

**Companion Document to the  
Natural Resources Report Card 2004**

Gippsland Integrated Natural Resources Forum  
June 2004

# Companion Document to the Natural Resources Report Card 2004

## Contents

Introduction	3
What have we achieved since the 2003 Report Card was published?	3
<i>2004 Report Card in Focus</i>	4
Condition Rating System	4
Stewardship Rating System	4
Condition and Stewardship Summaries	5
<i>Report Card Purpose and Process</i>	18
Purpose of the Natural Resources Report Card	18
Key Stakeholders/Audience for the Report Card	18
Report Card Development Process	18
About the Gippsland Integrated Natural Resources Forum	19
Feedback	19
<i>Data Sources and Indicators</i>	20
Data Sources	20
Plans for the Future	20
Condition of 15 Natural Assets	21
Stewardship of 15 Natural Assets	25
References	30

# Companion Document to the Natural Resources Report Card 2004

## Introduction

The Gippsland Integrated Natural Resources Forum (GINRF) is pleased to present the second Natural Resources Report Card for the Gippsland Region. The 2004 Report Card indicates what has been achieved over the past twelve months and incorporates feedback provided on the 2003 Report Card. Fifteen of Gippsland's natural assets have been selected to represent the richness and diversity of the Gippsland region. Three new assets have been included in 2004: Latrobe River, Ninety Mile Beach and Batuluk Cultural Trail.

The assets are rated both for their environmental condition and for how well government, industry and community are responding to protect and enhance these assets (stewardship). This document serves as a companion to the Natural Resources Report Card, providing more detailed information about condition and stewardship of each asset, in addition to information about the report card methodology.

The Natural Resources Report Card represents the collective challenge that faces government, industry and the community in the Gippsland region. An integrated effort is required to care for and manage our most precious natural assets. Most of the Gippsland region is in good environmental shape, providing a good base for economic and social wellbeing. This is a great reason to work together to protect and improve Gippsland's catchment health.

### ***What have we achieved since the 2003 Report Card was published?***

The renewal of both East and West Gippsland Regional Catchment Strategies is almost complete with West Gippsland going through final stages of accreditation and East Gippsland currently in public exhibition phase.

The Victorian Government issued the Green Paper "Securing our Water Future" for discussion about reforms to the water industry. In addition to the many submissions from individual organisations, the members of Gippsland Integrated Natural Resources Forum developed a combined Gippsland response to the Green Paper. The White paper is due some time in June 2004.

A regional partnership project to address Monitoring, Evaluation and Reporting was initiated and continues. Project MERGe will provide mechanism to coordinate monitoring, evaluation and reporting activity in natural resource management across the whole Gippsland region.

The Clean Coal Taskforce has resulted in the Latrobe Valley 2100 project which will develop a strategy to guide planning and sustainable mine development practices for brown coal in the Latrobe Valley.

The Thomson Macalister Environmental Flows Taskforce concluded its work and provided recommendations to the Victorian Government.

West Gippsland River Health Strategy was produced in draft form, having just completed the public exhibition phase.

The Gippsland Lakes and Catchment Taskforce has commenced implementation of the Gippsland Lakes Future Directions and Actions Plan.

The recovery after the Victorian Alpine Fires of early 2003 continues.

## 2004 Report Card in Focus

### **Condition Rating System**

An assessment is made about the overall environmental condition of each natural asset by measuring against indicators relating to land, water, biodiversity and air values. Both the immediate location of the asset and offsite impacts are considered.

<b>Rating</b>	<b>Description</b>	<b>Definition</b>
<b>A</b>	Excellent	Environmental values are in good to excellent condition. No adverse offsite impacts.
<b>B</b>	Good	Most environmental values are good. Minimal offsite impact
<b>C</b>	Reasonable	Some environmental values are indicated as poor, but are recoverable. Some offsite impacts.
<b>D</b>	Poor	Many environmental values are poor. Improvement of assets needs addressing. Several adverse offsite impacts.
<b>F</b>	Degraded	Natural values are degraded. Extensive offsite impacts.

### **Stewardship Rating System**

Stewardship may be defined as: "The careful and responsible management of the natural asset by the range of agency, industry and community stakeholders entrusted with its care". It is generally accepted that good stewardship requires genuine engagement across community, government and industry and an integrated approach to natural resource management.

<b>Rating</b>	<b>Description</b>	<b>Definition</b>
<b>*****</b>	Fully integrated	Complete with high quality stewardship process, significantly impacting the asset condition. High level of government, community and industry engagement.
<b>****</b>	Mostly integrated	Complete with average/good quality of most parts of the stewardship process, having potential to improve the asset condition. Some evidence of partnership arrangements.
<b>***</b>	Some integration	Most parts of the stewardship process complete with average/poor quality, having unclear impacts on the condition. Government, community and industry

		engagement may be fragmented. Weak partnerships.
**	Little integration	Gap in one or more of the processes and low quality is hampering effective stewardship of the natural asset. There is danger of contributing to asset condition decline.
*	No integration	Significant gaps in the stewardship process. Contributing to decline in asset condition

### **Condition and Stewardship Summaries**

Fifteen natural assets of Gippsland were chosen as the focus for this report card:

Asset	Condition Rating	Stewardship Rating
The Gippsland Lakes	C+	***
Corner Inlet/Wilson's Promontory	B	***
Coastal Parks of Far East Gippsland	A	***
Ninety Mile Beach	B	***
Alpine National Park	B-	***
Snowy River	C	****
Mitchell River	B	***
Thomson River	C-	***
Latrobe River	D	***
Forests of East Gippsland	B	****
Coastal Living - Bass Coast & Phillip Island	C	**
Macalister Irrigation District	D	***
Dryland Dairy Farming of West and South Gippsland	C	***
Brown Coal based Energy Industry	D	****
Batuluk Cultural Trail	B	***

These natural assets are recognisable and represent Gippsland's rich, diverse natural landscape. This approach focuses on integration of the natural resources themselves and the agencies, communities and processes involved in managing these assets.

### **The Gippsland Lakes**

<b>Condition Rating: C+</b> <b>2003: C</b>	<b>Stewardship Rating: ***</b> <b>2003: **</b>
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**Bioregion reference:** Gippsland Plain

#### **Condition summary**

The Gippsland Lakes maintains high recreation and tourism values based on the extensive and contiguous natural system of waterways. The area is listed as a Ramsar wetlands site, giving international recognition to the natural values and giving some indication of its ecological significance. The natural state of the Gippsland Lakes is under

threat, with severe and frequent algal blooms being the most noticeable symptom.(SKM, 2003 p60) There are also high sediment and nutrient levels entering the Lakes system, some degradation of hinterland flora and fauna, and some indication of decline in fish numbers and seagrass (SKM, 2003 p61, p63, p103). Land values on the Lakes' shores are threatened by the high risk of wind erosion on the eastern margin of Lake Wellington and some dryland salinity in low lying areas around Lake Wellington (Bengworden, Area, Kilmany/Pearsondale and Lake Coleman) (SKM, 2003 p32, p29). There is also real concern about the capacity to protect indigenous cultural values in the Gippsland Lakes area, indicated by the loss of many sites of cultural significance (SKM, 2003 p20).

