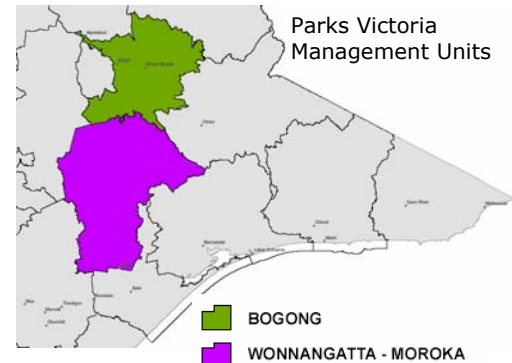
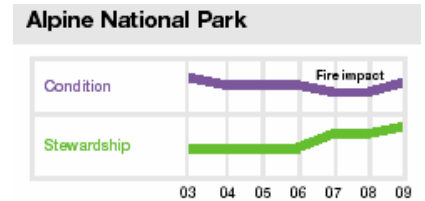


8.1 ALPINE NATIONAL PARK

8.1.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	B		★★★	
2004	B-		★★★	
2005	B-		★★★	
2006	B-	B-	★★★★	★★★★
2007	C	C+	★★★★	★★★
2008	C	C+	★★★★	★★★
2009	-	B- ↑	-	★★★★☆ ↑



8.1.2 Asset Description

The Alpine National Park asset reports on extensive areas of highly diverse, often pristine, alpine and sub alpine ecosystems.

Based on the Highlands Southern Fall bioregion, the asset focuses predominantly on the Wonnangatta-Moroka and Bogong Management Units of the Alpine National Park (approximately 380,000 hectares west of Omeo). The area includes several Wilderness Zones, Heritage Rivers and Natural Catchment Areas.

Bioregion reference: Victorian Alps and Highlands Southern Fall

8.1.3 Asset Background

The 2003 Eastern Victorian Fires burnt a combined total of 1.3 million 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 60% of the Alpine National Park was affected. The impact of the fires was widespread and diverse, including reduced water quality, fragmentation of vegetation, increased erosion and threats to endangered species.

The Great Divide Fires of 2006/2007 again burnt a significant area of the Alpine National Park and adjoining Avon Wilderness Park. The fires impacted many sensitive alpine species and communities. Catchment headwaters including alpine bogs were affected and erosion, stream sedimentation and reduced water quality resulted. The varying intensities of the fire across the landscape led to a mosaic of burnt, re-burnt and unburnt floristic communities – adding further complexity to the existing diverse habitats.

Severe rainfall events in 2007 impacted areas that were recovering from the fires, mobilising sediment, ash and debris and reducing water quality of alpine and sub-alpine river systems. Landscape-scale changes to the Macalister River catchment have resulted (Parks Victoria, 2008). Many areas however, have continued to improve after the fires and floods, the removal of stock grazing from the park in 2005/2006 and extensive pest plant and animal control programs.

8.1.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issues and Evidence
Land	Reasonable (3)	30	Pest plants and animals; denuded areas causing sedimentation of rivers. Parks Victoria corporate knowledge.
Water	Good (4)	30	Compared to State rivers, Alpine rivers in excellent condition. The Alpine bogs and stream margins are impacted by feral horse and previous cattle grazing. Parks Victoria.
Biodiversity	Good (4)	40	Considered relatively in tact however, impacts of former cattle grazing, pest plants and animals, inappropriate fire regimes and climate change impact biodiversity to varying extents. Parks Victoria.

8.1.5 Condition Comment and Specifics

The **increase in Condition rating to B-** is based on the results of significant post 2007 fire on-ground works.

Fire and flood recovery has seen vegetation cover increase and area of bare ground decrease. These works have included bog restoration, one of the ecosystems highlighted as being severely impacted by the 2007 fires.

Significant post-fire and flood investment in pest plant control (particularly Hawk Weed and Broom) has reduced infestations or arrested their increase in many areas. There has been ongoing recovery from past cattle grazing and fox control measures are starting to show signs of positive impact. Feral horse, rabbit and cat numbers were reported to be increasing rapidly.

Fires in 2009 did not affect the National Park.

8.1.6 Stewardship Summary

Component	Score	Key Evidence
Planning	Reasonable (3)	High level strategy Greater Alpine National Parks Management Plan in preparation.
Implementation	Good (4)	Very significant investments have been and continue to be made in strategically important areas of natural values management. Staff and contractors are highly skilled and motivated and efforts are being strategically prioritised.
Evaluation	Poor (2)	Monitoring of works and effectiveness varies considerably between projects.
Improvement	Good (4)	
Partnerships	Good (4)	Many intra- and inter-State partnerships exist involving government agencies, traditional owners, neighbours, community and user groups.
Indigenous Engagement	Good (4)	Traditional Owners Reference Group established by Parks Victoria. Engagement with individual groups continues. Parks Victoria cross-cultural training is mandatory. Parks Victoria proactive Indigenous employment policy.

8.1.7 Stewardship Comment and Specifics

The **increased Stewardship rating of 3.5 stars** is based particularly on the strong partnerships developed and being developed through the Alps Reference Group; the Highlands Down and Protecting the Best Projects; and the Greater Alpine National Parks Management Plan development.

The Management Plan is being developed with the aid of a 'Wiki', an open and live website enabling all interested parties to track and have input into strategic planning. This transparency and community involvement is the first of its kind for Parks Victoria. If successful, it will be used more broadly in other areas of management planning.

The Highlands Down and Protecting the Best Projects utilise Caring for Our Country funding to undertake co-ordinated and strategic weed control across large areas and jurisdictions.

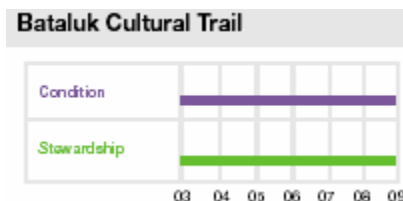
8.1.8 For more information

- Parks Victoria Information Centre 13 1963 or visit www.parkweb.vic.gov.au
- Parks Victoria wiki - wePlan Alpine <http://weplan.parks.vic.gov.au/node/220>
- Australian Alps National Parks www.australialps.deh.gov.au

8.2 BATALUK CULTURAL TRAIL

8.2.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	B		★★★	
2005	B		★★★	
2006	B	D	★★★	★★
2007	B	D	★★★	★★
2008	B	D	★★★	★★
2009	-	D	-	★★



8.2.2 Asset Description

The Bataluk Cultural Trail asset reports on the physical condition of this example of what cultural heritage contributes to the natural environment.

The Bataluk Trail extends from Sale through to Cape Conran along routes that Koori people of East Gippsland have been travelling for over 18,000 years. There are 11 points where indigenous cultural heritage of the Gippsland region is highlighted including The Knob Reserve, Den of Nargun, Howitt Park, Krowathunkoolong, Aboriginal Keeping Place and Museum, Legend Rock, Buchan Caves, Burnt Bridge Reserve and Moogji Aboriginal Council.

Bioregion reference: Gippsland Plain and East Gippsland Lowlands

8.2.3 Asset Background

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. Although often in protected locations, the Trail's sites were not reported to be actively managed or conserved. Pest plants and animals, human impact and fire pose some threat to the trail.

The Trail passes through West and East Gippsland Regional Catchment Management areas and covers a range of public land types, potentially requiring the cooperative management of a number of Government departments (Bataluk Cultural Trail Brochure).

8.2.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issues and Evidence
Land	Poor (2)	90	The asset is vulnerable to natural impacts such as wind, rain, erosion, fire and flood; and human impacts such as visitor impact, development, graffiti and vandalism. It is not being actively managed to protect from or repair impact. Aboriginal Affairs Victoria, 2009.
Water	Not applicable	0	-
Biodiversity	Poor (2)	10	Much of the trail is through modified ecosystems. The trail is not managed to maintain or protect biodiversity.

8.2.5 Condition Comment and Specifics

The values of the asset have not been formally assessed for some years. It is likely that they have been subject to some environmental impacts such as erosion. As the asset has not been inspected for some years there is no direct evidence to support this however, impacts can be predicted based on Aboriginal Affairs Victoria's experience with similar assets. **A condition rating of D** reflects an assumed condition based on experience and is consistent with previous years' ratings.

8.2.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Lacking (1)	Aboriginal Affairs Victoria, 2009
Implementation	Lacking (1)	Aboriginal Affairs Victoria, 2009
Evaluation	Lacking (1)	No review of the asset or management has occurred for some time. Aboriginal Affairs Victoria, 2009
Improvement	Lacking (1)	There has been no overall improvement in managing this asset in the last five years. Aboriginal Affairs Victoria, 2009
Partnerships	Reasonable (3)	Enormous potential for partnership development. Aboriginal Affairs Victoria, 2009
Indigenous Engagement	Reasonable (3)	Aboriginal Affairs Victoria, 2009

8.2.7 Stewardship Comment and Specifics

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. Management arrangements are in place but there is a need to clarify responsibility and provide resources.

Aboriginal Affairs Victoria suggested enormous potential exists for partnership development. It was reported that there is interest in improving the project and the trail's management from sections of the Indigenous community.

A rating of two stars, consistent with previous years, reflects the lack of active stewardship in regard to this asset.

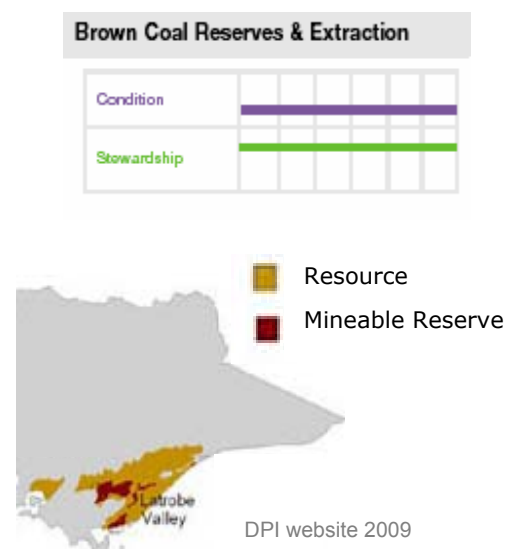
8.2.8 For more information

- Aboriginal Affairs Victoria (03) 9208 3333 or www.aboriginalaffairs.vic.gov.au
- Ramahyuck District Aboriginal Corporation (03) 5143 1644 or <http://www.ramahyuck.org/community>
- Krowathunkooloong, the Keeping Place (03) 5152 1891 or <http://www.gippslandinfo.com.au/Aboriginal>
- Maffra Community, Bataluk Cultural Trail, <http://www.maffra.net.au/bataluk>

8.3 BROWN COAL BASED ENERGY INDUSTRY

8.3.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	D		★★★★	
2004	D		★★★★	
2005	D		★★★★	
2006	D	D	★★★★	★★★★
2007	D	D	★★★★	★★★★
2008	D	D	★★★★	★★★★
Brown Coal Based Energy Industry Brown Coal Reserves and Extraction				
2009	-	D	-	★★★★



8.3.2 Asset Description

The Brown Coal Reserves and Extraction asset reports on the physical condition of the reserves and the impacts extraction has on the surrounding environment.

The Latrobe Valley is estimated to hold 394,000 million tonnes of brown coal in reserves that are, in places, up to 330 metres thick. It is estimated that 50,000 million tonnes of this reserve are currently 'useable'. Brown coal from the Yallourn, Yallourn North, Yallourn North Extension, Morwell and Loy Yang open cut mines generates approximately 85 percent of Victoria's electricity. This asset focuses on the mines, their immediate vicinity and reserves earmarked for development in the immediate future.

Loy Yang Power, TRUenergy Yallourn, and International Power Hazelwood electricity generation companies operate within the region.

Location	Annual Brown Coal Extraction	Area of Complex
Loy Yang Power	30 million tonne	5,000 hectares
Hazelwood Power Station and Mine	18 million tonne	3,554 hectares
Yallourn Power Station and Mine	18 million tonne	Not known

Source: Loy Yang, Hazelwood and Yallourn websites 2009

By late 2011, the current Yallourn East Field will be exhausted and mining will start in the Maryvale Field. Hazelwood Power has acquired the required approvals for West Field development which will supply the power station for the next 25 years.

Bioregion reference: Strzelecki Ranges and Gippsland Plain

8.3.3 Asset Background

The original Morwell mining enterprise operated between 1887 and 1899 but was reopened by what became the State Electricity Commission in 1917. Since the 1920s less than 10% of the existing coal reserves of the Latrobe Valley have been mined (Clean Coal Victoria, pers comm).

The boundaries of this asset, reflecting community interest, are restricted to the active extraction activities and areas, with a five year projection. The condition of the reserves within these boundaries is degraded (removed). It is predicted that technological advancement will make more of the reserve accessible, and mining and processing of the coal more viable.

Coal extraction in the Latrobe Valley requires complex management of groundwater aquifers for plant operations, operational area stability and broader aquifer depressurisation. Plant operations utilising groundwater include steam generation for turbines, cooling water and dust suppression amongst other things.

Depressurisation of the aquifers is required to counter the affect of removing overburden and coal – the weight removed can result in the remaining earth being unable to contain the upward pressure of the aquifer. Where pressure is removed from the aquifer, the reverse can occur such that the aquifer can no longer support the earth above it and slumping results. The slumping or subsidence of the mine area impacts human occupation where that subsidence is not uniform (is differential). Where differential subsidence has occurred, in the immediate vicinity of the mine, relocation of residents has occurred. The uniform subsidence experienced across the Latrobe Valley does not adversely impact population centres.

Mines are required to progressively rehabilitate based on pre-existing landscapes. This rehabilitation has occurred where terminal faces have been reached.

Surface water channels have been altered by mining activities over time. Re-establishment in line with Government requirements and recent failure of the Yallourn batter has resulted in improved conditions.

The Yallourn East Field mine wall collapse and subsequent flooding after heavy rain and a breach in the Latrobe River bank. Although there was localised damage to equipment and the mine wall, long term condition of the asset was not impacted.

The condition of this asset is not compared to a pristine environment, however there is an impact and cost of aquifer dewatering and coal extraction.

The Latrobe Valley 2100 Resources Project (LV2100), a Commonwealth funded report, was launched in 2005. The report examined likely resource demand scenarios in relation to the reserve location and consequent land use planning issues. Rehabilitation requirements and water use were also discussed (DPI, 2005).

8.3.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issues and Evidence
Land	Poor (2)	50	Altered waterways. Rehabilitation of areas after mining complete cannot include reinstatement of mine voids so permanent change occurs.
Water	Poor (2)	40	Surface water discharges meet EPA discharge requirements. Large volumes of groundwater extracted causing approximately 10m of drawdown up to 10 kilometres from the mine. Water channels such as the Latrobe River have been altered and, in the future will be diverted around new mines.
Biodiversity	Poor (2)	10	Mining of coal by its nature, removes all vegetation and habitat. Although rehabilitation occurs to strict government guidelines, the area of rehabilitated land is a very small proportion of the asset's area.

