0	1	0	154	100%	100%
HSF	969	Exotic Non-native vegetation	na	na	no nat TC	0	44	24	68	4827	2805	22	7722	na	1%
HSF	982	No EVC assigned - need editing	na	na	no EVC id.	44	4	0	4	40	0	0	44	na	8%
HSF	990	Non Vegetation	na	na	no veg	0	102	21	122	810	28674	132	29738	na	0%
HSF	992	Water Body - Fresh	na	na	no veg	21	0	0	0	4	9	0	13	na	0%
HSF	998	Water Body - man-made	na	na	no veg	0	0	2	2	4262	76	0	4340	na	0%
HNF	23	Herb-rich Foothill Forest	LC	C	EVC	1	0	0	0	1	0	0	1	100%	0%
HNF	36	Montane Dry Woodland	LC	C	EVC	0	0	0	0	0	0	0	0	100%	0%
Strz	23	Herb-rich Foothill Forest	E	C	EVC	11990	219	16	235	447	1866	13	2562	21%	9%
Strz	29	Damp Forest	E	C	EVC	115298	712	182	894	3143	17950	374	22361	19%	4%
Strz	31	Cool Temperate Rainforest	E	R	EVC	1888	264	0	264	1302	248	15	1830	97%	14%
Strz	32	Warm Temperate Rainforest	E	R	EVC	3084	50	41	91	274	729	11	1104	36%	8%
Strz	45	Shrubby Foothill Forest	E	C	EVC	14076	5	0	5	214	2396	115	2730	19%	0%
Strz	53	Swamp Scrub	E	NR	EVC	1488	1	3	3	14	263	0	280	19%	1%
Strz	55	Plains Grassy Woodland	E	M	EVC	258	0	0	0	0	54	0	54	21%	0%
Strz	83	Swampy Riparian Woodland	E	NR	EVC	2583	5	0	5	303	208	6	521	20%	1%
Strz	123	Riparian Forest/Warm Temperate Rainforest Mosaic	E	na	mosaic	1934	45	0	45	297	188	3	534	28%	8%
Strz	126	Swampy Riparian Complex	E	NR	aggregate	6243	0	0	0	69	1036	7	1111	18%	0%
Strz	128	Grassy Forest	E	M	EVC	304	0	0	0	0	15	0	15	5%	0%
Strz	151	Plains Grassy Forest	E	M	EVC	1440	2	4	6	46	288	11	350	24%	2%
Strz	175	Grassy Woodland	E	M	EVC	1	0	0	0	0	0	0	0	0%	0%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
Strz	639	Swamp Scrub/Plains Grassy Forest Mosaic	E	na	mosaic	23	0	0	0	2	3	0	5	22%	0%
Strz	687	Swamp Scrub/Plains Grassland Mosaic	E	na	mosaic	16	0	0	0	0	0	0	0	2%	0%
Strz	688	Swampy Riparian Woodland/Swamp Scrub Mosaic	E	na	mosaic	31	1	0	1	0	2	0	3	9%	26%
Strz	2	Coast Banksia Woodland	V	M	EVC	130	57	0	57	0	12	0	69	53%	83%
Strz	8	Wet Heathland	V	R	EVC	259	112	0	112	0	20	0	132	51%	85%
Strz	16	Lowland Forest	V	C	EVC	15908	55	335	390	1802	3667	68	5928	37%	7%
Strz	18	Riparian Forest	V	M	EVC	104	0	0	0	23	5	0	28	27%	0%
Strz	161	Coastal Headland Scrub	V	R	EVC	331	135	0	135	0	83	0	219	66%	62%
Strz	191	Riparian Scrub	V	R	EVC	472	2	26	28	46	189	0	263	56%	11%
Strz	1106	Damp Heathy Woodland/Lowland Forest Mosaic	V	na	mosaic	7815	904	0	904	32	994	0	1930	25%	47%
Strz	30	Wet Forest	D	C	EVC	112624	3432	385	3817	25123	27039	1448	57427	51%	7%
Strz	48	Heathy Woodland	D	M	EVC	136	6	0	6	7	68	0	81	59%	8%
Strz	163	Coastal Tussock Grassland	D	M	EVC	6	5	0	5	0	0	0	5	92%	100%
Strz	793	Damp Heathy Woodland	D	R	EVC	243	5	0	5	0	99	0	103	42%	4%
Strz	233	Wet Sands Thicket	R	R	EVC	65	0	0	0	41	17	0	58	89%	0%
Strz	307	Sand Heathland/Wet Heathland Mosaic	LC	na	mosaic	85	79	0	79	0	4	0	83	98%	95%
Strz	969	Exotic Non-native vegetation	na	na	no nat TC	0	113	0	113	17079	16561	1745	35499	na	0%
Strz	990	Non Vegetation	na	na	no veg	0	155	28	182	3887	159119	358	163546	na	0%
Strz	995	Water - Ocean	na	na	no veg	0	0	0	0	0	0	0	0	na	100%
VAlp	31	Cool Temperate Rainforest	E	R	EVC	723	45	318	363	360	0	0	723	100%	50%
VAlp	171	Alpine Fen	E	R	EVC	4	4	0	4	0	0	0	4	100%	100%
VAlp	210	Sub-alpine Wet Heathland	E	R	EVC	508	447	1	449	13	46	0	508	100%	88%
VAlp	211	Sub-alpine Wet Heathland/Alpine Valley Peatland Mosaic	E	na	mosaic	338	316	5	321	18	0	0	338	100%	95%
VAlp	82	Riverine Escarpment Scrub	V	M	EVC	46	46	0	46	0	0	0	46	100%	100%