The continuing drought conditions in the Gippsland Lakes catchment during the 2003/2004 year have provided some environmental benefits. The nutrient input to the Lakes system has been very low due to the combination of drought induced water savings on farm and low river flows. The result appears to have been a very low incidence of algal blooms and the meeting of nutrient reduction targets. There is no confidence that this is a long term outcome.

### **Stewardship summary**

The Gippsland Lakes and Catchments Taskforce is chaired by Professor Lyndsay Neilson, Secretary of Department of Sustainability and Environment. The Taskforce provides opportunities to integrate catchment management, giving priority to management effort that individual agencies may not have direct responsibility for. During the 2003/2004 year, the Taskforce has commenced implementation of the Gippsland Lakes Future Directions and Actions Plan.

The Gippsland Lakes area is shared by both East and West Gippsland Catchment Management Authority areas. Both East and West Gippsland Regional Catchment Strategies acknowledge that integrated catchment management is required to care for and protect the Gippsland Lakes.(WGCMA 2003), (EGCMA 2004)

### **Corner Inlet/ Wilson's Promontory**

<b>Condition Rating: B</b> <b>2003: No Change</b>	<b>Stewardship Rating: ***</b> <b>2003: No Change</b>
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**Bioregion reference:** Wilson's Promontory and Gippsland Plain

### **Condition Summary**

Wilson's Promontory is one of the oldest National Parks in Victoria and has recently been joined by the Corner Inlet and Wilson's Promontory Marine National Parks. Corner Inlet is also listed as a Ramsar wetland. The long standing national park status of Wilson's Promontory has preserved 100% of pre-European vegetation in many areas and no less than 83% in other locations. It has also been declared a biosphere reserve under UNESCO's 'Man and the Biosphere' program. (SKM 2003) Despite the long-standing

protection, the Prom and Corner Inlet are threatened by human activity. Recent monitoring has recorded some sediments and nutrients entering Corner Inlet and there is real concern about the impacts of sea walls on fish breeding and habitat. (SKM 2003) Some decline in sea grass and environmental weeds such as *Spartina* also threaten biodiversity values (SKM 2003) Indigenous cultural values are partly protected by Parks plans. (SKM 2003)

### **Stewardship Summary**

This area falls within the boundaries of South Gippsland Shire Council and West Gippsland Catchment Management Authority and is mostly managed by Parks Victoria. Wilson's Promontory National Park management plan was renewed in 2002, with an increased focus on integrated management and honouring Victorian Government commitments to prevent further commercial development in the park. (Parks Victoria) The Corner Inlet Marine National Park (Parks Victoria 2004) and Wilsons Promontory Marine Protected Areas Plans (Parks Victoria 2004) are in draft form. Both drafts have some emphasis on a collaborative approach to planning and management with the range of responsible organisations, both in the immediate location and the catchments. The draft plans recognise the West Gippsland Regional Catchment Strategy (WGCMA 2003) and Integrated Coastal Planning for Gippsland - Coastal Action Plan (Gippsland Coastal Board 2002) as the two mechanisms to achieve integrated outcomes. In addition, the Draft West Gippsland River Health Strategy identifies Corner Inlet and Nooramunga Marine and Coastal Park as high priority areas (WGCMA 2004)

## **Coastal Parks of Far East Gippsland**

<b>Condition Rating: A</b> <b>2003: No Change</b>	<b>Stewardship Rating: ***</b> <b>2003: No change</b>
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**Bioregion reference:** East Gippsland Lowlands

### **Condition Summary**

The main feature of this area is the Croajingalong National Park, which is recognised for protecting a significant representation of East Gippsland's diverse lowland forest, heath and coastal ecosystems. The park is part of a designated biosphere reserve under the UNESCO 'Man and the Biosphere' program. (Parks Victoria 2000) The Point Hicks Marine National Park adjoins Croajingalong NP. This area also contains one of several Natural Catchment Areas identified in East Gippsland and has a high concentration of near pristine estuarine areas. (DNRE 2001) (DNRE 2002)

### **Stewardship Summary**

Parks Victoria plays a major role in the management of this area, working from National Park management plans. The draft East Gippsland Regional Catchment Strategy refers to this area in the Lakes, Estuaries and Wetlands asset. (EGCMA 2004)

## Alpine National Park

<b>Condition Rating: B-</b> <b>2003: B</b>	<b>Stewardship Rating: ***</b> <b>2003: ***</b>
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**Bioregion reference:** Victorian Alps and Highlands – Southern Fall

### Condition summary

The Alpine National Park covers an area of 646,000. This Report Card mostly focuses on the Wonnangatta-Moroka and Bogong Units of the Alpine National Park. (approximately 380,000ha). These areas boast several Wilderness Zones, Heritage Rivers and Natural Catchment Areas.(Parks Victoria 2000). Between 70% and 100% of remnant tree cover remains intact (that is, hasn't been cleared) (Victorian Catchment Management Council 2002) Issues for maintaining the land, water and biodiversity values of the park include controlling the high number of pest plant and animals, managing grazing to improve protection of threatened vegetation communities and species, and managing for wildfire. (Parks Victoria 2000) The 2003 Eastern Victorian Fires burnt a combined total of 1.3million hectares of National Park, State Forest and private land in the North Eastern and East Gippsland regions of Victoria and Southern New South Wales. Approximately 500 000 hectares of National Park including 60% of the Alpine National Park were affected.(Victorian Government 2003) The impact of the fires is widespread, including potential to reduce water quality and yield, fragment vegetation, increase erosion and threaten endangered species in Gippsland's catchments. The main types of natural environments that have been affected are the eucalypt forests of the upper and lower slopes and the alpine grassland, shrubland, heathland and sphagnum bog vegetation communities at higher altitudes. Plant communities and animal populations and habitats including rivers, creeks, wetlands and soil are being affected by the flush of nutrients (from the ash bed) and sediments (washed from bare areas by rain) that are occurring as a result of the fires. (Fire and the environment: <http://www.nre.vic.gov.au>). Thirty two vegetation types have been affected by fire – some have been totally burnt. Approximately 70 threatened flora species have had 90-100 per cent of their known Victorian distribution affected by fire. While much of the vegetation and plant species will respond well to the impact of fire, alpine environments will not. Eight threatened fauna species have had 90-100 per cent of their known Victorian habitat affected. (Ministerial Taskforce on Bushfire Recovery 2003)

In addition, the fires have destroyed over 60 percent of the visitor facility infrastructure in national parks and other public land including toilet blocks, picnic tables, viewing lookouts, visitor accommodation, car parks, visitor signs and information boards, snow poles and walking tracks. (Victorian Government 2003)

Approximately 9000km of fire containment lines were constructed on both private and public land as part of the fire suppression strategy. There is potential for serious damage to catchments through the soil erosion if these tracks are not rehabilitated. (Ministerial Taskforce on Bushfire Recovery 2003)

### Stewardship Summary

Parks Victoria has responsibility for management of the Alpine National Park. In addition to the initial fire suppression and recovery initiatives, the Ministerial Taskforce on Bushfire Recovery made a series of recommendations for: Recovery of catchment and water protections; restoring assets in parks, forests and alpine resorts; restoring ecological and cultural heritage, rebuilding roads, bridges and signs; additional support to farming communities; and community recognition. (Ministerial Taskforce on Bushfire Recovery 2003) Not all of these rehabilitation plans relate to the Alpine National Park, but do affect communities in the Gippsland region.