8.3.5 Condition Comment and Specifics

The brown coal industry continues to reduce total water discharges to waterways. Surface waters meet EPA discharge requirements and environmental flows are added to through use of groundwater. Strict rehabilitation and emissions requirements are strictly adhered to.

The D rating is not a criticism of the industry's performance against the legislated expectations, it does however, reflect that the environment in and surrounding the mines is adversely impacted. The coal within the boundaries of the asset is removed, a scar remains, subsidence occurs, waterways are altered, groundwater drawdown stretches kilometres beyond the mine boundaries and it is impractical to expect rehabilitation to include reinstatement of voids and restoration of pre-existing conditions.

8.3.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Clean Coal Victoria has been formed by State Government to deliver strategic planning and address regional impacts. Long term mining strategies and utilisation projections exist.
Implementation	Good (4)	Strict rehabilitation and emissions requirements are strictly adhered to.
Evaluation	Reasonable – Good (3.5)	Monitoring of all emissions is undertaken.
Improvement	Good (4)	Clean Coal Victoria aims to develop partnerships and demonstrate carbon capture technologies.
Partnerships	Good (4)	Mines work co-operatively with government agencies to address issues as they arise. Community consultation is a required aspect of exploration and mining licence applications.
Indigenous Engagement	Reasonable (3)	Most mines have positive indigenous programs; all abide by cultural heritage requirements and some have native title agreements.

8.3.7 Stewardship Comment and Specifics

The brown coal energy industry continues to implement Environmental Management Plans/Systems which meet necessary standards, and which set out environmental policy, objectives and targets, and programs for environmental management. These measures are reflected in a **four star rating**.

Clean Coal Victoria has been operating since June 2009. It will develop strategic management plans, identify future coal reserves, plan for long-term brown coal use and mine rehabilitation.

8.3.8 For more information

- Department of Primary Industries
<http://www.dpi.vic.gov.au/DPI/dpinenergy.nsf/LinkView/02C73866B10B9510CA2572BB000D73CAAFE5D9442E22210ACA2572BB00096717#coal>
- Loy Yang Power www.loyyangpower.com.au
- TRUenergy Yallourn www.truenergy.com.au/Production/Yallourn/index.xhtm
- International Power, Hazelwood www.hazelwoodpower.com.au
- Powerworks Energy Technology Centre www.powerworks.com.au

8.4 BUNURONG MARINE NATIONAL PARK

8.4.1 Rating History

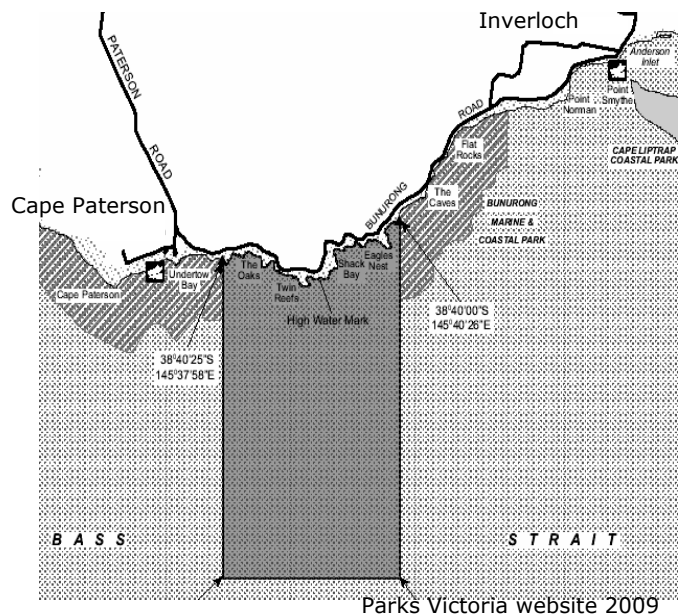
	Condition	Stewardship
2009	A-	★★★★

8.4.2 Asset Description

The Bunurong Marine National Park asset reports on the highly diverse marine life of the Bunurong Marine National Park.

Extending five and a half kilometres offshore, the Park is located east of Cape Patterson and West of Inverloch, between Oaks Beach and Eagles Nest Beach, adjacent to the Bunurong Marine and Coastal Park.

To protect the seaweed and life it supports, fishing and artefact removal are excluded activities.



8.4.3 Asset Background

The **initial condition rating of A-** reflects the diverse and abundant marine flora and fauna, some species that are only found in this area or are at their most eastern distributional limits. The 2100 hectare park supports extensive intertidal rock platforms, sub-tidal soft sediments and sub-tidal rocky reefs extending offshore in shallow waters. Although it was declared a Marine National Park in 2002, it was one of the first marine sanctuaries in Victoria and has, as such, been afforded a level of protection area since 1991.

The catchment discharging into the waters of Bunurong is small in size. The main stream impacting the environment is the Tarwin River. Urbanisation within the catchment is resulting in greater freshwater flows after rain although lateral nutrient impact is recognised as a greater threat than creek discharge.

Unlike interstate marine reserves, the Victorian system does not involve zoned areas – the entire park is a 'no take' area which minimises user interpretation error and affords the park greater protection. The Bunurong Marine and Coastal Park flanks the Marine National Park one kilometre offshore from the high water mark and abuts the onshore boundaries. This provides the Marine National Park with a buffer although recreational and commercial fishing is allowed within the coastal reserve.

An invasion by Northern Pacific Sea Star in surrounding areas was identified quickly responded to in an eradication program during 2004-2005.

Considerable data pertaining to environmental condition of the Bunurong region has been collected as part of the proposed desalination plant. Monitoring is expected to continue throughout planning, development and operation of the plant.

8.4.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	-	0	This asset is defined by the boundaries of the Marine National Park. No land component exists although external influences are acknowledged.
Water	Reasonable – Good (3.5)	50	Agricultural runoff and stormwater from urban areas such as Cape Paterson and Inverloch impact water quality. Lateral migration is identified as a more important source of nutrient load. Waterwatch monitoring, Parks Victoria Bunurong Marine National Park Management Plan.
Biodiversity	Good – Excellent (4.5)	50	The diversity of intertidal and shallow sub-tidal invertebrate fauna is the highest recorded in Victoria on sandstone. Seaweed species richness is comparatively high; the seagrass <i>Amphibolis antarctica</i> is important. Over 87 species of fish have been recorded. Parks Victoria, 2009.

8.4.5 Stewardship Summary

Component	Score (/5)	Key Evidence
Plan	Good (4)	Bunurong Marine National Park Management Plan (Parks Victoria, 2006)
Implement	Good (4)	Waterwatch and Sea Search monitoring
Evaluate	Good (4)	Waterwatch and Sea Search monitoring
Improvement	Good (4)	
Partnerships	Good (4)	Northern Pacific Sea Star response was an effective community and government agency approach.
Indigenous Engagement	Good (4)	Parks Victoria proactive Indigenous employment policy.

8.4.6 Stewardship Comment and Specifics

There is considerable community and local stewardship associated with the Marine Park and the abutting coastal parks. The Department of Fisheries patrol the waters as fishing and artefact removal are excluded activities. Parks Victoria also liaises with the federal agency responsible for oil spill response preparedness.


The **initial stewardship rating of four stars** reflects these partnerships and long standing community involvement.

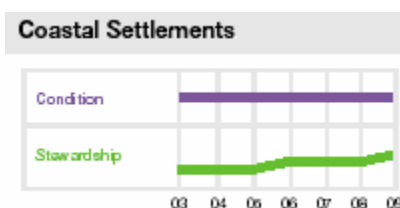
8.4.7 For more information

- Parks Victoria Information Centre 13 1963 or visit www.parkweb.vic.gov.au
- Sea Search <http://www.peopleandparks.org/programs/sea-search/54.html>

8.5 COASTAL SETTLEMENT

8.5.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	C		★★	
2004	C		★★	
2005	C		★★	
2006	C	C	★★☆	★★☆
2007	C	C	★★☆	★★☆
2008	C	C	★★☆	★★☆
----- Coastal Living Coastal Settlement				
2009	-	C	-	★★★ 



8.5.2 Asset Description

The Coastal Settlements asset reports on the condition of and impact on coastal ecosystems within and surrounding coastal towns in Bass Coast and South Gippsland Shires.

The asset includes coastal towns within the Bass Coast and South Gippsland Shire boundaries from Phillip Island to Wilsons Promontory – San Remo, Wonthaggi, Cape Paterson, Inverloch, Venus Bay, Sandy Point and Waratah Bay.

Issues of infringement, erosion, offsite impact (waterway discharge, refuse), urban design pressures and development are considered in the evaluation of condition and stewardship of this asset.

Bioregion reference: Gippsland Plain and Strzelecki Ranges

8.5.3 Asset Background

The focus of this asset has changed to remove reference to liveability and focus on the natural environment in and surrounding the coastal settlements of Bass Coast and South Gippsland Shires.

Threats to the environment include those associated with urbanisation and population growth (permanent and seasonal) including wastewater, stormwater and sewage management; native vegetation fragmentation, pest plant and animals, dune erosion, planning controls and subdivision. Planning controls and community education and involvement are paramount to protecting the natural values of this asset.

Impacts of climate change on dune formations and sea level will influence the condition of this asset in the future.

The remnant vegetation along the coastal fringes is in good condition albeit under pressure from urbanisation and land use change.

8.5.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	40	<p>Effective, multi agency pest plant and animals programs including</p> <ul style="list-style-type: none"> the South Gippsland Landcare Network program on behalf of the Sandy Point Progress Association at Shallow Inlet, Sandy Point and Waratah Bay; Parks Victoria Boxthorn, Cape Ivy and Bridal Creeper control from Venus Bay to Sandy Point; and Friends of Venus Bay and Parks Victoria fox control program between Venus Bay and Cape Liptrap. <p>West Gippsland Native Vegetation Plan 2003; Coastal Park Management Plans; West Gippsland Native Vegetation Plan 2003; West Gippsland Wetlands Plan.</p>
Water	Reasonable (3)	30	<p>West Gippsland Waterwatch Data Report 2008 reported turbidity and phosphorus levels greater than EPA criteria at select locations. Balancing this, WGCMA have completed riparian revegetation and protection (fencing) and willow removal along the Tarwin, Franklin and Agnes rivers. River Health Strategy, 2005.</p>
Biodiversity	Reasonable (3)	30	<p>No formal carp eradication work is being undertaken although they are present throughout. Fish ladders are being constructed in the Tarwin River. Significant protection of biodiversity and habitat in coastal Parks and reserves along the coast.</p> <p>West Gippsland CMA, Recovery Actions for Threatened Species Program 2008 – 2009.</p>

8.5.5 Condition Comment and Specifics

Despite the change in asset description and focus, **the condition rating remains a C.**

Much of the land surrounding the coastal settlements is managed by Parks Victoria, allowing protection of the coastal vegetation and habitat. It should also be acknowledged however, that the reserves are narrow and fragmented.

High erosion potential is inherent in the coastal, sandy environment.

Although positive results in weed and fox control have been reported over the past 12 months, rabbit populations are seen to be increasing.

The impact of the recent State government decree to encourage vegetation clearing for fire prevention may become evident during the next reporting period.

8.5.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Victorian Coastal Strategy 2008; Bass Coast Environment Sustainability Plan 2008- 2013; Coastal Park Management Plans; West Gippsland Native Vegetation Plan 2003; West Gippsland Wetlands Plan and River Health Strategy.
Implementation	Good (4)	West Gippsland CMA Biodiversity 'Protect, Enhance and Restore project implemented in this area.
Evaluation	Good (4)	West Gippsland CMA Biodiversity 'Protect, Enhance and Restore project implementation was evaluated to ensure targets were achieved.
Improvement	Good (4)	Active agency and community groups
Partnerships	Reasonable (3)	Walkerville Environmental Kit, 2008. Pest plants and animals programs with Landcare, Parks Victoria, VicRoads, Councils, schools, Friends groups etc.
Indigenous Engagement	(0)	Respondent not aware of Indigenous engagement activities.

8.5.7 Stewardship Comment and Specifics

Bass Coast and South Gippsland Shire Councils have published Urban Design Framework Implementation Plans. The Bass Coast Environment Sustainability Plan 2008 – 2013, adopted in July 2008, identifies local priority issues, action statements, policy statements specific tasks. This plan is in addition to a broad range of other natural resource management documents including a local Greenhouse Action Plan (2006); Cape Woolamai and Inverloch Foreshore Reserve Management Plans (2003 and 2008); Roadside Management Plan and Review (2009) Ventnor Common and Saltwater Creek Management Plan (2005). **An increase in stewardship to three stars** has occurred on the basis of this Shire's continued efforts.

Active community groups exist although survey respondents were unaware of indigenous engagement that may occur.

The Walkerville Environmental Kit is an excellent example of community and agency partnerships working to improve environmental condition, protection and understanding in areas around coastal settlements.

The Urban Design Frameworks pertaining to several settlements in Bass Coast and South Gippsland Shires have been complete and implementation plans published. The corresponding amendments to planning schemes provide enhanced strategic planning guidance for coastal urban development and provide a structure under which Council's can enforce environmental protection.

The Victorian Coastal Strategy (2008) provides the State Government's long term vision for coastal, estuarine and marine areas of Victoria. The plan specifically addresses climate change, coastal population growth and marine ecological integrity.


The Future Coasts Program, a DSE lead vulnerability assessment, looks at the impacts of climate change on the by coast line to 2010.

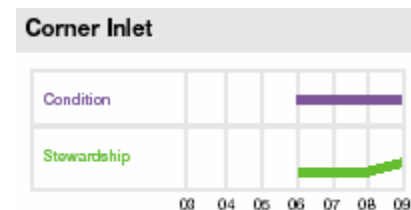
8.5.8 For more information

- Department of Planning and Community Development
www.dpcd.vic.gov.au/planning
- Bass Coast Shire Council www.basscoast.vic.gov.au (03) 5671 2211
- South Gippsland Shire Council www.southgippsland.vic.gov.au (03) 5662 9200
- Parks Victoria Information Centre 13 1963 or www.parkweb.vic.gov.au
- West Gippsland Catchment Management Authority (03) 5175 7800 or
www.wgcma.vic.gov.au
- Port Phillip and Westernport Catchment Management Authority (03) 9785 0183 or
www.ppwcm.vic.gov.au
- South Gippsland Landcare Network <http://www.southgippslandweeds.com.au>
- Victorian Coastal Council www.vcc.vic.gov.au

8.6 CORNER INLET

8.6.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	-		-	
2005	-		-	
2006	C	C+	★★	★★☆
2007	C	C+	★★	★★☆
2008	C	C+	★★★	★★☆
2009	-	C+	-	★★★ 



8.6.2 Asset Description

The Corner Inlet asset reports on the significant marine bay and tidal mudflat system within the Corner Inlet Marine National Park, Corner Inlet Marine and Coastal Park, and Nooramunga Marine and Coastal Park.