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						ha	ha	ha	ha	ha	ha	ha	ha	%	%
VAlp	156	Alpine Coniferous Shrubland	V	R	EVC	1	1	0	1	0	0	0	1	100%	100%
VAlp	42	Sub-alpine Shrubland	R	R	EVC	162	155	5	160	2	0	0	162	100%	99%
VAlp	44	Sub-alpine Treeless Vegetation	R	na	mosaic	886	580	97	677	207	0	0	884	100%	77%
VAlp	73	Rocky Outcrop Shrubland/Rocky Outcrop Herbland Mosaic	R	na	mosaic	249	247	0	247	2	0	0	249	100%	99%
VAlp	208	Sub-alpine Riparian Shrubland	R	R	EVC	7	7	0	7	0	0	0	7	100%	100%
VAlp	1001	Alpine Grassland	R	R	EVC	101	86	0	86	0	16	0	101	100%	85%
VAlp	1003	Sub-alpine Dry Shrubland	R	R	EVC	206	199	0	199	0	7	0	206	100%	97%
VAlp	1004	Alpine Grassy Heathland	R	R	EVC	788	767	0	767	7	9	0	783	99%	98%
VAlp	1005	Alpine Grassy Heathland/Alpine Grassland Mosaic	R	na	mosaic	424	338	0	338	0	84	0	422	100%	80%
VAlp	1105	Alpine Rocky Outcrop Heathland/Alpine Dwarf Heathland Mosaic	R	na	mosaic	7	7	0	7	0	0	0	7	100%	100%
VAlp	18	Riparian Forest	LC	M	EVC	51	48	3	51	0	0	0	51	100%	100%
VAlp	20	Heathy Dry Forest	LC	M	EVC	101	62	3	64	36	0	0	101	100%	64%
VAlp	21	Shrubby Dry Forest	LC	NR	EVC	670	508	21	529	141	0	0	670	100%	79%
VAlp	23	Herb-rich Foothill Forest	LC	C	EVC	1382	627	112	739	642	0	0	1381	100%	54%
VAlp	29	Damp Forest	LC	NR	EVC	1657	211	173	385	1266	5	0	1656	100%	23%
VAlp	30	Wet Forest	LC	NR	EVC	1952	104	259	363	1571	15	0	1950	100%	19%
VAlp	35	Tableland Damp Forest	LC	C	EVC	2479	930	437	1367	1110	0	0	2477	100%	55%
VAlp	36	Montane Dry Woodland	LC	C	EVC	22249	14507	784	15291	6932	14	0	22237	100%	69%
VAlp	37	Montane Grassy Woodland	LC	C	EVC	64	61	0	61	0	3	0	64	100%	96%
VAlp	38	Montane Damp Forest	LC	C	EVC	19999	8729	768	9497	10477	3	3	19979	100%	48%
VAlp	39	Montane Wet Forest	LC	C	EVC	19384	1670	2004	3674	15705	0	0	19379	100%	19%
VAlp	41	Montane Riparian Thicket	LC	NR	EVC	2026	875	348	1223	803	0	0	2026	100%	60%
VAlp	43	Sub-alpine Woodland	LC	C	EVC	18228	16078	162	16240	1922	65	0	18227	100%	89%
VAlp	45	Shrubby Foothill Forest	LC	M	EVC	146	60	21	81	65	0	0	146	100%	55%
VAlp	192	Montane Rocky Shrubland	LC	NR	EVC	1411	1321	89	1410	0	0	0	1410	100%	100%
VAlp	201	Shrubby Wet Forest	LC	R	EVC	56	13	15	28	28	0	0	56	100%	50%