## Snowy River

<b>Condition Rating: C</b> <b>2003: No Change</b>	<b>Stewardship Rating: ****</b> <b>2003: ***</b>
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**Bioregion reference:** East Gippsland Uplands and East Gippsland Lowlands

### Condition Summary

The Snowy River has 40% of its length in excellent or good condition, and 32% in moderate to poor condition but with flows significantly reduced by the Snowy Hydro-electric Scheme. (Victorian Government; Victorian Catchment Management Council 2002). Reduction of natural flows and the effect throughout the catchment of other human activities has had a significant adverse impact on the ecological condition of the Snowy River in Victoria. Several studies have found all river health components of the Snowy to be degraded due to altered flow regimes, reduced in-stream values, reduced riparian values, reduced wetland values and reduced water quality. (East Gippsland Catchment Management Authority & Department of Sustainability and Environment 2003) The Snowy River National Park protects natural values along part of the river's length in East Gippsland and it is listed as a heritage river in the Victorian River Health Strategy. The 2003 Eastern Victorian Fires also impacted upon the Snowy River National Park.

### Stewardship Summary

In December 2000, the Victorian, New South Wales and Commonwealth Governments agreed to increase Snowy River flows to 21% over next 10 years, promised to increase to 28% in the longer term. (East Gippsland Catchment Management Authority & Department of Sustainability and Environment 2003) In 2001, the Victorian Government committed to implementing a 10 year program of rehabilitation works on the Snowy River within Victoria. Snowy River Rehabilitation is a multifaceted, integrated program of rehabilitation works. It encompasses a diverse range of projects that will be implemented co-operatively by Government agencies, community groups and landowners. Snowy River Rehabilitation brings existing plans and strategies together with new initiatives aimed at improving the ecological health of the Snowy River. Considerable work has already been completed by the former Snowy River Improvement Trust and more recently by the East Gippsland Catchment Management Authority, including riparian revegetation, bank stabilisation, willow removal, and establishment of an in-stream rehabilitation trial administered by the Trial Project Management

Committee.(East Gippsland Catchment Management Authority & Department of Sustainability and Environment 2003)

## Mitchell River

<b>Condition Rating: B</b> <b>2003: No Change</b>	<b>Stewardship Rating: ***</b> <b>2003: No Change</b>
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**Rating: B**

**Bioregion reference:** Highlands – Southern Fall and Gippsland Plain

### Condition Summary

The Mitchell River is one of two heritage river systems in Victoria recognised as having very high value, due to high conservation value, high level of naturalness of flows, relative intactness throughout the entire river system and significance for the Gippsland Lakes. (DNRE 2002) Greater than 70% of the stream length is in excellent to good condition. (Victorian Catchment Management Council 2002). Tunnel erosion, sediment and nutrient impacts in parts of the lower catchment have real implications for the Mitchell's ability to contribute to the health of the Gippsland Lakes.

### Stewardship Summary

The Mitchell river has been identified by Southern Rural Water as a priority for developing a Streamflow Management Plan, necessary to protect its ecological integrity. A joint East and West Gippsland Water Quality Management Plan is also under development (EGCMA 2002) The Mitchell River is appears under the Rivers and Streams asset class in the draft East Gippsland Regional Catchment Strategy. (EGCMA 2004)

## Thomson River

<b>Condition Rating: C-</b> <b>2003: No Change</b>	<b>Stewardship Rating: ***</b> <b>2003: No Change</b>
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**Bioregion reference:** Highlands-Southern Fall and Gippsland Plain

### Condition Summary

The Thomson River is dammed in the upper reaches, reducing flows which are further reduced by extraction for irrigation in lower reaches.(SKM 2003) It is classed as a heritage river (between Thomson Dam and Cowwarr Weir), exhibiting good water quality, generally good stream substrate and instream habitat and high quality riparian vegetation in the upper reaches. (Sadler and Doeg 1998) The middle to lower reaches indicate high levels of phosphorus and turbidity, with increasing salinity (EC) in the lower reaches. Significant loss of riparian vegetation has occurred in the lower reaches, and there are some issues about water course and bed/bank stability. (SKM 2003) The

Thomson Macalister Environmental Flows Task Force concluded that health of the Thomson and Macalister Rivers has been degraded by human activity. This is evident from the reduction in abundance and distribution of native fish species throughout the catchment, reductions in the in-stream and riparian habitats, reductions in water quality in downstream reaches and increases in the abundance and distribution of exotic fish species. (Thomson Macalister Environmental Flows Task Force 2004)

### **Stewardship Summary**

Management of the Thomson River is a complex task involving many different uses and responsible authorities. In September 2000, the Thomson Macalister Environmental Flows Task Force was established by the Minister for the Environment to oversee and co-ordinate the implementation of the Agreement on Environmental Flows for the Lower Thomson and Macalister Rivers. The Task Force is comprised of representatives from Melbourne Water, Southern Rural Water, West Gippsland Catchment Management Authority, Department of Sustainability and Environment, Department of Primary Industries, Environment Victoria, Gippsland Coastal Board and community and irrigator representatives. (Thomson Macalister Environmental Flows Task Force 2004)

In 2004, the Thomson Macalister Task Force concluded that river health will further decline if no management changes are implemented; and that conditions are unlikely to improve under current management practices. (Thomson Macalister Environmental Flows Task Force 2004) The Task Force identified the environmental water requirements of the Thomson and Macalister Rivers and recommended that in the long term, the full flow recommendations should be targeted. However, in the medium term (next 5-6 years), a compromised version of the flow recommendations should be implemented to minimise social and economic impact on irrigators and Melbourne urban users, while still achieving environmental objectives. (Thomson Macalister Environmental Flows Task Force 2004) The Victorian Government’s response to these recommendations is likely to be announced with the White Paper on “Securing our Water Future” in June 2004.

The draft West Gippsland River Health Strategy has given highest priority to the protection of two (of four) reaches of the Upper Thomson, covering 20km of the river. (WGCM 2004)

### **East Gippsland Forests**

<b>Condition Rating: B</b> <b>2003: No Change</b>	<b>Stewardship Rating: ****</b> <b>2003: No Change</b>
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**Bioregion reference:** Victorian Alps, East Gippsland Uplands, East Gippsland Lowlands and Monaro Tablelands

### **Condition summary**

The area used to describe the forests of East Gippsland is the Forest Management Area (also used for the Regional Forest Agreement). The 1.2 million hectares of mostly forested area includes seven National Parks: Alpine (Cobberas – Tingaringy Unit), Snowy River, Errinundra, Coopracambra, Croajingalong, Alfred and Lind. (CRA 1996) Due to the

identification of the Snowy River and Coastal Parks of Far East Gippsland as separate key natural assets for the Report Card, these two areas have been omitted from the East Gippsland Forests area for the purposes of rating, to avoid duplication.

