For more information contact the **Parks Victoria Information Centre** on **13 1963**, or visit **www.parkweb.vic.gov.au**

Devilbend Natural Features Reserve

Management Plan May 2010
amended September 2017

Victoria
The Place To Be

Healthy Parks Healthy People

Parks VICTORIA

Healthy Parks Healthy People

Parks VICTORIA

This Management Plan for Devilbend Natural Features Reserve is approved for implementation. Its purpose is to direct all aspects of management of the reserve until the plan is reviewed.

A Draft Management Plan for the reserve was released for public comment from December 2008 to March 2009. One hundred and fifty-one submissions were received. All submissions have been considered in preparing this approved Management Plan.

For further information on this plan, please contact:

Chief Ranger, Mornington District
Parks Victoria
PO Box 400
Rosebud VIC 3939
Phone: (03) 5986 9100

Copies

This plan may be downloaded from the Parks Victoria website www.parkweb.vic.gov.au. Copies of this plan may be purchased for $8.80 including GST from:

Parks Victoria Information Centre
Level 10
535 Bourke Street
Melbourne VIC 3000
13 1963

Parks Victoria
Rosebud Office
Hinton Street
Rosebud VIC 3939
Phone: (03) 5986 9100

DEVILBEND NATURAL FEATURES RESERVE MANAGEMENT PLAN

Parks VICTORIA

May 2010

Published in May 2010 by Parks Victoria

Level 10, 535 Bourke Street, Melbourne, Victoria, 3000

Parks Victoria, 2010, Devilbend Natural Features Reserve Management Plan, Parks Victoria, Melbourne.

Cover: White-bellied Sea-Eagle at Devilbend, photograph courtesy of Glenn Ehmke.

National Library of Australia Cataloguing-in-Publication entry

Devilbend Natural Features Reserve Management Plan / Parks Victoria.

ISBN 9780731183852 (pbk)

Bibliography.

National parks and reserves - Victoria – Mornington Peninsula -- Management.
Devilbend Natural Features Reserve .

333.783099452

Acknowledgements

Acknowledgement of *Country*: In their rich culture, Indigenous Australians are intrinsically connected to the continent — including the area now known as Victoria. Parks Victoria recognises that the reserve is part of *Country* of the Traditional Owners.

Parks Victoria is grateful to all those organisations and individuals who have contributed to this Management Plan. Special thanks go to the Devilbend Reserve Management Plan Advisory Group: Liz Barraclough, Tom Camp, Steve Compton, Dr Brian Cuming, Jamie Edgerton, Glenn Ehmke, Garrique Pergl, Roger Richards, Adrienne Smith, Cr Brian Stahl, Cr Reade Smith, Jon Theobald, Susan Todd and Gidja Walker. Thanks are also extended to Rob Ogden, Val Ford, Jan Oliver and Gillian Tolley in their roles as alternative representatives for members of the Group. Also thanks to Peter Lawson, Matt Ward and Travis Dowling from the Department of Primary Industries for their technical advice to the Group.

Notes:

Parks Victoria wishes to advise that the members of the Advisory Group have disparate views on elements of the Management Plan and that not all members support all the management directions.

Technical terms used in this plan are explained in the Glossary at the end of the plan.

This Management Plan adopts the spellings used by the Native Title Unit, Department of Justice. Boonwurrung is a known form of the name for this Aboriginal tribal group. Boonwurrung may also be spelt in a number of different ways, including ‘Boon wurrung, Boonerwrung and Bunurong’

Disclaimers

The plan is prepared without prejudice to any future negotiated outcomes between the Government/s and Victorian Aboriginal communities. It is acknowledged that such negotiated outcomes may necessitate amendment of this plan.

Every effort has been made to ensure that the information in this plan is accurate. Parks Victoria does not guarantee that the publication is without flaw of any kind and therefore disclaims all liability for any error, loss or other consequence that may arise from you relying on any information in the publication.

Text printed on 100% recycled paper to help save our natural environment

FOREWORD

Comprising 1005 hectares, Devilbend Natural Features Reserve is the newest and second largest protected area on the Mornington Peninsula. The Reserve has an important role in biodiversity conservation containing habitats of State significance and evidence of an Indigenous cultural history of special value to the Traditional Owners, the Boonwurrung people.

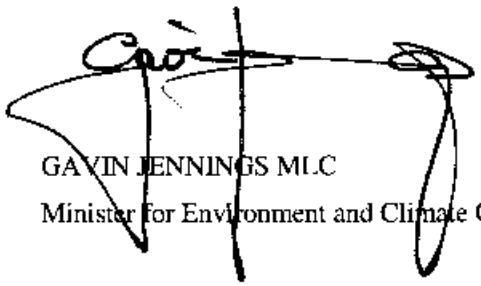
The Reserve offers new recreational opportunities and experiences within Victoria's most visited tourist region, opportunities that focus on enjoyment and appreciation of the tranquil and scenic settings of the two reservoirs.

This Management Plan establishes future directions for protecting and enhancing the Reserve's values while providing for visitor use through new and improved facilities and services.

To help realise community aspirations for the Reserve, the plan gives emphasis to a major program for restoration of natural values across the whole Reserve. The plan also identifies the need to manage the Reserve within the broader landscape to help mitigate the impacts of climate change on biodiversity. It encourages establishment of habitat linkages with surrounding bushland remnants and cooperative relationships with neighbouring land managers to contribute to achieving conservation outcomes.

Other important strategies include protecting Indigenous cultural heritage, maintaining water quality, establishing sustainable water levels, controlling pest plants and animals, and protecting significant flora and fauna species and communities.

I commend this plan to you and thank all those organisations and individuals for their valuable contributions to the plan. I look forward to a high level of on-going community interest and support in managing the Reserve.



GAVIN JENNINGS MLC

Minister for Environment and Climate Change

APPROVED MANAGEMENT PLAN

This Management Plan for the Devilbend Natural Features Reserve recognises and addresses the reserve's significant natural and cultural values, the high level of community interest, the presence of cultural sites and the need to offer a range of new visitor experiences and opportunities in the reserve.

The plan provides the basis for the future management of Devilbend Natural Features Reserve. It was finalised following consideration of the 151 submissions received on the Draft Management Plan.

MARK STONE
Chief Executive
Parks Victoria

SUMMARY

Devilbend Natural Features Reserve (1005 ha) was formally reserved in March 2007, under the *Crown Land (Reserves) Act 1978* (Vic.).

Indigenous tradition tells us that the reserve is part of the *Country* of Boonwurrung people. There are cultural landscapes and important Aboriginal heritage places and objects in the reserve. Many places have layers of history and are important for Aboriginal and broader communities. A camp in the area is known by the Boonwurrung name 'Daangean'.

The area was used for water storage and supply until 2001 and contains the decommissioned Devilbend and Bittern Reservoirs.

The reserve supports more than 200 species of indigenous flora and 195 indigenous fauna species including threatened species such as the White-bellied Sea-Eagle and the Blue-billed Duck.

While the reserve contains important remnant native vegetation areas, much of the land has been cleared for many years and used for orchards and grazing. The natural values of the reserve and its importance for biodiversity conservation in the broader landscape context have potential to be significantly enhanced through a focus on the restoration of indigenous vegetation over time, both within the reserve and extending out to link with other areas of remnant vegetation on the Mornington Peninsula.

The reserve contains the largest inland water body on the Mornington Peninsula providing valuable habitat for waterbirds and shorebirds as well as opportunities for recreation. The opportunities for visitors to access or view the special landscapes and settings of the Devilbend and Bittern Reservoirs are unique on the Mornington Peninsula.

Community groups and individuals were instrumental in having the area reserved and have made a valuable contribution to the planning and management of the reserve.

The plan's key initiatives are summarised in figure 2. Key elements of the plan include:

- conservation and protection of the biodiversity of the reserve
- implementation of a major program to restore biodiversity values through revegetation of degraded and modified areas with an emphasis on natural regeneration techniques
- maintenance of water quality and sustainable water levels in the reservoirs to conserve, protect and enhance ecological, amenity and landscape values
- protection of Aboriginal places and objects
- recognition of Aboriginal cultural heritage associated with the reserve and respect for the views of the Boonwurrung people and cultural obligations of Indigenous people
- opportunities for community health and well-being through carefully planned recreational use, and education and involvement in management
- provision of opportunities for research and monitoring to enhance management and improve knowledge on the values of the reserve
- promotion of partnerships with the community, users and agencies to work together and with Parks Victoria and the Boonwurrung people in all aspects of managing the reserve.

CONTENTS

AMENDMENT TO THE DEVILBEND NATURAL FEATURES RESERVE MANAGEMENT PLAN 2010

AMENDMENT section 1.3 PAGE 2 Add paragraph prior to paragraph starting "Key changes made to the Draft Plan...":

In late March 2017, a public consultation process was undertaken for a proposal to allow non-powered watercraft such as kayaks and canoes to access a section of Devilbend Reservoir for recreational activities. 96 submissions were received, of which 81% were supportive of the proposal and 19% were opposed.

AMENDMENT TABLE 1 PAGE 11 change areas for "Conservation" and "Conservation and Recreation" to:

Conservation – Approx. 455 Hectares, 42.9% of the reserve
Conservation and Recreation – Approx. 603 Hectares, 56.8% of the reserve

AMENDMENT TABLE 2 PAGE 12 add the activity "Boat-based fishing":

Activity	**MANAGEMENT ZONE**		
	CONSERVATION	**CONSERVATION AND RECREATION**	**RECREATION**
(percentage of reserve)	**(42.9%)**	**(56.8%)**	**(0.3%)**
Boat-based fishing (section 6.11)	N	Y	N/A

AMENDMENT section 6.6 PAGE 33 Add paragraph prior to paragraph starting "Managed access to sections of the shoreline for walkers...":

Limited on-water access for non-powered watercraft provides opportunities for fishing beyond the shoreline where aquatic weed growth can impede the fishing experience through line snagging. On-water access also provides fishing opportunities in the deeper parts of the reservoir, the preferred habitat for species such as Brown Trout which cannot be fished easily from the shoreline.

AMENDMENT section 6.6 PAGE 34 Management Strategies add a dot point before "Work with the Boonwurrung people...":

- Provide limited on-water access for non-powered watercraft, such as kayaks and canoes, to an area of Devilbend Reservoir (section 6.11) in accordance with figure 5.

AMENDMENT Section 6.9 PAGE 36 Remove paragraph commencing "Boating, such as kayaking and canoeing..."

AMENDMENT PAGE 37 Add Section 6.11 Boating

Boating, such as kayaking and canoeing, is a popular recreation activity for visitors to enjoy the natural features of the park as well as contributing to their physical, mental and social health. In addition to general sightseeing and nature appreciation experiences, Boating enables improved fishing experiences through access to the deeper waters of Devilbend Reservoir, where highly sought after species such as Brown Trout are more likely to be found.

While Port Phillip and Westernport Bay provide major opportunities for these activities, Devilbend Reservoir provides an opportunity for a unique nature-based experience on the Mornington Peninsula and the outer south-east metropolitan area of Melbourne.

In 2010, on-water access was not permitted due to concerns about the risk to waterbirds and habitat values. In 2015 Parks Victoria commissioned a report by the Arthur Rylah Institute for Environmental Research to investigate the impacts of non-powered watercraft on Blue-billed Duck and other waterbirds at Devilbend. Key recommendations of the report included establishing an exclusion zone off limits to all boats, limiting water access to one designated launch site and reviewing any on-water access following monitoring of launch rates, numbers, behaviour and distribution of Blue-billed Ducks under the changed conditions.

The on-water access situation was reviewed through a public consultation process in early 2017 for a proposal to allow non-powered watercraft such as kayaks and canoes to access a section of Devilbend Reservoir for recreational activities. This review made provision for the area generally west of Daangean Point to be available for on-water access by non-powered watercraft, with the rest of the reservoir excluded and managed for waterbird and habitat values.

Aims

- Provide limited on-water access for non-powered watercraft while minimising the impacts on reserve values and the activities of other reserve users.

Management Strategies

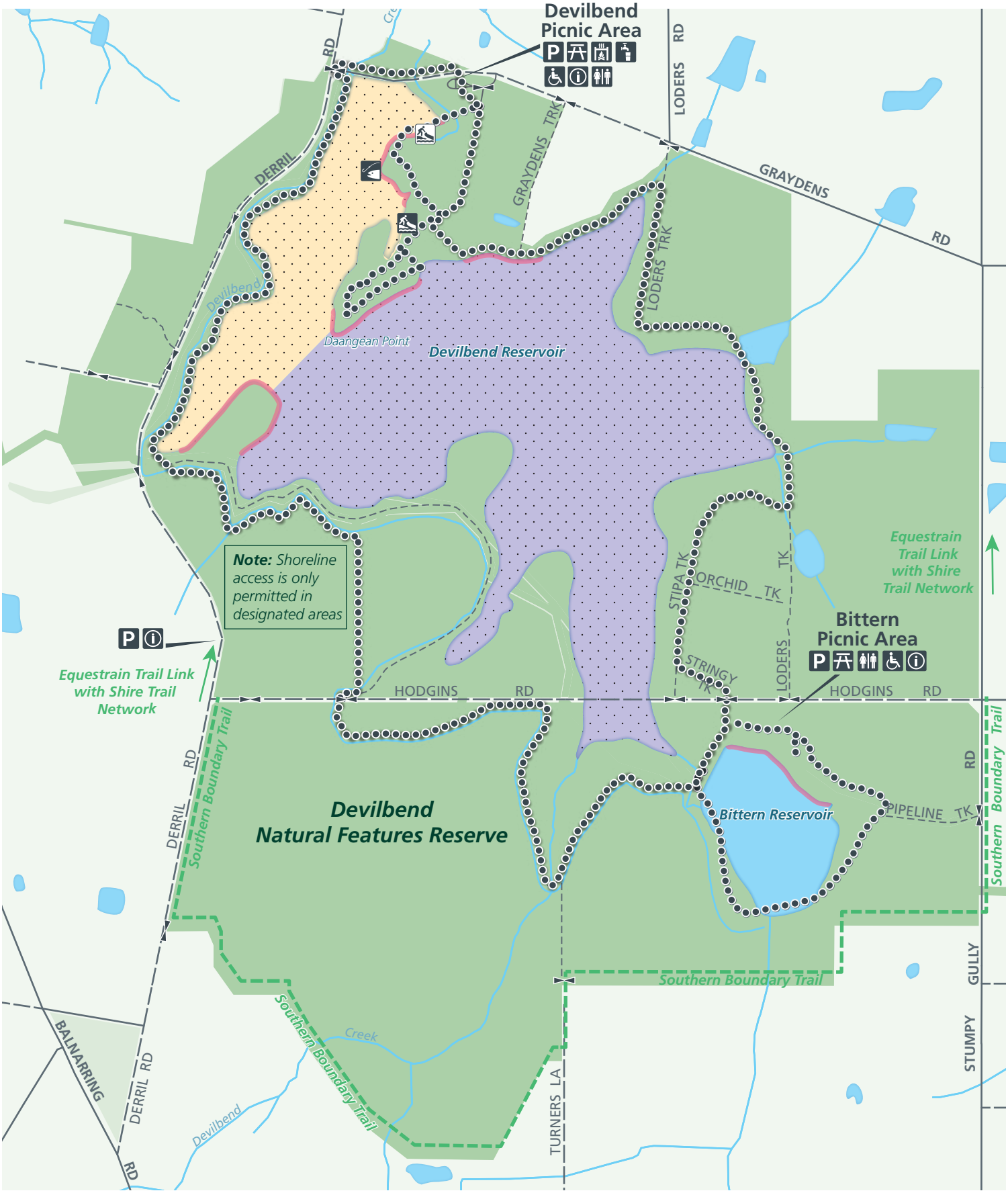
- Provide limited on-water access for non-powered watercraft, such as kayaks and canoes, to an area of Devilbend Reservoir in accordance with figure 5.
- Delineate the area for on-water access with appropriate markers and barriers on the water.
- Establish a non-powered watercraft launching facility as identified in figure 5.
- Establish advisory (including safety) and interpretive signage.
- Develop a "code of behaviour" for on-water users, in consultation with key stakeholders such as Canoeing Victoria and VRFish.
- Work with VR Fish, Canoeing Victoria and Fisheries Victoria (FV) to ensure compliance with the code of behaviour and exclusion zone.
- Work with reserve user groups and key stakeholders to monitor the impact of on-water use on waterbirds and habitat values and develop adaptive management strategies to address threats.
- Work with key stakeholder groups to maximise opportunities for all-abilities on-water access, including provision for vehicle access to launching facilities by permit for users with limited mobility.

AMENDMENT Figure 3 MANAGEMENT ZONES (attached)

AMENDMENT Figure 5 VISITOR ACCESS AND FACILITIES (attached)

.....

Approved
Matthew Jackson
Chief Executive Officer
Date: 23/9/17

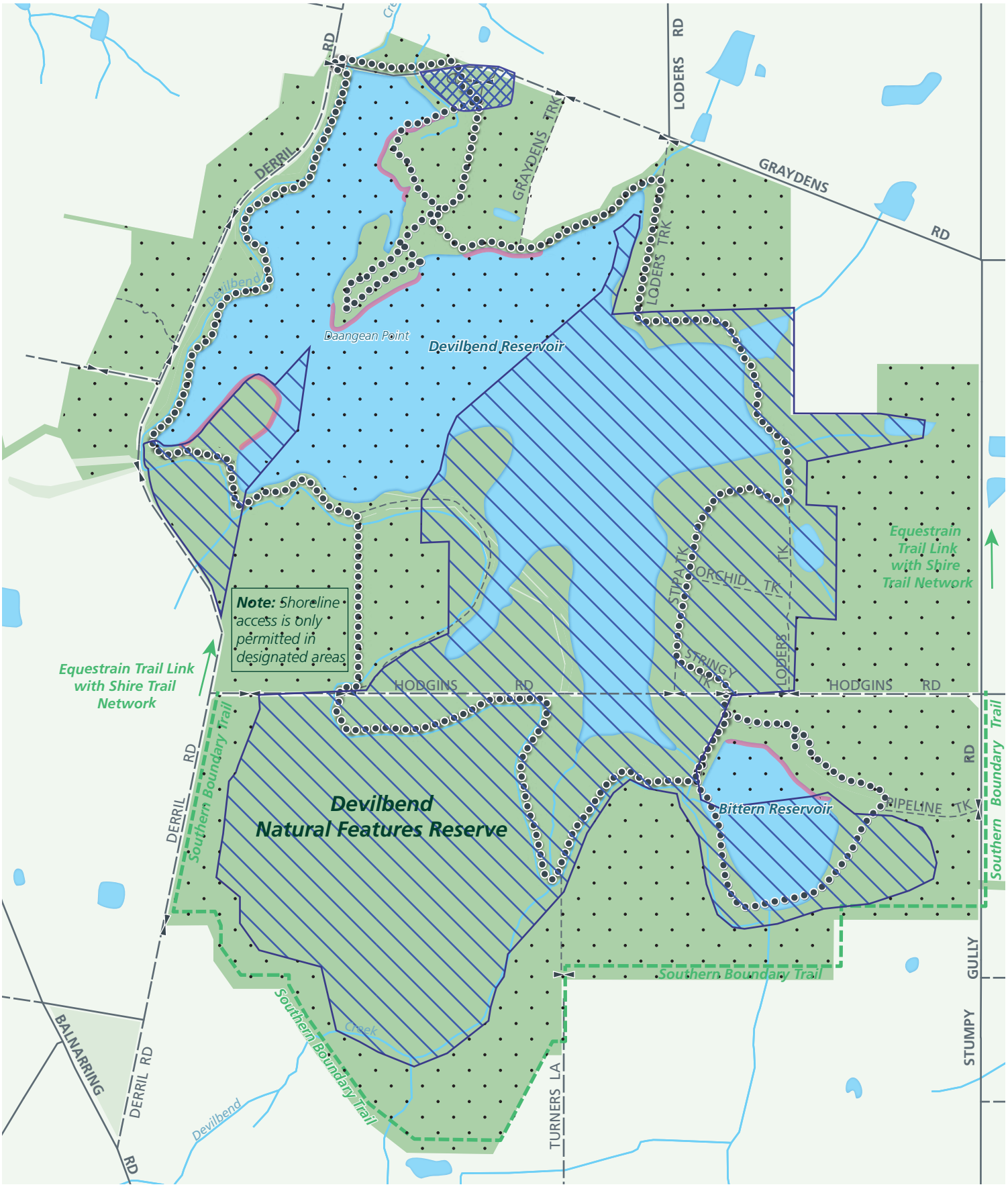


Devilbend Natural Features Reserve **Figure 5 Visitor Access & Facilities**

- Water body
- Devilbend Natural Features Reserve
- Other Public Land
- Watercraft Exclusion Zone
- Non-powered Watercraft Zone
- Parking
- Picnic Table
- Toilets
- BBQ
- Drinking Water
- Facilities for people with disabilities
- Information
- Fishing
- Watercraft launch site (by permit only)
- Watercraft launch site
- Shoreline Fishing
- Gate
- Main road
- Unsealed road
- Management vehicle track
- Walking track
- Horse trail

N 0 0.5 1 Km

www.parks.vic.gov.au



Devilbend Natural Features Reserve

Figure 3 Management Zones

- Water body
- Devilbend Natural Features Reserve
- Other Public Land
- Conservation & Recreation Zone
- Conservation Zone
- Recreation Zone

- Shoreline Fishing
- Gate
- Main road
- Unsealed road
- Management vehicle track
- Walking track
- Horse trail

N

0 0.5 1 Km

www.parks.vic.gov.au

1 INTRODUCTION

1.1 Location and planning area

Devilbend Natural Features Reserve (the reserve) covers an area of 1005 hectares and is located between Hastings and Mornington on the Mornington Peninsula, 55 kilometres south-east of Melbourne (figure 1).