Bio region	Map Unit No.	Map Unit Name	Bior. Cons. Status	EVC Geog. Occ.	Map Unit Type	Pre 1750 Area (a)	Cons Res (c)	State Forest SPZ (S)	Total Con (C+S)	Other Public land (O)	Private (P)	Unknown (U)	Total Extant Area (b)	Extant/ Pre 1750 (b/a)	Con Res/ Extant (C+S)/b
						ha	ha	ha	ha	ha	ha	ha	ha	%	%
VAlp	316	Shrubby Damp Forest	LC	M	EVC	306	259	17	277	30	0	0	306	100%	90%
VAlp	969	Exotic Non-native vegetation	na	na	no nat TC	0	0	0	0	3	0	0	3	na	0%
VAlp	990	Non Vegetation	na	na	no veg	0	16	0	16	33	2	0	51	na	32%
VAlp	1000	Alpine Crag Complex	na	na	complex	15	14	0	14	0	0	0	14	na	97%

9.5 What is a 'Reserve'

Explanation of Public Land Use Categories Assigned as Different Tenures in EVC BCS Table

DESC	CATEGORY IN EVC BCS TABLE
Reference Area	C (Conservation reserve)
Wilderness Area	C (Conservation reserve)
Wilderness Zone	C (Conservation reserve)
Other Area with Remote & Natural Attributes	C (Conservation reserve)
National Park	C (Conservation reserve)
State Park	C (Conservation reserve)
Coastal Park	C (Conservation reserve)
Gippsland Lakes Reserve (hist)	C (Conservation reserve)
Marine and Wildlife Reserve (hist)	C (Conservation reserve)
Marine Reserve (hist)	C (Conservation reserve)
Flora Reserve (hist)	C (Conservation reserve)
Flora & Fauna Reserve (hist)	C (Conservation reserve)
State Game Refuges (hist)	C (Conservation reserve)
State Faunal Reserve (hist)	C (Conservation reserve)
State Nature Reserve (hist)	C (Conservation reserve)
Essentially Natural Catchment	C (Conservation reserve)
Cave Reserve (hist)	C (Conservation reserve)
Natural Features and Scenic Reserve (hist)	C (Conservation reserve)
Scenic Reserve (hist)	C (Conservation reserve)
Geological Reserve or Monument (hist)	C (Conservation reserve)
Wildlife Reserve (hist)	C (Conservation reserve)
State Game Reserve (hist)	C (Conservation reserve)
Game Management Station (hist)	C (Conservation reserve)
River Murray Reserve	C (Conservation reserve)
Stream-side Reserve (hist)	C (Conservation reserve)
Bushland Reserve (hist)	C (Conservation reserve)
Heritage River	C (Conservation reserve)
Special Protection Zone	S (Special Protection Zone)
Regional Park	O (Other Public Land)
Multi-Purpose Park (hist)	O (Other Public Land)
Coastal Reserve	O (Other Public Land)
Unreserved Land Below High Tide (hist)	O (Other Public Land)
Unreserved Crown Land Below High Tide Mark (hist)	O (Other Public Land)
Wildlife Management Co-operative Area	O (Other Public Land)
Public Land Water Frontage Reserve (hist)	O (Other Public Land)
Stream Beds & Banks (hist)	O (Other Public Land)
Lake Reserve (hist)	O (Other Public Land)
Highway Park	O (Other Public Land)
Other Res. & P.L. - Mineral Springs (hist)	O (Other Public Land)
Water Production (reservoirs and buffers)	O (Other Public Land)
Historic & Cultural Features Reserve	O (Other Public Land)
Historic Area (hist)	O (Other Public Land)
Historic Reserve (hist)	O (Other Public Land)
Community Use Area	O (Other Public Land)