Coopracambra National Park is recognised as one of the largest areas of high quality wilderness in southeastern Australia. (Parks Victoria 2000) Other natural values in the Forest Management Area are protected in Special Protection Zones. Some 350,000 hectares of State Forest is available for harvesting in the General Management Zone. (CRA 1996) Logging now occurs in these areas under the Regional Forest Agreement and the Code of Forest Practices (1989). The Victorian State Government's 'Our Forests Our Future' policy of 2002 reduced the estimated annual sustainable biological yield in the East Gippsland Forest Management Area by 43% in the light of updated forest inventory data. (Victoria 2002)

### **Stewardship Summary**

Department of Sustainability and Environment is responsible for managing the public native forest in the East Gippsland Forest Management Area, working from the 1995 Forest Management Plan. Many actions from the East Gippsland Forest Management Plan have been completed and most actions on-going, with some zoning amendments made to reflect improved mapping. (DSE 2004)

## **Coastal Living – Bass Coast and Phillip Island**

<b>Condition Rating: C</b> <b>2003: No Change</b>	<b>Stewardship Rating: **</b> <b>2003: No Change</b>
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**Bioregion reference:** Gippsland Plain and Strzelecki Ranges

### **Condition summary**

Coastal living areas of Bass Coast and Phillip Island hold many natural values but increases in permanent and seasonal population brings with it pressure for development, potentially threatening land, water and biodiversity values. Bunurong and Churchill Island Marine National Parks fall within this area. The current environmental values and features found at Cape Liptrap Coastal Park indicate good condition.(SKM 2003) Some dryland salinity has been mapped in the Wonthaggi/Inverloch area (5500 Ha) with 12000 Ha of very high risk or high risk of salinity (SKM 2003). The main concern for development of this area is the management of wastewater, stormwater and sewerage.(SKM 2003) Fragmentation of vegetation and dune erosion are also of concern. (Phillip Island and San Remo Design Framework 2003)

### **Stewardship**

The Bass Coast Shire Council Municipal Strategic Statement review recognises the both the Port Phillip & Westernport Catchment Management Authority and the West Gippsland Catchment Management Authority. It recommends that the Bass Coast MSS

be amended in consultation with the two catchment management authorities to achieve better integration between the MSS and the Regional Catchment Strategies. (Bass Coast Shire Council 2003) It appears that further co-ordinated management effort is required between Bass Coast Shire Council and natural resource management agencies to achieve environmentally sensitive planning and management of high urban growth.

## Macalister Irrigation District

<b>Condition Rating: D</b> <b>2003: D-</b>	<b>Stewardship Rating: ***</b> <b>2003: No Change</b>
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**Bioregion reference:** Gippsland Plain

### Condition Summary

Intensive irrigated dairy farming in the Macalister Irrigation District has resulted in poor environmental quality on site and significant offsite impacts including high nutrient loads entering lower reaches of Macalister, Thomson and Latrobe Rivers. Significant irrigation induced salinity exists (50000 HA with water table of 2m or less), exacerbated by extensive clearing and draining of wetlands. Water quality is poor with elevated turbidity levels, upward trend in conductivity and increasing acidity. (SKM 2003) (Victorian Catchment Management Council 2002)

### Stewardship

The Nutrient Reduction Plan has been in operation for some five years and will be reviewed during the 2004/2005 year. Approximately 250 farms have participated in incentive scheme to reduce offsite impacts from the Macalister Irrigation district by installing re-use dams or converting to spray irrigation. There have also been a large number of whole farm plans completed in the district. The environmental benefits of on-farm water recycling and reduced water use has been assisted by the recent drought conditions, resulting in less transport of nutrients off farm.

The Thomson Macalister environmental flows Taskforce have made flow recommendations for the Macalister River. The Government's response to these recommendations is due in June 2004. The draft West Gippsland Regional Catchment Strategy features threats and targets relevant to MID.

## Dryland Dairy Farming of West and South Gippsland

<b>Condition Rating: C</b> <b>2003: No Change</b>	<b>Stewardship Rating: ***</b> <b>2003: No Change</b>
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**Bioregion reference:** Strzelecki Ranges and Gippsland Plain

### Condition Summary

A long history of extensive clearing has left only between 10-50% of remnant vegetation in this area. (Victorian Catchment Management Council 2002) Most of the land in this

area is privately owned and primarily used for non-irrigated dairy farming and some horticulture. Urban growth is also a feature of this area as the metropolitan fringe extends further towards Gippsland. Water quality standards are generally being met and 51-70% of river length is in excellent or good condition (Victorian Catchment Management Council 2002) However water quality has a downward trend and there is a high risk of water erosion and some evidence of soil contamination (Victorian Catchment Management Council 2002) (SKM 2003)

### **Stewardship Summary**

This area mostly falls within the West Gippsland CMA region, with some falling within the Port Phillip and Westernport CMA region. South Gippsland and Baw Baw Shire Councils both have responsibilities in this area. The draft West Gippsland Regional Catchment Strategy recognises the dairying industry as part of the key 'Production' asset for the region and also refers to the agricultural uses of land and water. (WGCM 2003) Gippsdairy has developed a 'Regional Natural Resource Action Plan' for the Gippsland dairy industry as part of the national project: "Sustaining our Natural Resources – Dairying for Tomorrow" (NRM Consulting & Terry Makin & Associates 2001). The action plan identifies whole farm planning, land use change and local planning, sustainable productivity, water use efficiency, nutrient management, effluent management, biodiversity and land protection as the key issues for action.

The Gippsland Dairy Riparian Project is designed to demonstrate productive and sustainable management of rivers and riparian areas by the dairy industry. This project is supported by GippsDairy, Dairy Research and Development Corporation (DRDC), Department of Primary Industries (DPI), West Gippsland Catchment Management Authority (CMA), Land and Water Australia. Waterwatch and Melbourne University also assist with monitoring water quality at the sites, and developing the triple bottom line cost: benefit analysis. (Gippsdairy)

### **Brown Coal based Energy Industry**

<b>Condition Rating: D</b> <b>2003: No Change</b>	<b>Stewardship Rating: ****</b> <b>2003: No Change</b>
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**Bioregion reference:** Strzelecki Ranges and Gippsland Plain

### **Condition Summary**

Brown coal fired power stations in the Latrobe Valley produce around 90% of Victoria's total electricity generation, which accounts for over half of Victoria's total greenhouse gas emissions. (SKM 2003) Trends for air quality in the region indicate that harmful air pollutants are remaining at acceptable levels. Visibility-reducing particles remain an issue but have been decreasing over the past 20 years and are often dependent on the incidence of fires and the prevailing weather conditions. (SKM 2003) Power stations are high users of deep groundwater from Latrobe Group Aquifer (approx 25000ML/yr), along with offshore gas and oil miners, potentially resulting in land subsidence. (SKM 2003)

## Stewardship Summary

The three electricity generation companies in the Gippsland region operate under accredited licences and Environmental Management Systems. The West Gippsland Regional Catchment Strategy refers to the brown coal based energy industry across three assets: Land, Atmosphere and Climate, and Production. (WGCMA 2003) The Regional Catchment Strategy draws targets related to greenhouse gas emissions from the Victorian Greenhouse Strategy (DNRE 2002). As part of the Australian Government's Regional Minerals Program, the Latrobe Valley 2100 Coal Resource project (LV 2100) will develop a strategy to guide planning and sustainable mine development practices for brown coal in the Latrobe Valley. (DPI 2003)

A successful Energy Summit was held in May 2004 to explore changes to the energy industry and their potential impacts on the Gippsland region. The priority areas that were identified at the summit include: Future of Brown Coal, Greenhouse, Geo sequestration of CO<sub>2</sub>, Investment in New Energy plant, Gippsland's preparedness for expansion, Gippsland Engagement and Future Energy Summit. Latrobe City has applied to the Australian Government for funding to address these issues under a project called 'The Gippsland Energy Challenge'.