The reserve comprises 422 hectares of native vegetation, almost 250 hectares of water surface area associated with Devilbend and Bittern Reservoirs, 328 hectares of non-native vegetation predominately in the form of cleared grazed land and a five hectare picnic area (the former Devilbend Reservoir Park).

The planning area also covers 33 hectares of water supply reserves managed by Melbourne Water which contains pipelines and associated infrastructure required for water supply to the Mornington Peninsula. These water supply reserves are included in the planning area on the basis that a management agreement will be prepared with Melbourne Water to enable these reserves to be managed for park purposes in a manner consistent with their primary purpose (section 7.1).

The Melbourne Water reserves contain significant sections of the existing management vehicle track network within the planning area. These tracks provide for recreational trails to link features and access view points and use of the existing tracks reduces the need for new trails.

1.2 Creation of the reserve

Bittern Reservoir was built in the 1920s as an off-stream water storage, supplied by pipeline from Melbourne's metropolitan catchments. Building of the Devilbend Reservoir began in 1956 with farmland being compulsorily acquired for the purpose of water supply. Premier Bolte opened the reservoir on 28 January 1965.

In the late 1990s, a new water supply pipeline from Cardinia Reservoir to Pearcedale was commissioned, providing sufficient capacity to meet demand and making redundant the need to store water in Devilbend and Bittern Reservoirs. In 2000-2001, Melbourne Water removed Devilbend and Bittern Reservoirs from the water supply network and initiated a master planning process to consider options for the future use of the land and water bodies.

Following exhibition of the Draft Master Plan (Melbourne Water 2002), the Minister for Environment and Water established a working group to review and provide recommendations on the future of Devilbend. The working group prepared the Devilbend Working Group Summary Report (DSE 2004a) for the Minister.

In January 2006, the Minister announced the government's intention to establish a new Devilbend Park.

In September 2006, most of Devilbend was transferred to the Crown and the Minister announced that the area would be reserved as a Natural Features Reserve under the Crown Land (Reserves) Act. Devilbend Natural Features Reserve was gazetted on 8 March 2007 for the protection of natural features under Section 4(1) of the Crown Land (Reserves) Act.

Natural Feature Reserves are one of four categories of conservation reserves in Victoria. Natural Feature Reserves often provide the only suitable habitat for many common and uncommon species that either still use or were once widespread in land types that have been largely cleared. These reserves also contribute to our well-being, when used for recreation, relaxation, scenic landscape appreciation, education and protection against land degradation (Parks Victoria 2003).

Parks Victoria is the Committee of Management for the reserve, appointed under Section 14(2) of the Crown Land (Reserves) Act.

The reserve is managed in accordance with overarching management objectives derived from Government-accepted former Land Conservation Council (LCC) recommendations. These objectives are:

- Conserve and protect the natural features and values of the reserve, including any indigenous flora and fauna, maintain scenic features and landscapes, and preserve features of geological and

geomorphological interest (Primary objective).

- Conserve and protect any cultural and historic features and associations.
- Protect historic and Aboriginal cultural values and sites.
- Provide opportunities for appropriate enjoyment, recreation and education by the public, and research and study where this does not conflict with the primary objective (Parks Victoria 2003).

1.3 Plan development *

This Management Plan for the reserve was prepared by Parks Victoria on the basis of existing information, reports and research findings that relate to the reserve.

A number of studies were undertaken by Melbourne Water during the master planning process including studies into fresh water ecology, flora, fauna and archaeology and hydrology of the area.

Melbourne Water also commissioned studies to report on hydrology, water quality and future management of the two reservoirs (GHD 2002 and 2004).

Parks Victoria commissioned additional research to build upon these studies and inform the development of this plan. This research included a flora and fauna assessment (Practical Ecology 2008), hydrological modelling (GHD 2008), a fish survey (McGuckin 2007), an assessment of recreational impacts and stocking with fish on waterbirds and shorebirds (ARI 2009) and an aquatic habitats ecosystem study (Monash University 2009). The plan is also informed and supported by a range of best practice management systems.

Significant input of information and advice was sought and received from the Devilbend Natural Features Reserve Management Plan Advisory Group and community groups, individuals and agencies with particular interests in the reserve.

The community was provided with the opportunity to input into the preparation of the Draft Management Plan through a 'Have Your Say' process, a risk assessment workshop, a public meeting to discuss equestrian interests, a community workshop (Sustainable Futures Australia 2007) and through comments on an issues paper addressing recreation and access issues.

The Draft Management Plan was published for public comment in December 2008, and 151 submissions were received (appendix 1). Where necessary, further consultation with the community and stakeholders was undertaken.

Key changes made to the Draft Plan in preparing this approved Management Plan include:

- applying the conservation zone over additional areas of conservation significance and/or importance in catchment protection
- applying the special protection area to part of the shoreline to prevent visitors disturbing waterbirds and waterbird habitat
- reducing the level of development at Bittern Reservoir and changing the zoning from Recreation to Conservation and Recreation
- relocating the proposed car park at Derril Road to link with a viewing point overlooking Devilbend Reservoir
- updating the plan to encompass the results of additional research into the impacts of recreation on waterbirds (ARI 2009) and freshwater ecology (Monash University 2009)
- including further detail on previous hydrological studies and a strategy to provide for water quality monitoring
- providing additional detail on matters to be considered in the preparation of a comprehensive restoration program
- including a strategy to prepare a fire protection plan
- including provision for a heritage assessment of past land use especially orcharding
- including additional detail on measures to minimise impacts of recreation in further planning for visitor use
- providing for integrated planning with the Mornington Peninsula Shire in relation to roads and recreational trails

* Refer also to amendment (after page vii) for update to Section 1.3

- providing for designated walking only trails at Daangean Point and Bittern Reservoir.

This plan is a strategic guide for future management of the reserve. As a public document, the plan establishes how Parks Victoria will protect the reserve's natural and cultural values and describes the services and facilities that will be provided to help visitors to enjoy, appreciate and understand the reserve in ways that are consistent with this. The plan also serves to inform and encourage community participation in management programs, cooperative land management and participation in community-based programs.

As a working document for the reserve, the plan informs Parks Victoria's development of Corporate Plans, serves as a framework for subsequent detailed planning and governs management activities.

This Management Plan directs future management of the Devilbend Natural Features Reserve until reviewed (section 9.3).

2 BASIS

2.1 Regional context

The reserve is accessible from Melbourne via the Moorooduc and Western Port Highways. The reserve is surrounded by rural areas between the townships of Hastings and Mornington in the Mornington Peninsula Shire.

The Mornington Peninsula offers significant coastal recreational opportunities, particularly swimming, fishing and surfing. In contrast, the reserve provides an opportunity to focus on nature appreciation and recreational activities in a landscape featuring the only major inland water bodies within the Peninsula's parks and reserves system.

The reserve is part of the *Country* of the Boonwurrung people and comprises material, spiritual features and customary components of significance to Indigenous people.

The reserve is within Tourism Victoria's Mornington Peninsula campaign region, which in 2007, received over 3.5 million domestic daytrip visitors and 1.1 million overnight visitors (Tourism Victoria 2008a).

The reserve is complemented by a number of nearby parks and reserves including Arthurs Seat State Park, Mornington Peninsula National Park, Langwarrin Flora and Fauna Reserve, Pines Flora and Fauna Reserve, Frankston Natural Features Reserve, Woods Reserve, Warringine Park and the Briars Historic Park. The reserve contributes to an increase in the diversity of opportunities for enjoyment, recreation and education in the parks and reserves network on the Mornington Peninsula.

The reserve is within the Gippsland Plain Bioregion. Approximately 18% of the bioregion remains as native vegetation with 8.2% in parks and reserves such as Devilbend. An important assemblage of ecological vegetation classes (EVCs) which are rare, vulnerable or endangered in the bioregion occur within the reserve (appendix 2).

The reserve is in the Port Phillip Catchment in the Port Phillip and Western Port Catchment Management Authority's area of responsibility. The Port Phillip and Westernport Regional Catchment Strategy (PPWPCMA 2004), identifies actions and strategies for the management of land, water and biodiversity in the region. The Devilbend Creek, which has been significantly modified by the construction of the reservoirs and catch drain, flows through the reserve.

The reserve is part of the Mornington Peninsula and Western Port Biosphere Reserve, designated under United Nations Educational, Scientific and Cultural Organisation's (UNESCO) Man and the Biosphere Program in November 2002.

Many people have strong associations with the reserve as was evident by the community action that led to its reservation. There is significant interest in the management, maintenance and restoration of the area, particularly as a refuge for biodiversity on the Peninsula in the face of climate change.

2.2 Reserve significance and values

One of almost 3000 conservation reserves in Victoria, the reserve makes a valuable contribution to Victoria's parks and reserves system, which aims to protect viable, comprehensive, adequate and representative samples of the state's natural environments.

The reserve is considered to be of state biodiversity significance and contains two Biosites which are sites assessed by DSE as being of biological significance, supports five EVCs of state conservation significance and is habitat for threatened flora and fauna species (Practical Ecology 2008).

The reserve makes a valuable contribution to the retention of biodiversity on the Peninsula. Its central location and the potential to restore the land will significantly increase its value as a core from which habitat links can be created beyond the boundaries of the reserve.

In times of climate change, parks and reserves such as Devilbend will play a pivotal role in the conservation of biodiversity in Victoria.

The Mornington Peninsula Planning Scheme has zoned the reserve as Public Conservation Resource Zone and recognises the landscape and environmental values of the reserve through the application of Scenic Landscape

Overlays and Environmental Significance Overlays.

Significant features of the reserve include:

Natural values

- At least 212 indigenous plant species, 102 of which are regionally significant and one of state significance.
- Eleven EVCs, which are endangered, vulnerable or rare in the bioregion.
- Rich fauna assembly including 158 bird species in the reserve and the adjacent Woods Reserve.
- The only known nesting site of the White-bellied Sea-Eagle on the Mornington Peninsula, a species listed as threatened under the *Flora and Fauna Guarantee Act 1988* (Vic.) (FFG Act).
- The most significant inland water bodies on the Mornington Peninsula, supporting a range of water birds including FFG Act listed species and internationally protected migratory species.

Cultural values

- Evidence of quarries, campsites and manufacturing of stone tools by the Boonwurrung people estimated to date back to 1000-2000 years before present (BP).
- Eighteen known stratified Aboriginal archaeological sites, which are largely intact and unique for their inland location.
- A historically documented campsite of the Boonwurrung people.
- A history of settlement associated with efforts to establish the Western Port Protectorate.
- Local significance as the largest constructed reservoir on the Mornington Peninsula.

Social and recreation values

- Strong support from the community to protect the reserve for the future and continued involved in management through volunteering, education and research.
- Opportunities to strengthen Indigenous connections and support capacity building among Aboriginal and broader community groups.
- Capacity to contribute to community health and well-being in providing opportunities for recreation, relaxation, scenic landscape appreciation and education.
- Recreation opportunities in a range of settings including picnicking, bird watching, walking, cycling, horse riding and fishing.

2.3 Evidence of past use

Archaeological research indicates that the area was used by the Boonwurrung people as a campsite and a source of stone for tool making.

Early European settlement saw the land cleared for orchards, grazing and timber. Significant land clearing took place in the early 1900s as a result of coal strikes. The area's orcharding past is still evident by the mounded rows and pine wind breaks.

The construction of the reservoirs significantly modified the landscape, not just through inundation by water and realignment of the Devilbend Creek, but also through quarrying for the construction of the dam walls.

Water supply infrastructure is still contained in the reserve and the reserve is dissected by Melbourne Water water supply reserves, with the pipeline being highly visible in places.

While sections of the reservoirs' catchments have been closed to public access, approximately half has continued to be grazed under licence.

Several houses within the reserve are currently rented for residential purposes. Three former cool stores are still present highlighting the orcharding history of the site. Demolished house sites are evident along with ornamental plant species such as apple trees.

2.4 The reserve visitor

Visitation to the reserve is currently limited to the five hectare Devilbend Picnic Area off Graydens Rd (figure 5), previously managed by Parks Victoria under a lease between the Minister and Melbourne Water. The Picnic

Area provides basic facilities including a car park, seating and open space areas.

Parks Victoria estimates the annual visitation to the Picnic Area at 16 000 visits. Visitation is mainly from the local day trip market and visitors stay up to two hours. Activities are mostly picnicking and bird watching.

The creation of the new reserve provides opportunities to offer additional areas for visitor enjoyment and a greater range of recreational activities.

At a state-wide level, Parks Victoria has rated the reserve as a reserve of regional value for the provision of visitor services. An appreciation of the reserve's natural and cultural values will be promoted, together with appropriate enjoyment and recreation.

In planning for visitor use to ensure consistency with the primary objective for Natural Features Reserves, particular emphasis has been given to the following key studies and reports:

- the Devilbend Working Group Summary Report (DSE 2004a)
- the Practical Ecology Flora and Fauna Assessment and Recommendation Report (Practical Ecology 2008)
- the Arthur Rylah Institute for Environmental Research report on the impact of recreational access and stocking with fish on waterbirds and shorebirds – Devilbend Reserve (ARI 2009)
- the Archaeological Investigation and Heritage Management Plan for Devilbend and Bittern Reservoirs (Stage 2) (Rhodes 2002).

The DSE Working Group Summary report identified that recreational activities that can be compatible with conservation objectives, especially activities that are not well provided for elsewhere on the Mornington Peninsula, may be provided for. Access for visitors to the quality settings provided by the water bodies for walking, bird observation, nature appreciation, photography and art and inland fishing is a particularly unique opportunity on the Mornington Peninsula.

Opportunities for recreation need to consider the recommendations of Practical Ecology in regard to limiting shoreline access to relatively few areas, utilising existing tracks and catch drains for walking and cycling and providing for adaptive management in response to potential adverse impacts of recreation.

Given the historical protection of these habitats from visitors, a key consideration in providing opportunities to access the shorelines is the level of disturbance to waterbirds and shorebirds. The ARI literature review of recreational disturbance on waterbirds and shorebirds and on-site assessment of potential impacts of shoreline access and recreation at the reserve identified that opening the reserve to visitor use will cause some short-term disturbance to waterbirds. The study concluded that the large size of the reserve combined with controls on shoreline access will, under the most likely scenario, enable waterbirds to have ample opportunity to move away from people in the short-term and find alternative habitat for feeding (ARI 2009).

Importantly, ARI predicted that the levels of disturbance from recreational use are not expected to cause a reduction in bird populations and that there is plenty of scope to manage increased numbers of visitors while providing adequate seclusion to maintain populations of waterbirds, particularly at the larger Devilbend Reservoir.

Nevertheless ARI recommended a conservative approach to management because of the uncertainty in predicting the severity of responses of birds at Devilbend Reserve to the presence of humans. The approach includes monitoring visitor usage and behaviour, habitat usage of waterbird species and direct response of the species to visitor activities.

The presence of known Indigenous cultural sites and likely presence of further sites across the reserve's landscape necessitates special care to ensure protection of cultural heritage values from visitor activities and establishment of visitor facilities as recommended by Rhodes 2002.

Parks Victoria is committed to working with the community to implement the plan, including further planning for visitor use. Community contribution to increasing knowledge is highly valued and important in developing adaptive responses that may be required to mitigate emerging risks. Parks Victoria is also committed to providing for the

enjoyment and appreciation of the reserve by both current and future generations.

2.5 Legislation and LCC recommendations

Legislation

The reserve is reserved under Section 4(1) of the *Crown Land (Reserves) Act 1978* (Vic.) for the protection of natural features.

The *Aboriginal Heritage Act 2006* (Vic.) applies to the reserve and protects all Aboriginal cultural heritage values including places and objects (section 5.1).

The *Flora and Fauna Guarantee Act 1988* (FFG Act) is the key piece of Victorian legislation for the conservation of threatened species and communities and for the management of potentially threatening processes. The FFG Act applies to 13 listed species present in the reserve.

The *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) applies to the whole of the reserve with respect to actions that have, will have or are likely to have, a significant impact on matters of national environmental or cultural significance, including listed threatened species and communities and listed migratory species.

The *Planning and Environment Act 1987* (Vic.) applies to the reserve. The reserve is zoned for Public Conservation and Resource (PCRZ) in the Mornington Peninsula Planning Scheme.

The *Fisheries Act 1995* (Vic.) provides the legislative framework for the regulation, conservation and management of fisheries including aquatic habitats.

LCC recommendations

Recommendations (D60) made by the former Land Conservation Council (LCC) relate to the reserve's former function as a water supply reservoir (LCC 1994). The LCC acknowledged the area's botanical, habitat and faunal significance and recommended these values be protected. The recommendations acknowledged the use of the small Picnic Area as parkland. The relevant objectives for using the broader area as parkland are included in section 1.2.

2.6 Policies and guidelines

The reserve is managed in accordance with various strategies, plans and operational policies and guidelines including the following:

- *Conservation Reserves Management Strategy* (Parks Victoria 2003).
- *Management Directions for Conservation Reserves* (NRE 1999).
- *Indigenous Partnership Strategy and Action Plan* (Parks Victoria 2005).
- *Guidelines for Working with Aboriginal Communities and Protection of Cultural Sites* (Parks Victoria 2002).
- *National Strategy for Ecologically Sustainable Development* (COAG 1992).
- *National Strategy for the Conservation of Australia's Biological Diversity* (ANZECC 2001).
- *Victoria's Biodiversity Strategy* (NRE 1997).
- *Code of Practice for Fire Management on Public Land* (DSE 2006).
- *Guidelines and Procedures for Ecological Burning on Public Land in Victoria* (DSE 2004b).

The reserve is also managed within a broader context of a number of other strategies and policies, including:

- *Victoria's Nature-Based Tourism Strategy 2008-2012* (Tourism Victoria 2008b).
- *The Port Phillip and Western Port Regional Catchment Strategy 2004-2009* (PPWPCMA 2004).
- *Victoria's Public Land Phytophthora cinnamomi Management Strategy* (DSE 2008b).
- *Policy for Sustainable Recreation and Tourism on Victoria's Public Land* (NRE 2002a).
- *Licensing System for Tour Operators and Activity Providers on Public Land in Victoria* (DSE 2008a).

3 STRATEGIC DIRECTIONS

3.1 Vision

The White-bellied Sea-Eagle soaring high above the reserve surveys a vitally important and much valued landscape in which nature continues to heal.

The reserve is the natural heart of the Mornington Peninsula providing a core of remnant indigenous vegetation gradually expanding and regenerating under the guiding hand of land managers and volunteers. Birds continue to flock to the waters of the reserve; the largest and most significant area of fresh water on the Peninsula. The reserve showcases the reversal of declining biodiversity on the Peninsula.

The cultural landscape retains evidence of the Boonwurrung people's connection to the land and inundation of the land for water storage.

The Sea-Eagle is safe but wary of the humans interacting with the environment and enjoying the special ambience of the water and shoreline, which provide a sense of well-being. Visitors gain knowledge and appreciate both the reserve's natural features and its story through quality interpretation and direct interaction with the environment as they walk, picnic, cycle, ride their horse or fish.

They respect the measures in place to ensure the protection of the reserve's significant values and provide for an enjoyable and rewarding experience; they access the reserve through sensitively designed and located facilities.

The Sea-Eagle's protection and that of all the natural communities in the reserve, continues to be enhanced by the application of knowledge gained through research and monitoring.

Restoration and conservation techniques have set a benchmark for the region that inspire nearby landowners and others well beyond the boundaries to facilitate sympathetic habitat restoration on their properties to further enhance the value of the reserve as sustainable habitat. Through the dedication of volunteers, students, friends and Landcare groups and through partnerships with the Boonwurrung people, the reserve has benefited from a long-term conservation program to restore its biodiversity.

3.2 Management directions

The Boonwurrung people's knowledge and interests in the area and aspirations for *Country* will be reflected in the reserve's planning and management, in accordance with legislation and policies (Parks Victoria 2005).

Other major management directions for the reserve are outlined below.

Conserve, protect and restore

- Natural values will be identified, protected and enhanced in a holistic approach to landscape, ecology and cultural heritage.
- Focus will be on conserving and restoring significant vegetation communities and enhancing habitat values. The restoration of Grassy Woodlands, Swamp Scrub, Damp Heath and Swampy Riparian Woodland will be given priority.
- A landscape ecology approach to restoration of native vegetation will be applied and natural regeneration will be encouraged where feasible.
- The habitat values of the Devilbend and Bittern Reservoirs will be maintained. Water levels and water quality of Devilbend and Bittern Reservoirs and Devilbend Creek will be managed to enhance habitat values and protect environmental flows.
- Protection of the FFG Act listed Blue-billed Duck and White-bellied Sea-Eagle will be given priority.
- Protection and enhancement programs based on current knowledge, risk assessments and applied research will be used in the management of threats to natural values. Pest plant control will be given priority.
- Ecological principles will be applied in the use and management of fire in the planning area for resource conservation and reserve protection purposes.

- Management will be adaptive to respond to existing threats such as disease, pest plants and animals and emerging threats such as climate change.
- Flora and fauna research and monitoring will be undertaken to enhance knowledge about risks to natural values and inform an adaptive management approach to programs.