Corner Inlet, to the north east of Wilsons Promontory supports migratory birds, fisheries and various cultural attributes. The area coincides with the boundaries of the declared RAMSAR convention wetland, some 67,000 hectares; and is also listed under the UNESCO 'Man and the Biosphere' program as a biosphere reserve. Various species listed under the China- and Japan- Australia Migratory Bird Agreements frequent the area.

Corner Inlet supports significant fisheries, environmental and social values. There is a strong aboriginal cultural connection to the area and numerous historic shipwrecks.

Corner Inlet is the most southern marine bay and tidal mudflat system on mainland Australia. It supports the world's most southerly population of White Mangroves (*Avicennia marina*) and important feeding and breeding grounds for water and shorebirds.

Bioregion reference: Wilsons Promontory and Gippsland Plain

8.6.3 Asset Background

Corner Inlet is protected by a naturally fragmented system vulnerable to impact of sea level rise – the destruction of outer barrier islands would expose the estuarine islands to marine wave action.

Gippsland Ports manages and maintains infrastructure within Corner Inlet and Nooramunga Marine and Coastal Parks.

8.6.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	10	Corner Inlet Sediment Characterisation Study, Coastal Environmental Consultants 2008. Fluvial Geomorphology of the Tributaries of Corner Inlet RAMSAR Site, Alluvium 2008.
Water	Reasonable (3)	40	Little water quality monitoring of marine or estuarine environment (WGCMA, 2009). Water quality moderate based on phosphorus, turbidity and dissolved oxygen monitoring results. Modelling of nutrient and sediment export to Corner Inlet – Corner Inlet Decision Support System, Water Technology 2008; Decision Support System Hydraulic Modelling of Inlet and Marine Water Exchange. Nooramunga Corner Inlet Community Water Monitoring Project.
Biodiversity	Good (4)	50	Seagrass extent decreased since 1998; some recovery since 2005. Mangroves mapped as baseline. The presence of environmental weeds such as Spartina threatens biodiversity values. Ecological Monitoring Program; Environmental Audit of Corner Inlet, CSIRO 2005. Ecological Character Description of the Corner Inlet RAMSAR Site, ECOS 2008.

8.6.5 Condition Comment and Specifics

There is considerable data pertaining to the condition of Corner Inlet. Water quality (predominantly feeder rivers), sea grass, salt marsh and mangrove extent have been measured and/or mapped. The condition of the environmental values, albeit recognised as significant and extremely valuable, is reported as being only in 'reasonable' condition. The stewardship of the asset has focused particularly on the planning and research aspects, however, a significant shift to implementation and on ground works will occur in the coming year. The strengthening stewardship is expected to translate to improved condition. **The condition rating of C+ has been maintained.**

Suspended solids load is seen as a serious threat to the condition of Corner Inlet ecosystems. The 2007 and 2009 Cathedral bushfires in Wilsons Promontory resulted in increased sediment load, however, catchment management is recognised as having greater influence on total suspended solids. Programs such as Whole Farm Planning, dairy audits, vegetation management (recharge and discharge planting) have been implemented to minimise such impacts.

Extensive salinity, Spartina and mangrove mapping has been undertaken and formalised community monitoring (Seasearch) is in place and giving real baseline data.

8.6.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Excellent (5)	Integrated Coastal Planning for Gippsland - Coastal Action Plan, Gippsland Coastal Board 2002. Corner Inlet RAMSAR Site Strategic Management Plan, 2002. West Gippsland Regional Catchment Strategy, West Gippsland CMA 2004. Corner Inlet Marine National Park Management Plan 2005. Draft Management Plan for Corner Inlet and Nooramunga Marine and Coastal Parks to be finalised 2009. Decision Support System for Nutrient and Sediment Program for the Corner Inlet Ramsar Site, Water Technology 2007 and Implementation Plan, 2008. Strategic Directions Statement, Corner Inlet and Nooramunga Catchments, Corner Inlet Steering Committee 2008.
Implementation	Reasonable (3)	Implementation of planning and research and development element to commence in 2009. Corner Inlet Decision Support System Implementation Plan, Alluvium 2009.
Evaluation	Reasonable (3)	Corner Inlet Ecological Monitoring Program has been developed. Comparison with existing baseline data will allow evaluation of program and planning success.
Improvement	Excellent (5)	
Partnerships	Excellent (5)	Parks Victoria and WGCMA Spartina control works; Corner Inlet Steering Committee; Caring for Our Country integrated multi agency project proposal.
Indigenous Engagement	Poor (2)	Indigenous engagement requires improvement.

8.6.7 Stewardship Comment and Specifics

The Corner Inlet Coastal Catchment Initiative steering committee, established during last year's reporting period, has published its priorities document; formalised community monitoring provides valuable baseline data; spartina control occurs with Parks Victoria and West Gippsland Catchment Management Authority co-operation; and extensive salinity mapping and catchment management programs (Whole Farm Planning, dairy audits, salinity and revegetation works etc.) aim to reduce nutrient and sediment flow into the marine environment.

The planning and implementation works undertaken, initiated or overseen by the Steering Committee have lead to the **increase in stewardship to three stars**.

It was noted that despite the area being recognised for its importance to Aboriginal culture, indigenous engagement was rated as poor.

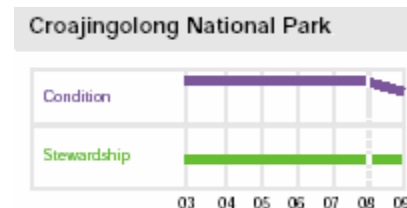
8.6.8 For more information

- Parks Victoria Foster (03) 5683 9007 or visit www.parkweb.vic.gov.au
- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Department of Sustainability and Environment, Ecological Character Description - Corner Inlet RAMSAR Site.
www.dse.vic.gov.au/DSE/nrence.nsf/LinkView/25C78F0422CD4887CA25729D0000B8A048DB09C3A9A254C5CA257297001AE7C0
- Sea Search <http://www.peopleandparks.org/programs/sea-search/54.html>

8.7 CROAJINGOLONG NATIONAL PARK

8.7.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	A		★★★	
2004	A		★★★	
2005	A		★★★	
2006	A	A	★★★	★★★☆☆
2007	A	A	★★★	★★★☆☆
2008	A	A	★★★	★★★☆☆
----- Coastal Parks of East Gippsland Croajingolong National Park -----				
2009	-	B+	-	★★★☆☆



8.7.2 Asset Description

The Croajingolong National Park asset reports on the high concentration of near pristine estuarine areas and the lowland forest, heath and coastal ecosystems.

The 87,500 hectare Croajingolong National Park stretches east from Sydenham Inlet (west of Bemm River) to the NSW border. It hosts two wilderness areas, forms part of a designated Biosphere Reserve under the UNESCO 'Man and the Biosphere' program and is designated a Natural Catchment Area by the Heritage Rivers Act (1999).

The 306 species of birds recorded in Croajingolong National Park represent over half of Victoria's, and a third of Australia's, total bird species. The area hosts habitats supporting 43 species of threatened native animals.

Bioregion reference: East Gippsland Lowlands

8.7.3 Asset Background

Covering up to 10% of Croajingolong National Park, the Coastal Heathland vegetation community is extremely species-rich. It contains highly significant coastal streams and catchments which are relatively undisturbed with good populations of native fish. Pest plants and animals are regarded as the major threat to ecological health.

The area was relatively unaffected by the extreme rainfall events of 2007. Runoff caused some damage to roads and tracks however, only limited areas were inundated.

The Southern Ark predator control program and the associated population monitoring is indicating continued recovery of small mammal populations with, for instance, regular sightings of the Long-nosed Potoroo in the Cape Conran area.

8.7.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Good – Excellent (4.5)	30	Parks Victoria continues pest plant and animal control programs (Southern Ark Program). Inappropriate fire regimes. Croajingolong National Park and Cape Conran Coastal Park Management Plan
Water	Excellent (5)	30	The East Gippsland Regional River Health Strategy gives priority to the control of weeds in pristine areas. Riparian vegetation largely intact. Reduced stream flows.
Biodiversity	Good (4)	40	Landscape broad programs continue to protect biodiversity values including the "Protecting the Best" and Southern Ark programs. Fire flora and fauna monitoring has commenced. Targeted weed control to protect Bristlebird habitat.

8.7.5 Condition Comment and Specifics

Croajingolong has been chosen to represent the Coastal Parks of East Gippsland. The rating change reflects the changed boundaries of the asset and its condition when compared with other parks such as Wilson's Promontory and Alpine National Parks.

Croajingolong has greater, although still minimal, peri urban pressure than Wilson's Promontory (condition rating A-), has introduced fish species in its waterways and a damaging deer population.

The Park's rivers and biodiversity are in excellent condition. Some view walking track development within the park as problematic, opening areas up to weed infestation and additional management pressure.

The **B+ condition rating** reflects the Park's biodiversity values while recognising the threats and impacts of pest plants and animals.

8.7.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Croajingolong National Park Management Plan (1996) exists but requires review. District Parks Victoria Action Plans. East Gippsland Regional River Health Strategy.
Implementation	Good (4)	Southern Ark and Protecting the Best projects are being implemented.
Evaluation	Poor (2)	Very little monitoring of program success occurs however, Parks Victoria has employed a regional Monitoring Project Officer. Sand pad and small mammal response to Southern Ark, fire flora and fauna, Heathlands and threatened species monitoring occurs.
Improvement	Reasonable (3)	Improvements are made by local staff based on observations, discussion and experience however a formal evaluation process would improve this process.
Partnerships	Good (4)	Parks Victoria reports more integrated works are occurring with DSE and CMA.
Indigenous Engagement	Poor (2)	Further work is needed in this area to engage and support indigenous engagement. Parks Victoria cross-cultural training is mandatory. Parks Victoria proactive Indigenous employment policy.

8.7.7 Stewardship Comment and Specifics

The stewardship of Croajingolong is strong and consistent with the former asset of Coastal Parks of East Gippsland. **The three star rating has been maintained.**

Parks Victoria plays the major role in the management of this asset, working from the Croajingolong National Park Management Plan. This plan is, however, over 12 years old and was cited as 'in need of review'.

The East Gippsland Catchment Management Authority conducted extensive surveys of the coastal parks during 2007 as part of the High Value Rivers initiative. The resulting mapping has helped target works in high value systems while informing large scale river health planning in the region.

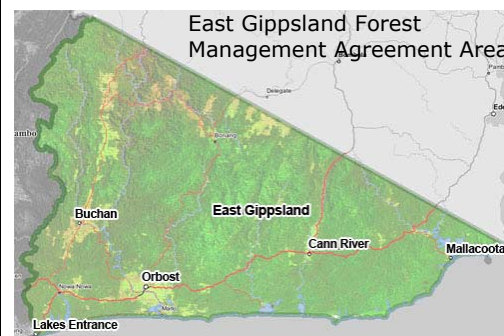
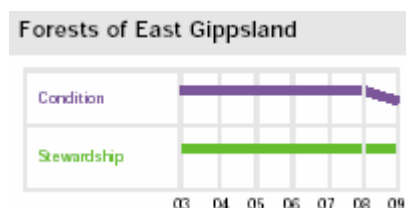
8.7.8 For more information

- Parks Victoria Information Centre 13 1963 or www.parkweb.vic.gov.au
- East Gippsland Catchment Management Authority, 5152 0600, www.egcma.com.au
- Department of Sustainability and Environment Southern Ark <http://www.dse.vic.gov.au/DSE/nrence.nsf/childdocs/-8946409900BAC6344A256B260015D4AF?open>

8.8 FORESTS OF EAST GIPPSLAND

8.8.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	B		★★★★	
2004	B		★★★★	
2005	B		★★★★	
2006	B	A-	★★★★	★★★★
2007	B	A-	★★★★	★★★★
2008	B	A-	★★★★	★★★★
Forests of East Gippsland biodiversity & forestry values Forests of East Gippsland social, commercial & biodiversity values				
2009	-	B+	-	★★★★



DSE website

8.8.2 Asset Description

The Forests of East Gippsland asset reports on commercial, social and biodiversity values of the forests within the East Gippsland Forest Management Area.

Under the 1997 East Gippsland Regional Forest Agreement some 350,000 hectares of State Forest are available for harvesting in the General Management Zone. Important natural values in the Forest Management Area are protected in Special Protection Zones. The Agreement also sets aside almost half the region's 1.2 million hectares as reserve, excluded from logging.

The area includes seven National Parks, various Heritage Rivers and a designated Natural Catchment Area under the Heritage Rivers Act (1999). Mammal, bird and plant species of significance exist in the area, some of which are found no where else.

Bioregion reference: Victorian Alps, East Gippsland Uplands, East Gippsland Lowlands and Monaro Tablelands

8.8.3 Asset Background

Commercial timber harvesting has occurred in East Gippsland since the 1960s.

Department of Sustainability and Environment is responsible for managing the public native forest in the East Gippsland Forest Management Area for multiple uses, working from the 1995 Forest Management Plan. There is significant pest plant and animal control required by the Department, particularly in disturbed areas such as logging tracks.

VicForests is responsible for the sustainable harvest and commercial sale of Victoria's forest timber, as well as forest rehabilitation and silviculture.

One of the seven National Parks included in the East Gippsland Forest Management Agreement, Coopracambra National Park, is recognised as one of the largest areas of high quality wilderness in south eastern Australia. Croajingolong is another significant National Park recognised as having breadth and quality of biodiversity.

The forests of East Gippsland were not significantly affected by the major rain events of 2007. The 2003 Great Divide and 2006-2007 Victorian Alpine fires burnt portions of the north west and western reaches.

8.8.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Good - Excellent (4.5)	30	<p>No evidence of lasting deleterious impacts on the environment through harvesting, and increased occurrence of native fauna in areas baited through Southern Ark project (DSE, 2009).</p> <p>Continued application of the Code of Forest Practice with regard to harvesting. Coupe monitoring includes soil erosion and sediment hazard, drainage, habitat and seed tree retention, storage of fuel and oil, and streamside and rainforest buffers. Long term monitoring includes soil compaction impacts on root regeneration, impacts on rainforest, retained habitat tree retention; variable retention harvesting.</p> <p>Significant proportion of forested area including Coopracambra National Park supports high value tracts of old growth forest and wilderness.</p>
Water	Good - Excellent (4.5)	30	<p>Several Heritage Rivers including Genoa, Erinunderra, Goolengook and Bemm Rivers. Protection of riparian zones through logging buffers.</p>
Biodiversity	Good - Excellent (4.5)	40	<p>Increased occurrence of native fauna reported as a result of Southern Ark project. EPA and DSE audit the forestry industry for compliance with the Code of Forest Practice and Forest Management Plans. Parks Victoria manages National Parks to maximise biodiversity. Harvest forests are managed to minimise understorey.</p>

8.8.5 Condition Comment and Specifics

The forests of East Gippsland on the whole represent significant biodiversity however, the structure and composition of the forests are changing. Samba deer present significant risk to plant succession in logged and unlogged areas; and regeneration of logging areas is managed so as to minimise understorey. Logging roads provide pathways for weed infestation, particularly blackberries.