The Victorian Power and Liquids Project will utilise 3.0 billion tonnes of coal resource contained within the Flynn Field (bordering Latrobe City and Wellington Shire Council), equivalent to 2.6 billion barrels of high quality oil (mainly diesel). The Feasibility Study confirms the potential to develop the Victorian Power and Liquids Project as an economically robust, long life coal-to-gas-to-liquids development. The project incorporates the long term disposal of carbon dioxide in the depleted reservoirs and deep saline aquifers of the Gippsland Sedimentary Basin (geosequestration). (APEL)

## Latrobe River

<b>Condition Rating: D</b> <b>2003: New asset in 2004</b>	<b>Stewardship Rating: ***</b> <b>2003: New asset in 2004</b>
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Bioregion reference: Highlands- Southern Fall, Gippsland Plain

### Condition Summary

The Latrobe River has been identified as a stressed river system (WGCMA 2004) Index of Stream Condition indicates marginal or poor condition for 60% of the length of the Latrobe River and reaches. (Victorian Government) The draft West Gippsland River Health Strategy identifies several very high and high risks to the river health of Latrobe including: bed instability, bank erosion, channel modification, flow deviation, water quality, exotic flora, degraded riparian vegetation, stock access, loss of in-stream habitat, wetland connectivity and introduced fauna. (WGCMA 2004)

Significant economic value is generated through the supply of water for residential areas, power and paper production and water for irrigation purposes. The Upper Latrobe

River sub-catchment is recognised as a representative river within the Victorian River Health Strategy. (WGCMA 2004)

The entire Latrobe system has a significant influence on the Ramsar listed Gippsland lakes area. There is high risk to river and lake health from regulation on environmental flows and outflows from Thomson and Macalister river systems. (WGCMA 2004)

### **Stewardship Summary**

The management task involves several large, intensive users including industry, residents and farmers. Some management plans and programs have achieved improvement in environmental condition, particularly through management of sewerage, waste water and urban run-off. However, further integrated management effort is required to address the 'stressed river' status of the Latrobe.

The draft West Gippsland River Health Strategy gives high priority to five of the eleven reaches (total of 115km) in the Lower Latrobe, three of seven reaches (total of 60km) in the Upper Latrobe in addition to reaches on the Morwell River and Traralgon Creek, and Lake Wellington. An environmental flow assessment for the Latrobe downstream of Tanjil River confluence including Dowd and Heart Morasses and the Sale Common, is due to begin in the 2004/2005 year.

### **Bataluk Cultural Trail**

<b>Condition Rating: B</b> <b>2003: New Asset</b>	<b>Stewardship Rating: ***</b> <b>2003: New Asset</b>
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### **Condition Summary**

The Bataluk Cultural Trail follows routes that Koorie people of East Gippsland have been travelling along for over 18000 years. The Trail extends from Sale through to Cape Conran, with eleven points that highlight indigenous cultural heritage in the Gippsland region. Established to maintain and promote key examples of aboriginal heritage, the trail winds its way through places such as The Knob Reserve, Den of Nargun, Howitt Park, Krowathunkooloong, Aboriginal Keeping Place and Museum, Legend Rock, Buchan Caves, Burnt Bridge Reserve and Moogji Aboriginal Council. Indigenous cultural heritage values are recognised by the high concentration of sites that include artefact scatters, shell middens, scarred trees, massacre sites and axe grinding grooves. (Bataluk Cultural Trail Brochure) Most of the cultural values are intact, but must be protected. Environmental condition is assumed to be good due to the protected locations of most of the Trail's sites. Although threats that apply to other protected areas such as pest plants and animals, human impact and fire would apply.

### **Stewardship Summary**

Management arrangements are in place but there is a need to clarify responsibility and provide resources. Development of the Bataluk Cultural Trail was a joint initiative of the Far East Gippsland Aboriginal Corporation, Gippsland and East Gippsland Aboriginal Co-

operative, Lake Tyers Aboriginal Trust, Moogji Aboriginal Council, Ramahyuck Aboriginal Corporation, Wellington Shire Council and East Gippsland Shire Council. The Trail cuts through West and East Gippsland Regional Catchment Management Areas and covers a range of public land types, potentially requiring the cooperative management effort of a number of Government departments. (Bataluk Cultural Trail Brochure)

## Ninety Mile Beach

<b>Condition Rating: B</b> <b>2003: New Asset</b>	<b>Stewardship Rating: ***</b> <b>2003: New Asset</b>
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Bioregion Reference: Gippsland Plain and Twofold Shelf

### Condition Summary

The Ninety Mile Beach is comprised of coastal dunes separating the ocean from the Gippsland Lakes, Jack Smiths Lake and Lake Denison, and agricultural land. Generally, the Ninety Mile Beach and the immediate hinterlands have had very little disturbance and are in very good condition. The Ninety-Mile Beach area has been found to have the highest species diversity anywhere on the planet. In ten square metres 860 species were discovered living in the sand and in one square metre a staggering 187 species. (Parks Victoria) A significant part is protected by the Lakes National Park, Gippsland Lakes Coastal Park and Ninety Mile Beach Marine National Park.

There is concern about potential coastal subsidence from reduced aquifer pressures, with studies suggesting that the amount of subsidence over the next 70 years is likely to be between 0.09 metres and 4 metres, with a 90% chance that subsidence will be greater than 98mm in the Yarram area. (SKM 2003) Offshore gas and oil miners extract approximately 95,000 ML/year from the Latrobe Group Aquifer (Latrobe Valley Mines approx. 25,000 ML/yr, irrigators 5000 ML/yr) for an estimated sustainable yield of 100 000 ML/yr. There are also risks to coastal settlements and environments from higher sea levels and more intense storm events related to global warming.

### Stewardship Summary

The challenge to protect the environmental values of the Ninety Mile Beach is complex due to the mix of influences from both private and public sectors. Ninety Mile Beach Marine Park Management Plan is in the early stages of development, facilitated by Parks Victoria. The Integrated Coastal Planning for Gippsland - Coastal Action Plan makes recommendations relevant to planning and development on the Ninety Mile Beach. Ninety Mile Beach hosts a number of key infrastructure for the Gippsland region including Delray Beach Ocean Outfall, Saline Waste Outfall Pipeline to McGaurans Beach, Tasmanian Natural Gas Pipeline, Bass Strait oil/gas pipelines, and Basslink (to be constructed).