Education Area	O (Other Public Land)
Recreation Reserve (hist)	O (Other Public Land)
Recreation Reserve (hist)	O (Other Public Land)
Utilities & Survey - halls schools (hist)	O (Other Public Land)
Other Res. & P.L. - halls schools (hist)	O (Other Public Land)
Township Land - halls schools (hist)	O (Other Public Land)
Alpine Resort	O (Other Public Land)
State Forest	O (Other Public Land)
Hardwood Production (hist)	O (Other Public Land)
Uncommitted Land (hist)	O (Other Public Land)
Forest Area (hist)	O (Other Public Land)
Eucalyptus Oil Production (hist)	O (Other Public Land)
Reserved Forest (hist)	O (Other Public Land)
River Zone - Natural Features Zones (hist)	O (Other Public Land)
Plantation	O (Other Public Land)
Softwood Plantation	O (Other Public Land)
School Plantation	O (Other Public Land)
Earth Resources	O (Other Public Land)
Mineral & Stone Production - Stone area (hist)	O (Other Public Land)
Coal Production	O (Other Public Land)
Services & Utilities	O (Other Public Land)
Roadside Conservation (hist)	O (Other Public Land)
Utilities & Survey - transport (hist)	O (Other Public Land)
Utilities & Survey - railways (hist)	O (Other Public Land)
Utilities & Survey - Electricity & Gas (hist)	O (Other Public Land)
Utilities & Survey - Comm. Survey & Nav. (hist)	O (Other Public Land)
Utilities & Survey - Municipal Bld'gs (hist)	O (Other Public Land)
Township Land - Municipal Bld'gs (hist)	O (Other Public Land)
Other Res. & P.L. - Municipal Bld'gs (hist)	O (Other Public Land)
Util & Survey-Hosp Public Offices & Just (hist)	O (Other Public Land)
Township Land - Hosp. Public Offices & Just	O (Other Public Land)
Water Production - water & sewerage (hist)	O (Other Public Land)
Water Regulation & Drainage (hist)	O (Other Public Land)
Utilities & Survey - water & sewerage (hist)	O (Other Public Land)
Hydroelectricity Production (hist)	O (Other Public Land)
Services & Utilities - Cemeteries (hist)	O (Other Public Land)
Utilities & Survey - Other Utility Uses (hist)	O (Other Public Land)
Township Land - Other Utility Uses (hist)	O (Other Public Land)
Other Res. & P.L. - Other Utility Uses (hist)	O (Other Public Land)
Uncategorised Public Land	O (Other Public Land)
Township Land - Uncategorised (hist)	O (Other Public Land)
Other Reserves & Public Land	O (Other Public Land)
Revegetation Area	O (Other Public Land)
Township Land	O (Other Public Land)
Agriculture	O (Other Public Land)
Commonwealth Land	O (Other Public Land)
Freehold	P (Private)
Scenic Coast	other
No Information	other
Not Validated by DCNR	other