Timber harvesting is undertaken in accordance with the Code of Forest Practice and is overseen by VicForests.

The condition rating of B+ reflects the quality of vast areas of East Gippsland Forests while acknowledging that timber harvesting and management of harvest forests does, by necessity, impact on biodiversity and land values. The change in rating from 2008 reflects refinement of the asset definition not an actual decrease in the condition of the asset.

8.8.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Reasonable to Good (3.5)	Forest Management Plans, Management procedures, Code of Practice for Timber Production. VicForests has a strategy department dedicated to planning and strategy documentation. VicForests Sustainable Forest Management System. East Gippsland Forest Management Plan requires revision.
Implementation	Good (4)	Application of the Forest Management Plan and forest management framework. VicForests audit implementation of all requirements under the Sustainable Forest Management System.
Evaluation	Good (4)	VicForests' internal and external audit program assesses implementation and review of systems.
Improvement	Good (4)	VicForests Sustainable Forest Management System identifies areas needing improvement and the process of change.
Partnerships	Reasonable (3)	Protecting the Best project. VicForests Stakeholder Engagement Strategy addresses shortcomings in broader partnership development.
Indigenous Engagement	Reasonable (3)	VicForests Stakeholder Strategy aims to improve Indigenous engagement although relationships exist with Aboriginal Affairs Victoria. DSE report a significant increase in indigenous cultural heritage monitoring in relations to fire operations planning and employment of a Cultural Heritage Officer.

8.8.7 Stewardship Comment and Specifics

Preliminary work on the Forest Management Plan review has commenced. The Department of Sustainability and Environment has recognised a need to strengthen links between fire and forest management. This recognition is reflected in a departmental restructure through which DSE Fire and Land has been established.

A 400 hectare area incorporating the northern slopes of Brown Mountain on the Erinunderra Plateau was afforded permanent protection from harvesting in 2009. The Brown Mountain creek areas will also have a widened buffer of 100 metres to protect habitat.

The rating of four stars has been maintained.

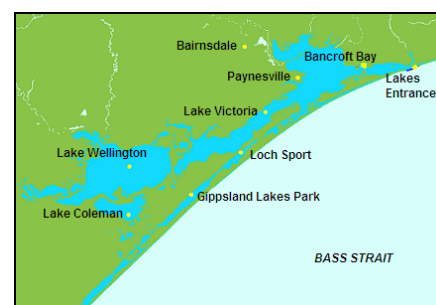
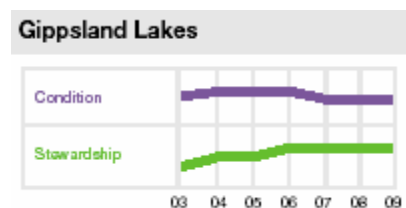
8.8.8 For more information

- Department of Sustainability and Environment, Orbost, (03) 5161 1222 www.dse.vic.gov.au
- Parks Victoria Information Centre 13 1963 or www.parkweb.vic.gov.au
- VicForests – Bairnsdale, 5152 0400 www.vicforests.com.au

8.9 GIPPSLAND LAKES

8.9.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	C		★★	
2004	C+		★★★	
2005	C+		★★★	
2006	C+	C+	★★★★☆	★★★★☆
2007	C+	C	★★★★☆	★★★★☆
2008	C	C	★★★★☆	★★★★☆
2009	-	C	-	★★★★☆



8.9.2 Asset Description

The Gippsland Lakes asset reports on the water quality, estuarine and lake health with reference to maintaining recreational, commercial, tourism and biodiversity values.

Approximately 70 kilometres long and 10 kilometres at the widest point, the Gippsland Lakes is the largest estuarine coastal lagoon system and the largest navigable estuarine lagoon system in Australia.

The lakes and estuaries support a diverse range of native flora and fauna. The area is listed as a RAMSAR wetlands site and supports various species listed under the China- and Japan- Australia Migratory Bird Agreements. The Gippsland Lakes provide important recreation and tourism values while supporting more than 540 native plant and 300 native animal species (including five endangered species).

Fresh water enters the lakes via six major river catchments which together drain a catchment area of 20,600 square kilometres. Fresh water from these rivers provides an important flushing mechanism but is also the source of nutrient and sediment loads into the Lakes.

Bioregion reference: Gippsland Plain

8.9.3 Asset Background

The Gippsland Lakes environment is one that must respond to varied and swinging conditions – a naturally freshwater system, it has been evolving to cope with variable but increasing salinity since the opening of The Entrance in 1890. Variations in catchment rainfall impact salinity levels as a function of both freshwater dilution and nutrient transport and deposition. Although specific events, such as the 2007 floods cause spikes in various condition indicators, the overall health and condition of the Lakes can best be assessed over long time spans.

The Lakes are managed for a broad range of competing priorities and uses including recreation, commercial fishing, marine safety, biodiversity, aesthetics and tourism.

Although there is obvious overlap between many uses, the priorities of management differ between interest groups and respective managers.

After several years of drier conditions and low river flows that resulted in increased lake salinity, the 2007 floods delivered approximately 80% of the annual nutrient load in a single event. This in turn resulted in an extensive and long lasting algal bloom. Algal blooms are a natural response and an indication of a system processing the nutrient load. The initial bloom (*Synechococcus sp.* from November 2007 to August 2008) was followed by another bloom (*Noctilca scintillans* from November 2008 to February 2009) in the northern embayments of the eastern Lakes. As *Noctilca scintillans* predate *Synechococcus sp.*, the succession of blooms is further evidence of the food chain effectively managing or responding to the conditions presented by flood (and earlier fire).

Improved farming practices, waterway management and erosion control in the feeding catchments have direct impact on the Lakes by reducing nutrient loads in rivers.

8.9.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	10	Foreshore erosion continues. Loss of existing fringing vegetation due to variable salinity regimes limits rehabilitation. This vegetation has important foreshore stability and ecological functions. Erosion control planting is also impacted by the swinging salinity levels. Gippsland Lakes Shore Erosion and Revegetation Strategy, 2002.
Water	Reasonable (3)	50	Nutrient levels are substantially below the 30 year average – a function of low rainfall and subsequent river flows; and nutrient reduction programs in the catchments. Monthly water quality sampling and analysis by EPA. Weekly monitoring of algae (species and levels) undertaken during algal bloom activity. Nutrient load monitoring allows correlation and prediction of algal bloom response. Water clarity increases with ongoing marinisation and consequent flocculation of sediment.
Biodiversity	Reasonable (3)	40	Seagrass recovery and associated fish diversity and population increase. Fish assemblages and seagrass condition of the Gippsland Lakes, Department of Sustainability and Environment 2009. Reported return of seagrass dependant birds.

8.9.5 Condition Comment and Specifics

The Gippsland Lakes Shore Erosion and Revegetation Strategy (2002) builds on extensive work undertaken by Dr Eric Bird between 1957 and 1983. This work has enabled the condition of the foreshore environment to be compared over time, allowing considered management strategies to be developed. The Department of Sustainability and Environment is currently preparing the Foreshore Erosion Control Trials report.

The recent Gippsland Lakes survey of fish populations and seagrass condition and extent (DSE, 2009) suggests there has been a decline in seagrass between late 1990s and September 2008. Subsequent monitoring in April 2009 indicates that seagrass has since grown back at 50 per cent of the sites sampled in September 2008. There was also an increase in fish abundance and species richness. Samples of fish in April 2009 were dominated by juveniles and species strongly associated with seagrass.

Foreshore vegetation continues to suffer from impacts of variable salinity.

When considering the condition of the Lakes, the scale and multiple values ascribed to it must be considered. The overall condition has not exhibited significant difference from that of 2008. **The condition rating of C has been maintained.**

8.9.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Excellent (5)	Refining the Gippsland Lakes Future Directions and Actions Plan, Cottingham and Associates 2008. Gippsland Lakes Future Directions and Action Plan, DSE 2002. East Gippsland Regional Catchment Strategy West Gippsland Regional Catchment Strategy.
Implementation	Good (4)	State and Federal government investment in the Gippsland Lakes Taskforce for implementation of the Future Directions and Actions Plan. Significant investment by management agencies and private landowners in activities that directly improve the condition of the Gippsland Lakes.
Evaluation	Good (4)	Gippsland Lakes Taskforce review of the Future Directions and Actions Plan undertaken in August 2008 allowing refinement of investment and strategic direction. Broader evaluation of other agencies' program is required.
Improvement	Good (4)	Cottingham and Associates (2008) has allowed redirection of funding and investment to high nutrient yielding locations and activities.
Partnerships	Good to Excellent (4.5)	Gippsland Lakes and Catchment Taskforce comprises all major natural resource management agencies involved in the Gippsland Lakes and its catchment.
Indigenous Engagement	Lacking (1)	Indigenous engagement requires improvement.

8.9.7 Stewardship Comment and Specifics

The elements of the MERGe framework are evident in the Gippsland Lakes and Catchment Taskforce approach to management. Concern has been expressed over the number of agencies involved in the management of Lakes however, natural resource management does not appear to be the cause of such criticism. It is understood that these comments are generally regarding planning aspects of the region, the complexity of which reflects the diversity and number of competing demands.

Although evaluation of Taskforce programs has been undertaken, the need to broaden that evaluation to other stakeholder and agency programs is recognised. Funding has been secured by the Taskforce to undertake this review in the coming year.

The three and a half star rating has been maintained.

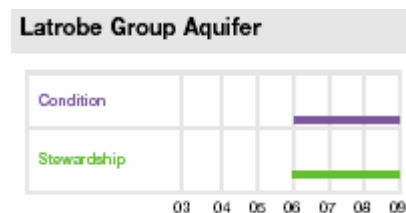
8.9.8 For more information

- Gippsland Coastal Board, Gippsland Lakes Planning Officer, 5152 0400 or www.gcb.vic.gov.au
- Environment Protection Authority Victoria Marine Sciences Unit
[http://epanote2.epa.vic.gov.au/EPA/publications.nsf/515bc2fde7bf93f44a2565b6001ee896/64e0b189afb26cdeca256e3c0002705f/\\$FILE/SR4.pdf](http://epanote2.epa.vic.gov.au/EPA/publications.nsf/515bc2fde7bf93f44a2565b6001ee896/64e0b189afb26cdeca256e3c0002705f/$FILE/SR4.pdf).
- Department of Sustainability and Environment
http://www.gippslandlakes taskforce.vic.gov.au/publications/monitoring/Gippsland_Lakes_seagrass_fish_survey_final_report_July2009.pdf

8.10 LATROBE GROUP AQUIFER

8.10.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	-		-	
2005	-		-	
2006	F	E-	★★	★★
2007	F	E	★★	★★
2008	F	E	★★☆	★★
2009	-	E	-	★★



8.10.2 Asset Description

The Latrobe Group Aquifer asset reports on long term availability and quality of water in the aquifer; and the impacts of extraction.

The deepest groundwater bearing rock layers within the Gippsland sedimentary basin, the Latrobe Group Aquifer contains high yield and quality (typically <500mg/L salinity) groundwater onshore and massive hydrocarbon resources offshore.

Fresh water recharge of the aquifer is reported to be less than the volume extracted which CSIRO's modelling has suggested may result in coastal subsidence and salt water intrusion in the long term.

Total groundwater extraction by industries across South and Central Gippsland is approximately 120,000ML per year – approximately 90,000ML per year by offshore oil and gas production; 20,000 to 30,000ML by Latrobe Valley coalmine dewatering and approximately 8,000 ML for irrigation and domestic use in the Yarram district.

Bioregion reference: Gippsland Plain, Strzelecki Ranges, Twofold Shelf

8.10.3 Asset Background

The Latrobe Group Aquifer is accessed by the coal mining, offshore oil and gas extraction and agricultural industries with varying appreciable impact.

Over the past 30 years, groundwater levels in the Latrobe Group Aquifer have declined by an average of approximately 1.1 meters per year (SKM, 2004). This decline is due to the extraction rate exceeding the rate of recharge to the aquifer. CSIRO (2004) states that recharge is in the order of 80,000ML per year while total extraction is approximately 120,000ML per year.

Impacts of declining groundwater levels include:

- Changes to groundwater-surface water interaction where stream base flows could be reduced. The loss of base flow during low flow periods can impact significantly on river ecology and on the reliability of surface water supplies for urban, stock, domestic and irrigation purposes;
- Salt water intrusion in the offshore and near shore areas due to a lowering of hydrostatic pressure; and
- Inland land subsidence due to compaction of overlying strata associated with falling groundwater levels.

CSIRO (2007) reported that no measurable coastal subsidence was identified although modelling suggests that under a realistic scenario there is risk of up to 0.48m land subsidence along Ninety Mile Beach by 2056.

The management of offshore gas, oil and groundwater extraction is a joint Commonwealth/State responsibility under the Commonwealth Petroleum Submerged Lands Act that covers the area greater than three nautical miles off-shore. The Department of Primary Industries is the State Government authority responsible for administering the State responsibilities as part of this Act.

Southern Rural Water is the agency responsible for issuing and managing groundwater licences onshore and for the Yarram Water Supply Protection Area Groundwater Management Plan.

In recognition of the decline in aquifer depth government financial assistance was provided to irrigators allowing them to deepen bores and maintain access to water. It is recognised that this measure extends the viability of irrigation in the district however, it does not address, in fact it exacerbates, the continued decline of the aquifer. It is also noted however, that the volume extracted for irrigation purposes is an order of magnitude less than that extracted by the mining industries.

Onshore, differential subsidence in the immediate vicinity of the coal mines has been addressed by relocating the surrounding population. The impact remains and subsidence continues however, property is unaffected. Regional subsidence also occurs but is uniform. Cost of this subsidence is measured only in terms of its impact on property and population centres.

8.10.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Poor (2)	10	Aquifer extraction for mine dewatering results in localised, differential subsidence. Impacted residents have been relocated. Regional subsidence is uniform and is not therefore problematic to the Latrobe Valley population. CSIRO (2007) found no measurable coastal subsidence.
Water	Degraded (1)	90	Groundwater quality is high (less than 500mg/L total dissolved solids). Current water table reduction of 1.5 metres per year. Although financial assistance has been provided to irrigators to facilitate continued access, this level of reduction cannot be sustained. There are possible impacts on stream flow / recharge dynamics.
Biodiversity	-	0	-

8.10.5 Condition Comment and Specifics

The quality of the aquifer is high yet the reduction in water table at a rate of 1.5 metres per year cannot be sustained. The 30 year average is approximately 1.1 metres per year so it may be surmised that less than a third of this can be attributed to reduced rainfall and consequential reduced recharge of the aquifer. **The unchanged condition rating of E** reflects the unsustainable reduction in watertable.