## **Report Card Purpose and Process**

### ***Purpose of the Natural Resources Report Card***

The production of an annual report card is one of six strategic goals developed by the Reference Group of GINRF. The purpose of the report card is threefold:

1. Foster the strategic integration of natural resource management
  - Focus thinking, planning and action on collective natural assets that transcend organisational and geographical boundaries.
  - Provide a whole-of-Gippsland view of natural resource management
  - Evaluate the quality of existing strategic, management and research partnerships and identify synergies that would benefit from new partnership arrangements.
2. Provide a credible, independent and regular evaluation of natural resource management in Gippsland
  - Give an independent perspective on natural resource management in Gippsland
  - Provide accurate and timely information to members and other stakeholders
  - Identify gaps in knowledge, data, strategy and action
3. Cultivate a strong regional identity for Gippsland based on natural resources
  - Draw together existing information and present it in a useful and accessible format
  - Give a whole-of-Gippsland evaluation of performance against state, national and international indicators
  - Promote Gippsland's clean, green image to outsiders and to Gippslanders themselves

### ***Key Stakeholders/Audience for the Report Card***

- Members of the Gippsland Integrated Natural Resources Forum
- State and Federal Government
- Gippsland community
- Victorian community

### ***Report Card Development Process***

A small working party was formed to develop the first Natural Resources Report Card in March 2003, from open invitation to GINRF Reference Group members. Report card development followed an eight step process outlined in Environment Australia's "A Framework for Public Environmental Reporting", the Australian interpretation of the Global Reporting Initiative. The eight steps follow a plan, measure, report and review cycle. The review phase informed the development of the 2004 Report Card, adding three new assets and more detail to the condition and stewardship components of the companion document. Chair of the Gippsland Integrated Natural Resources Forum,

Professor Barry Hart provides independent advice on the condition and stewardship ratings.

### ***About the Gippsland Integrated Natural Resources Forum***

The Gippsland Integrated Natural Resources Forum is a whole-of-Gippsland approach to the management of the region's natural resources under the slogan *Catchment Health – Gippsland's Wealth*. The role of the Forum is to achieve a cooperative and strategic approach to natural resource management in the region.

The vision of the Forum is to: *"Unify the efforts of Gippsland's natural resource managers, to ensure the cultural, economic and social activity of Gippsland is conducted in harmony with its environment."*

The Forum has a membership of some sixty organisations including government departments, catchment management authorities, municipal councils, rural and urban water authorities, universities, private industry, regional development bodies, community based groups (such as Landcare), and cross agency groups (such as Gippsland Research Coordination Group). A Reference Group and Executive are drawn from the broader Forum membership, with an independent chair: Professor Barry Hart.

### ***Feedback***

The Gippsland Integrated Natural Resources Forum welcomes feedback on the report card development process.

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## **Data Sources and Indicators**

### ***Data Sources***

Condition indicators and relevant data are sourced from the following main sources:

1. Victorian Catchment Indicators (<http://www.dse.vic.gov.au/ins-clpr/vcio/select.htm>)
2. Data Warehouse ([www.vicwaterdata.net](http://www.vicwaterdata.net))
3. Victorian Catchment Management Council "Health of our Catchments – a Victorian Report Card 2002"
4. West Gippsland Catchment Management Authority "Renewal of the West Gippsland Regional Catchment Strategy, State of the Catchment 2003" prepared by Sinclair Knight Merz

These have collated data from a wide range of sources as a result of State and local consultative processes and are consistent with the National Land and Water Resources Audit and Australia: State of the Environment 2001.

The East Gippsland State of the Catchment report is under development and was not available for the Report Card preparation. A collection of documents were consulted for the East Gippsland assets including the Victorian River Health Strategy, Parks Victoria State of the Parks 2000, National Park management plans, and Comprehensive Regional Assessments completed for the Regional Forest Agreement process.

No new data collection, collation or interpretation has taken place to develop this report card.

### ***Plans for the Future***

Natural resource managers in the Gippsland region understand the importance of good information for good decision making. Project MERGe is addressing the information needs by developing a Monitoring, Evaluation and Reporting Framework. The Framework is still in draft form and was not advanced enough to inform this report card. For the 2005 Report Card, we can look forward to using some agreed vital signs of Gippsland's catchment health to support condition and stewardship ratings. Collated information about the State of the Gippsland Lakes will be used for the 2005 Report Card along with renewed Index of Stream Condition ratings.

### Condition of 15 Natural Assets

Theme	Indicator description	Information Available	Source documents	Dryland Dairy of West and South Gippsland	Coastal Living – Bass Coast and Phillip Island	Corner Inlet/Wilson’s Promontory	Brown Coal Energy
<b>Land</b>	Impact of Land Use – water erosion						
	Impact of Land Use – wind erosion	Yes	VCIO – Map	Negligible	Negligible – low	Negligible	Negligible
	Impact of Land Use – soil structure decline	Yes	VCIO -Map	Negligible-low	Low	Negligible	Negligible – low
	Impact of Land Use – soil acidification	No					
	Impact of Land Use – groundwater recharge	No					
	Depth to groundwater – representative hydrographs	No					
<b>Water</b>	Index of stream condition	Yes	Data warehouse – map	Marginal – Good	Marginal	Excellent	Poor
	Water Quality – stream pH	Yes	VCIO – Map	Good – steady trend -	Good – steady condition	Good	Good – downward trend
	Water Quality – stream phosphorus	Yes	VCIO Map	Poor – Upwards Trend	Poor – upwards trend	Poor	Poor – Upwards trend
	Water Quality – stream EC	Yes	VCIO Map	Good condition – steady trend	Fair condition – steady trend	Good condition	Fair – good, down trend
	Water Quality – stream nitrogen	Yes	VCIO Map	Poor – Upwards Trend	Poor – upwards trend	Poor	Poor – Fair up trend
	Water Quality – stream turbidity	Yes	VCIO Map	Fair – Upwards Trend	Fair condition – steady trend	Fair	Good – steady trend
<b>Biodiversity</b>	Conservation status of native vegetation types	Yes		EVC’s not mapped/No vegetation cover	Naturally restricted	Naturally restricted/ least concern	Nil
	Conservation status of native species	No		Not available			
	Native vegetation condition						