Protect and conserve cultural heritage

- Indigenous cultural obligations relating to *Country* will be respected and Indigenous knowledge promoted and interpreted in accordance with the views of the Boonwurrung people.
- Aboriginal places and objects will be protected from interference or damaging activities.
- Opportunities for shared learning will be explored, particularly opportunities with Boonwurrung people.
- Historic relics and places will be conserved by protecting them from damaging activities.
- The impact of any works and infrastructure on the reserve's natural and cultural values will be minimised by careful planning, design and construction activities.
- Research into Indigenous and historic cultural heritage of the reserve will be encouraged and supported in consultation with the Boonwurrung people and wider communities.

A place of learning

- A range of information and interpretation services will be used to enhance visitor understanding, appreciation and respect for the reserve's values.
- Learning through participation in activities in the environment will be encouraged to foster understanding and appreciation of the reserve's values.
- Monitoring will be undertaken to assess levels of use, and the impact of recreation activities and visitors on waterbirds, waterbird use of habitat, and other natural and cultural values to inform management decisions.
- Scientific knowledge of the ecological processes and natural systems within the reserve will be enhanced by fostering integrated research.
- Friends, volunteers and other interest groups will be encouraged to continue to develop an understanding and appreciation of the reserve's values and the rich and diverse knowledge and aspirations of the Boonwurrung people.

Visiting and enjoying

- Use of the reserve for health and well-being will be promoted.
- A range of quality recreational experiences will be maintained at sustainable levels.
- Development of visitor facilities and access will be staged and will ensure minimal impacts on natural and cultural values.
- Access to sections of the shoreline will be managed to prevent disturbance to sensitive waterbirds and waterbird habitat and ensure minimal impacts on ecological values and protection of cultural values.
- Visitors will be encouraged to adopt minimal-impact techniques and to adhere to developed standards suitable for their activity.

Involving community

- The Boonwurrung people will be encouraged to advise on and participate in management, including research activities, ecological management programs and cultural activities, guided tours and shared learning experiences.
- The wider community will be encouraged to become more aware of the reserve and appreciate its values.
- Local communities and neighbours will be encouraged to continue to develop a sense of custodianship for the reserve.
- Co-operative relationships will be nurtured with communities and groups that are interested in the reserve's management to support and strengthen their involvement through ongoing opportunities and programs.

- Collaborative relationships will be developed with agencies and neighbouring land managers to improve habitat connectivity in the broader landscape.
- Collaborative partnerships will be sought with research and education institutions to pursue research and monitoring of the reserve's values.
- Co-operative relationships will be developed with neighbours to encourage sensitive land management techniques on adjoining land and the protection of both private property and public land from fire.

3.3 Management zones

Reserve management zoning:

- provides a geographic framework in which to manage the reserve
- reflects sensitivity and fragility of natural values
- indicates which management directions have priority in different parts of the reserve
- indicates the types and levels of use appropriate throughout the reserve
- assists in minimising existing and potential conflicts between uses and activities, or between uses and activities and the protection of the reserve's values
- provides a basis for assessing the suitability of future activities and development proposals.

Three management zones apply to the reserve - Conservation, Conservation and Recreation and Recreation (table 1 and figure 3).

Special Management Overlays are used to highlight restoration priorities. A Special Protection Area has been used to highlight priority areas for the protection of waterbirds and waterbird habitat (table 1 and figure 4).

Details of zone and overlay characteristics are provided in table 1 and recreation opportunities within zones in table 2.

TABLE 1 MANAGEMENT ZONES AND OVERLAYS **

ZONE/ OVERLAY	AREA/LOCATION*	VALUES	MANAGEMENT AIM
ZONES*			
Conservation	Approx. 479 hectares, 45% of the reserve	Broad areas containing sensitive natural environments or ecosystems.	Conserve and enhance natural values. Provide for low key trail access, subject to ensuring minimal interference with natural processes.
Conservation and Recreation	Approx. 579 ha, 54.7% of the reserve - predominantly applies to pasture and boundary areas and the Daangean Point and abutting waters	Important natural, landscape and catchment values with remnant areas of indigenous vegetation and scope for recreation opportunities.	Protect natural environments and provide for sustainable, dispersed recreation activities and small-scale recreational facilities without significant impact on natural processes. Restore natural values of terrestrial areas to enhance protection of conservation zone over time.
Recreation	Approx. 3 ha, 0.3% of the reserve – applies to the existing Devilbend Picnic Area location	Sites with visitor and access facilities in a natural setting and relatively lower habitat value.	Provide for high use and high quality, sensitively located visitor facilities such as car parking, picnic and toilet facilities, trail headers and access to the water's edge.
OVERLAY/S			
Special Management – short-term restoration	Approx. 276 ha, 26% of reserve	Areas of existing regeneration and cleared areas of former farmland and orchards, including some areas currently grazed.	Short-term (0-10 years) restoration of indigenous flora, rehabilitation of grasslands and enhancing depleted woodlands. Priorities include consolidating buffers to shorelines and stream/drainage lines and enhancing visitor experiences (e.g. at Daangean Point) Provision for grazing as a management tool but to be phased out in short-term. Provision of through trails.
Special Management – long-term restoration	Approx. 318 ha, 30% of reserve	Areas of highly depleted woodland and cleared areas of former farmland and orchards, including areas currently grazed that have potential for restoration in the long-term.	Long-term restoration (10 years plus) of indigenous flora, rehabilitation of grasslands and enhancing depleted woodlands. Provision for grazing as a management tool to be phased out over the longer-term. Provision of through trails.
Special Protection Area	Approx. 91 ha, 9% of reserve	Area of shoreline providing valuable habitat values for waterbirds.	Protect waterbirds and waterbird habitat along shorelines from disturbance from visitors.

* The total area covered by the management zones is greater than the 1005 ha Devilbend Natural Features Reserve as the zoning is extended over the 33 ha Water Supply Reserves controlled and managed by Melbourne Water.

** Refer also to amendment (after page vii) for update to Table 1

TABLE 2 SUMMARY OF RECREATION OPPORTUNITIES ***

ACTIVITY*	MANAGEMENT ZONE		
	CONSERVATION	CONSERVATION AND RECREATION	RECREATION
(percentage of reserve)	(45%)	(54.7%)	(0.3%)
Bird watching	Y	Y	Y
Campfires**	N	N	N
Camping – designated (no facilities) (section 6.9)	N	S	N
Cycling (section 6.5)	Y	Y	Y
Dog walking (section 6.9)	N	N	N
Education/Guided activities(section 6.1)	YC	YC	YC
Fires in gas or liquid-fuel appliances	N	N	Y
Horse riding (section 6.7)	N	Y	Y
Licensed tours (section 6.8)	YC	YC	YC
Nature photography/Painting	Y	Y	Y
Orienteering/Rogaining (section 6.9)	S	S	S
Picnicking (section 6.3)	N	N	Y
Rafting/Canoeing/Kayaking (section 6.9)	N	S	N/A
Shore-based fishing (section 6.6)	Y	Y	N/A
Swimming (section 6.9)	N	N	N/A
Walking (section 6.4)	Y	Y	Y

Key:

Y Yes—subject to conditions prescribed by legislation, licensed tour permits or elsewhere in the plan as indicated

N Not permitted

N/A Not applicable

YC Subject to permit conditions

S Subject to monitoring, research and/or future demand

* Staged access to the Special Management areas will be provided initially via trails. Access to the shoreline will be provided outside the Special Protection Area

** May be provided for in association with approved events such as Indigenous ceremonies

*** Refer also to amendment (after page vii) for update to Table 2

4 CONSERVE, PROTECT AND RESTORE

4.1 Landscape

The landscape is significant to the Boonwurrung people who referred to the area as Daangean (Rhodes 2002).

The reserve has a range of landscape settings from natural, to semi-rural and highly-modified. The reserve's highest value landscapes are those associated with the water bodies and views across the reservoirs, and associated bushland.

The reserve's landscape values are acknowledged in the Mornington Peninsula Planning Scheme through the application of Significant Landscape Overlays. The objectives of the overlays are to protect the scenic values from visual intrusion. Extensive restoration planned for the reserve (section 4.4) has the potential to enhance the natural landscape settings.

The reserve is likely to increase in importance within the broader landscape for biodiversity due to threats from the results of climate change such as hydrological impacts, potential decline of remnant vegetation, changes in ecological processes and impacts on regeneration (section 4.3, 4.4, 4.5 and 4.7).

The reserve offers quality views across Devilbend Reservoir, currently appreciated from the Picnic Area and by driving along Graydens and Hodgins Roads. The topography and pattern of remnant vegetation, planted pine plantations and windbreaks, limit views to a few locations (DSE 2004a).

There are opportunities to improve the natural landscape setting of the reserve through the removal of visually intrusive non-indigenous species such as pines and the regeneration of natural bushland. Pine removal at Bittern Reservoir, undertaken primarily due to damage from a wildfire in 2007, provides improved viewing of the water body and facilitates opportunities for restoration of a more natural landscape adjacent to this key feature.

Planted windbreaks within those areas of the reserve historically used for agriculture, especially orcharding, will be retained commensurate with their assessed heritage contribution to the cultural landscape of the reserve. Removal will need to be considered where safety becomes an issue or where the pines threaten adjacent habitat areas. A heritage assessment of the landscapes associated with the orcharding history will need to address long-term management of the planted wind breaks in context with restoration objectives (sections 4.4 and 5.2).

The extensive areas of cleared farmland look similar to the surrounding private land but have been undisturbed and protected from further development since the 1950s by land acquisition for water storage purposes.

The reserve contains a range of built assets relating to past uses such as water supply, horticulture and grazing. These include water supply infrastructure, fencing, cool stores, powerlines and houses. Some of these assets are no longer required and can be considered for removal if assessed as being of little or no historical value (chapter 7).

The development of visitor facilities provides opportunities to improve the visitors' appreciation of the landscape. However, it also has the potential to alter the landscape values. In opening new areas, it is important to minimise potential impacts on the landscape values (section 6.3).

Development in areas adjacent to the reserve has the potential to impact upon its landscape values. Assessment of planning proposals needs to consider potential impacts on views into and from the reserve (section 8.3).

Aims

- Protect and enhance the natural landscape of significance to communities or of high scenic quality while allowing natural processes to continue.
- Enhance opportunities for visitors to enjoy the landscape.
- Minimise visual intrusions into the landscape and rehabilitate, remove or ameliorate undesirable existing intrusions.

Management strategies

- *Ensure that the significance of landscape to the Boonwurrung people is fully*

considered in planning and implementing management activities, interpretation and education programs (section 6.1).

- *Ensure that landscape protection objectives are included in ecological management programs and the provision of visitor infrastructure (section 6.3).*
- *Liaise with other agencies and organisations responsible for infrastructure to ensure protection of landscape values (section 7.3 and 8.3).*
- *Where possible, remove or replace visually intrusive fencing with alternative designs (e.g. fauna friendly designs) and material.*
- *Progressively remove disused and/or unsafe built infrastructure such as houses and cool stores and undertake restoration works.*
- *Work with Melbourne Water to progressively remove disused water storage infrastructure, subject to a values assessment, and ensure restoration of the disturbed sites (section 7.1).*
- *Progressively remove pine trees which are visually intrusive on the landscape and/or threaten habitat values and undertake restoration works in accordance with an indigenous vegetation restoration plan (sections 4.4 and 4.7).*
- *Improve opportunities for visitors to appreciate the landscape and water views through the provision of access to the shoreline and viewpoints and development of master plans (sections 6.2, 6.3 and 6.4).*
- *Minimise impacts on landscape values by maximising the use of the existing track network and catch drain embankments for providing visitor and management access (sections 6.2, 6.4, 6.5 and 6.7).*

4.2 Geological features

According to Indigenous tradition, geomorphologic features are culturally significant.

Devilbend Creek gorge would have been the most outstanding geological feature prior to the creation of Devilbend Reservoir. The gorge extended south several hundred metres from the present dam wall location and would have been about ten metres deep.

There is evidence of quarrying for stone by the Boonwurrung people and extensive quarrying for the construction of the dam walls. The quarry sites have exposed the underlying geology of the reserve and offer a valuable glimpse of the geological landforms that are a feature of the reserve.

A geological survey conducted in 1967 found surface rocks formed from Lower Ordovician sediments at Devilbend were some of the oldest rocks on the Mornington Peninsula (Jenkins 1979).

The eastern part of the reserve features Upper Ordovician (Palaeozoic 510 to 438 million years BP) sandstones, slates and cherts, overlaid along Stumpy Gully Road by more recent Pliocene sandstones. The sandstones also appear west of Bittern Reservoir and extend to Derril Road. Middle to Lower Ordovician sedimentary rocks occur generally along both sides of Derril Road, extending west into Woods Reserve.

Aim

- Allow natural systems and processes to continue undisturbed where possible and minimise impacts by management and visitors on significant geological and landform features.

Management strategies

- *Consider and respect the significance of landforms to the Boonwurrung people in planning and implementing management activities (section 5.1).*
- *Protect geological features from disturbance and promote understanding and appreciation of geological processes and features.*

4.3 Reservoirs, creeks and catchments

The reserve lies within an area of the Port Phillip catchment typified by rural landscapes and agricultural industry of high value, including horticulture, viticulture, dairy, poultry, equestrian and beef farming.

Devilbend Reservoir is the largest inland water body on the Mornington Peninsula and one of the largest in the Port Phillip and Western Port catchment. It provides a unique freshwater habitat for fauna and a haven for water birds

on the Peninsula. Both reservoirs provide valuable habitat for water birds and support unique aquatic EVCs.

The reservoirs have small natural catchments and the construction of the catch drain around the southern and western perimeters of both reservoirs was intended to protect water quality by preventing run-off into the reservoirs.

Since the reservoirs were decommissioned in 1999, and the supply of pipeline water was stopped, the water levels in both reservoirs have fallen. Modelling of water flows undertaken in 2002 for Melbourne Water in relation to the abandonment of Devilbend Reservoir as a water supply (GHD 2002) indicated that Devilbend Reservoir appeared to be reasonably sustainable at near full conditions and that Bittern Reservoir was subject to significant variations in storage levels and potential emptying depending on long-term trends in climate.

Melbourne Water also commissioned a study to recommend future works to establish sustainable water levels, establish a water quality model and desirable treatment works and provide advice on management, maintenance and monitoring regimes (GHD 2004).

A review of the modelling was commissioned by Parks Victoria to consider the impact of climate change and inform hydrological works required to achieve target water levels desirable for environmental purposes of 12 000 megalitres (or 90% of capacity) for Devilbend and 450 megalitres (or almost 80% of capacity) for Bittern.

The modelling indicated that if run-off continues to be diverted by the catch drains Bittern Reservoir will dry up and the water level in Devilbend Reservoir will drop to two thirds of capacity (GHD 2008).

Modelling of water quality for the period 1979 to 2007 based on modelled storage levels found that the water quality of the current system shows seasonal variability consistent with known concentration ranges using historical data (GHD 2008).

The hydrological modelling has identified that it is feasible to maintain sustainable water levels within both reservoirs by diverting flows out of the catch drain during the winter peak flow period (GHD 2008).

The proposed catch drain modifications will be important in maintaining water levels and downstream flows to maintain biodiversity and landscape values of the reservoirs and Devilbend Creek in the face of impacts from climate change. Water levels in Bittern Reservoir have fallen dramatically over the past three years and urgent consideration needs to be given to establishing inflows.

Diversion of flows in the catch drain directly into the reservoirs may affect the water quality of both water bodies as the run-off from neighbouring properties may contain agricultural contaminants and may have salinity issues. Water quality treatment measures including planting, bioretention trenches and/or wetlands will need to be considered for water filtration in proposals to redirect catch drain flows.

Improvements to water quality inflows are expected to be achieved through the restoration of indigenous vegetation in cleared and degraded areas, giving priority to restoring the catch drain, drainage lines and stream lines (section 4.4). Water quality downstream is also expected to be improved with restoration of the catch drain over time.

Ongoing water quality monitoring will be important for monitoring the reserve's aquatic habitats. Parks Victoria, in partnership with the Devilbend Foundation and National Trust (Victoria) has agreed to develop a program for water quality monitoring and assessment.

Devilbend Creek was highly modified with the construction of the reservoirs and catch drain. The creek, which now flows through the reserve primarily via the catch drain, originates just south of the reserve and forms part of the Balcombe Creek catchment. The catch drain flows back into the natural course of the creek to the north of the reserve via a concrete spillway. Any changes to the catch drain flow regime will affect the environmental flows downstream.

Parks Victoria and Melbourne Water are continuing to undertake research to determine appropriate water regimes to ensure optimal environmental flows downstream and water levels in the reservoirs.

Parks Victoria is responsible for the catch drain flows and the water in the reservoirs. However, Melbourne Water and Southern Rural Water have responsibilities in regard to the quantity and quality of flows into and out of the reserve.

Dwarf Galaxias (*Galaxiella pusilla)* has been identified in the catch drain in the past. However, surveys in 2007 did not locate this nationally threatened species (McGuckin 2007) (section 4.5).

Aims

- Protect and enhance the aquatic values of the Devilbend and Bittern Reservoirs, Devilbend Creek and the catchment.
- Manage the hydrology of the site to maintain sustainable water levels in the reservoirs to enhance ecological, amenity and landscape values.

Management strategies

- *As a high priority, develop and implement a water management strategy that considers downstream ecological requirements and downstream user requirements while providing sustainable water levels in the reservoirs in consultation with Melbourne Water and Southern Rural Water (section 8.3).*
- *Undertake works to the catch drain to provide some flows into the reservoirs during the winter peak flow period.*
- *Undertake works required to treat run-off to improve water quality prior to entering the reservoirs as determined necessary.*
- *Develop and implement a water quality monitoring program to assess changes in hydrology and effectiveness of improvements to the catchment.*
- *Liaise with Melbourne Water and Southern Rural Water to ensure management of dams and waterways upstream does not have detrimental effects on the hydrology of the reserve.*

4.4 Vegetation

There are 11 EVCs represented in the reserve, of which seven are endangered, three vulnerable and one rare in the Gippsland Plains Bioregion (Practical Ecology 2008) (appendix 2). EVCs cover approximately 32% of the entire reserve with Lowland Forest (12.7%) and Grassy Woodland (6.6%) the most abundant. Just over 10% of the reserve consists of regrowth or modified native vegetation that cannot be clearly categorised as an EVC. The balance is water-covered with an undefined area of aquatic vegetation (25%) or non-native vegetation with predominantly pasture areas (33%).

During 2007 the conservation significance of the native vegetation was scored in accordance with the Victoria's Native Vegetation Framework (NRE 2002b). Almost all areas of remnant native vegetation received relatively high ratings, due to their intact nature and landscape context (Practical Ecology 2008).

There are 212 indigenous plant species recorded in the reserve. One flora species of state significance, the Mauve-tuft Sun-orchid (*Thelymitra malvina*), was identified in 2001 and is listed as vulnerable on DSE's Advisory List (DSE 2005) (appendix 3).

The reserve supports relatively large areas of Swamp Scrub (47.6 hectares), which is of state significance due to its highly depleted nature and low representation in conservation reserves.

The freshwater ecology project commissioned in late 2008 included mapping, description and assessment of the condition of shoreline aquatic vegetation. This study found that none of the vegetation communities or species was listed as rare or threatened and was commonly found in these habitat types (Monash University 2009). The study also found that Devilbend Reserve is highly productive, with extensive aquatic and riparian vegetation supporting amphibian, fish and crayfish communities. The benthic zone of Devilbend Reservoir is covered in vegetation providing extensive areas of habitat for invertebrates and fish.

An increased growth of aquatic vegetation would benefit birds and may result in increased numbers of waterbird species being induced to breed. Planned revegetation of the reserve is likely to enhance the habitat for many waterbird species (ARI 2009).

A fungi survey undertaken by the Field Naturalists Club of Victoria in 2007 identified

58 species of fungi in the reserve (FNCV 2007).

Significant threats to the vegetation in the reserve include climate change, invasive weeds, plant pathogens, altered fire regimes, fragmentation, unrestricted stock grazing and unrestricted visitor access (Parks Victoria 2007) (sections 4.6 and 4.7).

A significant proportion of the reserve is highly modified. However, parts of this disturbed landscape contain areas of native vegetation that are naturally regenerating or contain indigenous ground storey species. These areas have potential for natural regeneration, and in some cases more intensive revegetation, to restore to indigenous vegetation and reduce threats posed by fragmentation.

Various hierarchies of habitat corridors within and extending out of the reserve have been identified, including recommended priority short-term (0-10 years) habitat links within the reserve (Practical Ecology 2008). In the longer term grazing will be phased out to accommodate restoration across all parts of the reserve.

A comprehensive vegetation restoration program needs to be prepared for the reserve based on broad restoration directions shown in figure 4. Development of a program for restoration will need to consider:

- establishment of habitat links identified by Practical Ecology (2008)
- revegetation of streamlines and drainage lines to improve water quality inflows into the reservoirs and catch drain (section 4.3)
- enhancement of the catch drain to improve fauna habitat and water quality (sections 4.2 and 4.5)
- enhancement of shoreline vegetation to provide additional habitat for waterbirds and shorebirds (section 4.5)
- protection of remnant vegetation of very high conservation significance from threats including invasive woody weeds and hybridisation (section 4.7)
- establishment and/or enhancement of buffers to sensitive areas including shorelines, White-bellied Sea Eagle nest sites, Eurasian Coot resting areas and other special habitats
- opportunities for large scale revegetation of grazed pasture areas through carbon offset programs
- revegetation of areas for amenity and aesthetics (e.g. pine infested areas)
- fire management and protection planning requirements (section 4.6)
- revegetation of shoreline areas in consultation with the Boonwurrung people to protect Indigenous cultural sites and control erosion as recommended by Terra Culture (Rhodes 2002)
- cultural landscape assessment and management of elements of landscape significance (section 5.2)
- appropriate timing for staged visitor access to minimise visitor impacts.