8.10.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Poor - Reasonable (2.5)	Rating in context of entire asset. No aquifer-wide management or strategy document exists for the asset. SRW draft Yarram Groundwater Management Plan; Hydrogeological Mapping of the SRW region; National Water Initiative projects.
Implementation	Poor (2)	In the absence of aquifer-wide strategies, implementation is poor. Assistance packages to increase irrigation bore depth and maintain access to declining water table were successfully delivered.
Evaluation	Reasonable (3)	Federal funding contributed to research on decline and impact however, no known evaluation pertaining to offshore contribution to onshore decline in water table. Hydrogeological mapping of Southern Rural Water region.
Improvement	Poor (2)	In the absence of aquifer-wide strategies, improvement of programs cannot occur. Assistance packages to irrigators have improved user access.
Partnerships	Poor (2)	Limited interaction between state and federal / on- and off-shore management authorities. Strong local partnerships exist in the irrigation district; the introduction of Clean Coal Victoria will improve partnerships revolving around the Latrobe Valley coal industry.

Indigenous Engagement is limited by virtue of the asset nature

8.10.7 Stewardship Comment and Specifics

This asset extends over a large geographic area and has three distinct uses involving three separate managers. This makes determination of an overall rating difficult. Although an individual manager may be exercising significant stewardship, without a collaborative approach to agreed outcomes/goals, the influence of those works on the overall condition is likely to be limited.

Some 'stewardship' employed has addressed the impact of condition decline on people and in doing so reduces the pressure to address actual impact on the condition of the asset. In this way, we may be accommodating a decline in condition of the Latrobe Group Aquifer as a cost of coal, gas and oil extraction.

The competing demands and priorities pertaining to the Latrobe Group Aquifer may not allow recovery or improvement in asset condition.

Although local stewardship exists surrounding this asset, a broad, aquifer-wide management strategy involving all asset managers does not exist. This is reflected in **the unchanged two star rating.**

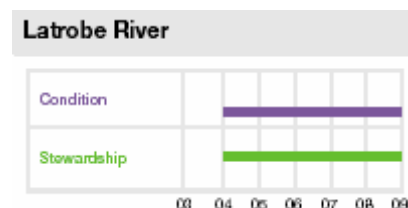
8.10.8 For more information

- Southern Rural Water: (03) 5139 3100
- Department of Sustainability and Environment (03) 9637 8000
- Our Water Financial Assistance Program
<http://www.ourwater.vic.gov.au/saving/farms/latrobe-aquifer/faq>
- Department of Primary Industries: (03) 9637 8000
http://www.dpi.vic.gov.au/dpi/vro/wgregn.nsf/pages/wg_water
- Gippsland Coastal Board www.gcb.vic.gov.au (03) 5152 0451
- CSIRO www.csiro.au/files/files/pkz8.pdf

8.11 LATROBE RIVER

8.11.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	D		★★★	
2005	D		★★★	
2006	D	D	★★★	★★★
2007	D	D	★★★	★★★
2008	D	D	★★★	★★★
2009	-	D	-	★★★



8.11.2 Asset Description

The Latrobe River asset reports on river health – water quality and quantity, riparian vegetation, species composition, connectivity and habitat diversity of the Latrobe River.

The Latrobe River rises on the southern side of the Great Dividing Range and the northern side of the Strzelecki Ranges, and travelling 80 kilometres to the western reaches of the Gippsland Lake at Lake Wellington.

The Latrobe River is characterised by its size and capacity, forested upper reaches, extensive floodplain areas in the middle reaches, and connectivity with freshwater marshes and the Lake Wellington (Gippsland Lakes) RAMSAR wetland environment in the lower reaches.

Bioregion reference: Highlands – Southern Fall, Gippsland Plain

8.11.3 Asset Background

The Latrobe River is considered one of the most highly modified rivers in Victoria (outside major urban areas). Although the Index of Stream Condition rated 92% of the upper reaches to be in 'good' condition, 89% of the lower reaches were characteristic of 'moderate' or 'poor' condition. Each section of the river, however, has its own character and value

- the upper reaches of the river are considered to be ecologically healthy, have no major diversions or storages.
- the middle reaches below Lake Narracan are heavily utilised by industry and agriculture, and are dominated by artificial meander cut offs (21.5% of the stream length below the Lake).
- the lower reaches below Rosedale have some remnant flood plain and wetland ecological values despite the meander straightening.

Environmental Flows allowed for by the Central Region Sustainable Water Strategy (CRSWS) include 10,000ML per year for seven years from unallocated water in Blue Rock dam and unused entitlement at Lake Narracan, pending further research. This research continues and therefore environmental flows have not been allocated. The research focuses on integrating environmental flows to maximise ecological benefit – confirming optimal combinations of complementary river health works and water required to maintain or achieve identified river health targets.

The straightening of the river below Lake Narracan has resulted in a wider, deeper and faster flowing watercourse. Restoring the river’s natural course is seen as an important measure in restoring river health.

Threats or pressures on the river include soil erosion and sediment loading, waste water discharge, riparian impact or removal in agricultural areas and water extraction for use in the paper mill and power stations. Pest plants and animals, particularly willows and foxes, are also identified as threatening to the river health.

The Yallourn mine wall collapse on 14 November 2007 resulted in the Latrobe River being diverted away from the mine. Although the diversion had localised impact on water quality and ecology, no long term environmental decline was reported.

8.11.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Poor (2)	10	<p>Replacing meanders to reinstate natural flow, habitat (currently small scale only. planning for large scale). Erosion and sediment loading particularly associated with timber harvesting on steep slopes and where riparian buffers are inadequate, and in potato farming areas. Riparian zones often degraded or eliminated in agricultural areas. Much of the sediment load of the lower reaches is attributed to active bank erosion processes.</p> <p>Draft State of the Catchment Report, WGCMA 2009.</p>
Water	Poor (2)	50	<p>The government commitment to release unallocated water entitlements has not been realised which compounds impacts of the continued low rainfall</p> <p>Wastewater discharge from industry and primary produces has a significant impact on the river. There is room for improved water consumption by the Power Stations cooling systems. Water use by the paper mill has considerably improved. Waste water will also improve with the commissioning of the Gippsland Water Factory.</p> <p>The Latrobe River contributed 23% of the total nitrogen load and 26% of the total phosphorus load into the Gippsland Lakes in 2007 – 2008 making it a ‘dominant’ contributor of nutrients to the Lakes.</p>
Biodiversity	Poor (2)	40	<p>Macroinvertebrate monitoring indicated only 19% of the lower Latrobe River met SEPP objectives.</p> <p>By replacing the meanders in the middle and lower reaches fish breeding habitat and nutrients loads will improve.</p>

8.11.5 Condition Comment and Specifics

The highly modified Latrobe River is subject to pressure from domestic, industrial and agricultural uses; historical straightening of meanders; erosion; sedimentation; and riparian stress. The upper reaches of the river however, represent a healthy ecosystem and various programs address water consumption and waste water discharge in the middle reaches and flow dynamic issues throughout.

Reduced flows as a result of low rainfall and competing demands for water mean there is a focus on enhancing the environment that exists without water. On-ground works are focussing on fish passage and maximising habitat for the Australian Grayling, riparian rehabilitation and protection, and lower Latrobe wetland and Gippsland Lakes protection through sediment management. **The condition rating of D has been maintained.**

8.11.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Reasonable – Good (3.5)	Draft Latrobe Business Case establishes priorities and strategies for better management. Gippsland State Water Strategy Discussion Paper
Implementation	Reasonable (3)	Small scale replacement of meanders is occurring. Larger scale projects are planned.
Evaluation	Reasonable (3)	Considerable research is being undertaken to allow integration of environmental flows with complimentary (without water) management strategies.
Improve	Good (4)	Results of research and on ground works have been used to determine priorities and strategies identified in the Draft Business Case.
Partnerships	Poor (2)	The breadth and effectiveness of partnerships requires improvement.
Indigenous Engagement	Lacking (1)	Indigenous engagement requires improvement.

8.11.7 Stewardship Comment and Specifics

The Draft Latrobe Business case has been published in which priorities and strategies for better management are presented. This is a test case for river health planning. The Gippsland State Water Strategy Discussion Paper has also been prepared. **The three star rating has been maintained.**

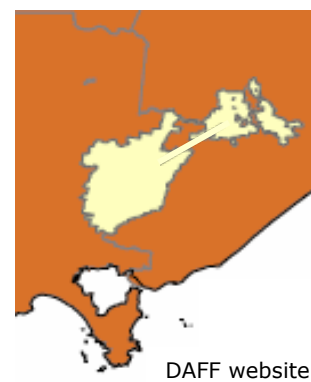
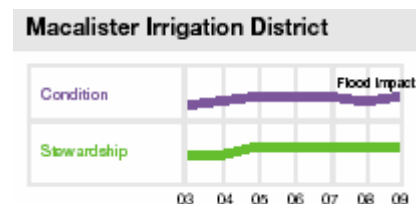
8.11.8 For more information

- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Department of Sustainability and Environment – Central Region Sustainable Water Strategy www.dse.vic.gov.au

8.12 MACALISTER IRRIGATION DISTRICT

8.12.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	D-		★★★	
2004	D		★★★	
2005	D+		★★★★☆	
2006	D+	D	★★★★☆	★★★★☆
2007	D+	D	★★★★☆	★★★★☆
2008	D	D	★★★★☆	★★★★☆
2009	-	D+ ↑	-	★★★★☆



DAFF website 2009

8.12.2 Asset Description

The Macalister Irrigation District asset reports on the physical condition of the farming land irrigated by the Macalister River and the impacts irrigation has on the surrounding environment.

The Macalister Irrigation District (MID) in central Gippsland extends approximately 53,000 hectares from Lake Glenmaggie to near Sale. Approximately 33,500 hectares are currently under irrigation from the Macalister River and of this, 90% is under pasture.

Production resulting from irrigation in the district is important to the economic health of various urban centres including Sale, Stratford, Maffra and Heyfield, however, rising salinity and reduced river flows threaten the environmental sustainability of the industry.

Bioregion reference: Gippsland Plain

8.12.3 Asset Background

Irrigation of dairy farms and horticulture in the Macalister Irrigation District has occurred since the 1960s. Impacts of irrigated farming include high nutrient loads entering the lower reaches of Macalister, Thomson and Latrobe Rivers; and irrigation-induced salinity exacerbated by extensive clearing and draining of wetlands. Water quality is poor with elevated turbidity levels. There is an upward trend in conductivity/salinity and increasing acidity.

The 2006/2007 Great Divide bushfires affected approximately 159,400 hectares of vegetation in the upper catchment. The storm events of 2007 resulted in significant erosion, sediment and ash loads into Lake Glenmaggie.

Inflow to Lake Glenmaggie during 2006/2007 was the lowest on record. In contrast, the 2007/2008 floods saw infrastructure damage and 55,000ML daily releases to the Macalister River. Prior to the floods, Lake Glenmaggie Weir stored approximately 100ML of the 195ML capacity. Inflows in November 2007 were approximately 315 ML in less than 24 hours.

The nutrient load for July to December 2007 was in excess of the full year's target impacting off site receptors, such as the Gippsland Lakes.

During the 2006/2007 irrigation season there were extended and significant Blue Green Algae blooms in both Lake Glenmaggie and the irrigation channel network.

Continued low rainfall since the 2007 floods has impacted fish migration and water quality.

8.12.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Poor (2)	50	Pest plants and animals are intensively managed although do remain a problem; as does nutrient runoff and native vegetation clearing. Threat of salinisation is in decline (result of better irrigation practices and reduce recharge through rainfall).
Water	Reasonable (3)	40	High quality water is delivered for irrigation and drinking water from the Thomson Macalister system. Salinisation and nutrient discharge to waterways exists/occurs. Index of Stream Condition. EPA, Waterwatch, groundwater monitoring programs. Our Water Our Future Paper. Qualification of Rights of the Thomson River Environmental Water Reserve.
Biodiversity	Degraded (1)	10	Modified landscape for agriculture. Native vegetation clearing continues, connectivity of habitat lacking, barriers to fish migration (no fish ladders in Lake Glen Maggie) and pest plants and animals. Macalister Land and Water Management Plan, 2008.

8.12.5 Condition Comment and Specifics

The water delivered for irrigation is of high quality and there has been improvements in farm management and measured improvement in discharge quality.

The impending completion of irrigation infrastructure modernisation by Southern Rural Water will result in large water savings with better control over delivery and outfall.

The salinity threat is decreasing, possibly as a result of continued low rainfall.

Lake Glenmaggie is currently at capacity.

A rating reduction was imposed on the Macalister Irrigation District in 2008 to reflect the nutrient stripping resulting from the 2007 floods. Although there has been some level of recovery from the episodic event that saw the decrease last year, **an increase in rating to D+** this year recognises the longer term, gradual improvement that has been occurring in salinity and discharge quality.

8.12.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Focus on water use efficiency. MID 2030. Macalister Land Water Management Plan. Linking Farms and Catchments Program. No funding is provided for Whole of Farm Planning in the MID.
Implementation	Reasonable (3)	Irrigation Farm Plan rebates, incentives to change farming practices, Effluent Management Plan support.
Evaluation	Good (4)	Monitoring of discharge, water quality, practice change informs priorities and strategy direction. Macalister Water Use Efficiency Farm provides education and examples of alternative practices.
Improve	Good (4)	Irrigation infrastructure upgrade to be implemented.
Partnerships	Good (4)	Regular meetings are held between SRW, EPA, DPI and the CMAs; and of landholder consultative committees.
Indigenous Engagement	Poor (2)	Indigenous engagement requires improvement.

8.12.7 Stewardship Comment and Specifics

MID2030 outlines, amongst other things, the requirement for irrigation infrastructure upgrade. Southern Rural Water is co-ordinating this upgrade which will result in expected savings of 30 ML per year. The more accurate measurement of delivery volume and time, and control over the channel outfall will result in significant decrease in water loss from the system and more efficient use of water by farmers.

It was reported that there was a very low uptake by farmers of Department of Primary Industries' Effluent Management Plans when compared to other districts. There was, however, very good uptake of the incentives offered to support change from flood to spray irrigation and of the rebate on costs to develop Irrigation Farm Plans.

The funding for the EPA farm audit program has finished however, all farms in the MID have been audited and quiet a few have been revisited.

No funding is provided for Whole of Farm Planning (soil, salinity, native vegetation management) in the Macalister Irrigation District.