Theme	Indicator description	Information Available	Source documents	Thomson River	Macalister Irrigation District	Gippsland Lakes	Mitchell River
<b>Land</b>	Impact of Land Use – water erosion						
	Impact of Land Use – wind erosion	Yes	VCIO – Map	Negligible	Not available – inappropriate scale	Negligible – low	Negligible
	Impact of Land Use – soil structure decline	Yes	VCIO -Map	Negligible – low	Not available – inappropriate scale	Negligible – Moderate	Low – moderate
	Impact of Land Use – soil acidification	No		Under Development			
	Impact of Land Use – groundwater recharge	No		Under Development			
	Depth to groundwater – representative hydrographs	No					
<b>Water</b>	Index of stream condition	Yes	Data warehouse – map	Not available/excellent – poor/very poor – further down	Poor – very poor	Poor – Marginal	Good - Excellent
	Water Quality – stream pH	Yes	VCIO – Map	Poor – Steady trend	Not available – inappropriate scale	No Data	Good – steady trend
	Water Quality – stream phosphorus	Yes	VCIO Map	Good – steady trend	Not available – inappropriate scale	No Data	Good – upward trend
	Water Quality – stream EC	Yes	VCIO Map	Good Condition – steady trend	Not available – inappropriate scale	No Data	Good – steady trend
	Water Quality – stream nitrogen	Yes	VCIO Map	Poor – downwards trend	Not available – inappropriate scale	No Data	Good – upward trend
	Water Quality – stream turbidity	Yes	VCIO Map	Good – steady trend	Not available – inappropriate scale	No Data	Good – steady trend
<b>Biodiversity</b>	Conservation status of native vegetation types	Yes		Least Concerns/not mapped	Not available – inappropriate scale	Least Concern/rare	Least concern
	Conservation status of native species	No					
	Native vegetation condition						

Theme	Indicator description	Information Available	Source documents	Alpine National Park (data is pre-fire)	Snowy River	Coastal Parks of Far East Gippsland	East Gippsland Forests
<b>Land</b>	Impact of Land Use – water erosion						
	Impact of Land Use – wind erosion	Yes	VCIO – Map	Negligible	Negligible/Low	Negligible	Negligible/low
	Impact of Land Use – soil structure decline	Yes	VCIO -Map	Negligible	Negligible	Negligible/low	Negligible
	Impact of Land Use – soil acidification	No					
	Impact of Land Use – groundwater recharge	No					
	Depth to groundwater – representative hydrographs	No					
<b>Water</b>	Index of stream condition	Yes	Data warehouse – map	Good	Good – poor (wide distribution)	Good	Good/Marginal
	Water Quality – stream pH	Yes	VCIO – Map	Good – steady	Good – steady trend	No Data	Good – Steady trend
	Water Quality – stream phosphorus	Yes	VCIO Map	Good – Steady Trend	Good – Steady Trend	No Data	Fair/good – Upward Trend
	Water Quality – stream EC	Yes	VCIO Map	Good – Steady Trend	Good – Steady Trend	Good – Upwards trend	Good – steady trend
	Water Quality – stream nitrogen	Yes	VCIO Map	Good – Both up & down trends	Good – Downwards trend	No Data	Good – Downward Trend
	Water Quality – stream turbidity	Yes	VCIO Map	Good – steady trend	Good – Steady Trend	Good/Fair – steady condition	Good – Steady Trend
<b>Biodiversity</b>	Conservation status of native vegetation types	Yes		Least concern – small amount of rare	Least Concern	Least Concern	Least Concern
	Conservation status of native species	No					
	Native vegetation condition						

Theme	Indicator description	Information Available	Source documents	Latrobe River	90 Mile Beach
<b>Land</b>	Impact of Land Use – water erosion				
	Impact of Land Use – wind erosion	Yes	VCIO – Map	Negligible	Negligible/low
	Impact of Land Use – soil structure decline	Yes	VCIO -Map	Low	Low
	Impact of Land Use – soil acidification	No			
	Impact of Land Use – groundwater recharge	No			
	Depth to groundwater – representative hydrographs	No			
<b>Water</b>	Index of stream condition	Yes	Data warehouse – map	Poor	Excellent/marginal
	Water Quality – stream pH	Yes	VCIO – Map	Good – steady trend	Good
	Water Quality – stream phosphorus	Yes	VCIO Map	Poor – Downwards trend	No Data
	Water Quality – stream EC	Yes	VCIO Map	Good – Steady Trend	No Data
	Water Quality – stream nitrogen	Yes	VCIO Map	Poor/Fair	No data
	Water Quality – stream turbidity	Yes	VCIO Map	Good – Downwards Trend	Fair condition
<b>Biodiversity</b>	Conservation status of native vegetation types	Yes		Not Mapped/vulnerable	Not Mapped
	Conservation status of native species	No			
	Native vegetation condition				

### Stewardship of 15 Natural Assets

Natural Asset	Values	Assessment & Research	Consultation Extension, Education	Policies, Management Systems	Partnerships	Strategies	Management Plans	Monitoring & Review
<b>Gippsland Lakes</b>	Land	1, 2, 3,4,	<b>6, 7</b>	5,6	B	46,	41,45,	
	Water	16,28,29		<b>1, 2</b>		<b>3,6, 7</b>	17,	
	Biodiversity	26,27,28,32, <b>17</b>		23,24,25,33,34,			11,33,35,41,43,	
<b>Corner Inlet, Wilson's Prom</b>	Land		<b>6</b>			<b>46, 6</b>		
	Water	16,						
	Biodiversity	<b>32, 15, 16</b>		23,24,25,33,34, <b>4</b>			33,37,38,40,42,	
<b>Coastal Parks of Far East Gippsland</b>	Land							
	Water							
	Biodiversity	<b>32, 15</b>		33,34,			33,	
<b>Alpine NP</b>	Land				<b>21</b>			<b>20</b>
	Water							
	Biodiversity	32,		33,34,			33,	
<b>Snowy River</b>	Land			<b>2</b>	<b>21</b>	<b>3, 7</b>		<b>20</b>
	Water		<b>7</b>			<b>3, 7</b>		
	Biodiversity	32,	<b>7</b>	33,34,		<b>3, 7</b>	33,	
<b>Mitchell River</b>	Land			<b>2</b>		<b>3, 7</b>		
	Water		<b>7</b>			<b>3, 7</b>	18,	
	Biodiversity	32,	<b>7</b>	33,34,		<b>3, 7</b>	33,	
<b>Thomson River</b>	Land			<b>2</b>		<b>21, 6</b>	20, 22,	
	Water	15,16,30,31, <b>8, 17</b>	<b>6</b>	13,14,19,31,			18,	
	Biodiversity	26,27,32,	<b>6</b>	33,34,39,			11,33,35,	
<b>Latrobe River</b>	Land		<b>6</b>			<b>2, 6</b>		
	Water	<b>17</b>	<b>6, 18</b>			<b>2, 6, 17</b>		
	Biodiversity		<b>6</b>					
	Land							