While natural regeneration is the preferred method to restore native vegetation for ecological and economic reasons, more intensive revegetation will be required to re-establish native vegetation in some parts of the reserve, particularly in those areas of the reserve identified for long-term restoration (figure 4).

Natural regeneration of vegetation will be dependent on factors such as seed supply, soil condition, predation on seedlings and natural processes. It is estimated that 100-200 ha of the reserve has the capacity to naturally regenerate in the short-term. In the long-term, this area will increase as areas naturally regenerating increase (Practical Ecology 2008).

The extent and nature of the natural regeneration within the reserve provides valuable opportunities for research into and monitoring of regeneration techniques.

Previous vegetation surveys of the reserve have recommended additional research into the identification of significant species including the Mauve-tuft Sun-orchid.

Indigenous people recognise vegetation as an intrinsic element of *Country* and the Boonwurrung people maintain a sophisticated knowledge of its value and uses.

Aims

- Protect, enhance and restore indigenous flora and vegetation communities, particularly threatened species and significant EVCs.
- Improve knowledge of significant flora and threatening processes to improve management, protection and appreciation.

Management strategies

- *Prepare and implement an indigenous vegetation restoration program focusing on natural regeneration of short-term restoration areas, and endangered and restricted EVCs such as Swamp Scrub, Grassy Woodland, Damp Heathland and Swampy Riparian Woodland.*
- *Reflect Indigenous knowledge of vegetation in management practices where practicable.*
- *Implement adaptive management where suitable to assist vegetation communities to respond to the threats of climate change.*
- *Establish a monitoring program to assess the success of regeneration including the rate of natural regeneration and changes in vegetation communities.*
- *Manage visitor activities to minimise impacts on flora species and vegetation communities (chapter 6).*
- *Encourage further research into significant flora species.*
- *Encourage the Field Naturalists Club of Victoria to continue fungi surveys in the reserve.*
- *Encourage research to identify Indigenous people's knowledge relating to vegetation and harvesting practices.*
- *Respect the cultural obligations of the Boonwurrung people in relation to plants and their significance in all management and visitor activities.*

4.5 Fauna

The reserve is an important habitat area and refuge for native fauna and supports almost 200 native fauna species of which 158 are bird species. The two reservoirs provide valuable habitat for water and shore birds, including 14 international migratory bird species. These species are listed under conservation agreements between Australia, Japan, Korea and China (Practical Ecology 2008).

The Dwarf Galaxias and the Growling Grass Frog have been recorded in the reserve. Both species are listed as vulnerable under the EPBC Act. Recent surveys of the catch drain have failed to rediscover Dwarf Galaxias (McGuckin 2007) and Growling Grass Frog has not been recorded since 1978.

There have been 20 state significant species identified over the last 20 years with most of these also being observed in the last five years (Practical Ecology 2008) (appendix 3).

The reserve supports a breeding pair of White-bellied Sea-Eagles. This species is listed as threatened under the FFG Act and requires suitable and undisturbed habitat including adequately sized areas of native vegetation containing large, old growth trees. Breeding success relies upon the availability of remnant stands of tall open woodland (Richards 2007).

The White-bellied Sea-Eagle has been recorded nesting within the reserve since 1999. The Sea-Eagle feeds on fish and birds and is sensitive to human disturbance especially during breeding. The FFG Action Statement for the White-bellied Sea-Eagle requires a suitable buffer zone around nests, from human and habitat disturbance on public land through appropriate land management practices (DSE 2003a).

While there is little specific information on the responses of White-bellied Sea- Eagles to disturbance, other studies have shown that raptors are highly sensitive to human presence near nest sites, and some species may be sensitive to disturbance as far as 500 metres (approx.) away (ARI 2009).

The Blue-billed Duck is listed as threatened under the FFG Act. Blue-billed Ducks are secretive, preferring stable, deep, fresh, well-vegetated wetlands for much of the year, particularly for breeding (DSE 2003b). Blue-billed Duck habitat across the state has declined due to drainage, clearing, grazing, salinity and ground water extractions. Increasing numbers at the reserve may indicate the increased importance the reserve plays as

habitat for this species (Practical Ecology 2008).

Restoring and enhancing shoreline and aquatic vegetation (section 4.4) may increase numbers of waterbird species such as the Blue-billed Duck being induced to breed especially if such areas were protected from visitor disturbance (ARI 2009).

There are no specific studies on the response of Blue-billed Ducks to recreational disturbance, however they have a preference to forage in deep water and may be less susceptible to disturbance at Devilbend than species which forage close to shorelines (ARI 2009).

A breeding pair of Caspian Terns has been recorded in the reserve over recent years. This species is listed as near threatened under the FFG Act and it is believed that there may only be in the order of 100 nesting pairs in Victoria (Richard Loyn, Arthur Rylah Institute 14 July 2009, pers. comm.).

Many of the fauna species would have traditionally been used by the Boonwurrung people including kangaroos, wallabies and bird eggs (Rhodes 2002). The White-bellied Sea-Eagle is also a totem species for some Indigenous groups and holds great spiritual significance (National Library Australian 2005).

The reservoirs are known to support four native and three introduced fish species, none of which are considered threatened in Australia or Victoria. The freshwater ecology study commissioned in 2008 found no threatened aquatic fauna species (Monash University 2009). The study did not find any additional native fish species and confirmed the presence of two exotic fish species in the reservoirs, as well as Marron in the reservoirs and catch drain. Four native frog species were found. However, Growling Grass Frog was not located although it appears that there is abundant habitat for this species and it may be present. The long-necked tortoise was not located despite being abundant in a 2001 survey.

Ongoing monitoring of the freshwater ecology will increase knowledge on the ecology of the freshwater habitats and impacts of changes in management. The project will include the design of an ongoing monitoring program including provision for volunteer involvement.

The reserve provides important areas of remnant vegetation for fauna on the Mornington Peninsula. Implementation of an extensive restoration program (section 4.4), together with habitat enhancement measures and control of pest plants and animals, will benefit fauna species. These benefits are expected to be built on with potential establishment of connective habitat links with remnant vegetation in surrounding areas (sections 7.1 and 8.3).

In the past, the catch drain has been managed as water storage infrastructure. However, there are now opportunities to enhance its habitat values.

Threats to fauna species include climate change induced habitat modifications, pest plants, predation by pest animals, reduced water quality, altered water regimes and human disturbance (Parks Victoria 2007). Maintaining sustainable water levels and water quality is particularly important to maintain habitat for waterbirds (section 4.3).

The ARI literature review on the impacts of fish on waterbirds revealed evidence that fish can impact on waterbirds directly through competition for food resources and indirectly through restructuring food webs and changing nutrient cycling processes. ARI identify the need for further research into the requirements of waterbird species and the trophic interactions at Devilbend. The ARI report on the impact of stocking with fish will inform decisions on the potential to stock fish (section 6.6).

Hodgins Road divides the reserve into southern and northern sections and Derril Road divides the reserve to the north-west. Mornington Peninsula Shire is the road authority for both of these roads. These roads fragment the reserve in terms of vegetation connectivity and wildlife movement as well as visitor access.

Existing fencing in sections of the reserve poses barriers to fauna movement across the broader landscape, including connectivity to adjacent habitat areas such as Woods Reserve and beyond. Removal and replacement of visually intrusive fencing for enhanced

aesthetics will improve fauna movement (section 4.1).

The DSE Working Group report identified measures to minimise potential threats from visitor access including provision of shared and pedestrian paths through areas consistent with their relative resilience and provision of access to the water and shorelines consistent with protecting ecological values, especially disturbance to waterbirds (DSE 2004a).

Locating visitor facilities such as car parks and picnic facilities away from habitats known to be of special values to waterbirds (e.g. the Eurasian Coot population in the vicinity of the dam wall) is recommended by ARI as the main strategy to reduce disturbance. The provision of trails is also expected to help minimise disturbance to waterbirds at Devilbend, and trails behind vegetation provide an additional buffer (ARI 2009).

A range of measures to minimise recreational impacts on fauna will need to be implemented in association with opening the reserve to visitor use. These measures include optimising use of existing trails, providing managed access to sections of the shoreline outside the Special Protection Area (section 3.3), provision for fauna-friendly fencing where necessary to control access, establishment of buffer zones for key species, buffer plantings and signage (chapter 6).

Birds Australia volunteers have been monitoring birds in the reserve over the past four years. This data has been valuable in planning for the reserve and will continue to be important in monitoring avifauna.

Devilbend offers a rare opportunity for a comprehensive monitoring program (ARI 2009). The baseline data collected by Birds Australia before opening up the reserve to visitors will enable comparisons to be made during the staged opening of access for visitor use.

Additional research into the identification of significant species such as the Growling Grass Frog will benefit management of the reserve. Improved knowledge about significant species such as the Blue-billed Duck and White-bellied Sea-Eagle would assist in their protection.

Aims

- Protect and enhance indigenous fauna and habitat values, particularly threatened species.
- Improve knowledge of significant fauna and threatening processes to improve management, protection and appreciation.

Management strategies

- *Implement priority actions for the Blue-billed Duck and White-bellied Sea-Eagle from approved FFG Act Action Statements to address current threats and conservation objectives.*
- *Protect key habitat areas for the Blue-billed Duck, White-bellied Sea-Eagle and Caspian Tern within the reserve, including establishment of buffers to control visitor access in close proximity to known nest sites. Ensure management adapts to any changes in nest or breeding locations.*
- *Enhance fauna habitat and fauna values through regeneration and restoration (figure 4), maintaining habitat corridors, linking remnant vegetation, fauna-friendly fencing and managing pest plants and animals (section 4.4 and 4.7).*
- *Implement adaptive management, where suitable, to assist habitats and fauna species to survive threats of climate change.*
- *Utilise the results of the freshwater ecology monitoring to inform further survey, monitoring and adaptive management responses where required.*
- *In consultation with Melbourne Water, identify and implement measures to enhance the habitat values of the catch drain.*
- *Liaise with the Shire to minimise the impacts on reserve values caused by vehicle traffic and fragmentation of the reserve by Hodgins and Derril Roads (sections 6.2 and 8.3).*
- *Ensure planning and development of visitor access minimises impacts on fauna. Establish monitoring of visitor use to inform adaptive management responses to address potential threats to fauna as they arise (chapter 6).*

- *Continue to support regular and ongoing bird surveys by Birds Australia.*
- *Establish a monitoring program to assess changes in habitats and use of habitats to assist with developing management priorities.*
- *Encourage research into the habitat and breeding requirements of the Blue-billed Duck and White-bellied Sea-Eagle and other significant species including the Growling Grass Frog.*
- *Encourage research to identify Indigenous knowledge relating to fauna.*
- *Reflect Indigenous knowledge of fauna in management practices where practical.*
- *Respect the cultural obligations of the Boonwurrung people in relation to fauna and their significance in all management and visitor activities.*

4.6 Fire management

The reserve is in the East Port Phillip Fire District, however the reserve has yet to be incorporated into the East Port Phillip District Fire Protection Plan (DSE 2003c).

Parks Victoria undertakes fire management in the reserve, including a slashing program and maintenance of management tracks. Parks Victoria works closely with DSE and the Country Fire Authority (CFA) on fire management, particularly in co-operative fire control planning and suppression.

Parks Victoria undertakes fire protection measures in accordance with the Code of Practice for Fire Management on Public Land (DSE 2006) and Parks Victoria's operational policies. The code of practice requires that fire management activities ensure that environmental values, including the vigour and diversity of the state's indigenous flora, are protected, as far as practical, from the harmful effects of wildfire and inappropriate fire regimes.

There is little information on the fire history of the reserve. The most recent wildfire in April 2007 burnt 10 hectares south of Hodgins Road.

The catch drain through the reserve currently provides a fuel and fire break. Maintaining the catch drain as a fuel break reduces the need to create additional breaks and reduces risks of further fragmentation.

Implementation of an indigenous vegetation restoration plan (section 4.4) will need to consider future fire protection and management needs, particularly in areas of the reserve currently grazed. Firebreaks along the southern and eastern boundaries will need to be considered together with prescribed burning to reduce fuels. The role of the catch drains in fire protection will need to be reviewed in light of measures to enhance habitat values (section 4.5).

Fire is an important factor and a powerful management tool in maintaining the vigour and diversity of the reserve's vegetation. Fire should be considered as a tool in the preparation of areas where natural regeneration is desired (Practical Ecology 2008).

Ecological fires in the reserve must be carried out in accordance with DSE's Guidelines and Procedures for Ecological Burning on Public Land (DSE 2004b).

There are some areas within the reserve that could be impacted by inappropriately planned fire regimes:

- peat areas and in particular Swamp Scrub
- White-bellied Sea-Eagle nesting areas
- natural regeneration areas less than 20 years old
- remnant vegetation containing trees with hollows
- Aboriginal places or objects.

Fire control activities including the construction of control lines and the use of phosphate-based fire retardants may result in the fragmentation, modification or loss of native flora, fauna habitat and cultural sites, places, landscapes and objects.

Aims

- Cooperate with relevant agencies and land managers in the protection of human life, neighbouring properties and assets from damage by fire.
- Protect reserve values from the deleterious effects of wildfire or inappropriate fire regimes.

- Establish fire regimes that are appropriate to achieving ecological objectives or enhanced regeneration.

Management strategies

- *Prepare a fire protection plan for the reserve in consultation with DSE, CFA and the community. In the interim, continue to implement fire protection works, including any approved planned burns.*
- *Ensure that the reserve's natural and cultural values and Indigenous cultural heritage are taken into account in the planning and implementation of fire protection and management operations.*
- *In partnership with DSE, work with the Shire and the CFA to incorporate the reserve into the East Port Phillip Regional Fire Protection Plan.*
- *Ensure fire protection measures are included in the planning and implementation of the comprehensive restoration program. Where feasible, incorporate application of fire into the indigenous vegetation restoration plan to prepare areas for natural regeneration (section 4.4).*
- *Avoid prescribed fire in peat and Swamp Scrub areas, White-bellied Sea-Eagle nesting areas and recent areas of natural regeneration.*
- *Encourage research into Indigenous knowledge relating to use of fire, in cooperation with the Boonwurrung people.*
- *Reflect Indigenous knowledge in relation to fire in education and management programs.*

4.7 Pest plants and animals and diseases

Pest plants within the reserve have the potential to displace and disrupt plant communities and natural processes. Management of environmental weeds is one of the highest priorities for the management of natural values in the reserve (Practical Ecology 2008).

Flora surveys have identified 78 introduced plant species in the reserve. Priority weeds include Sweet Pittosporum and non-endemic native species such as Southern Mahogany and Giant Honey-myrtle that are known to pollute the indigenous gene pool (appendix 3).

The reserve contains nine weeds that have been declared as *restricted weeds* under the *Catchment and Land Protection Act 1994* (CALP Act) (appendix 4). These weeds have been identified as a serious threat to primary production, Crown land, the environment or community.

Blackberry, African Boneseed, Willow, Gorse and Bridal Creeper have also been identified as weeds of national significance (Thorpe and Lynch 2000).

The management of pest plants in the reserve is guided by the Victorian Pest Management: Weed Management Strategy, A Framework for Action (NRE 2002c). Parks Victoria undertakes adaptive weed management programs in conjunction with reserve neighbours. Ongoing monitoring enables an evaluation of the effectiveness of programs and the need for refinement.

High quality areas of indigenous vegetation are a priority for weed management to prevent a decline in ecological values.

Some native animals are very adaptive to introduced species and some sites supporting environmental weeds may in fact provide significant habitat for some native fauna. Any weed programs must consider the short-term impacts on habitat values for fauna (Practical Ecology 2008).

Control methods for pest plants may include physical removal, fire, biological agents and chemical treatment. Consideration must be given to run-off and water quality issues with the use of chemicals.

Recent programs have been undertaken in conjunction with community groups to remove pines, Sweet Pittosporum and Spanish Heath.

Phytophthora cinnamomi (PC) impacts on the structure and composition of vegetation communities by causing dieback of some plant species. Once the pathogen is established in a susceptible community, there are no known means of eradication (DSE 2008b). Vegetation dieback caused by PC is listed as a key threatening process at a national and state level. The spread of PC from infected sites into

the reserve and the use of PC-infected materials in the construction of trails are potentially threatening processes.

Sampling for PC within the reserve has been undertaken at almost 100 sites. To date PC has not been detected in the reserve, however given the wet nature of the environment diligence in the prevention of the introduction and spread of pathogens is important.

Climate change may also affect the distribution and incidence of pest plants and pathogens such as PC. The Australian Greenhouse Office (AGO) has identified that further modelling and experimental studies are required to clarify whether the increased climate variability expected in southern Australia will cause PC to become an even greater risk to natural ecosystem health than it is already. There may also be interactive effects whereby drought-stressed ecosystems and species are more susceptible to some pests and pathogens (AGO 2006).

There have been 21 introduced fauna species recorded in the reserve, including rabbits, foxes, goats, cats and ten birds (Practical Ecology 2008). Deer and pigs have also been observed and removed from the reserve.

There is no information about the population numbers, distribution or densities of pest animals.

Introduced predators like feral cats and foxes threaten the survival of a wide range of native fauna. Other introduced species including rabbits, feral goats and feral pigs have a significant impact on biodiversity preventing regeneration, spreading weeds, causing soil damage and erosion, degrading habitat and competing with native fauna for resources like food or shelter. Rabbits in particular can alter the species composition of the ground flora (Halek & Johnson 2002).

The management of foxes is guided by the *Victorian Pest Management: Fox Management Strategy - A Framework for Action* (NRE 2002d). Adaptive management of foxes is based on reviewing the effectiveness of annual programs and refining strategies accordingly.

Four introduced aquatic species have been identified in the Reservoirs (McGuckin 2001). These include Marron *(Cherax tenuimanus)*, which is a Noxious Aquatic Species under the Fisheries Act.

Partnership programs with neighbours and adjacent land managers will be important in the success of pest plant and animal control programs. Pest plant control along roadsides, particularly those that fragment the reserve, will assist with weed management in the reserve.

Parks Victoria works in partnership with the Port Phillip and Western Port Catchment Management Authority to implement strategies in the Regional Catchment Strategy to minimise impacts of pests (section 8.3).

Aims

- Control, and where possible, eradicate priority pest plant and animal species.
- Minimise the impact of control programs on native flora and fauna.
- Restore native vegetation to areas where non-indigenous plants have been removed.

Management strategies

- *Control or eradicate pest plant species in accordance with the following priorities:*
  - *protection of Grassy Woodland, Lowland Forests and high quality remnants from high priority weeds and non-endemic native species such as Southern Mahogany and Giant Honey-myrtle*
  - *eradication of vigorous new or emerging weeds before they become established*
  - *control of restricted weeds listed under the CALP Act.*
- *Undertake an adaptive pest management program to control, and where possible, eradicate pest plants and animals. Priority will be given to EVCs where the control of pest plants and animals may achieve management objectives for that EVC, and habitats of high conservation value for fauna.*
- *Ensure pest plant control works consider the short-term impacts on habitat values for fauna.*

- *Implement monitoring programs to enable the effectiveness of key management programs to be evaluated and to inform adaptive improvements.*
- *Use control methods that minimise disturbance to natural systems. Avoid or carefully control soil disturbance and the use of chemicals, especially where this could impact on natural values and water quality.*
- *Undertake further testing for Phytophthora cinnamomi and develop and implement management controls.*
- *Ensure hygiene procedures including disinfection of all vehicles, plant, machinery and footwear and minimising risks of infection from introduced materials such as gravel.*
- *Work with DPI to ensure control measures are in place to control the Marron population and prevent the spread of Marron (section 6.6).*
- *Continue to work with community groups and adjacent landholders to manage pest plants and animals.*
- *Work with the Mornington Peninsula Shire to develop an integrated pest plant and animal program in the reserve and Woods Reserve.*
- *Work with relevant Indigenous communities to ensure that Aboriginal places are not adversely affected by management activities such as rabbit control programs.*
- *Ensure all significant pest plant and animal control activities in the reserve are incorporated into Parks Victoria's Environmental Information System.*

5 PROTECT AND CONSERVE CULTURAL HERITAGE

5.1 Aboriginal cultural heritage

The landscapes and landforms of the reserve are intrinsic elements of the *Country* of the Boonwurrung people. The reserve is of considerable aesthetic, historical, scientific and social value to the Boonwurrung people and has been assessed as being of state significance for its unique combination of cultural and environmental values near a major metropolitan centre (Rhodes 2002).

The area in and around the reserve has been described in research as a traditional Boonwurrung campsite. The *Daangean* campsite is the first archaeological evidence of a complex Boonwurrung campsite located inland on the Mornington Peninsula. Research has indicated two references to Boonwurrung names for the area *Daangean* and *Towurong* (Rhodes 2002).

Approximately 80% of the reserve has been surface surveyed for Aboriginal archaeological sites and 18 Aboriginal archaeological places have been identified. The surface of the reserve has been highly modified by past land uses and the potential for discovery of additional sites may be low other than around the edge of the two reservoirs. Most of the known places have been exposed by erosion around the water's edge due to fluctuating water levels. Continued erosion around the water's edge may expose more sites.

Daangean would have contained native flora and fauna and geological resources that were traditionally used by the Boonwurrung people.

William Thomas was an Assistant Protector and Guardian of the Aborigines between 1830 and the 1850s. The reserve is associated with his efforts to establish a Western Port Protectorate on behalf of the Crown. Devilbend was to be the location of the settlements.