The **three and a half star** rating reflects the maintained stewardship efforts of the asset's managers.

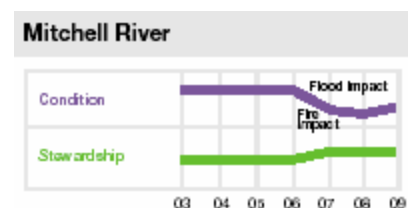
8.12.8 For more information

- Department of Primary Industries, Maffra (03) 51470800
- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Southern Rural Water (03) 5139 3100 www.srw.com.au
- Environment Protection Authority, Traralgon (03) 5173 9800 www.epa.vic.gov.au

8.13 MITCHELL RIVER

8.13.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	B		★★★	
2004	B		★★★	
2005	B		★★★	
2006	B	B+	★★★	★★★
2007	D	D	★★★☆	★★★☆
2008	D-	D	★★★☆	★★★☆
2009	-	C-	-	★★★☆



8.13.2 Asset Description

The Mitchell River asset reports on river health – water quality and quantity, riparian vegetation, species composition, connectivity and habitat diversity of the Mitchell River.

Rising in the Victorian Alps, the Mitchell is a Heritage River with very high conservation value, predominantly natural flows and significant fish habitat. It discharges into the Gippsland Lakes at Lake King.

The Mitchell River provides water to the urban centres of Bairnsdale, Eagle Point, Paynesville, Raymond Island and Newlands Arm.

Bioregion reference: Highlands – Southern Fall and Gippsland Plain

8.13.3 Asset Background

The environmental condition of the Mitchell River suffered severely as a result of long term low river flows, the 2003 Alpine fires and the 2006/2007 Great Divide Bushfires. Flows at Glenaladale dropped in early 2007 to less than 3% of the long term average. The Great Divide Bushfires burnt 76% of the catchment upstream of Glenaladale.

Although its condition recovered to a degree after the fires, the June 2007 floods caused another significant fall in condition. June 2007 saw the first extreme rainfall event which caused flood conditions and flows as high as 900% of the long-term June average.

The severe thunderstorms in 2007 then mobilised sediment and cause severe gullying, in some instances right up to the ridgelines. The sediment and ash mobilised immediately after the fires smothered the substrate and caused high turbidity. Flooding along the water course and downstream then scoured the river bank and beds. Extensive damage to streamside vegetation, introduction of weeds and man made litter to streamside vegetation and deposition of excessive amounts of silt along the watercourse and downstream resulted.

Significant post fire and flood restoration works have been undertaken, seizing the opportunity to control weeds during native vegetation regeneration.

Water yields from the Mitchell River are likely to be reduced as a result of the catchment regeneration for years to come. The natural cycle - of increased runoff immediately post fire, reduced runoff while the vegetation regenerates and a return to equilibrium as the vegetation matures - is reflecting regeneration of the impacted catchment.

Important in the restoration and protection of riparian and water quality is the fencing of river frontage to exclude stock. Agreements under the Crown Lands Act with landholders or custodians of the river and surrounds bind them to maintaining fences and excluding stock from fenced areas. The agreements, under the Crown Lands Act, are binding and are transferred with title or grazing licence. The Crown Land Management division of DSE has the power to enforce the licence conditions while the EGCM has the funding allocated to develop, monitor and implement agreements.

8.13.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Poor - Reasonable (2.5)	10	Erosion, stock access, weeds and flood impact continue to be managed. Natural regeneration post fire will see large improvements to come. Security of connected riparian zones the focus - no longer fixing individual bank failures. Fencing of river frontage will be completed by June 2010. Works seek to secure tenure.
Water	Poor - Reasonable (2.5)	50	Water quality is high although turbidity and dissolved oxygen measurements reflect continued below average flows. Sedimentation is clearing but flushes occur as sediment potential still is available in the upper catchment. Waterwatch monitoring. Draft State of the Catchment Report, EGCM 2009.
Biodiversity	Reasonable (3)	40	Macro-invertebrate population and riparian vegetation connectivity and condition as monitored by EPA, Index of Stream Condition, EGCM staff observation.

8.13.5 Condition Comment and Specifics

The condition of the Mitchell River has turned – recovery of the river and immediate surrounds since the recent fire and flood events is becoming evident. **The condition rating has increased to C-** in recognition of this.

A water treatment plant is under construction to secure high quality supply of towns between Bairnsdale and Nowa Nowa. The plant will also protect against cattle borne disease and enable pumping during times of increased turbidity.

8.13.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning		EGCMA reported an improved capacity to work with stakeholders in delivering programs.
Implementation		Highlands Down project
Evaluation		River health evaluation to understand progress on objectives. Draft State of the Catchment Report 2009.
Improvement		EGCMA activities are being applied in a more strategic manner than previous years. Flood recovery response.
Partnerships		Parks Victoria, DSE, Crown Lands and DPI working together with the Highlands Down project.
Indigenous Engagement		Fulfilling obligations under the Aboriginal Cultural Heritage protection legislation.

8.13.7 Stewardship Comment and Specifics

The need to manage the combined impacts of prolonged low flow, severe fire, extreme rainfall events and the associated impacts of sediment/nutrient loads has resulted in strong cooperative stewardship of the Mitchell River. Stronger partnerships and a more strategic approach are now being applied.

Resource allocation continues to move away from emergency response and focus on catchment and river health.

The rating of three and a half stars has been maintained.

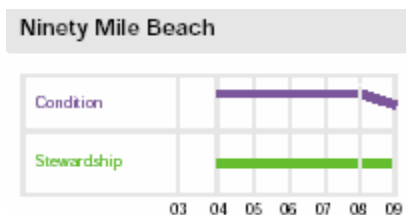
8.13.8 For more information

- East Gippsland Catchment Management Authority, (03) 5152 0600, www.egcma.com.au
- East Gippsland Water, 1300 720 700, 03 5150 4444 or www.egwater.vic.gov.au
- Southern Rural Water (03) 5139 3100 www.srw.com.au

8.14 NINETY MILE BEACH

8.14.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	B		★★★	
2005	B		★★★	
2006	B	B	★★★	★★★
2007	B	B	★★★	★★★
2008	B	B	★★★	★★★
----- Ninety Mile Beach including marine environment Ninety Mile Beach dunes and foreshore -----				
2009	-	C+	-	★★★



8.14.2 Asset Description

The Ninety Mile Beach asset reports on the integrity of the coastal dune system and beach sands of Ninety Mile Beach.

Extending from McLaughlin's Beach to Lakes Entrance, the Ninety Mile Beach coastal dunes separate the ocean from the Gippsland Lakes, Lake Reeve, Jack Smiths Lake and Lake Denison. The Gippsland Lakes Coastal Park and the Ninety Mile Beach Marine National Park are within the bounds and adjacent to this asset.

Seaward vegetation includes hardy grasses and sedges such as Marram grass, spinifex and saltbush. Vegetation of leached sand dunes includes coastal, swamp and heathy woodland, while, sheltered from the wind and salt spray, the vegetation behind the dunes includes Coastal Tea-tree thickets and Coast Banksia woodlands.

Ninety Mile Beach hosts a number of key infrastructure assets 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.

Bioregion Reference: Gippsland Plain and Twofold Shelf

8.14.3 Asset Background

The Ninety Mile Beach asset description has been refined to focus the reporting on the primary and secondary dunes and foreshore only.

Pest plant and animals pose considerable threat to the dune system. Exotic Marram grass dominates the primary and secondary dune for much of the assets extent and, although the established vegetation on the secondary and tertiary dunes appears in good condition, hog deer prevent succession or replacement occurring. Their condition in the future will be significantly compromised as a result.

Protection of environmental values is afforded through the Lakes National Park, Gippsland Lakes Coastal Park and Ninety Mile Beach Marine National Park.

Climate change predications suggest an increased threat to the dune integrity with the single crest dune system increasingly vulnerable to erosion and breaching. The Victorian Coastal Strategy (VCS, 2008) states that coastal managers and future development must adopt a precautionary principle and plan for sea level rise of not less than 0.8 metres by the year 2100. The policy also requires the combined effects of tides, storm surges coastal processes and local conditions to be taken into account.

The extreme rainfall events of 2007 caused extensive erosion of the dune system, risking inland wetland systems (West Gippsland Catchment Management Authority, 2008).

8.14.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	50	Erosion potential is very high by virtue of the sandy structure. Exotic Marram grass dominates primary and secondary dune. Recovery from 2007 storm and flood is not yet evident. Dune re-stabilisation /re-vegetation, fencing and viewing platform construction is occurring. Seaspray Caravan park and SLSC are being relocated which will reduce pressure on the dunes in this area.
Water	Good (4)	20	Reduced rainfall posing threat to wetlands
Biodiversity	Good (4)	30	Established vegetation on secondary and tertiary dunes in good condition however, hog deer threaten succession/ replacement.

8.14.5 Condition Comment and Specifics

Refinement of the asset's description and reporting scope has resulted in **an administrative decrease in condition rating.**

Pest plant and animal control will become paramount to the future condition of Ninety Mile beach. As the established vegetation cover of the tertiary dunes ages, the seedlings that would normally grow to replace are not surviving. It is reported that Hog deer are the prime cause of this lack of succession.

8.14.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	The Seaspray Dunes Environmental Management Plan constitutes an action plan for DSE.
Implementation	Good (4)	Difficulty reported in coordination of pest plant and animal control programs – result of remoteness and multiple management bodies, private and government agencies.
Evaluation	Good (4)	
Improvement	Good (4)	
Partnerships	Reasonable (3)	Volunteer community groups active in management. Woodside beach project – partnership between Landcare, Shire, Coastcare, Surf Life Saving Club and local residents.
Indigenous Engagement	(0)	Known areas of cultural value along the Ninety Mile Beach including the Lakes Entrance Cranium site on Boole Poole (western side of The Entrance) and various shell midden and artefacts scatters. (Aboriginal Affairs Victoria site number 8422-0083.) No indigenous engagement activities were reported. Indigenous engagement requires improvement.

8.14.7 Stewardship Comment and Specifics

Despite the change in asset description and focus, **the rating remains at three stars.**

Key community groups such as Landcare are becoming actively involved in improving the asset and creating partnerships to maximise outcomes.

Indigenous engagement is an important aspect of management and the lack of information regarding Aboriginal engagement suggests improvement is required.

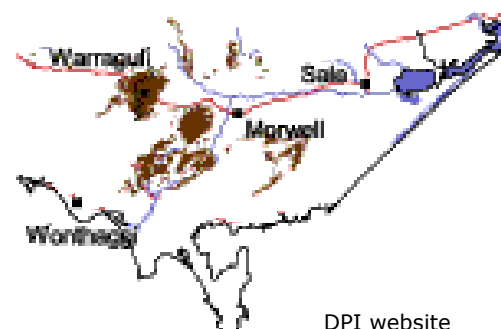
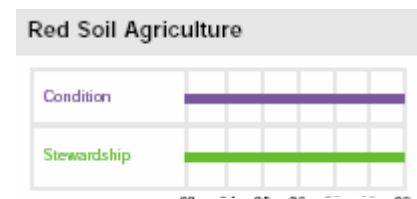
8.14.8 For more information

- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Parks Victoria Information Centre 13 1963 or www.parkweb.vic.gov.au
- Wellington Shire Council 1300 366 244 or www.wellington.vic.gov.au
- Department of Sustainability and Environment www.dse.vic.gov.au
- Gippsland Coastal Board (03) 5152 0451 or www.gcb.vic.gov.au
- Landcare Victoria www.landcarevic.net.au

8.15 RED SOILS AGRICULTURE

8.15.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	C		★★★	
2004	C		★★★	
2005	C		★★★	
2006	C	C-	★★★	★★★☆
2007	C	C-	★★★	★★★
2008	C	C-	★★★	★★★
Non-Irrigated Dairy Farming of West & South Gippsland Red Soils Agriculture				
2009	-	C-	-	★★★



8.15.2 Asset Description

The Red Soil Agriculture asset reports on the physical condition of the soil and the environmental sustainability of the industries it supports.

This historically high rainfall region of the Strzelecki Ranges surrounds the townships of Warragul, Thorpdale, Neerim, Mirboo North, Leongatha, Korumburra and Meeniyan.

Supporting predominantly dairy farming with some horticulture and viticulture, the asset is under increasing pressure from population growth, urbanisation and intensive land use.

Bioregion reference: Strzelecki Ranges and Gippsland Plain

8.15.3 Asset Background

The Non-Irrigated Dairy Farming of South and West Gippsland asset has been refined to include dairy, beef and potato farming in the 'red soils' region. The deeply weathered, friable, volcanic soils are high in organic matter and have excellent drainage. When compared with other Victorian soils, the dark brown clay loams are considered fertile and productive.

The agricultural capacity of the region is threatened by urban encroachment and degradation of the soil through erosion and nutrient loss.

8.15.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	60	This is a highly modified, agriculture environment. Effluent and nutrient management plans 'rolled out' to over 500 farms in Gippsland. Gippsland Dairy Riparian (GipRip) resulted in lengths of stream and river frontage being fenced and revegetated.
Water	Reasonable (3)	20	Water quality poor with degraded riparian zones.
Biodiversity	Poor (2)	20	Little remnant vegetation resulting in poor biodiversity values and high risk of erosion.

8.15.5 Condition Comment and Specifics

Economic pressure continues to impede some landholders moving towards Best Practice in farm management. What GippsDairy are terming "climate variability" and water scarcity are the major pressures or threats on future condition and farmer priorities.

As access to Melbourne from regional areas such as Warragul and Drouin improves, urbanisation threatens valuable farming land.

The condition rating has been maintained at C-.

8.15.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	The GippsDairy Natural Resource Action Plan 2009 outlines priorities and challenges faced by the dairy industry with regard to natural resource management. Addresses water; land; and people and industry.
Implementation	Good (4)	Multiple programs in the following priority areas have been initiated by GippsDairy and partners: nutrient and effluent management, water use efficiency, waterway protection, sustainability of natural resources, soil health, adapting to climate variability and pest plant and animal management. Natural Resource Action Plan 2009 – 2011, GippsDairy.
Evaluation	Reasonable (3)	Evaluation components are included in GippsDairy projects. Situation and Outlook Survey, Dairy Australia 2009.
Improvement	Reasonable (3)	Industry survey results and stakeholder consultation feed action plan and program development. Results of programs are encouraging i.e. riparian zone fencing, implementation of actions to reduce fertiliser loss etc.
Partnerships	Good (4)	Partnerships/funding with Dairy Australia, GippsDairy, Landcare, DPI, CMAs, Melbourne Water, AgVet, Murray Goulburn, Gippsland Lakes Rescue Package, DAFF, University of Melbourne, CSIRO, Geoffrey Gardiner Foundation, National Water Initiative.
Indigenous Engagement	(0)	No Indigenous engagement was reported. Requires improvement.