9.6 Incentives Available for Native Vegetation Activities

Please note, incentive programs change and the list below reflects schemes as at June 2003. For comprehensive up to date lists, the following e-mail addresses are suggested:

- www.wgcma.vic.gov.au
- www.grantslink.gov.au
- www.ourcommunity.com.au

Grant	Origin	Contact	Criteria For Funding
Natural Heritage Trust (including Envirofund)	Environment Australia 1800 803 772 www.nht.gov.au 1800303863	West Gippsland Catchment Management Authority	Federal And State One Stop Shop for funding programs incorporating Bushcare, Landcare, Rivercare & Coastcare. Targets projects involving sustainable natural resource management, protection of remnant vegetation and endangered species, revegetation, conservation of biodiversity, management of water resources and farm and catchment management planning.
BushTender Program	State	Contact your Regional Department of Sustainabilty and Environment or Catchment Management Authority	BushTender program is designed to pay for landholder servies that better manage bush on private land using a bidding/auction process. These services may include fencing, weed and pest control and revegetation.
Trust for Nature Covenants	Federal (NHT)	Contact your Regional Trust for Nature Officer (03) 5678 8925 Email : annew@tfn.org.au	The TFN covenanting program is designed to permanently protect remants.
Endangered Species Program	NHT	Department of Enviornment and Heritage (02) 62742512	This program is delivered through a range of projects, many of which are for the preparation and implementation of recovery plans and threat abatement plans, which are implemented through State and Territory conservation agencies, community groups and other organisations.
Grassy Ecosystems Grants	Federal /WWF NHT	WWF Ph: (02) 9281 5515 www.wwf.org.au	To develop and/or implement innovative projects to establish new ways of conserving native grassy ecosystems. Targets are to increase the area of grassy ecosystems on private land protected by covenants or long term management agreements, increase the number of cooperative land management agreements with public authorities, improve understanding and application of best practice management and increase community involvement in the management of grassy ecosystems. Projects should focus on on-ground works,

			including saving threatened species, weed control, fencing, fire-management, legal protection for specific sites and development and implementation of management plans.
Revive our Wetlands	BHP and Conservation Volunteers Australia	1800 032 501. (02) 688 25986 www.reviveourwetlands.net	Revive our Wetlands is Australia's largest practical wetland revitalisation program. Focusing on 100 of Australia's important wetlands. Revive will involve volunteers in practical wetland projects across Australia. Projects will be undertaken on public or private land with priority being given to projects that will restore or rehabilitate wetlands of recognised importance.
Conservation Volunteers Australia	Federal	Phone: 1800032501 www.conservationvolunteers.com.au	Conservation Volunteers Australia offers land managers a number of different programs that can provide a managed team of volunteers to assist you to meet your project objectives.
Green corps	Federal	Greening Australia 1800 077700 www.greencorps.com.au	Green Corps is not a grant program as such but can provide labour assistance to land managers and community groups with priority environmental projects. The objective of the program is to give young Australians the opportunity to demonstrate their commitment to the environment by contributing to high priority conservation projects while being provided with quality accredited on the job training.
Tree Project	Voluntary	3rd Floor 247 Flinders Lane Melbourne 3000 (03) 9650 9477	Tree Project will grow trees from seed provided by the group for no charge.
Tranceplant	Voluntary Group	www.tranceplant.org info@tranceplant.org	An organisation that provides assistance with planting and revegetation projects.
Community Jobs Program	State Government	Ph : 1800 110109 www.employment.vic.gov.au/community	Landcare and environment projects are eligible under the new Community Jobs Program to provide wage costs and training opportunities for 13-16 weeks. Projects need to demonstrate ongoing employment /training opportunities and must reflect community needs and benefits.
Rate Rebates	Local Government	Bass Coast Shire Ph : 03 5671 2211 LaTrobe Shire Ph: 03 51731400 South Gippsland Shire Ph 03 56242411	These schemes vary across the Shires by offering rate rebates for environmental works on properties. For example Bass Coast Shire, assistance is provided for Trust for Nature covenanted properties, whole farm planning and weed control associated with remnant vegetation protection.
Small Grants Program	Federal	Dep't of Family & Community Services Ph: 1300 653 227 or	The IYV Small Grants are designed to fund initiatives that