All Aboriginal places, objects and Aboriginal human remains are protected under the Aboriginal Heritage Act (section 2.5). It is an offence to damage, interfere with or endanger an Aboriginal place, object or human remains except in accordance with a Cultural Heritage Management Plan developed with the Department of Planning and Community Development (DPCD).

Issues relating to the protection of Aboriginal cultural heritage are approached in accordance with this Act.

Native title has been extinguished over the whole of the reserve on the basis of a combination of prior freehold grants, roads and public works.

There are Aboriginal places and objects in the reserve that may be threatened by a number of natural and non-natural processes. The most significant of these threats is erosion caused by changing water levels of the reservoirs and provision for visitor access.

Aims

- Protect Aboriginal cultural heritage from interference or damaging activities.
- Respect the views of the Boonwurrung people in managing the reserve.
- Enhance relationships and partnerships with the Boonwurrung people in the management of the reserve.
- Encourage learning and understanding about the Aboriginal cultural heritage of the reserve.

Management strategies

- *Protect all Aboriginal places and objects from disturbance and damage in partnership with the Boonwurrung people and in cooperation with DPCD (section 8.3) and in accordance with:*
  - *relevant legislation including the Aboriginal Heritage Act 2006*
  - *relevant cooperative management agreements*
  - *Parks Victoria's Guidelines for Working with Aboriginal Communities and Protection of Cultural Sites (Parks Victoria 2002).*
- *In consultation with the Boonwurrung people, provide managed public access to the shoreline of the reservoirs and use boardwalks and other measures to protect*

vulnerable places and objects from potential impacts from public access (sections 6.4 and 6.6).

- *Develop and implement a Cultural Heritage Management Plan in cooperation with the Boonwurrung people and other relevant parties in accordance with the Aboriginal Heritage Act 2006.*
- *Support research into Indigenous cultural heritage in cooperation with the Boonwurrung people and use this information to inform management programs to protect and interpret cultural values.*
- *Assess annual reserve and volunteer programs to integrate relevant Indigenous practices and minimise the potential for impact of management activities on Aboriginal cultural heritage in consultation with the Boonwurrung people.*
- *Continue to engage and develop partnerships with the Boonwurrung people and any other relevant groups and individuals and encourage Indigenous communities to be involved in management.*
- *Maintain confidentiality in respect of Indigenous cultural obligations, knowledge, places, objects and aspirations, in accordance with the views of the Boonwurrung people (sections 6.1 and 8.2).*

5.2 Historic heritage

Devilbend and Bittern Reservoirs are associated with the development of Melbourne's water supply. No research has been undertaken to assess the heritage significance of the water supply assets. However, Melbourne Water is currently undertaking a heritage review across its water supply network, including Devilbend and Bittern Reservoirs.

One archaeological site, a demolished farmhouse in the reserve, has been listed on the Victorian Heritage Inventory (H7921-0040). The Inventory includes all known archaeological remnants greater than 50 years old, regardless of level of significance. Under the *Heritage Act 1995* (Vic.), archaeological sites require consent to disturb from Heritage Victoria whether or not they are listed on the inventory.

The landscapes associated with past land use and particularly the orcharding history need to be assessed for their cultural significance and longer term management (section 4.1).

Places of historic and cultural significance are managed in accordance with the Burra Charter of Australia ICOMOS (Australia ICOMOS 1999) and the provisions of the Heritage Act.

Aims

- Conserve, protect and interpret places and values of historic and cultural significance.
- Improve knowledge of historic heritage values of the reserve.

Management strategies

- *Support research into social history, technological change and past land uses, and their impact on the reserve or significance of particular heritage values.*
- *Undertake a heritage assessment of the cultural landscapes associated with past land use.*
- *Document heritage values and record the information in Parks Victoria information systems.*
- *Interpret the historic heritage of the reserve to encourage learning and understanding.*

6 VISITING AND ENJOYING

6.1 A place for learning

Providing information, interpretation and education can help orientate and inform visitors, foster an understanding and appreciation of the reserve's special natural and cultural values, build understanding of management activities and help visitors to experience, understand and appreciate the reserve in a safe and appropriate manner.

Parks Victoria delivers information, interpretation and education to visitors by various means, including its website, ranger patrols, Park Notes, signs, tourism brochures and other publications, displays and licensed tour operators. These services may be developed and provided in collaboration with other agencies and organisations.

The reserve offers opportunities for visitors and the broader community to become aware of and appreciate the importance of remnant bushland areas for flora, fauna and landscape conservation and Aboriginal and historic heritage.

Information, interpretation and education aims to enrich visitors' understanding of the reserve's values and evoke a relationship between visitors and the reserve. It is most effectively delivered in a natural environment to better engage visitors' senses.

Pre-visit information aims to inform visitors of the purpose of the reserve, its location and boundaries and to advise on safe, permitted and appropriate activities and behaviours within the reserve.

Pre-visit information, including a Park Note on the reserve, is available from Parks Victoria's website, the Parks Victoria office at Rosebud and accredited tourist information centres on the Mornington Peninsula.

Orientation and interpretive information aims to enhance visitor experiences giving information about access, events and activities to help protect reserve values and visitor safety.

Visitors' appreciation and awareness can be enhanced by providing information on reserve values and management issues (section 8.1), and through on-site information and interpretation signs.

The reserve is readily accessible to schools and educational institutions in south-east Melbourne and the Mornington Peninsula. It offers a suitable setting for educational programs for students to learn about bush regeneration, observe and learn about birdlife and biodiversity, and learn about Aboriginal and historic heritage. The reserve has a history as a venue for learning about Victoria's water supply.

The reserve's special settings and ambiance is attractive to the local artistic community. Two exhibitions, portraying and interpreting the settings in creative ways, have been held at the Mornington Regional Art Gallery since 2007.

Aims

- Promote and encourage visitors' discovery, enjoyment and appreciation of the reserve's natural and cultural values in a safe and appropriate manner through information, interpretation and education.
- Encourage public support for the reserve and reserve management practices.
- Provide for use of the reserve as an educational and research resource for schools, tertiary institutions and other groups.

Management strategies

- *Develop and maintain quality pre-visit information that informs prospective visitors and the broader community about the reserve, including developing and maintaining the Parkweb information page and updating the Park Note.*
- *Develop and maintain orientation and interpretation information at the existing and proposed visitor sites (section 6.3), at trail headers and along trails.*
- *Use Indigenous language for natural features, plants and animals in interpretive material and signs, in particular use Daangean, the Aboriginal name for the area.*

- *Develop and deliver messages about the following values and themes:*
  - *fauna values, in particular waterbirds and shorebirds and their protection from disturbance, landscape ecology and habitat corridors*
  - *flora values and the process of natural bushland regeneration*
  - *management programs including restoration and revegetation, pest plant and animal management and community programs*
  - *Indigenous cultural heritage and activities of the Boonwurrung people and the history of the Western Port Protectorate*
  - *water supply and storage history of the site*
  - *geological processes and features*
  - *Phytophthora and hygiene measures*
  - *appropriate visitor behaviours including minimal impact techniques and adherence to codes of conduct applicable to their activity to protect reserve values and maximise visitor safety.*
- *Provide and support opportunities for the range of user groups to discover, experience and understand the reserve's natural and cultural values.*
- *Provide opportunities for stimulating and innovative approaches to improve understanding of the reserve's values including continuing to promote and encourage projects by artists.*
- *Promote greater public understanding and appreciation and respect for Boonwurrung heritage by incorporating information about Indigenous tradition, places and objects in information, interpretation and education programs in accordance with the views of the Boonwurrung people (sections 5.1 and 8.2).*
- *Provide opportunities and encourage and support the Boonwurrung people to incorporate information about their heritage and aspirations into information, interpretation and education programs (section 5.1).*
- *Promote educational use by schools, educational institutes and community groups. Ensure school and other formal education groups adopt the minimal impact guidelines.*
- *Regularly evaluate information and interpretive services and facilities as part of the visitor services program.*
- *Establish self-discovery interpretation along trails.*

6.2 Vehicle access

The main access routes to the reserve are via Moorooduc Highway and Tuerong Road from the west and the Western Port Highway and Graydens Road to the east. Most visitors to the reserve currently arrive by car at the Devilbend Picnic Area.

The opening of the reserve for recreation and anticipated increase in the number of visitors over time is expected to impact on road usage in the locality and may result in road safety issues especially for recreational trail users of the surrounding roads. There is a need to work with the Mornington Peninsula Shire as the responsible road authority and the local community to resolve these issues (section 8.3).

The car park at Devilbend Reservoir is informal and access for buses is difficult. Road safety audits have identified that the entry road into the Devilbend Picnic Area is potentially dangerous due to inadequate sightlines (O'Brien and Associates 2002).

Safe entry and the additional and better defined car parking required to meet the anticipated increase in visitors will be addressed through master planning for visitor sites (section 6.3).

Vehicle access and parking is proposed for Bittern Reservoir at a new visitor site (section 6.3). Public vehicle access will be confined to defined car parking areas to prevent conflicts with recreational use and protect the reserve's values.

There is a series of management vehicle only (MVO) tracks throughout the reserve and these are primarily located on the catch drain embankments that border the two reservoirs to the west and south. The road and track network is detailed in table 3 and figure 5.

Many sections of MVO tracks are suitable for pedestrian and cycling access (section 6.4 and 6.5).

The MVO tracks on the catch drain embankments are raised and remain relatively dry and accessible all year round.

An MVO track around the northern edge of Devilbend Reservoir can get wet throughout winter and the track can become impassable.

There is currently no defined management vehicle access to the southern section of the reserve which is bordered by private land.

Phytophthora cinnamomi poses a significant risk to the ecological values of the reserve. While there is no evidence of the presence of the pathogen to date, further investigation is required. The risk of infection is currently limited by the restricted access. However, as the reserve is opened for visitor use, the risk of infection and spread will be increased. Proposals for extending the track network will need to consider the risk of infection and spread of *Phytophthora cinnamomi.*

Aims

- Provide for safe vehicle access in the reserve.
- Provide and maintain a sustainable network of internal tracks suitable for management purposes.
- Minimise the impact of road and track management on the reserve's values.

Management strategies

- *Manage and maintain roads for motor vehicles in accordance with table 3 and figure 5. Review vehicle access if necessary to prevent the spread of Phytophthora cinnamomi (section 4.7).*
- *Ensure road and track maintenance works do not damage natural or cultural values and maintain machinery and vehicle hygiene practices to minimise possible introduction of pest plants and diseases (section 4.7).*
- *Undertake works to wet sections of the MVO track around the northern edge of Devilbend Reservoir to ensure year round access while maintaining drainage flows.*
- *Construct a MVO track in the southern section of the reserve to provide for management access for fence repairs, maintenance works and fire protection, and recreation (figure 5).*

TABLE 3 MOTOR VEHICLE ACCESS

ROAD	CURRENT CLASSIF'N	PLANNED CLASSIF'N	CURRENT AND PLANNED MOTOR VEHICLE USE	OTHER USES	ROAD AUTHORITY
Devilbend Entrance Road	5B	5A	M2	C, W	PV
Bittern Entrance Road	5C	5B	M2	C, W	PV

Parks Victoria Road classification:

5A Primary Road—all weather, two-lane, mainly sealed road.

5B Secondary Road—all weather, two-lane formed and gravelled, or single lane sealed with gravel shoulders.

5C Minor Road—single lane unsealed, formed road usually lightly gravelled.

Motor vehicle use:

M2 Visitors in 2WD and 4WD motor vehicles

MV Management vehicles (see figure 5)

Other uses:

C Cycling

W Walking

Road authority:

PV Parks Victoria

6.3 Visitor experiences

The reserve provides a tranquil water setting for family and social gatherings as well as natural experiences for individuals. The existing picnic opportunities will be expanded to provide for activities including picnicking, walking, bird watching, fishing, cycling, and art and cultural activities.

The expanded Devilbend Picnic Area and a new Picnic Area proposed at Bittern Reservoir (figure 5) will be the key focus for visitors to the reserve. These sites will give visitors better access to the reserve's two water attractions.

An additional low-key visitor site in the vicinity of the junction of Derril and Hodgins Roads is proposed to provide access to an elevated area of the reserve for extensive views of Devilbend Reservoir.

Devilbend Picnic Area is the primary visitor site and currently has car parking, seating and views across Devilbend Reservoir. Visitor facilities at the site are basic and need to be upgraded (table 4). A toilet block is required to replace one removed for safety reasons. The site needs to be redeveloped to adequately service the anticipated increase in visitors when the reserve is further opened to the public. Redevelopment of the site and providing trails from the site will need to consider an appropriate set back from the nearby Eurasian Coot resting and feeding area as recommended by ARI (section 4.5).

Redevelopment of Devilbend Picnic Area and the development of a new secondary visitor site at Bittern Reservoir will require detailed master planning to enhance services and provide for the anticipated increase in use. The provision of new or upgraded visitor facilities at these sites together with trails to access adjacent features will assist in protecting values. The design of the visitor sites will consider:

- measures to protect and enhance natural and cultural values
- safe vehicle access and parking for both cars and buses
- pedestrian access and trail linkages
- picnic facilities and amenities
- access for disabled visitors to facilities and features where possible
- visitor information and interpretation facilities
- landscape treatment and measures to protect and enhance landscape values.

Facilities required beyond the two visitor sites include boardwalks and viewing platforms, potential bird hides and a small parking area to access trails.

Table 4 summarises the existing and proposed facilities at the visitor nodes in the reserve and these are shown on figure 5.

Aim

- Enhance visitor experiences and enjoyment by establishing and maintaining visitor facilities that are consistent with the protection of reserve values.

Management strategies

- *Provide and maintain visitor facilities in accordance with table 4 and figure 5.*
- *Develop the Devilbend Reservoir Picnic Area as the principal visitor site for the reserve and Bittern Picnic Area as a secondary visitor site.*
- *Prepare and implement a master plan for the redevelopment of the Devilbend Picnic Area and the establishment of a Picnic Area at Bittern Reservoir.*
- *Develop dispersed visitor facilities including trails, boardwalks and viewing platforms in consultation with the Boonwurrung people and relevant user groups.*
- *Establish a small car park in the vicinity of the junction between Derril and Hodgins Roads.*

6.4 Walking

The reserve provides a unique inland environment for bushwalking on the Mornington Peninsula with its opportunities for viewing the reservoirs, birds, remnant bushland and peaceful vistas.

TABLE 4 VISITOR FACILITIES

SITE	PLANNED LOS	TOILET	TOILET FOR DISABLED	PICNIC TABLE	INFO SHELTER	BBQS	WATER SUPPLY	RESERVE INFO	CAR PARK
Devilbend Picnic Area	M	P	P	U	P	P	P	P	U
Bittern Picnic Area	B	P	P	P	N	N	N	P	P

Key:

LOS Levels of service:

VH Very High - very high level of visitor facilities and amenities provided

H High - high level of visitor facilities and amenities provided

M Mid - moderate levels of visitor facilities and amenities provided

B Basic - limited visitor facilities and amenities provided

VB Very Basic - offer very basic level of service and basic access only

Facilities:

U upgrade existing facility

P provide facility

N no facility

Providing walking trails will minimise disturbance to waterbirds in the reserve (ARI 2009), particularly where trails are behind vegetation.

The reserve is suitable for a range of trails to provide for short walks from the visitor sites (less than 1 hour) and longer walks (half day); including circuit trails (figure 5).

The area south of the Devilbend Picnic Area gives visitors the opportunity to experience a range of settings provided by the existing tracks and will be a focus for short circuit trails that include access along designated areas of the shoreline.

Shoreline access for walking outside the Special Protection Area (figure 4) is expected to cause some disturbance to waterbirds and shorebirds (section 2.4). The recommended monitoring of visitor use and behaviour, together with monitoring of bird species and responses to disturbance, will assist in determining the nature of any ongoing impacts from this shoreline access and inform management responses (section 4.5).

Known and potentially as yet undiscovered Aboriginal places and objects may be impacted upon by pedestrian access to the shoreline, unless managed carefully. Access and measures to ensure protection of Indigenous sites will be determined in consultation with the Boonwurrung people (sections 5.1 and 8.2).

Existing trails around Bittern Reservoir are suitable for a circuit trail with opportunities to get close to the edge of the water body as well as enjoy a bushland experience. The site is also suitable for shorter walks which can provide good vantage points for bird watching.

The existing catch drain embankment and MVO track network provides the primary opportunity for developing walking routes while requiring minimal additional track construction and therefore not increasing the fragmentation within the reserve. A link between Devilbend and Bittern Picnic Areas can make use of the catch drain embankment.

Some sections of the existing MVO track network run through sensitive conservation areas and are not suitable for public access (section 4.5). Use of MVO tracks in proximity to White-bellied Sea-Eagle nest sites will not be permitted other than for approved research, management purposes or under permit.

Specific walking routes will need to be designed and sited to ensure no disturbance to Indigenous sites and minimal impact on natural values. Protection measures such as boardwalks or other surface treatments, fencing, buffer planting between trails and the shoreline and signage will need to be included in trail planning.

TABLE 5 MANAGEMENT OF WALKING TRAILS

ROAD / TRACK	LENGTH (KM)	PLANNED GRADE	OTHER USES (SEE FIGURE 5)	ACTIONS/COMMENTS
Daangean Point Trail	3.3	1/2	C & MV in sections as shown on figure 5	Master planning to include designs for people with limited mobility
Catch Drain Trail	7.7	3	C, MV	
Bittern Reservoir Trail	3.3	2	MV	
Daangean Trail	4	3	C, MV	Seasonal closures may be required
South Boundary Trail	10	3	H, C, MV	Seasonal closures may be required

Key:

Grade: Australian Standards Classification for walking tracks (AS 2156.1—2001)

Grade 1 For a large number of visitors, including those with reduced mobility, with frequent encounters and high levels of interpretation and facilities.

Grade 2 For a large number of visitors to walk easily in a natural environment with frequent encounters and a moderate to high level of interpretation and facilities.

Grade 3 For visitors to walk in slightly disturbed natural environments, requiring moderate levels of fitness with occasional encounters and perhaps signs—interpretation and facilities are not common.

Other C Cycling, H Horses, MV Management Vehicles

A longer distance trail around Devilbend Reservoir is also feasible and will be considered in the medium to long-term when the impacts of opening the reserve have been assessed and as opportunities arise as areas regenerate.

Aim

- Provide a range of bushwalking experiences along a sustainable walking trail network in the reserve while minimising impacts on reserve values and other reserve visitors.

Management strategies

- *Develop and maintain a trail network as detailed in table 5 and shown on figure 5.*
- *Give priority to the development of trails at Daangean Point and the Catch Drain trail link to Bittern Reservoir.*
- *Identify the best locations for boardwalks and viewing platforms in consultation with the Boonwurrung people, bird watching groups, bushwalkers and fishers.*
- *Include protection measures in trail planning and design to ensure no or minimal impacts on values.*
- *In the medium-term, undertake staged development of longer circuit walks as identified in table 5.*
- *Monitor accessible shoreline areas for potential impacts on natural and cultural values and take action where required to manage impacts (section 4.5 and 5.1).*
- *Promote Bushwalking Victoria's Tread Softly minimal impact practices.*
- *Provide information for visitors on the location and features of trails and encourage walkers to stay on trails.*
- *Develop minimal impact information and interpretation signs along trails to ensure visitor safety and enhance visitor experiences.*

6.5 Cycling

The generally flat or gently undulating topography of the reserve and nature of the trails provide a good setting for families and novice cyclists.

Cycling is suitable on most of the existing management vehicle tracks and proposed perimeter trails in the reserve. It is anticipated that the level of cycling will be low and that the unsurfaced nature of the majority of trails will limit opportunities for cycling. It is not expected that there will be high interest by mountain bike riders seeking challenges due to the topography.

Cycling has the potential to create conflicts with other users and will not be permitted on designated walking only trails (figure 5). Cycling can also damage tracks not designed for cycling, particularly in wet conditions. The reserve is not suitable for organised cycling events because of habitat sensitivities, potential for soil erosion and potential for conflict with other user groups.

Off-track cycling is also not appropriate as it can damage vegetation and soils and result in fragmentation of habitat and soil erosion.

Aim

- Provide opportunities for cycling, while minimising impacts on reserve values and conflicts with other reserve users.

Management strategies

- *Permit cycling on management vehicle tracks and boundary trails as shown in table 5 and figure 5.*
- *Monitor the level of cycling use and impacts of cycling and implement measures to minimise any impacts.*

6.6 Fishing *

There has been strong interest by the peak, state-wide recreational fishing organisation, VRFish, local fishing clubs and individual anglers in the provision of fishing facilities at the reserve since Melbourne Water's decision to decommission the reservoirs.

In November 2006, the State Government's recreational fishing and boating policy stated it would look at options for developing new fishing opportunities at Devilbend Reservoir.

The reserve provides opportunities for a unique inland fishing experience in a natural setting that complements the coastal fishing opportunities along the Mornington Peninsula. Such inland experiences are limited in the south east of Melbourne. Devilbend is considered to be large enough to absorb the expected numbers of fishers without depriving waterbirds of significant habitat (ARI 2009). In addition, aquatic surveys have not recorded any significant fish species in the two reservoirs.

Devilbend Reservoir is currently populated with several species of fish including Redfin and eels, which would be targets for recreational fishers. A number of small native fish species would not be targeted by recreational fishers.

Redfin is an introduced fish which preys on native fish as well as worms, molluscs, crustaceans and insects and reducing numbers may have some beneficial effects for some species (ARI 2009). Redfin compete strongly with a number of native fish including native perch and to some degree galaxid fishes (Monash University 2009).