<b>East Gippsland Forests</b>	Land							
	Water							
	Biodiversity	32, <b>20</b>		33,34,			33,	
<b>Ninety Mile Beach</b>	Land	<b>25</b>	<b>7</b>					
	Water	<b>24</b>	<b>7</b>			<b>4, 6, 7</b>		
	Biodiversity		<b>7</b>					
<b>Coastal towns</b>	Land					21,46, <b>11, 12</b>	22,	<b>11</b>
	Water	16,					18,	12,
	Biodiversity	32,		33,34,39,			33,36,37,44,	
<b>Dairy (irrigation)</b>	Land	7,8,9,10	<b>6</b>			21,	11,20, 22,	
	Water	15,16,30,31, <b>17</b>	<b>6</b>	13,14, 19,31, <b>1, 2</b>	A	<b>6</b>		12,, <b>11</b>
	Biodiversity	26,27,32,	<b>6</b>	33,34,39,	C		11,33,35,51,	
<b>Dairy (dry land)</b>	Land	7,8,10	<b>6,</b>			21, <b>6</b>	20, 22,	
	Water	15,16,	<b>6,</b>	14,	C	<b>6</b>		12, <b>11</b>
	Biodiversity	32,	<b>6</b>	33,34,39,		<b>6</b>	33,36,37,38,	
<b>Energy (brown coal)</b>	Land				<b>21, 22</b>	21,	22,50,	
	Water	15,16,30,31, <b>24</b>		13,14,19,31,	<b>21, 22</b>	<b>13</b>	50,	
	Biodiversity	32,		33,34,39,			33,50,	
	Air	49,		47,48,	D, <b>21, 22</b>	<b>5</b>	50,	
Batuluk Cultural Trail	Cultural value		<b>14</b>					
	Situation							

Source of document list: SKM, 2003

1. Register of the National Estate Database
2. Australian Heritage Places Inventory
3. Aboriginal Affairs Victoria Site Register
4. Map of Aboriginal archaeological sites on stream frontages
5. Archaeological and Aboriginal Relics Preservation Act 1972
6. Aboriginal and Torres Strait Islanders Heritage Protection Act 1984
7. Soils Map for Gippsland Region, Sargent and Rees 1999
8. Land Systems Studies – various
9. Land Capability Study for Kilmany and Kilmany South 2001
10. Salinity mapping for South Gippsland and the Macalister Irrigation District
11. Lake Wellington Catchment Salinity Management Plan (including review, 2001)
12. Gippsland Water Quality Monitoring Review

13. SEPP (Waters of Victoria) – Schedule F5: Waters of the Latrobe and Thomson River Basins and Merriman Creek Catchment 1996
14. Index of Stream Condition (ISC) Water Ecoscience 2002
15. Assessment of ISC

16. Water Ecoscience Water Quality assessment (Draft) 2002
17. Gippsland Lakes Future Directions and Action Plan DNRE 2002
18. Local Government Municipalities Storm Water Management Plans
19. Victorian Government Bulk Entitlements
20. West Gippsland Waterway Management Plan SKM, 2002
21. West Gippsland Regional Floodplain Strategy 1999
22. West Gippsland Regional Floodplain Management Plan 2000
23. RAMSAR Convention
24. Japan-Australia Migratory Bird Agreement JAMBA
25. China-Australia Migratory Bird Agreement CAMBA
26. An overview report on the wetlands of the Central Gippsland region, Birkin 1991
27. Lake Wellington Wetlands Resource Document National Parks Service 1995
28. Gippsland Lakes Environmental Audit – review of water quality and status of the aquatic ecosystems of the Gippsland Lakes 1998
29. Estimate of sediment and nutrient loads into the Gippsland Lakes
30. State Observation Bore Network
31. Ground Water Management Areas/Permissible Annual Volumes
32. Environmental Vegetation Class mapping; Fauna surveys
33. Victorian Rare or Threatened Species (VROTS) list and Action Plans
34. Victoria's Biodiversity – Directions in management: 'JANIS' 1997 Nationally agreed criteria for establishment of a comprehensive, adequate and representative reserve system for forests in Australia
35. Wellington Catchment Care projects
36. Powlett project
37. Hills to Ocean projects
38. Yarram Yarram Catchment Network projects
39. Planning and Environment Act 1987, Flora and Fauna Guarantee Act 1988 Catchment and Land Protection Act 1994
40. Wilson's Promontory National Parks Management Plan 2002
41. Lake Wellington Wetlands Draft Management Plan 1997
42. Corner Inlet Ramsar Site Strategic Management Plan 2002
43. Gippsland Lakes Ramsar Site Draft Strategic Management Plan 2002
44. Integrated Coastal Planning for Gippsland – Coastal Action Plan 2002
45. The Lakes National Park and Gippsland Lakes Coastal Park Management Plan 1998
46. Victorian Coastal Strategy 2002
47. SEPP objectives for particles, EPA, 2002
48. SEPP air quality management, EPA 2002
49. Latrobe Valley Air Quality Monitoring
50. Generating businesses' environmental management systems (agreement with EPA)
51. MID Nutrient Reduction Plan 1998

### **Partnerships**

- A Gippsland Regional Water Quality Monitoring Partnership
- B Gippsland Lakes and Actions Taskforce
- C Regional Biodiversity Network
- D Latrobe Valley Air Quality Monitoring Network

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1. Securing our Water Future – Green Paper for discussion; Department of Sustainability and Environment 2003

2. Healthy Rivers, Healthy Communities and Regional Growth (draft); Department of Natural Resources and Environment 2002
3. East Gippsland River Health Strategy (draft); East Gippsland Catchment Management Authority 2002
4. Victoria's System of Marine National Parks and Marine Sanctuaries – Management Strategy; Parks Victoria 2003
5. Victorian Greenhouse Strategy; Department of Sustainability and Environment 2003
6. West Gippsland Regional Catchment Strategy (draft); West Gippsland Catchment Management Authority 2003
7. East Gippsland Regional Catchment Strategy (draft); East Gippsland Catchment Management Authority 2004
8. Thomson and Macalister River Environmental Flows – Fact Sheet 2; West Gippsland Catchment Management Authority 2003
9. Gippsland Lakes Ramsar Site – Strategic Management Plan; Department of Sustainability and Environment 2003
10. Coastal Priorities for the Central Region – A Framework for Implementing the Victorian Coastal Strategy; Central Coastal Board 2003
11. Review of the Municipal Strategic Statement; Bass Coast Shire Council 2003
12. Bass Coast Strategic Framework for Coastal Towns – Background Paper; Bass Coast Shire Council 2003
13. Latrobe Valley Coalfields Environmental Resources Framework (draft); Department of Sustainability and Environment 2004
14. Explore Aboriginal East Gippsland; Convenors of the Bataluk Cultural Trail (undated)
15. Biosphere Reserve Information – Croajingolong and Wilson's Promontory National Parks; Parks Victoria web site (undated)
16. Ramsar Sites Database – A Directory of Wetlands of International Importance; Gippsland Lakes, Corner Inlet; [www.wetlands.org/RDB/Ramsar\\_Dir/Australia](http://www.wetlands.org/RDB/Ramsar_Dir/Australia) 2004
17. Water Resource & Allocation Stage 1; Gippsland Water for Growth Committee 2002
18. Waterways for our future – Latrobe community calendar; Latrobe City 2004
19. Bushfire Recovery – Interim report from the ministerial taskforce 2003
20. Effects of Fire on Native Biodiversity; Department of Sustainability and Environment 2004

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21. Bushfire Recovery taskforce
22. Clean Coal taskforce
23. Latrobe Valley 2100 project

### **Studies**

24. Aquifers of the Latrobe Valley; CRC for Clean Coal from Lignite
25. Coastal subsidence; CSIRO review for the Australian Government

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