8.15.7 Stewardship Comment and Specifics

Strong stewardship has been demonstrated with the Natural Resource Action Plan and the industry as a whole has developed various farm management and self assessment tools such as eFarmer and DairySAT.

8.15.8 For more information

- GippsDairy (03) 5622 6014, www.gippsdairy.org.au
- DairyAustralia (03) 9694 3777 www.dairyaustralia.com.au
- EPA Gippsland (03) 5173 9800, www.epa.vic.gov.au

8.16 REDGUM PLAINS

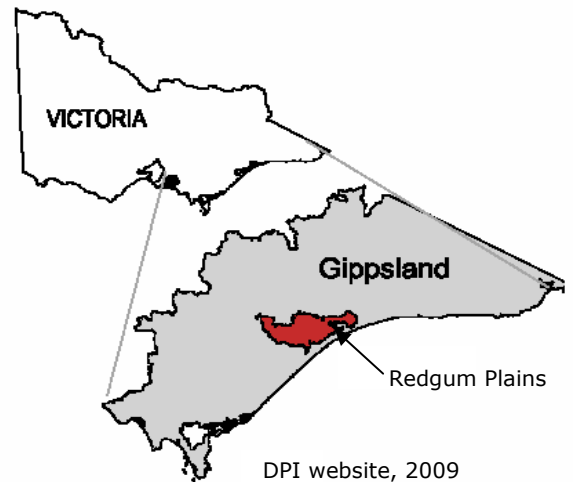
8.16.1 ASSET HISTORY

	Condition	Stewardship
2009	D	★★★

8.16.2 Asset Description

The Redgum Plains asset reports on the recovery of the Gippsland Plains bioregion.

Dominated by agriculture, the Redgum Plains stretch from Traralgon to Lakes Entrance. Once covered by Redgum forests and significant grasslands and wetlands, vegetation clearing, timber harvesting, grazing, cropping, pest plant and animals and altered hydrology have contributed to the degradation of the area.



Native flora and fauna of State and National significance occur throughout the region. Rich riparian diversity exists along the main rivers that include the Avon, Perry, Mitchell, Nicholson and Tambo Rivers.

Bioregion: Gippsland Plain

8.16.3 Asset Background

The Redgum Plains support important sheep grazing and cropping land. Although a recent cultural shift has resulted in better funding for protection of the Plains, the drought has reduced people's capacity to divert time, money or land to conservation. The loss of habitat is currently considered equal to the gains achieved. As sheep farming changes to cropping and land under improved pasture, the window of opportunity closes. Active conservation is required.

Core areas of remnant vegetation, on both private and public land, have been secured. The securing of outlying remnants is occurring however, strategic linkages are needed. Although the scattered trees are vital stepping stones, the paths to link them must be created. The links or pathways that do exist require widening to make them effective. Small mammals are extinct on the Plains. Changes in hydrology and the falling water table are resulting in a reduction of wetlands.

As a balance must be found between sustainable farming and restoration of an important ecosystem, a pristine or pre-European settlement state is not the objective of restoration efforts.

8.16.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Poor – Reasonable (2.5)	30	<p>Modified environment with competing demands. Secured core remnants but inadequate connectivity exists. Pasture weeds, pest animals, soil condition and opportunities for improved farming practices must be addressed.</p> <p>Some fencing and revegetation of river and creek frontages and around wetlands has occurred however, more work is required. Erosion is still apparent and sedimentation and flooding regimes have been altered.</p>
Water	Poor (2)	30	<p>Wetlands are suffering from changed hydrology/ prolonged below average rainfall. Salinity impacts some wetlands with salt tolerant species dominating buffering vegetation.</p> <p>Trust for Nature monitoring program of wetlands and creeks. Gippsland Plains Conservation Management Network programs.</p>
Biodiversity	Degraded – Poor (1.5)	40	<p>Small mammals are extinct on the Plains. Only two pairs of Peregrine Falcons remain. Wetlands are drying up as hydrology changes. Many remnants are degraded, fragmented and lack connectivity. Species diversity is low and many species have become locally extinct. This impacts hydrology, foxes, over browsing and under browsing, and inappropriate fire regimes in turn.</p> <p>Trust for Nature Covenant Stewardship Programs. Gippsland Plains Conservation Management Network Scattered Trees and Peregrine Falcon project.</p>

8.16.5 Condition Comment and Specifics

Some gains have been made improving biodiversity. The scales are balanced between protecting and improving as much biodiversity as we are losing. Major restoration works are required to continue to prevent further decline in species diversity and ecosystem health; and to change the trajectory to one of improvement. **An initial condition rating of D will apply.**

8.16.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Biodiversity Action Plan, Victorian CMN Strategy, Trust for Nature Conservation Management Plans for sites, Landcare Action Plans, Landscape Action Plans are required; cross property planning and more integration across agencies also required. Parks Victoria and DSE were reported as not having management plans for the areas under their custodianship.
Implementation	Reasonable – Good (3.5)	Restoration works are underway.
Evaluation	Poor – Reasonable (2.5)	Monitoring programs lack resources however, information obtained through Trust for Nature rapid quality assessment and the small DSE Dieback monitoring program is used to prioritise resources.
Improvement	Reasonable (3)	CMAs, state and federal governments have invested in protection programs, property purchase, fencing, covenanting. Additional resources are required on Parks Victoria land and in areas of threatened vegetation. Large scale restoration programs required.
Partnerships	Good (4)	Gippsland Plains Conservation Management Network, East Gippsland Shire, EGCMA, WGCMA, Trust for Nature, DPI, Landcare and landholders often channelling combined resources to one site.
Indigenous Engagement	Poor (2)	Indigenous engagement requires improvement.

8.16.7 Stewardship Comment and Specifics

Cultural shift occurred some years ago and funding for Gippsland Plain restoration has risen. Trust for Nature, private landholders, the East and West Gippsland Catchment Management Authority and volunteer groups such as Landcare work together to protect and enhance the Redgum Plains. The Emu and Toms Creek Landcare works were cited as being major achievements for the Plains. **An initial stewardship rating of three stars will apply.**

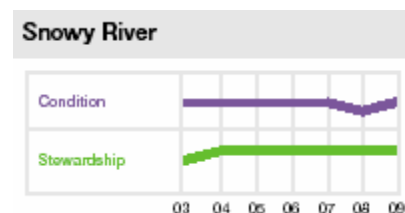
8.16.8 For more information

- Trust for Nature 1800 9999 33 or www.trustfornature.org.au
- Department of Sustainability and Environment (03) 9637 8000 or www.dse.vic.gov.au
- East Gippsland Catchment Management Authority (03) 5152 0600 or www.egcma.com.au
- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Landcare Victoria www.landcarevic.net.au
- Department of Primary Industries www.dpi.vic.gov.au/DPI/Vro/vrosite.nsf/pages/bap_landscape_red_gum

8.17 SNOWY RIVER

8.17.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	C		★★★	
2004	C		★★★★	
2005	C		★★★★	
2006	C	C+	★★★★	★★★★
2007	C	C+	★★★★	★★★★
2008	C	C	★★★★	★★★★
2009	-	C+	-	★★★★



8.17.2 Asset Description

The Snowy River asset reports on river health – water quality and quantity, riparian vegetation, species composition, connectivity and habitat diversity for instance of the Snowy River.

Flowing from Mount Kosciusko in NSW to Marlo in East Gippsland, the Snowy River is in a remote wilderness area. Despite this, this Heritage River is under significant pressure with natural flows diverted by the Snowy Mountains Hydro-Electric Scheme. The river's ecology has been significantly altered over recent decades as a result of this diversion and past land management practices.

Bioregion reference: East Gippsland Uplands and East Gippsland Lowlands

8.17.3 Asset Background

The Snowy River hydroelectricity dam was constructed between 1949 and 1974. It was intended (and was the case in 1967) that 99% of the Snowy River flow below Lake Jindabyne would be diverted inland, producing electricity and supplying water for irrigation west of Great Dividing Range.

In 1996 The Expert Panel Environment Flow Assessment of the Snowy River recommended that 28% of natural flows were required by the Snowy River to maintain ecological health. In October 1998 the Snowy River Inquiry recommended a return of 15% natural flows. In December 2000, Commonwealth, NSW and Victorian governments agreed on a target of 21% by 2012. They further committed to increase these flows to 28% in the longer term.

Although 6% of natural flows were released in August 2002, only 4% were available in October 2008. There is insufficient water to cater for the competing demands of the river, power generation and irrigation.

Offsetting the lack of rainfall and water diversion is the considerable investment made in on ground works.

The exclusion of stock from the river frontage is crucial to preservation of these areas and the cooperation of the landholders or licensees is a necessity. The agreements, under the Crown Lands Act, are binding and are transferred title or grazing licence. The Crown Land Management division of DSE has the powers to enforce the licence conditions while the EGCMA has the funding allocated to develop, monitor and implement agreements.

The 2003 Eastern Victorian Fires impacted upon the upper reaches of Snowy River National Park however, the Great Divide Fires of 2006/2007 did not reach this asset.

The major storm and flood event in June 2007 lead to extremely high river flows, flooding along the watercourse and downstream. This event lead to transport of silt along the watercourse and downstream, introduction of weeds, damage to streamside vegetation, and introduction of man made litter to streamside vegetation.

The purge of flood water did not substitute environmental flows required to sustain the natural river health.

The Snowy River National Park protects natural values along part of the river's length in East Gippsland.

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.

A 40 hectare area of rainforest and riparian vegetation was rehabilitated during 2008 by the East Gippsland Catchment Management Authority's Snowy River Project, restoring important habitat for rare, threatened and significant species.

8.17.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Good (4)	10	Riparian weed control (willows and blackberries). 95% riparian stock exclusion achieved. Canopy closure has occurred in the lower reaches.
Water	Reasonable (3)	50	Flows below average due to rainfall and lack of environmental flows. Dissolved oxygen is below SEPP guidelines.
Biodiversity	Reasonable - Good (3.5)	40	Weed management improving biodiversity. Large wood reintroduction providing improved habitat.

8.17.5 Condition Comment and Specifics

The Snowy River from the NSW border to Buchan has good environmental values – canopy closure has been achieved, willows have been controlled, and despite the altered flow regime, degraded biodiversity is improving.

Willow management has now spanned the river length from the NSW border to Orbost. As willows have the potential to modify the river form, this is a significant achievement. Blackberries remain problematic but are the focus of management programs.

There remains a lack of base flow, that which mimics the natural snow melt flows of spring, limiting improvement of environmental condition. On-ground works are improving the physical condition of the land as reflected in the **increased condition rating of C+**.

8.17.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Plan	Good (4)	The Snowy On-ground Works Plan is complemented by Revegetation Plans.
Implement	Good (4)	Projects have been delivered in a timely manner and within designated budgets.
Evaluate	Reasonable (3)	A comprehensive Snowy River Health evaluation.
Improve	Good (4)	There is evidence of significant adaptive management in implementing programs and learning from their outcomes.
Partnerships	Good (4)	Landholders, Parks Victoria, DPI and Department of Fisheries work in partnership.
Indigenous Engagement	Good (4)	

8.17.7 Stewardship Comment and Specifics

The high level of stewardship seen over many years has continued. Interstate and intra-agency relationships and co-ordination are strong. All parties are working under a clear plan and in response to broad evaluation of condition and successes. **The four star rating has been maintained.**

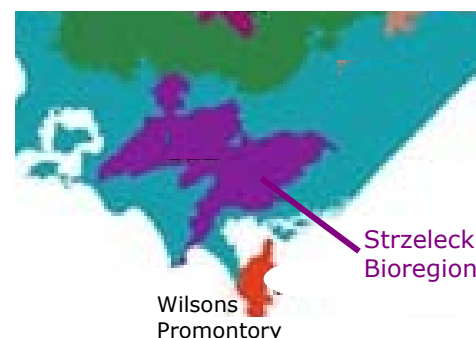
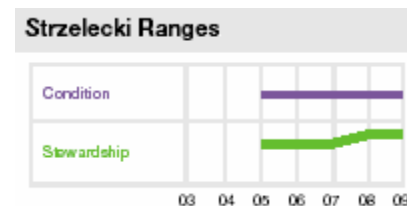
8.17.8 For more information

- East Gippsland Catchment Management Authority, (03) 5152 0600, www.egcma.com.au
- Department of Sustainability and Environment, Orbost (03) 51611222 www.dse.vic.gov.au/
- Snowy Project Team, Department of Sustainability and Environment 13 6186

8.18 STRZELECKI RANGES

8.18.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	-		-	
2004	-		-	
2005	C		★★★	
2006	C	C	★★★	★★★
2007	C	C	★★★	★★★
2008	C	C	★★★☆	★★★☆
2009	-	C	-	★★★☆



DSE website 2009

8.18.2 Asset Description

The Strzelecki Ranges asset reports on the commercial, social and biodiversity values of the Strzelecki Ranges.

Stretching south and south east of Warragul, this region was covered in tall Mountain Ash forest until logging began in the 1800s. Now primarily freehold dominated by rural-residential living, agricultural land and private forestry, remnant vegetation and regenerating bushland are represented in Tarra Bulga National Park and Mount Worth State Park.

Tarra Bulga National Park is recognised for its important remnant fern gullies, giant eucalypts, myrtle beeches and cool temperate rainforest.

Bioregion Reference: Strzelecki Ranges

8.18.3 Asset Background

The soils of the Strzelecki Ranges are dispersive and therefore have high gully erosion potential. Drought and fire impact put additional pressure on soils resulting in sediment loading of waterways. The area is a significant catchment for Corner Inlet and the Gippsland Lakes.

The 2007 fires and ongoing drought are considered likely to have a long lasting impact on the Strzelecki forests. Gully erosion potential and associated risks to waterways have increased as a consequence. There has been general improvement over years however, 'spikes' such as the 2007 fires have cancelled that overall improvement.

While the fires may have aided biodiversity, HVP Plantations manage plantation areas to minimise understorey and therefore limit biodiversity. The plantations are, although a large area of land, only a portion of the districts land use. Primary production, National Park (including Tarra Bulga) and indigenous and non indigenous heritage sites make up the multiple values of the region.

During the coming 12 months, the Cores and Links project should be finalised. Through this initiative, additional areas of forest controlled by HVP will be handed back to the State Government or placed under permanent protection.

8.18.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Reasonable (3)	30	Modified environment. Erosion potential is high and has been exacerbated by fire and drought.
Water	Reasonable (3)	30	Water quality is in reasonable condition but requires active management to maintain or improve.
Biodiversity	Reasonable (3)	40	Remnants appear healthy but lack resilience and connectivity. Mount Erica and Tarra Bulga high biodiversity values. Central area virtually gone and western area lacks understorey and connectivity.