The removal of Redfin may cause changes to the trophic structure of the reservoirs and ARI have recommended the impacts on birds would need to be monitored and adaptive management strategies developed to address any potential threats. Freshwater ecology monitoring and on-going bird surveys will be important to address potential impacts and responses (section 4.5).

Devilbend Reservoir is also currently populated with Marron, a freshwater crayfish species that is a declared noxious aquatic species in Victoria. Restrictions on the type of fishing equipment permitted in the reserve will be employed to manage the spread of Marron, along with existing legislation which prohibits the possession of Marron at any time (section 4.7).

Managed access to sections of the shoreline for walkers also provides opportunities for fishing (section 6.4). Monitoring of fishing activities and behaviour will be necessary to assess the potential impacts of shoreline access on natural and cultural values and to determine adaptive management strategies to address threats (section 4.5). Education and enforcement will

* Refer also to amendment (after page vii) for update to Section 6.6

play a key role in ensuring visitors are aware of potential impacts and risks. Potential impacts associated with discarded fishing lines, bait bags or other rubbish will need to be included in on-site information and addressed through regular clean-up activities as may be required.

Facilities such as trails, boardwalks and/or platforms can be established to manage access to the shoreline and protect values (sections 6.3 and 6.4).

VRFish has also shown interest in being involved in the reserve in terms of working bees and promoting a Code of Conduct among fishers.

Further fishing opportunities through potential stocking with additional fish species will be considered following a risk assessment being undertaken by DPI in accordance with the Guidelines for Assessing Translocation of Live Aquatic Organisms in Victoria (DPI 2003). The Monash University research on fresh water ecology (section 4.5) and the ARI research on the impacts of stocking with fish on waterbirds and shorebirds will inform the DPI risk assessment.

Aim

- Provide opportunities for fishing while minimising impacts on reserve values and conflicts with the activities of other reserve users.

Management strategies

- *Provide access to sections of the shoreline for fishing at Devilbend and Bittern Reservoirs in accordance with figure 5.*
- *Determine designated sections of the shoreline for fishing and specific site protection measures in consultation with the Boonwurrung people to ensure no impacts on Indigenous sites.*
- *Work with the Boonwurrung people and fishing interest groups in the design and location of facilities for fishing to ensure the protection of cultural places and objects (sections 5.1 and 8.2).*
- *Monitor the impacts of fishing on bird populations and natural and cultural values and develop adaptive management strategies to address threats (section 4.5).*
- *Encourage fishers to adopt minimal impact practices and encourage adherence to the 'VRFish Code of Conduct'.*
- *Encourage and support the involvement by fishing groups in the maintenance of the reserve, including working bees for shoreline clean-ups as may be required (section 8.2).*
- *Work with Fisheries Victoria (FV) to ensure effective enforcement of fishing regulations (section 8.3).*
- *Liaise with FV to ensure Marron is managed in accordance with its status as a noxious aquatic species (section 8.3).*
- *Subject to the outcomes of the DPI risk assessment, prepare and implement a strategy for fish stocking if it is determined to be appropriate.*

6.7 Horse riding

There has been strong interest by local equestrian clubs and individual riders in riding at the reserve since the development of the Draft Master Plan by Melbourne Water in 2002. There is a concentration of rural properties with horses and a range of horse-related activities occur around the reserve. There are also two public equestrian facilities within close proximity to the reserve.

The Mornington Peninsula Shire Regional Equestrian Strategy (MPS 1997), identified many of the roads surrounding the reserve as important for equestrian links. However, the equestrian community has expressed concern over the lack of safe off-road equestrian trails on the Peninsula, particularly with expected increased visitor numbers to the reserve (section 6.2). The Shire has recommended that planning for equestrian use in and around the reserve is integrated with the existing and proposed wider trail network.

Turners Road (north) is closed to unauthorised vehicular traffic and has a set of cavalettis installed at the entrance, which allows horses and walkers to access the lane. The equestrian community has requested access beyond the end of this lane into the reserve.

There is an opportunity to provide for a safe equestrian trail around the southern section of the reserve bounded to the north by Hodgins Road for local riders as part of a regional trail

network (table 5, figure 5). This trail will require further planning as it would include construction through wet areas with potential *Phytophthora cinnamomi* threats (section 4.7).

Trail location and design must ensure minimal threat of the spread of this pathogen (section 6.2) and there may be a requirement for seasonal closures.

Proposed trails need to be managed to ensure compliance and safety and to comply with agreed licence terms for grazing areas.

The 'Horse Riding Code' (Parks Victoria 2006) provides guidelines to help riders protect the reserve's values and avoid conflict with other visitors.

Organised equestrian events are not appropriate for the reserve given the habitat sensitivities, potential for erosion and potential conflict with other user groups.

Cross country riding is also not appropriate as this can damage vegetation and soils, with resulting fragmentation of vegetation and soil erosion.

Aim

- Provide opportunities for horse riding, while minimising impacts on reserve values and conflicts with the activities of other reserve users.

Management strategies

- *Develop an equestrian trail along sections of the perimeter of the reserve, as identified in figure 5. Give priority to establishing access within the reserve from Turners Road to Stumpy Gully Rd.*
- *Work with the Mornington Peninsula Shire and equestrian community on trail links with the local equestrian trail network, and to develop priorities for implementation.*
- *Undertake further planning in consultation with the Mornington Peninsula Shire for a horse trail along Hodgins Road including potential trail sections within the reserve boundary.*
- *Construct and maintain the trail surfaces to minimise impacts on natural and cultural values in accordance with tables 3 and 5.*
- *Establish fencing and install cavalettis to ensure safety and to comply with agreed licence terms for grazing areas.*
- *Encourage horse riders to adopt minimal impact practices and encourage adherence to the 'Horse Riding Code' (Parks Victoria 2006).*
- *Monitor equestrian use of the trails to identify threats to the natural and cultural values and develop adaptive management strategies to reduce threats including potential seasonal closures (section 4).*

6.8 Tourism services

The cultural and natural values of the reserve present attractive opportunities for nature-based tourism operations. Licensed tour operators play a key role in nature-based tourism in Victoria by offering guided tours and supported recreation activities and information that promotes reserve values and appropriate use.

While the reserve currently has no licensed tour operators, there are opportunities for nature-based interpretation or education activities.

Licensing of tourism operators within the reserve would be in accordance with licensing provisions in the Crown Land (Reserves) Act and with the Licensing System for Tour Operators and Activity Providers on Victoria's Public Land (DSE 2008a).

Aim

- Provide opportunities for and encourage external nature-based tourism services while minimising impacts on natural and cultural values of the reserve.

Management strategies

- *Ensure tour operators that use the reserve are licensed and promote awareness of Adventure Activity Standards and Minimal Impact Guidelines.*
- *Encourage licensed Indigenous tour operators to add to the cultural and nature-based tourism experience in the reserve by developing and delivering interpretive and educational tours on Indigenous culture and history.*

- *Host familiarisation visits for nature-based licensed tour operators and regional tourism stakeholders to explore their interest in including the reserve in their itineraries.*
- *Liaise with licensed tour operators to facilitate the delivery of appropriate messages relating to reserve values and their protection and to minimise potential impacts on reserve values and other reserve users.*
- *Monitor the effectiveness of tourism services in contributing to management objectives of the reserve.*

6.9 Other activities *

Dogs have adverse impacts on birds and other fauna and their presence, scent and noise may disturb fauna and prevent foraging in some areas where dogs have been (Banks & Bryant 2007).

Dogs are currently permitted on leash in the Devilbend Picnic Area which is fenced off from vulnerable waterbird habitats. The opening of the reserve will provide access to the shoreline and therefore it is no longer appropriate to provide for dogs due to potential impacts on reserve values, particularly water birds and shorebirds, and impacts on visitors.

There are many areas including trails and beaches on the Mornington Peninsula where the public can walk their dogs on lead. The trails include, but are not limited to the Bay Trail, Melbourne Road Trail, and the Mornington to Mt Martha Trail. The Mornington Peninsula Shire also allows dogs off lead in a number of leash free areas. The Shire lists these locations at their website www.mornpen.vic.gov.au.

Devilbend and Bittern Reservoirs provide valuable habitat for many waterbirds and shorebirds, and general public access for on-water activities will potentially pose unacceptable disturbance to birds.

Public swimming is not permitted due to safety considerations such as deep cold water and potential hidden obstacles. Access beyond the shoreline is also expected to impact upon the aquatic values of the reservoirs and disturb the benthic zone which has been identified as providing extensive habitat for invertebrates and fish.

Boating, such as kayaking and canoeing, may pose a high risk to waterbirds and habitat values. Provision for future non-powered boating will be considered following an assessment of how opening the reserve to shore-based recreation has impacted on waterbirds (based on ongoing monitoring), and further investigation to assess impacts of on-water activity. In the interim, boating will be limited for approved research and management purposes.

There are extensive opportunities throughout the Mornington Peninsula for group and individual camping. School and education group accommodation is well catered for in the area, including Lord Somers Camp and The Briars. Interest in camping in the reserve is not expected to be significant. However, this potential use will be subject to review based on demand.

As visitors become more aware of the reserve and its values, there may be increasing interest in undertaking other activities, such as orienteering, in the reserve.

These activities may be permitted if they are found not to pose an unacceptable risk to the natural and cultural values of the reserve and do not unduly disturb and disadvantage other users of the reserve.

6.10 Public safety

The deep, cold water and steep cliffs in sections of the reservoirs present inherent dangers and risks to visitors. Steep slopes and rocks and falling tree limbs may also present dangers and risks. Wildfire is a potential hazard during fire danger periods and fast flowing catch drains pose risks on occasions.

Visitors need to be aware of dangers and risks to ensure that they enjoy a safe visit. Public information and education programs are one of the most effective ways to promote safety (section 6.1). Safety messages are presented to visitors through signs, Park Notes and ranger patrols. Safety fencing and risk signs need to be installed before visitor access is permitted to the reserve.

Parks Victoria is not the lead agency for most emergency response situations, but provides a

* Refer also to amendment (after page vii) for update to Section 6.9

support role for emergency incidents where required.

Relevant agencies respond to incidents within the reserve in accordance with the *Mornington Peninsula Shire Municipal Emergency Response Plan*. Parks Victoria's response to emergency incidents during normal operating activities within the reserve is guided by the *Northern Parks and Reserves Emergency Management Plan* (Parks Victoria 2008).

Aims

- Promote visitor safety and awareness of safety issues and risks within the reserve associated with access and use.
- Promote and observe safe practices and co-operate with emergency services.

Management strategies

- *Increase visitors' awareness of safety issues and potential hazards in the reserve through the use of Park Notes, Parks Victoria's website and information signs.*
- *Provide and maintain safety and information signs at key locations in the reserve (section 6.1) including the Devilbend and Bittern Picnic Areas.*
- *Update the Emergency Management Plan that includes an emergency fire plan in consultation with the CFA to guide visitor management on days of high fire danger. This may include trail closures on days of Total Fire Ban.*
- *Ensure staff, volunteers, tour operators and contractors are aware of the Emergency Management Plan.*
- *Undertake works to minimise risks to visitors at the quarry cliff site and along the dam walls.*
- *Cooperate with and support responsible agencies in emergency response and ensure that Parks Victoria staff are adequately trained in emergency procedures.*
- *Liaise with the Mornington Peninsula Shire to ensure that the Municipal Emergency Response Plan makes adequate provision for likely incidents in the reserve.*
- *Audit risks and hazards within the reserve on a regular basis.*

Refer to amendment (after page vii) for additinal Section 6.11 Boating

7 BEYOND THE BOUNDARIES AND AUTHORISED USES

7.1 Reserve boundaries and adjacent uses

The reserve is largely bounded by freehold land and roads. The reserve shares a boundary with Woods Reserve, managed by the Mornington Peninsula Shire, and a small area of Crown land managed by Melbourne Water.

Hodgins Road, managed by Mornington Peninsula Shire, bisects the reserve from east to west. Future opportunities may arise to manage access on Hodgins Road to reduce impacts on fauna and ecological values (section 4.5) and enhance recreational opportunities and experiences.

Most of the land surrounding the reserve is rural in character and is zoned as Green Wedge under the Mornington Peninsula Planning Scheme. This zoning is compatible with the reserve and aims to ensure the surrounding rural landscape is protected.

Parks Victoria and neighbouring land managers have a range of land management issues in common, particularly indigenous vegetation conservation, pest plant and animal management and drainage issues.

DPI and the Port Phillip and Westernport Catchment Management Authority generally encourage and coordinate the implementation of conservation projects on neighbouring freehold land through a series of funding and education programs.

DSE manages the Good Neighbour program which applies to Crown land and aims to cooperate with adjacent landowners in relation to pest plant and animal control in boundary areas.

Conservation activities on lands abutting the reserve are likely to enhance conservation outcomes for the reserve. This can be achieved through Parks Victoria continuing to develop and strengthen its partnership and cooperating with neighbours in implementing conservation projects that go beyond the reserve boundary.

The reserve can play an important role within the broader landscape for biodiversity conservation and there are opportunities to establish improved habitat connectivity with adjacent bushland remnants on the Peninsula including potential links to Briars-Balcombe Creek reserve complex and Warringine Park. Restoration programs in the reserve need to consider the potential of areas to be linked to natural bushland areas on neighbouring land.

Parks Victoria has developed a co-operative relationship with the Devilbend Landcare Group. This group consists of landholders in the immediate vicinity of the reserve. The group has a genuine interest in the reserve, particularly in how it relates to land management on their properties.

Woods Reserve is one of the Shire's most important conservation reserves. Strengthening collaborative management in pest plant and animal programs with the Shire will enhance opportunities to improve the natural values in both reserves. There are also opportunities to establish walking links between the areas (figure 5).

The Shire also manages equestrian trails surrounding the reserve. Consultation with the Shire will ensure trails are developed to provide regional links (section 6.7).

Aims

- Cooperate with adjoining landholders and the Mornington Peninsula Shire to manage boundary and adjacent land use issues.
- Increase awareness and support for the reserve and maintain good relations with neighbours.

Management strategies

- *Continue to work with the Devilbend Landcare Group to encourage sound conservation and land management practices on private land.*
- *Develop cooperative relationships with neighbouring land managers and relevant agencies (section 8.3) to improve the connection of the reserve with native vegetation in surrounding areas.*
- *Encourage application of DSE's Good Neighbour Program to manage issues and implement programs on or near the boundary of the reserve and encourage*

landholders to participate in schemes such as Land for Wildlife and Landcare.

- *Cooperate with adjoining landholders in coordinating fire management and pest plant and animal control programs.*
- *Work with the Mornington Peninsula Shire to develop regional equestrian trail links.*

7.2 Water supply infrastructure

The reserve is dissected by two water supply reserves (33 ha) through which water supply pipelines run under and above the ground. Sections of the above-ground pipeline are highly visible in parts of the reserve. Melbourne Water is responsible for the management of the water supply reserves under the Crown Land (Reserves) Act.

Parks Victoria will work closely with Melbourne Water to achieve integrated management of the water supply reserves with the reserve in accordance with a management agreement. A management agreement is required to enable management of the water supply reserves for park purposes in a manner consistent with the primary purpose of the water supply reserves.

Melbourne Water is also responsible for some water supply infrastructure within the Devilbend Natural Features Reserve including the embankments and associated water supply infrastructure of the two reservoirs. An additional management agreement is required for this infrastructure within the reserve.

Infrastructure no longer required for water storage and supply will be decommissioned and removed by Melbourne Water. Risk assessments of retained infrastructure will be necessary in order to ensure public safety before new areas are opened to the public.

Aim

- Manage the reserve and the water supply reserves in an integrated manner in conjunction with Melbourne Water.

Management strategies

- *Develop a management agreement between Parks Victoria and Melbourne Water to detail cooperative management arrangements for the reserve and the water supply reserves.*
- *Develop a management agreement between the Crown and Melbourne Water for the management of water supply infrastructure within Devilbend Reserve.*
- *Work with Melbourne Water to ensure the timely, safe and ecologically sensitive removal of decommissioned water supply infrastructure from the reserve.*
- *Ensure that public safety risks are mitigated before opening areas to public access.*

7.3 Utility infrastructure

A number of uses and activities may be permitted in the reserve, subject to specified conditions to minimise impacts. There are a series of powerlines that run through the reserve. One section of unused powerlines has been decommissioned and its removal would enhance landscape values.

A powerline on the southern boundary of the reserve is still in use. A maintenance track adjacent to the power line is ideally located to be developed as part of the equestrian trail.

Aim

- Manage authorised uses to minimise their impact on reserve values.

Management strategies

- *Liaise with power suppliers to maintain the powerlines in a manner consistent with protection of the reserve's natural and cultural values and amenity of visitors.*
- *Work with the power supplier to investigate the removal of disused power infrastructure within the reserve.*
- *Liaise with the power supplier to ensure the maintenance of the management track to allow for an equestrian trail.*

7.4 Occupancies

There are currently three residential tenancies and three grazing licences within the reserve. All residential tenancies are managed in accordance with the *Residential Tenancies Act 1997 (Vic).*

The formerly occupied cool stores and one former residence pose hazards and provide no viable opportunities for re-use.

The grazing licences within the reserve provide for cattle grazing on areas of non-native vegetation. Since commencing management responsibility of the reserve, Parks Victoria has closed a number of areas previously grazed to protect significant habitat areas, including a buffer adjacent to the White-bellied Sea-Eagle nest site, the dam north of Hodgins Road on the west side of Devilbend Reservoir and the area adjacent to Derril Road.

Within the reserve, cattle grazing can serve as an important management tool to reduce fuel loads and in some circumstances manage weed species. Grazing licences need to reflect the environmental objectives of the reserve and ensure controls with regard to carrying capacities, pest plant works and seasonal grazing to ensure the best outcome for the reserve. Alternatives to grazing may need to be considered over time as the area available for grazing and grazing viability is reduced through vegetation restoration works.

Aim

- Manage authorised occupancies to minimise their impacts on reserve values.

Management strategies

- *Review the use of the houses for residential purposes and develop and implement a future use strategy.*
- *Remove the disused cool stores and the disused residence and rehabilitate the sites.*
- *Continue to allow cattle grazing, in the short-term as a management tool to reduce fuel loads and implement a grazing regime that assists with management of weeds and enhances natural regeneration (section 4.4 and 4.7).*
- *Over time continue to phase out grazing from the reserve based on implementation of the indigenous vegetation restoration program (section 4.4).*
- *Ensure that occupancies are licensed or permitted and are used and operated in a manner consistent with reserve values.*

7.5 Occasional uses

The reserve provides opportunities for research and monitoring. All research and monitoring planned in the reserve by external organisations or individuals requires a permit from DSE to ensure it is consistent with the primary objective of conservation and is conducted to ensure minimal impact. Additional permits may be required under relevant legislation depending on the nature of the research.

Parks Victoria recognises the significant role that the filming and photography industry plays in the social and economic well-being of the community and in providing for these activities seeks to ensure protection of the natural and cultural values of the reserve. This is achieved through a permit system for filming and photography conducted as part of a trade or a business. Amateur photographers or people taking film or video for personal or hobby interest do not require a permit.

The reserve could accommodate a range of small events and functions, such as Indigenous cultural ceremonies, weddings and community celebrations.

Aim

- Manage occasional uses to minimise their impacts on reserve values.

Management strategies

- *Ensure all research and monitoring by an external organisation is conducted in accordance with the relevant legislation and permit conditions.*
- *Manage commercial filming and photography in accordance with Parks Victoria's operational guidelines.*
- *Permit events and functions that:*
  - *have minimal adverse environmental impacts*
  - *do not damage cultural values of the reserve*
  - *do not unduly disturb or disadvantage other visitors*
  - *do not unduly increase public liability risk exposure*
  - *can be managed with available resources.*
- *Favour events and functions that provide community benefits or complement reserve values.*

8 INVOLVING COMMUNITY

8.1 Community awareness

Raising the community's awareness of the reserve's values is an essential step towards strengthening a sense of custodianship for the reserve and engagement in the area's management. The community is more likely to develop a sense of custodianship for the reserve if its views and values are respected and reserve-related social networks are encouraged and supported. A strong connection with the reserve among visitors and in the local and wider community will assist in broader public education, raising awareness and reaching others in the community.

A number of community and volunteer groups including the Friends of Daangean, Devilbend Foundation, Devilbend Landcare Group and Birds Australia have active connections with the reserve and help to raise community awareness about the reserve through their participatory experiences, local publicity and social networks.

Parks Victoria aims to communicate the benefits of a healthy parks and reserves system and its contribution to the health of individuals and society through the 'Healthy Parks Healthy People' program. Increasing awareness among the community on the key threatening processes to the reserve's values can assist in minimising the potential for further impacts. Management issues or themes that would benefit from greater community awareness include:

- the benefits that parks and nature can contribute to individual wellbeing and the social benefits to the community
- the impact of visitor activities and the importance of adopting minimal impact techniques and adhering to codes of conduct suitable to the activity
- the importance of managing the reserve in accordance with biodiversity and landscape conservation objectives
- the importance of catchment management in the protection of water quality and water levels (section 4.3)
- flora and fauna management, particularly for management of threatened species (sections 4.4 and 4.5)
- pest plant and animal control programs and the need to prevent the introduction and establishment of pest species (section 4.7)
- the importance of protecting Indigenous cultural heritage.

Education, community events and interpretation programs (section 6.1) play an important role in raising the awareness of the reserve in the wider community.

Community art projects have also played a role in raising the community's awareness of the special nature of the reserve.

Aims

- Increase the community's awareness and understanding of the reserve's values and management activities.
- Build a sense of shared ownership and custodianship for the reserve in community groups and individuals.