		http://www.facs.gov.au/IYV2001	support, encourage & recognise volunteer effort in your organisation. Applications are assessed against criteria including; a) does the proposal address one or more of the IYV objectives, b) is the budget reasonable for the planned and itemised activity.
Grants to Voluntary Environment and Heritage Organisations	Federal	phone: 02 6274 1409; email gveho@ea.gov.au http://www.environment.gov.au/net/gveho.html	The program of Grants to Voluntary Environment and Heritage Organisations (GVEHO) is intended to help eligible community based environment and heritage organisations to value, conserve and protect the natural environment and cultural heritage by assisting these organisations with their administrative costs. Funds provided through this program may be used to assist with: salaries and salary on-costs for staff of the organisation; office rental; electricity, gas, phone and other similar charges; essential office equipment; staff and volunteer training; photocopying and printing costs; and travel costs incurred on behalf of the organisation.

Philanthropic Trusts

Grant	Source Contact/Phone For Applications	Criteria For Funding
1. The Myer Foundation & 2. The Sidney Myer Fund	Mr. Michael Liffman Executive Officer Myer Foundation Sidney Myer Fund Level 45, 55 Collins St Melboune, 3000 (03) 92073040	Funds both individuals and groups in the area of community services education, the environment, the arts and humanities. Projects for which funds are sought must show that they: I) contribute to an area of high priority within a field of significance to the community; ii) seek to make a lasting input in terms of knowledge, ideas and programs
The Mullum Trust	c/o BDO Chartered Accountants 563 Bourke St Melbourne 3000 (03) 96158500	Funds projects with practical hands on conservation activity.
James N. Kirby Foundation	* The Secretary James N. Kirby Foundation Level 2, 86-90 Bay St, Broadway, NSW, 2007 Ph (02) 92122711	Maintenance and development of Australia's natural resources
Landcare Australia	Level 2 Farrer House 24 Collins St Melbourne 3000 Vic	Small grants to start projects may be available, plus advice on sponsorship and project management. Contact Rob Youl Ph : 9662 9977 Fax : 9662 4466
The R.E. Ross Trust	The Administrator, The R.E. Trust , 24 Albert Rd Sth Melbourne 3205	Nature conservation - with particular reference to the purchase of land for the preservation and protection of flora and fauna .The Trust favors projects which are innovative, attract enthusiastic volunteers, have plans to become self supporting, and are action

	(03) 9690 6255 Fax 9696 5497	based. Contact the Trust for details
Reichstein Foundation	Lance Reichstein Charitable Foundation 172-192 Flinders St Melbourne 3000 PHONE (03) 9650 4400 FAX (03) 9650 7501	Support for groups developing community projects to promote taking responsibility and control of the factors which affect their lives.
Australian Bush Heritage Fund	2 Kelly St, Battery Point, 7004 PO Box 101, Hobart, 7001 1800677101	Land purchase for environmental conservation
***The Ian Potter/George Alexander Foundation**	*The Ian Potter/George Alexander Foundation Level 3, 111 Collins St Melboune 3000 PH: (03) 9650 3188 www.ianpotter.org.au	Summary of purpose includes conservation.
The Norman Wettenhall Foundation	Level 3, 111 Collins St Melboune 3000 (03) 9650 3188	The purpose of the Foundation is to support and encourage research, education and recording of all aspects of the natural living environment. Initially, there will be an emphasis on birds and their habitats, but it is not intended that these will be the sole interests of the Foundation. Applications that are creative, innovative educative, have a community focus and strong long-term conservation outcomes are strongly encouraged.

WEST GIPPSLAND CATCHMENT MANAGEMENT AUTHORITY
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