8.18.5 Condition Comment and Specifics

Water quality was cited as good but deteriorating in urban and farming areas. It was also reported to be reasonable but in need of management.

Connectivity of native vegetation was highlighted as an important focus and opportunity. The West Gippsland Catchment Management Authority programs in the Strzeleckis aim to bolster the resilience of the remnant vegetation and promote connectivity between them and adjoining bioregions.

The C rating has been maintained.

8.18.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	DSE Fire Management Plans, Parks Management Plans, Cores and Links agreement, Soil Erosion Management Plan, Strzelecki Integrated Management Strategy and Strzelecki Ranges Bioregion Biodiversity Action Plan.
Implementation	Reasonable (3)	Trust for Nature remnant protection program. DPI soil erosion extension work funded but little other recent input. Funding secured through Management Strategy which will allow strategic and integrated works. Macks Creek project well advanced. Willow removal and replacement continuing.
Evaluation	Reasonable (3)	Post fire monitoring, HVP rainforest recovery plots. Management Strategy allows for evaluation of programs. Biodiversity Management Plans.
Improvement	Good (4)	Implementation of Management Strategy and individual projects improving the condition of the asset. Evaluation as part of the Management Strategy will allow for improved program improvement.
Partnerships	Good (4)	WGCMMA Integrated Management Strategy involved steering committee comprising community, industry, council, friends of groups. Integration post fires involved WGCMMA, DSE and HVP. A cooperative group is working on walking track development in the vicinity of Tarra Bulga and Morwell National Parks.
Indigenous Engagement	Reasonable (3)	Specific Indigenous communication was attempted through the Management Strategy development process.

8.18.7 Stewardship Comment and Specifics

The Strzelecki Integrated Management Strategy supersedes the Strzelecki Multiple Outcome Project (MOP) and presents priority management areas with the aim of "to support and enhance ecological resilience whilst recognising and conserving the productive capacity of the land". From this strategic document, local area plans will be developed.

The Cores and Links Project will see 8,000 hectares of Mountain Ash plantation forest returned to government ownership. Of that 8,000 hectares, 2,000 hectares will be harvested prior to handover. An additional 15,000 hectares will be under covenant for permanent protection. The project is expected to be finalised in the next 12 months.

The three and a half star rating has been maintained.

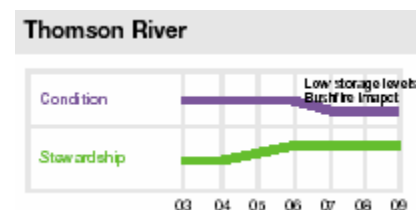
8.18.8 For more information

- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcmma.vic.gov.au
- HVP Plantations (03) 5134 3433, www.hvp.com.au
- Trust for Nature 1800 9999 33 or www.trustfornature.org.au
- Parks Victoria Information Centre 13 1963 or www.parkweb.vic.gov.au

8.19 THOMSON RIVER

8.19.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	C-		★★★	
2004	C-		★★★	
2005	C-		★★★☆	
2006	C-	C-	★★★★	★★★★☆
2007	D	D	★★★★	★★★★☆
2008	D	D	★★★★	★★★★☆
2009	-	D	-	★★★★☆



8.19.2 Asset Description

The Thomson River asset reports on river health – water quality and quantity, riparian vegetation, species composition, connectivity and habitat diversity of the Thomson River.

Rising on the Baw Baw Plateau, the Thomson River flows east to the Thomson Reservoir then south east to its junction with the Latrobe River south of Sale. The Aberfeldy River joins the Thomson south of the Reservoir and the Macalister River, flowing from Alpine National Park in the Snowy Ranges, joins between Maffra and Sale.

The catchment represents almost 20% of the total catchment of the Gippsland Lakes. The Thomson Reservoir and Lake Glenmaggie store 1,068,000ML and 190,000ML respectively. Both reservoirs supply the Macalister Irrigation District; and the Thomson Reservoir forms 60% of Melbourne's storage capacity.

Domestic use and irrigation further reduce flows in the Thomson River. Environmental flows from the Thomson Reservoir are controlled by Melbourne Water.

Bioregion reference: Highlands Southern Fall and Gippsland Plain

8.19.3 Asset Background

The Thomson Reservoir on the upper reaches of the Thompson River was completed in 1982 and supplies the Macalister Irrigation District and metropolitan Melbourne.

The Thomson River is impacted by the demands of the Thomson Reservoir and the adjoining irrigation district. Environmental flows have been reduced significantly in previous years, which has led to increased risks to native fish populations, riparian vegetation and adjoining wetlands. Loss of environmental flows has impacted biodiversity with habitat reduction and the presence of fish barriers such as Horseshoe Bend Tunnel and Cowwarr Weir further impeding fish populations.

The upper reaches of this regulated river are in good condition however, in the lower reaches where intensive agriculture dominates, river health is degraded.

In 2004, the Thomson Macalister Task Force identified the necessary environmental water requirements of the Thomson River. The Victorian Government's "Our Water. Our Future Action Plan" (2006/2007) established the bulk water entitlement of 10,000 mega litres for environmental maintenance.

The 2006/07 Great Divide bushfires affected approximately 62,700 hectares of the Thomson River catchment – the entire forested section from Thomson Bridge to Cowarr. The extreme rainfall events that followed resulted in significant stream bank and track erosion, spread of pest plants, short term siltation and reduced water quality, impact to riparian ecological vegetation classes, and loss of large trees and aquatic ecosystems.

8.19.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Degraded (1)	10	Intensive agriculture land use significantly impacts native vegetation extent and quality in the lower reaches.
Water	Degraded (1)	50	The regulated system is heavily impacted by the presence of Thomson Reservoir and the adjoining irrigation district. Environmental flows have been reduced significantly in previous years. Victorian Environmental Flows Monitoring Program. Thomson Environmental Flow Reductions Risk Assessment. Thomson River Qualification of Rights Impact Assessment. Fish Monitoring Habitat Mapping and monitoring
Biodiversity	Reasonable (3)	40	Lack of environmental flows has lead to increased risk to native fish populations, riparian vegetation and adjoining wetlands; reduced habitat availability. Riparian restoration works occurring. Fish barriers including Horseshoe Bend Tunnel and Cowarr Weir impact populations. Evidence of decline in fish populations however, cannot actively manage for their recovery.

8.19.5 Condition Comment and Specifics

The lack of environmental flows is exacerbated by the prolonged low rainfall and drought. There is insufficient water to cater for the competing demands of the river and metropolitan supply.

On ground works are focused on complementary activities such as fish habitat, riparian and wetland enhancement as the river cannot be managed with water.

Riparian restoration efforts are contributing to an improved condition of the asset, however, the lack of environmental flows will prolong the long term recovery of the system.

Water quality above the Thomson Dam, as monitored by Melbourne Water, is good although intensive agriculture has significant impacts on the lower reaches.

The condition rating of D has been maintained.

8.19.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Good (4)	Environmental Operating Strategy, Annual Watering Plan for the Thomson River. Planning for works during 2009/2010 occurring.
Implementation	Reasonable (3)	Works occurring in riparian vegetation, aquatic plants, channel form and water quality.
Evaluation	Good (4)	Victorian Environmental Flows Monitoring and Assessment Program includes native fish, water quality, macroinvertebrates, vegetation and physical form and photo point monitoring. Data used to evaluate environmental flow impact and to determine ideal flows to maximise specific responses. 10 year program Thomson Environmental Flow Reductions Risk Assessment. Thomson River Qualification of Rights Impact Assessment.
Improvement	Good (4)	Determination of environmental flow regimes that will maximise potential of specific aspects of river health which will promote recovery. Should water become available, releases can occur in a manner that addresses priority aspects.
Partnerships	Reasonable (3)	Melbourne Water meets its statutory obligations.
Indigenous Engagement	Poor (2)	Indigenous engagement is starting to occur but requires improvement.

8.19.7 Stewardship Comment and Specifics

Melbourne Water's response to questions regarding stewardship was "not applicable to Melbourne Water". Although the region receives funding for projects in compensation of the water extracted for use in the city, it is apparent that 'whole of system' stewardship, involving all users of the river, is not occurring.

The commitment made by local managing agencies has been maintained since the post fire recovery programs were initiated. **The three and a half star rating has been maintained.**

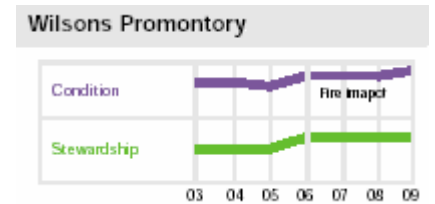
8.19.8 For more information

- West Gippsland Catchment Management Authority (03) 5175 7800 or www.wgcma.vic.gov.au
- Melbourne Water www.melbournewater.com.au
- Southern Rural Water www.srw.com.au
- Department of Sustainability and Environment

8.20 WILSONS PROMONTORY

8.20.1 Rating History

	Condition		Stewardship	
	Historic Rating	Standardised Rating	Historic Rating	Standardised Rating
2003	B		★★★	
2004	B		★★★	
2005	B-		★★★	
----- Wilson's Promontory including Corner Inlet Wilson's Promontory excluding Corner Inlet -----				
2006	A	B+	★★★★★	★★★★★
2007	A	B+	★★★★★	★★★★★
2008	A	B+	★★★★★	★★★★★
2009	-	A-	-	★★★★★



Parks Victoria website

8.20.2 Asset Description

The Wilsons Promontory asset reports on the diverse, largely undisturbed ecosystems of Wilsons Promontory National Park.

The most southern tip of Mainland Australia, Wilsons Promontory is a declared Biosphere Reserve under the UNESCO Man and the Environment program and is on the National Estate registry.

Wilsons Promontory maintains 96% native vegetation cover. Less than one percent is cleared for visitor and staff facilities, largely at Tidal River.

The promontory is described as Victoria's smallest bioregion but it supports 20% of the state's vascular plants (including ~30% of the State's orchids), approximately 50% the State's bird species and about 30% of the State's mammal species. The catchments are currently free of introduced fish species.

Bioregion reference: Wilsons Promontory

8.20.3 Asset Background

Wilson's Promontory was declared a National Park in 1898 and afforded permanent protection in 1907. Less than one percent of the National Park has been cleared or otherwise modified. Although cattle grazing, sealing, whaling and timber extraction occurred in the park, the majority of the promontory has remained unmodified by European settlement.

Threats to the biodiversity and excellent environmental condition of the Park include predator impact on threatened animals, pest plants and uncontrolled human impact on sensitive sites (DSE, 2008).

In April 2005 a prescribed burn at Tidal River in Wilson's Promontory National Park burnt from Tidal River to Waterloo Bay in the east and the lighthouse station in the south. Approximately 6,200 hectares or 13% of the park was burnt. The fire and subsequent recovery created a mosaic of unburnt, burnt and recovering vegetation.

In February 2009 lightning strike started the Cathedral fires which proceeded to burn 25,200 hectares or almost 50 percent of the National Park area.

8.20.4 Condition Summary

Condition Parameter	Score (/5)	Weight %	Key Issue and Evidence
Land	Good (4)	30	Integrated pest plant and animal control program, post fire vegetation recovery, largely unmodified catchments, threatened species monitoring.
Water	Excellent (5)	30	Pre and post fire water monitoring indicated limited sedimentation into catchments post fire. Integrated post fire erosion control mediation program implemented. Unmodified catchments, no introduced fish species and no introduced aquatic plant species.
Biodiversity	Excellent (5)	40	Range and diversity of known threatened species, range and diversity of ecological vegetation classes, no introduced fish species and no introduced aquatic plant species.

8.20.5 Condition Comment and Specifics

Although the area of the Cathedral fire was extensive, the blaze was, in the most part, of an intensity that will result in ecological benefit. Some wildlife populations will have suffered, potentially on a permanent basis. The fire is however, viewed as an ecological burn and as an important natural event in the continued preservation of 'the Prom'. **The condition rating of A-** is considered reflective of the current condition of the park.

Pest plant and animal control and threatened species management programs are ongoing.

8.20.6 Stewardship Summary

Component	Score (/5)	Key Evidence
Planning	Excellent (5)	Wilsons Promontory National Park Management Plan, 2002; Environmental Action Plan, 2003; Biodiversity Management Strategy (Draft) post fire 2009; Parks Victoria's Biodiversity (Value/Threat) Monitoring Plan 2009.
Implementation	Excellent (5)	
Evaluation	Excellent (5)	Post fire monitoring, predator control monitoring including prey species monitoring; threatened species management program including critical review; Yanakie Isthmus coastal grassy woodland restoration program; significant external review through researchers.
Improve	Excellent (5)	
Partnerships	Excellent (5)	Significant involvement in a wide range of partnerships including DSE, DPI, external research and educational institutions, volunteer groups, community groups including the South Gippsland Conservation Society, Friends of the Prom, Green Corps, Wilsons Promontory National Park Advisory Committee.
Indigenous Engagement	Good (4)	Ongoing liaison and engagement with indigenous representatives. Parks Victoria cross-cultural training is mandatory. Parks Victoria proactive Indigenous employment policy.

8.20.7 Stewardship Comment and Specifics

Wilsons Promontory is predominantly managed by Parks Victoria. The Wilsons Promontory National Park Management Plan was renewed in 2002, with an increased focus on integrated management and preventing inappropriate commercial development within the park (Parks Victoria, 2002). A management plan has also been prepared for the Wilsons Promontory Marine Protected Areas (Parks Victoria, 2004). Both plans emphasise the need for a collaborative approach to planning and management by responsible organisations, both in the immediate location and throughout the catchment. The plans recognise the West Gippsland Regional Catchment Strategy (WGCMA, 2003) and Integrated Coastal Planning for Gippsland - Coastal Action Plan (Gippsland Coastal Board, 2002) as two key mechanisms to achieve integrated outcomes.

Partnerships with Federal agencies involved in potential oil spill response and State Department of Fisheries particularly with regard to recreational take from no take areas in adjoining Wilsons Promontory Marine National Park.

The four star rating has been maintained.

8.20.8 For more information

- Parks Victoria Information Centre 13 1963 or visit www.parkweb.vic.gov.au
- Friends of the Prom Inc. at www.friendsoftheprom.org.au

9 FEEDBACK

The Gippsland Integrated Natural Resources Forum welcomes feedback on the Report Card preparation process; presentation and content.

Written submissions can be mailed to:

Gippsland Integrated Natural Resources Forum
16 Hotham Street
Traralgon 3844
Attn. Mr. Chris Barry, GINRF Executive Officer
Phone: 5175 7800 or 5152 0400
Email: chris.barry@dse.vic.gov.au

Feedback can also be provided via the online survey by logging on to
http://www.surveymonkey.com/s.aspx?sm=IQDw8AsjR3ozdh1eEzB2Yg_3d_3d



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