Management strategies

- *Provide information to interested groups on the annual work program and progress in implementing the management plan.*
- *Celebrate the achievements of Friends, volunteers and other groups participating in the reserve's management.*
- *Increase public awareness and understanding of significant reserve management activities (section 6.1).*
- *Encourage and support interest groups and volunteers to develop an understanding and appreciation of the reserve's values and the rich and diverse Indigenous knowledge.*
- *Promote information on reserve features, values and management activities to the local community through features in local media and through local art programs.*
- *Communicate to the broader community the work of volunteers and community groups.*

- *Liaise with the local community and Mornington Peninsula Shire to enhance community understanding of responsible pet ownership, planting of indigenous vegetation and problems associated with environmental weeds.*

8.2 Community participation

The participation of community groups and individuals can enrich and strengthen reserve management and is pivotal in effective long-term planning, use and protection of the reserve's values.

The Boonwurrung people have considerable interest in and aspirations for the reserve as part of *Country* and are an important potential source of knowledge about the area that has yet to be documented. A strong working relationship with the relevant Indigenous communities will be essential to reflect their views in the reserve's planning and management and reconciliation of their interests and aspirations with those of other members of the community (section 5.1).

The interests of community and recreational groups in the reserve often overlap and may be complementary. There can be considerable mutual benefits where such groups work together and with Parks Victoria and the Indigenous community to achieve common goals.

Volunteers and community groups make valuable contributions to reserve management projects. They bring diverse and valuable information, knowledge, skills and experience to the reserve that may otherwise not be available to the reserve's managers. Volunteers also bring great enthusiasm and add valuable resources to assist with the care of the reserve.

The Friends of Daangean, Devilbend Landcare Group and Devilbend Foundation participate in regular working bees in the reserve to improve the natural values, and to date this has included weed removal and seed collection. Recreation user groups such as VRFish and equestrian clubs have also showed an interest in assisting Parks Victoria in maintaining trails and recreation facilities within the reserve.

Community involvement in monitoring the reserve is valuable in developing awareness of natural and cultural values, as well as building community custodianship (section 8.1). Such information collection and sharing is also likely to benefit management by leading to more rapid detection of unexpected changes to natural values.

The Victorian Branch of Birds Australia has provided ongoing and consistent monitoring of the bird populations in Devilbend Reserve and Woods Reserve for five years. The Mornington Peninsula Branch of Bird Observation and Conservation Australia also contribute to bird monitoring.

The reserve also offers opportunities for volunteer organisations, tertiary institutions and work experience students to assist with various projects to benefit the reserve. For example, the National Trust (Victoria) and Devilbend Foundation have sponsored the next phase of the Freshwater Ecology Research project and the Seawinds Nursery Volunteers play a major role in plant propagation for revegetation works.

Parks Victoria and researchers work together to undertake applied research to improve reserve management and ecological understanding. Tertiary student research into the reserve can be undertaken as part of the Research Partners Program.

Aim

- Support and encourage the community to actively assist in the reserve's management by participating and contributing their knowledge and skills.

Management strategies

- *Support the activities of the Friends Group, Devilbend Landcare Group, Devilbend Foundation and other groups in assisting the reserve's management.*
- *Promote opportunities for community groups to assist Parks Victoria in the reserve's management, including research activities.*
- *Encourage community involvement in monitoring and recording programs using standard methods, in particular Birds Australia's bird monitoring program.*
- *Maintain liaison with volunteers and community groups to provide guidance and support, and to provide opportunities*

for rewarding and sustainable contributions to management.

- *Support capacity-building initiatives among communities participating in the planning, use and care of the reserve through training, tools and supports which better enable volunteer participation in the planning, use and care of the reserve.*
- *Provide opportunities for and encourage and support tertiary students to undertake volunteer work experience and research activities that assist reserve management and are consistent with the plan.*

8.3 Agency partnerships

Although Parks Victoria is responsible for overall management of the reserve, other agencies are responsible for planning, managing or regulating certain activities in or adjacent to the reserve.

All activities relating to the reserve that are carried out by Parks Victoria or other agencies need to accord with all legislation and government policy and, as far as practicable, be consistent with agencies' policies and guidelines. To ensure this occurs, reserve staff must work closely with staff of relevant agencies and collaborate in implementing activities.

DSE establishes parks and reserves and provides strategic direction and policy advice for the management of the reserve, including flora and fauna values and threatening processes, fire management and catchment protection.

DPI advises on pest animals and pest plants, biosecurity and emergency management. In addition, Fisheries Victoria, a division of DPI, manages recreational fishing and the fisheries resource by developing and implementing policies and projects and delivering a wide range of services. DPI is also responsible for compliance and enforcement of fishing regulations under the Fisheries Act.

The Port Phillip and Western Port Catchment Management Authority (CMA) is responsible for ensuring the protection and sustainable development of land, vegetation and water resources within the region. The CMA is responsible for the preparation of the regional catchment strategy to address the impact of land use and management on the catchment. It is also responsible for the Native Vegetation Plan, which has been prepared to protect, manage and restore native vegetation within the region in a strategic and coordinated way.

The CFA is a volunteer-based community service, which responds to a variety of fire and emergency incidents and is responsible for fire suppression on surrounding properties.

Melbourne Water is responsible for the management of the water supply reserve dissecting the reserve and a significant amount of water infrastructure in the reserve (section 7.1).

Melbourne Water is also the designated waterway manager on the Mornington Peninsula and is responsible for the environmental integrity of the creeks that are part of the Balcombe catchment. Proposals to change downstream flows into Devilbend Creek will require the approval of Melbourne Water (section 7.1).

Southern Rural Water is responsible for managing rural water resources across the southern half of Victoria. It is responsible for the licensing of water diversions. Proposed diversions of flow from the catch drain into the reservoirs will require permission from Southern Rural Water (section 4.3).

Environment Protection Authority (EPA Victoria) is responsible for coordinating all activities relating to the discharge of waste into the environment.

Mornington Peninsula Shire administers the planning scheme that includes the reserve (section 7.1). Parks Victoria provides input into planning applications on adjacent land to ensure that reserve values are protected.

The Mornington Peninsula Shire manages the roads surrounding the reserve, including provision for recreational trails.

Through Aboriginal Affairs Victoria (AAV), the Department of Planning and Community Development (DPCD) has responsibility for administering legislation protecting cultural heritage (section 5.1). DPCD (AAV) and the relevant Registered Aboriginal Party advise Parks Victoria on Aboriginal cultural heritage matters (section 5.1).

Heritage Victoria, within DPCD, provides information and advice about places listed on the Victorian Heritage Register and Archaeological Inventory (section 5.2). Heritage Victoria issues permits and consents required under the Heritage Act.

Aim

- Enhance reserve management by collaborating with other agencies to ensure they give consideration to reserve values in planning and implementing activities that relate to the reserve.

Management strategies

- *Work collaboratively with all agencies to implement the plan vision and direction. In particular work with:*
    - *DSE regarding future planning and management, including protection of flora and fauna from potentially threatening processes and fire management*
    - *DPI regarding the responsible management of recreational fishing in the reserve and funding for appropriate fishing facilities to protect the reserve's values. (Funding for fishing facilities would be applied for through application to the Fisheries Revenue Allocation Committee)*
    - *Port Phillip and Western Port CMA to reduce the impacts of adjacent land use and management on the reserve and the development of relevant actions in the Regional Catchment Strategy and Native Vegetation Plan including integrated planning and support for initiatives to establish habitat corridors on adjacent land (section 4.5)*
    - *CFA and DSE to ensure safety and protection of reserve values in managing fire within and around the reserve (section 4.6)*
    - *Melbourne Water to ensure management of water infrastructure in the reserve is consistent with the protection of reserve values (section 7.2)*
    - *Southern Rural Water and Melbourne Water to ensure management of the catch drain in the reserve is consistent with the licensing requirements for water diversion and management for environmental flows (section 4.3)*
    - *EPA to minimise impacts associated with the discharge of waste into the environment particularly those from the catch drain and surrounding agricultural land (section 4.3)*
    - *Mornington Peninsula Shire regarding administration of the planning scheme, including input into adjacent or nearby developments that may impact on the reserve (section 4.1)*
    - *Mornington Peninsula Shire regarding integrated planning associated with habitat linkages, management of adjacent roads and provision for recreational trails*
    - *AAV on issues relating to cultural heritage protection (section 5.1)*
    - *Heritage Victoria on heritage management and compliance with the Heritage Act (section 5.2).*

9 PLAN IMPLEMENTATION

9.1 Delivery and reporting

A range of approaches will be used to implement strategies in this plan. Some will be undertaken as part of routine management activities such as ranger visits. Others will be addressed as part of regional programs undertaken across the state each year.

A priority list of all the strategies in the plan will be used to guide routine management and identify detailed actions in annual regional programs. Priorities for regional programs vary from year to year depending on available resources and government priorities.

In announcing the reservation of the land as a Natural Features Reserve, the Minister also announced the sale of 42 hectares of land adjacent to the reserve. The parcel of land was sold in 2008 and the proceeds of the sale have been allocated to fund the establishment of the reserve.

At the end of each year, progress towards implementing the plan will be reviewed and the priority list updated. Parks Victoria reports annually to government on the overall delivery of regional and divisional programs. This broader reporting on management performance is available in Parks Victoria's annual reports.

During implementation of the plan, Parks Victoria will work in partnership with the Boonwurrung people. Ongoing collaborative activities with the relevant Indigenous communities, interested members of the community, scientists and agencies in realising the vision and management directions for the reserve will be especially important as outlined in previous sections of the plan.

Implementation of the plan will be consistent with Parks Victoria's commitment to sustainable practices, which involves the delivery of operations, services and facilities in an ecologically and socially responsible manner with minimal use of expendable resources and minimal generation of waste.

The threat of accelerated climate change on the reserve's ecosystem is of increasing concern. Parks Victoria is changing practices to reduce greenhouse emissions and its environmental footprint.

In implementing the plan, management will respond to monitoring and research information as it emerges. Parks Victoria's environmental management framework makes this possible. Based on the International Standard for Environmental Management Systems (ISO 14001), the framework ensures that the future condition of values is considered in identifying threats and developing actions to ameliorate them. Over time the success of actions is reviewed against set objectives to ensure ongoing learning and refinement of management. The selection of actions and treatments of threats are guided by the precautionary principle. Management options are evaluated on the basis of least impact on the environment. Treatment of a threat with a potential for serious damage that is not addressed in the plan will not be postponed for lack of information.

Parks Victoria will use a variety of means to report to the community about the progress of implementation of the plan. The primary means will be through routine liaison between Parks Victoria, interested groups and individuals from the local community and relevant government agencies. In addition to giving regular updates, there will be opportunities for input by interested members of the community into annual priority setting and feedback on management performance. Events such as reserve open days and community and volunteer forums will offer similar opportunities for reporting and discussions about annual programs.

The results of monitoring and research work will continue to be available to the community as technical reports available on Parks Victoria's website, www.parkweb.vic.gov.au.

Parks Victoria will also report on evaluation of the plan (section 9.3) at the start of the plan review, through routine liaison and community forums and in the subsequent draft plan.

Future State of the Parks reports, which will be available on the Parks Victoria's website, will also include information on management performance in relation to the reserve.

9.2 Plan amendment

During the ten year life of the plan, amendments to the plan may only be made following an authorised process, which includes appropriate community consultation.

Circumstances that might lead to amendment of the plan include:

- the results of monitoring or research, management experience or new information (such as greater understanding of new threatening processes) which indicate the need for a change in management direction
- significant changes in visitation or use
- a change in policy that calls into question plan objectives
- new legislation (such as significant boundary changes).

The plan may also be amended if an activity, development or use which conflicts with the provisions of the plan is approved by government (such as native title outcomes).

9.3 Evaluation and review

Periodically through the life of the plan, Parks Victoria will assess overall progress towards implementing the strategies in the plan and will also assess progress towards achieving the plan vision and directions. The achievements of the plan will be assessed by considering performance areas such as:

Protecting natural values

- Overall progress towards restoring the structure and floristic diversity of the Swamp Scrub, Grassy Woodlands, Damp Heathland and Swampy Riparian Woodland communities.
- Timely management intervention to minimise threats of priority pest plant species.
- Meeting community expectations as a good environmental manager.
- Minimal impact of permitted uses.

Protecting cultural values

- Progress towards working with Boonwurrung people in managing the reserve and in protecting and interpreting Indigenous cultural heritage.
- Timely management intervention to avoid damaging activities and threats.
- Overall progress in identifying and protecting Aboriginal places and objects.
- Meeting community expectations in managing heritage places and values.

Managing recreation and visitor use

- Maintaining the levels of information and interpretation (section 6.1).
- Meeting and maintaining the levels of service for facilities (table 4).
- All facilities meet public safety standards and the majority of facilities with more than five years life expectancy.
- Meeting agreed road and track standards (tables 3 and 5).
- Minimal impact from visitors, including individuals and school and tour groups.
- Achieving appropriate visitor satisfaction through adequacy of recreational opportunities.
- Meeting community expectations in relation to Parks Victoria's management of the reserve.
- Improving community and visitor awareness.

Providing for research and promoting understanding

- Progress towards reflecting Boonwurrung people's views and aspirations in the reserve's planning and management.
- Improving understanding of the natural processes and in particular breeding and habitat requirements for key species.
- Ongoing participation by the community and Boonwurrung people.

Methods for evaluating the benefits of the plan are likely to be refined over time. Parks Victoria has introduced a range of structured monitoring practices to collect standardised and scientifically robust information. In particular, these will improve understanding of the outcomes of management on natural values

and allow improved reporting and assessment of performance. Parks Victoria also partners external research agencies to enhance knowledge and understanding of the values and features of the reserve and inform management decisions, particularly in relation to pest and fire management. By using sound monitoring and assessment methods, this work will strengthen the basis for comparing management performance over time.

REFERENCES

AGO 2006, *Impacts of Climate Change on Carbon Fluxes in Australian Forests,* Australian Greenhouse Office, Department of the Environment and Heritage, Canberra.

ANZECC 2001, *National Strategy for the Conservation of Australia's Biological Diversity,* Australia and New Zealand Environment and Conservation Council, Environment Australia, Canberra.

ARI 2009, Impact of recreational access and stocking with fish on waterbirds and shorebirds – Devilbend Reserve, Arthur Rylah Institute for Environmental Research, Department of Sustainability and Environment (unpublished).

Australia ICOMOS 1999, *The Australian ICOMOS Charter for the Conservation of Places of Cultural Significance (the Burra Charter)*, revised edition, Australian National Committee of the International Council of Monuments and Sites Inc., Canberra.

Banks, P.B. & Bryant J.V. 2007, Dog walking impacts on wildlife, Biological Letters, July 2007.

COAG 1992, *National Strategy for Ecologically Sustainable Development*, Council of Australian Governments, Ecologically Sustainable Development Steering Committee.

DPI 2003, *Guidelines for Assessing Translocation of Live Aquatic Organisms in Victoria*, Department of Primary Industries, East Melbourne.

DSE 2003a, *Flora and Fauna Guarantee Act Action Statement, White-bellied Sea-Eagle*, Department of Sustainability and Environment, East Melbourne.

DSE 2003b, *Flora and Fauna Guarantee Act Action Statement, Blue-billed Duck*, Department of Sustainability and Environment, East Melbourne.

DSE 2003c, *East Port Phillip Regional Fire Protection Plan*, Department of Sustainability and Environment, East Melbourne.

DSE 2004a, *Devilbend Working Group Summary Report,* Department of Sustainability and Environment, East Melbourne.

DSE 2004b, *Guidelines and Procedures for Ecological Burning on Public Land in Victoria 2004*, Department of Sustainability and Environment, East Melbourne.

DSE 2005, *Advisory List of Rare or Threatened Plants in Victoria – 2005*, Department of Sustainability and Environment, East Melbourne

DSE 2006, *Code of Practice for Fire Management on Public Land, Revision No. 1*, Department of Sustainability and Environment, East Melbourne.

DSE 2007, *Advisory List of Threatened Vertebrate Fauna in Victoria*, Department of Sustainability and Environment, East Melbourne.

DSE 2008a, *Licensing System for Tour Operators and Activity Providers on Public Land in Victoria*, Department of Sustainability and Environment, Melbourne.

DSE 2008b, *Victoria's Public Land Phytophthora cinnamomi Management Strategy,* Department of Sustainability and Environment, Melbourne.

Ecology Australia 2001, Devilbend and Bittern Reservoirs Future Use Strategy: Land use History, Flora and Fauna and Archaeology, Ecology Australia Pty Ltd (unpublished).

FNCV 2007, Fungi Group Foray Report Devilbend Reservoir – Mornington Peninsula, Field Naturalist Club of Victoria, Melbourne (unpublished).

GHD 2002, Abandonment of Devilbend Reservoir, Report on Hydrologic Modelling Nov. 2002, GHD Pty Ltd (unpublished).

GHD 2004, Abandonment of Devilbend Reservoir, Stage 2, Hydraulics, Water Quality and Management Plan, Feb. 2004, GHD Pty Ltd (unpublished).

GHD 2008, Report on Hydrological Analyses Devilbend Reservoir, Modelling Report, May 2008, GHD Pty Ltd (unpublished).

Halek, C. & Johnson, H. 2002, *Managing Remnant Vegetation*, Department of Natural Resources and Environment, East Melbourne.

Jenkins, J.J. 1979, *The Geology of the Mornington Peninsula and Western Port,* Department of Minerals and Energy Geological Survey Report 1974/73.

LCC 1994, *Melbourne Area District 2 Review, Final Recommendations*, Land Conservation Council, Melbourne.

McGuckin, J. 2001, Fish Survey of Devilbend and Bittern Reservoirs, Devilbend and Tuerong Creeks, Streamline Research, Melbourne (unpublished).

McGuckin, J. 2007, A Survey of Dwarf Galaxias in the vicinity of Bittern and Devilbend Reservoirs, Streamline Research, Melbourne (unpublished).

Melbourne Water 2002, *Devilbend Draft Master Plan*, Melbourne Water, Melbourne.

Monash University 2009, *Devilbend Aquatic Habitats Ecosystem Study*, Monash University, School of Biological Sciebces and Centre for Biodiversity.

Mornington Peninsula Shire and Frankston City Council 1997, *Regional Equestrian Strategy.*

National Library of Australia, 2005, NLA Newsletter, Volume XV, Number 10, June 2005.

NRE 1997, *Victoria's Biodiversity Strategy: Directions in Management*, Department of Natural Resources and Environment, East Melbourne.

NRE 1999, *Management Directions for Conservation Reserves,* Department of Natural Resources and Environment, East Melbourne.

NRE 2002a, *Policy for Sustainable Recreation and Tourism on Victoria's Public Land,* Department of Natural Resources and Environment, East Melbourne.

NRE 2002b, *Victoria's Native Vegetation Management, A Framework for Action,* Department of Natural Resources and Environment, East Melbourne.

NRE 2002c, *Victorian Pest Management, Weed Management Strategy, A Framework for Action,* Department of Natural Resources and Environment, Melbourne.

NRE 2002d, *Victorian Pest Management, Fox Management Strategy, A Framework for Action,* Department of Natural Resources and Environment, Melbourne.

O'Brien & Associates 2002*,* Devilbend Master Plan, Existing Conditions Road Safety Audit (unpublished).

Parks Victoria 2002, Guidelines for working with Aboriginal communities and protection of cultural sites, Parks Victoria, Melbourne (unpublished).

Parks Victoria 2003, *Conservation Reserves Management Strategy*, Parks Victoria, Melbourne.

Parks Victoria 2005, *Indigenous Partnership Strategy and Action Plan*, Parks Victoria, Melbourne.

Parks Victoria 2006, *Horse Riding in Victoria's Parks*, Parks Victoria, Melbourne.

Parks Victoria 2007, Devilbend Reserve, Ecological Risk Assessment, Parks Victoria Melbourne (unpublished),

Parks Victoria 2008, *Northern Parks and Reserves Emergency Management Plan*, Parks Victoria, Rosebud.

PPWPCMA 2004, *Port Phillip and Western Port Regional Catchment Strategy 2004-2009*, Port Phillip and Westernport Catchment Management Authority, Frankston.

Practical Ecology 2008, Flora and Fauna Assessment and Recommendations Report Devilbend Reserve (Daangean), Practical Ecology, Preston (unpublished).

Rhodes, D. 2002, Devilbend and Bittern Reservoirs, Stage 2 Archaeological Investigations and Heritage Management Plan, Terra Culture, Melbourne (unpublished).

Richards, R. 2007, A Model Conservation Strategy for White-bellied Sea-Eagles and Wedge-tailed Eagles at Devilbend and Woods Reserves (unpublished).

Sustainable Futures Australia 2007, Devilbend Reserve, Plan of Management, Report on Community Workshop, Sustainable Futures Australia, Byron Bay NSW (unpublished).

Thorpe, J. & Lynch R. 2000, *The Determination of Weeds of National Significance*, Commonwealth of Australia and National Weeds Strategy Executive Committee.

Tourism Victoria 2008a, *Mornington Peninsula, Market profile year ending December 2007*, Tourism Victoria, Melbourne.

Tourism Victoria 2008b, *Victoria's Nature-Based Tourism Strategy 2008 - 2012*, Tourism Victoria, Melbourne.

GLOSSARY

Aboriginal cultural heritage – Aboriginal places, objects and Aboriginal human remains.

Benthic zone – the bottom of a water body such as a lake comprising mud, silt, sand and rotting vegetative matter.

Biodiversity – the natural diversity of all life: the sum of all our native species of flora and fauna, the genetic variation within them, their habitats and the ecosystems of which they are an integral part.

Bioregion – an area with unique underlying environmental and ecological features.

Catchment – the area of land that drains to a watercourse or estuary.

Committee of Management – a committee appointed under the *Crown Land (Reserves) Act 1978* to manage reserved Crown land on behalf of the Minister.

Country – all of nature, culture and spirituality relating to an area.

Crown land – land belonging to the State.

Customs – observances and practices of people (includes land management and resource use) in accordance with tradition.

Ecological values – the importance of natural assets in maintaining natural ecosystems and ecological processes, of which they are a part.

Ecologically sustainable use – the use of a species or ecosystem at a level that enables it to recover naturally.

Ecosystem – a dynamic complex of interacting organisms and their associated non-living environment.

Freehold land – land held in private ownership.

Geomorphology – the scientific study of landforms and geological formations and the processes that shape them.

Heritage – a place, activity, cultural way of life, structure or group of structures that has aesthetic, historic, scientific or social value for the past, present or future generations.

High Priority Weeds – weeds that are capable of invading and dominating structurally or floristically.

Indigenous communities – Indigenous people who share cultural values and activities relating to the reserve.

Indigenous people – people who are descendants of Aboriginal Australians and Torres Strait Islanders.

Infrastructure – physical structures that facilitate the human use of an area (e.g. roads, paths, toilet blocks).

Levels of Service Framework- a strategic framework for visitor services and asset management that is used to support resource allocation decision-making to best provide appropriate recreational infrastructure in a consistent manner.

Matters of National Environmental Significance – defined by *the Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) to include: World Heritage Properties; Ramsar wetlands; nationally threatened species and communities; migratory species protected under international agreements; the Commonwealth marine environment; and nuclear actions.

Nature-based tourism – tourism that provides a range of experiences that rely on attractions directly related to the natural environment.

Pest - exotic organisms (plants, animals or pathogens) that, if introduced outside their natural or previous distribution, cause significant changes to habitats, food chains, ecosystems or human health by feeding on or competing with native species. Can refer to either terrestrial or marine species.

Registered Aboriginal Party – a body registered under part 10 of the Aboriginal Heritage Act by the Aboriginal Heritage Council.

Sediment – insoluble material suspended in water, consisting mainly of particles derived from rock, soil and organic material.

Stakeholders – those people and organisations who may affect, be affected by, or perceive themselves to be affected by, a decision or activity.

Threatening processes – a source of potential harm or a situation with a potential to cause loss.

Tradition — the body of knowledge, beliefs and customs that is passed from generation to generation.

Traditional Owner – person with traditional or familial links, an Aboriginal person with particular knowledge about traditions, observances, customs or beliefs associated with the area and the person who has responsibility under Aboriginal tradition for significant Aboriginal places located in, or significant Aboriginal objects originating from, the

area, or is a member of a family or clan group that is recognized as having responsibility under Aboriginal tradition for significant aboriginal places located in or significant Aboriginal objects originating from, the area.

Values – natural and cultural assets (e.g. historic artefacts, features, landscapes, flora and fauna species, flora communities) that have been given worth or are considered to be desirable.

Acronyms

AAV – Aboriginal Affairs Victoria

ANZECC – former Australian and New Zealand Environment and Conservation Council. ANZECC was represented by government Ministers and guided national policy and programs relating to the management of the environment and its conservation

CFA – Country Fire Authority

DPCD – Department of Planning and Community Development

DPI – Department of Primary Industries

DSE – Department of Sustainability and Environment

BP – Before present

EPA – Environment Protection Authority (Victoria)

EVC – Ecological Vegetation Class

HV – Heritage Victoria

ICOMOS - International Council on Monuments and Sites

LCC – Land Conservation Council

NRE – the former Department of Natural Resources and Environment

PV – Parks Victoria

APPENDIX 1 DRAFT MANAGEMENT PLAN SUBMISSIONS

A total of 151 submissions were received on the Draft Management Plan during the period from December 2008 to March 2009 from the following organisations and individuals. The submission numbers are in sequence to the date of receipt. Three submissions were marked confidential.

ORGANISATIONS	SUBMISSION NUMBER
Australia Conservation Foundation	134
Australia Trout Foundation Inc.	63
Australian Biosphere Volunteers Inc.	94
Australian Trail Horse Riders Association (Victoria)	38
Australian Wildlife Protection Council Inc.	70
Balcombe Estuary Rehabilitation Group Inc.	39
Bird Observation and Conservation Australia	76
Birds Australia – Devilbend Bird Monitoring Team	146
Bunurong Land Council Aboriginal Corporation	147
Bushwalking Victoria	77
Council of Victorian Fly Fishing Clubs Inc.	91
Department of Primary Industries, Port Phillip Region	120
Department of Sustainability and Environment, Public Land Services (Box Hill)	129
Department of Sustainability and Environment, Threatened Species and Communities Section (East Melbourne)	1 & 3
Devilbend Foundation Inc.	79
Devilbend Golf Club	86
Devilbend Landcare Group	41
Fishcare Mornington Peninsula and Westernport Inc.	34
Frankston Environmental Friends Network	53
Friends of Daangean	80
Friends of Warrangine Park Inc.	73
Melbourne Women's Walking Club	74
Merricks Coolart Catchment Group Inc.	84
Moorooduc Saddle Club	55
Mornington Environment Association Inc.	58
Mornington Peninsula Branch - Bird Observation and Conservation Australia	46
Mornington Peninsula Flyfishers Inc.	60
Mornington Peninsula Ratepayers' and Residents' Association Inc.	48
Mornington Peninsula Shire Council	140
National Trust of Australia (Victoria)	108
Nepean Conservation Group Inc.	118
Peninsula All Trails Horse Riders Association Inc.	35
Peninsula Field Naturalists Club	102
Peninsula Quarter Horse Association Inc.	131
Port Phillip Conservation Council Inc.	114
Riding for the Disable Association - Peninsula Centre	136 & 137
Seawinds Nursery Volunteers Inc.	106
Southern Peninsula Indigenous Flora & Fauna Association	51
Sporting Shooters Association of Australia Victoria	4
The Metropolitan Anglers Association	43
Tyabb and District Ratepayers, Business and Environment Group	126
Victorian Association of Four Wheel Drive Clubs Inc.	107
Victorian Lands Alliance	88
Victorian National Parks Association Inc.	143
VRFish	123
Westernport and Peninsula Protection Council Inc.	110
Yarra Valley Fly Fishers Inc.	132

INDIVIDUALS	SUBMISSION NUMBER
Tom Backx	150
Richie Ball	90
Liz Barraclough	145

Appendix 1 cont.

INDIVIDUALS	SUBMISSION NUMBER
Imogen Batters-Holding	16
Paul Bertuch	33
Rosemary Birney	59
John Blogg	54 & 117
Vivienne Brient	133
Annelie Burford	17
Kate Burnstein	100
Tom Clifford	82
Cathie Coleman	29
Confidential	30
Confidential	92
Confidential	128
Michael Coultas	69
Brian Cuming	125
Ian Cuming	127
Rohan Cuming	105
Valerie Curtis	67
Natalie Davies	22
Peter Deerson	49
Martin Drerup	98
Anne Duncan	12
Tim Dyer	8
Jamie Edgerton	81
Glenn Ehmke	52
Bob Evans	148
Henrietta Evans	28
Sue Farey	11
Debbie Fowler	144
Peter Gaylard	122
Heather Geschke	112
C. R. Gibbs	7
Susan Gilbert	6
Tony Hale	31
Pamela Hayes	139
Neil Heggie	103
Alice Hodges	27
Les Hutchinson	121
Bunty Jackson	66
Pat Jemmet	23
Douglas Johnson	25

INDIVIDUALS	SUBMISSION NUMBER
Joan and Jack Kent	115
Sussen Kesik	20
Anne Kotzman	124
Jack Krohn	87
Alison Kuiter	32
Peter Leavesley	36
Kathrine Mackie	113
Jan Mair	89 & 93
Jennifer Mann	104
Georgie Marais	18
John Martyn	2
Dale McCabe	97
Nic McCaffey	141
Mark McGuinness	47
Sue McLean	101
Ross McLeod	61
David Minton	151
Dawn Neylan	111
Trudy Oldis	71
Janet Oliver	57
Barbara Porter	99
Menkit Prince	138
Annabel Richards	85
Bill Ritchie	75
Barbara Roff	40
Elizabeth Sarrailhe	116
Warwick Sayer	5
Hugh Scanlon	21
Glenn Scott	149
Steve Siepel	64
Janise Slocombe	19
Adrienne Smith	109
Neil Smith	14
Tony Van Stekelenburg	37
Nicole Stewart	9
Andrew Stott	83
Harold Stott	45 & 62
K. J. Street	72
Ian and Anthea Swann	119
Ron Sweetser	13

Appendix 1 cont.

INDIVIDUALS	SUBMISSION NUMBER
Graeme A Thomson	24 & 42
Susan Todd	10
Gillian Tolley	78
Michelle & Brett Torossi	142
Scott Tunbridge	56
Tony Upfold	26 & 65
Simon Validzic	95

INDIVIDUALS	SUBMISSION NUMBER
Jillian Verhardt	96
Jim Walker	135
Robert Waller	44
Jenny Warfe	50
Bevan Westendorf	68
Lesley White	15
Cecelia Winton	130

APPENDIX 2 ECOLOGICAL VEGETATION CLASSES

EVC	BIOREGION CONSERVATION STATUS^	SIGNIFICANCE*	% COVERAGE OF TOTAL AREA OF RESERVE	
Lowland Forest	Vulnerable	State	12.7%	
Swamp Scrub (freshwater)	Endangered	State	4.7%	
Swampy Riparian Woodland	Endangered	State	1.6%	
Creekline Herb-rich Woodland	Endangered	Regional	0.04%	
Grassy Woodland	Endangered	State	6.6%	
Aquatic Sedgeland	Vulnerable	Regional	0.3%	
Aquatic Herbfield	Endangered	Regional	0.04%	
Damp Heathland	Rare	Regional	0.1%	
Damp Heathy Woodland	Vulnerable	Regional	0.01%	
Tall Marsh	likely Endangered	Regional	0.1%	
Swampy Woodland	Endangered	State	0.6%	
All regrowth and modified vegetation			10.3%	
Subtotal of all native vegetation				42%
Water body surface area δ				25%
Non- native vegetation				33%
Total				100%

Taken from Practical Ecology (2008)

^ Conservation status within the Gippsland Plain Bioregion

* Source: Practical Ecology 2008

δ Devilbend and Bittern Reservoirs at 2007 level

APPENDIX 3 RARE AND THREATENED FLORA AND FAUNA

RARE AND THREATENED FLORA

SCIENTIFIC NAME	COMMON NAME	STATUS
Thelymitra malvina	Mauve-tuft Sun-orchid	v

Source: Ecology Australia 2001 Status (DSE 2005): v vulnerable in Victoria

RARE AND THREATENED FAUNA

SCIENTIFIC NAME	COMMON NAME	STATUS
BIRDS		
Botaurus poiciloptilus	Australasian Bittern	En, L
Anas rhynchotis	Australasian Shoveler	Vul
Porzana pusilla	Baillon's Crake	Vul, L
Chrysococcyx osculans	Black-eared Cockoo	Nt
Oxyura australis	Blue-billed Duck	En, L
Coturnix ypsilophora	Brown Quail	Nt
Cereopsis novaehollandiae	Cape Barren Goose	Nt
Sterna caspia	Caspian Tern	L
Actitus hypoleucos	Common Sandpiper	Vul
Ardea modesta	Eastern Great Egret	Vul, L
Pomatostomus temporalis	Grey-crowned Babbler	En, L
Aythya australis	Hardhead	Vul
Melanodryas cucullata	Hooded Robin	L (last recorded in 1978)
Ardea intermedia	Intermediate Egret	L
Gallinago hardwickii	Latham's Snipe	Nt
Rallus pectoralis	Lewin's Rail	Vul, L
Biziura lobata	Musk Duck	Vul
Nycticorax caledonicus	Nankeen Night Heron	Nt
Phalacrocorax varius	Pied Cormorant	Nt
Ninox strenua	Powerful Owl	Vul, L
Platalea regia	Royal Spoonbill	Vul
Chlidonias hybridus	Whiskered Tern	Nt
Haliaeetus leucogaster	White-bellied Sea-Eagle	Vul, L
REPTILE		
Varanus varius	Tree Goanna	Vul
FISH		
Galaxiella pusilla	Dwarf Galaxias	Vulnerable in Australia, L
FROG		
Litoria raniformis	Growling Grass Frog	En, Vulnerable in Australia, L

Source: Practical Ecology 2008

Status (DSE 2007): En Endangered in Victoria, Nt Near threatened in Victoria, Vul Vulnerable in Victoria, L listed as threatened under FFG Act

APPENDIX 4 MAJOR ENVIRONMENTAL WEEDS

SCIENTIFIC NAME	COMMON NAME
INTRODUCED SPECIES	
Acacia elata	Cedar Wattle
Agapanthus praecox subsp. *orientalis*	Agapanthus
Agrostis capillaris s.l.	Brown-top Bent
Agrostis stolonifera	Creeping Bent
Allium triquetrum	Three-corner Garlic CALP
Anagallis arvensis	Pimpernel
Anthoxanthum odoratum	Sweet Vernal-grass
Aster subulatus	Aster-weed
Cardamine hirsuta s.l.	Common Bitter-cress
Centaurium erythraea	Common Centaury
Chamaecytisus palmensis	Tree Lucerne
Chrysanthemoides monilifera subsp. *monilifera*	African Boneseed CALP
Cirsium vulgare	Spear Thistle CALP
Conyza spp.	Fleabane
Conyza sumatrensis	Tall Fleabane
Cortaderia selloana	Pampas Grass
Cupressus macrocarpa	Monterey Cypress
Cynodon dactylon var. *dactylon*	Couch
Dactylis glomerata	Cocksfoot
Daucus carota	Carrot
Dipogon lignosus	Common Dipogon
Festuca arundinacea	Tall Fescue
Freesia alba x Freesia leichtlinii	Freesia
Gamochaeta purpurea s.l.	Purple Cudweed
Genista linifolia	Flax-leaf Broom
Genista monspessulana	Montpellier Broom CALP
Gladiolus spp.	Gladiolus CALP
Hedera helix	English Ivy
Holcus lanatus	Yorkshire Fog
Hypochoeris radicata	Cat's Ear
Juncus articulatus	Jointed Rush
Juncus bulbosus	Bulbous Rush
Leontodon taraxacoides subsp. *taraxacoides*	Hairy Hawkbit
Lepidium africanum	Common Peppercress
Lotus corniculatus	Bird's-foot Trefoil
Oxalis incarnata	Pale Wood-sorrel
Oxalis pes-caprae	Soursob

Appendix 4 cont.

SCIENTIFIC NAME	COMMON NAME
Oxalis purpurea	Large-flower Wood-sorrel
Paraserianthes lophantha subsp. *lophantha*	Cape Wattle
Paspalum dilatatum	Paspalum
Phalaris aquatica	Toowoomba Canary-grass
Phytolacca octandra	Red-ink Weed
Pinus pinaster	Cluster Pine
Pinus radiata	Radiata Pine
Plantago coronopus	Buck's-horn Plantain
Plantago lanceolata	Ribwort
Prunella vulgaris	Self-heal
Rubus fruticosus spp. agg.	Blackberry CALP
Rumex conglomeratus	Clustered Dock
Rumex crispus	Curled Dock
Salix spp.	Willow
Solanum americanum	Glossy Nightshade
Solanum nigrum sensu Willis (1972)	Black Nightshade
Sonchus asper s.l.	Rough Sow-thistle
Sonchus oleraceus	Common Sow-thistle
Trifolium repens var. *repens*	White Clover
Trifolium spp.	Clover
Typha latifolia	Lesser Reed-mace
Ulex europaeus	Gorse CALP
Vellereophyton dealbatum	White Cudweed
Watsonia meriana var. *bulbillifera*	Bulbil Watsonia CALP
ECOLOGICALLY OUT-OF-BALANCE OR NON-INDIGENOUS NATIVE SPECIES	
Acacia longifolia subsp. *longifolia*	Sallow Wattle
Acacia longifolia subsp. *sophorae*	Coast Wattle
Acacia retinodes	Wirilda
Corymbia maculata	Spotted Gum
Leptospermum laevigatum	Coast Tea-tree
Pittosporum undulatum	Sweet Pittosporum
PLANTED IN DEVILBEND. NON-INDIGENOUS AUSTRALIAN NATIVE TO DEVILBEND	
Angophora spp.	Apple
Corymbia maculata	Spotted Gum
Eucalyptus botryoides	Southern Mahogany

Source: Practical Ecology 2008 (This list is not in priority order)
CALP Restricted weed under the *Catchment and Land Protection Act 1994* (Vic.).

Figure 1 LOCATION
DEVILBEND NATURAL FEATURES RESERVE

- Freeway/Highway
- Major sealed road
- Devilbend Natural Features Reserve
- Other Parks
- Marine National Parks and Marine Sanctuaries
- Ocean
- Waterbody

N

0 2.5 5 7.5
KILOMETRES

Cartography by Spatial Vision 2009
M/8872

Parks VICTORIA

Devilbend Picnic Area – Primary Visitor Site (Figure 5)
New and upgraded facilities - including walking trails to Daangean Point and designated shoreline areas for bird watching, scenic viewing and fishing. Focus for education and interpretation of natural and cultural values

Restoration Areas (Figure 4)
Short-term restoration of western shoreline of Devilbend Reservoir – consolidate buffer to key habitat areas from Catch Drain Trail

Restoration Areas (see Figure 4)
Short-term restoration focus on areas abutting eastern shoreline of Devilbend Reservoir and streamlines/drainage lines to consolidate buffers to waterbird and shorebird habitats and improve hydrology

Potential Habitat Link
Devilbend / Woods Reserve through to Briars – Balcombe Ck Reserve complex

Daangean Trail (Figure 5)
Walking and cycling trail between Bittern and Devilbend Picnic Areas to complete circuit trail set back from buffering shoreline vegetation

Woods Reserve Trail Link (Figure 5)
Walking track between the Catch Drain Trail and Woods Reserve via Woodlands Road

Restoration Areas (Figure 4)
Long-term restoration of former orchard and grazed areas – phase out grazing over time

Catch Drain Trail (Figure 5)
Primary trail link between Devilbend Picnic Area and Bittern Reservoir for walking and cycling

Bittern Picnic Area (Figure 5)
Secondary visitor site with basic facilities and walking trails – bird watching, nature appreciation and fishing focus

Derril Road - Visitor Access Node (Figure 5)
Small car park and walking link to scenic view point overlooking Devilbend Reservoir

Restoration Areas (Figure 4)
Short-term restoration - focus on linking existing areas of vegetation, buffering key fauna habitat and enhancing streamlines/drainage lines

Potential Habitat Link
Devilbend through to Warringine Park and Western Port coastline

Catch Drain Modifications and Enhancement
Prepare and implement water management strategy to provide for flows into the reservoirs and enhance fauna values along the catch drain

Perimeter Equestrian Trail (Figure 5)
Trail along Western, Southern and Eastern Boundary in existing cleared areas linking with Shire trail network on roads

Figure 2 KEY INITIATIVES
DEVILBEND NATURAL FEATURES RESERVE

- Freeway
- Major sealed road
- Minor sealed road
- Unsealed road
- Management Vehicle Only (MVO)
- Devilbend Natural Features Reserve

Proposed Access

- Walking Trail
- Walking & cycling trail
- Horse trail

N

0 250 500
METRES

Cartography by Spatial Vision 2010
M/8872

Parks VICTORIA

Refer to Amended Figure 3 (after page vii)

* Refer also to amendment (after page vii) for update to Section 1.3

Figure 3 MANAGEMENT ZONES
DEVILBEND NATURAL FEATURES RESERVE

- Freeway
- Major sealed road
- Minor sealed road
- Unsealed road
- Management Vehicle Only (MVO)
- Devilbend Natural Features Reserve
- Other Public Land
- Water body

Zones
- Conservation & Recreation
- Conservation
- Recreation

N

0 250 500
METRES

Cartography by Spatial Vision 2009
M/8872

Parks VICTORIA

Figure 4 MANAGEMENT OVERLAYS
DEVILBEND NATURAL FEATURES RESERVE

- Freeway
- Major sealed road
- Minor sealed road
- Unsealed road
- Management Vehicle Only (MVO)
- Devilbend Natural Features Reserve
- Other Public Land
- Water body
- Remnant Indigenous Vegetation

Overlays

- Special Management - Short term restoration
- Special Management - Long term restoration
- Special Protection Area

N

0 250 500
METRES

Cartography by Spatial Vision 2009
M/8872

Parks VICTORIA

Refer to Amended Figure 5 (after page vii)

Figure 5 VISITOR ACCESS & FACILITIES
DEVILBEND NATURAL FEATURES RESERVE

N

0 250 500
METRES
Cartography by Spatial Vision 2010
M/8872

- Freeway
- Major sealed road
- Minor sealed road
- Unsealed road
- Management Vehicle Only (MVO)
- Devilbend Natural Features Reserve
- Other Public Land
- Water body

Existing Recreational Facilities
- Carpark
- Picnic table
- Toilets

Proposed Recreational Facilities
- Barbecue
- Carpark
- Drinking water
- Facilities for people with disabilities
- Reserve information
- Lookout
- Picnic table
- Toilets

Proposed Access
- Walking Trail
- Walking & cycling trail
- Horse trail
- Fishing (within designated / signed sections of shoreline)

Parks VICTORIA