

EWEN PONDS CONSERVATION PARK MANAGEMENT PLAN

AMENDMENT TO PLAN OF MANAGEMENT

South East

South Australia



Department for Environment
Heritage and Aboriginal Affairs
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**This plan of management has been prepared
and adopted in pursuance of section 38 of
the National Parks and Wildlife Act, 1972-81**

*Cover photo:
Scuba diver in first pond. Photography: Greg Adams.*

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Department for Environment, Heritage and Aboriginal Affairs

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Foreword

This management plan amendment sets out management objectives and actions for the Ewens Ponds Conservation Park. It has been prepared in accordance with the *National Parks and Wildlife Act, 1972*.

Located south of Mount Gambier in the Lower South East of South Australia, Ewens Ponds Conservation Park is one of two reserves offering unique groundwater fed springs. They are known as 'Ewens Ponds' and are a fragile freshwater environment providing habitat for many aquatic flora and fauna species including several fish, crustaceans and molluscs of conservation significance in SA. The park contains a *vulnerable* vegetation association (*Eucalyptus obliqua*/*E. ovata*) Open Forest and also two *rare* plants - tall saw-sedge (*Gahnia clarkei*) and scented paperbark (*Melaleuca squarrosa*).

In recognition of the Department for Environment, Heritage and Aboriginal Affairs (DEHAA) responsibility for public safety, a permit system to manage water based public recreational activities in Ewens Ponds will be implemented. The permit system will ensure the safety of all users and protect the unique and fragile nature of the pond environments. Licenses will be issued to permit water from the Ponds to be used by adjacent landowners for primary production.

This management plan amendment was released in draft form for public review in June, 1997. Eight written submissions were received. Those comments, and the draft plan, were subsequently reviewed by the Reserve Planning and Management Advisory Committee of the South Australian National Parks and Wildlife Council, resulting in a number of changes being made to the plan text. These changes were subsequently endorsed by Council. Public involvement in the planning process makes a worthwhile contribution to better park management, and those who took the time to make representations are thanked for their efforts.

The plan of management for the Ewens Ponds Conservation Park is now formally adopted under the provisions of Section 38 of the National Parks and Wildlife Act, 1972.

HON DOROTHY KOTZ MP
MINISTER FOR ENVIRONMENT AND HERITAGE



Acknowledgements

This park management plan has not been prepared in isolation, but rather in consultation with other agencies, community groups and individuals.

The Department for Environment, Heritage and Aboriginal Affairs (DEHAA) and Primary Industries and Resources South Australia (PIRSA) - Fisheries staff from Mt Gambier and Adelaide have provided considerable assistance, advice and information which has been included in this management plan amendment.

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1.0 Introduction

1.1 Planning Process

There is a requirement under Section 38 of the *National Parks and Wildlife Act 1972*, to prepare a management plan for each reserve constituted under the Act. Such plans set forth proposals to manage and improve reserves and the means by which the objectives of the Act will be accomplished. A management plan provides the framework for management of the park by stating the philosophy on which management should be based and by setting out objectives and actions for management. The objectives related to management of reserves are stated in Section 37 of the Act as:

- preservation and management of wildlife
- preservation of historic sites, objects and structures of historic or scientific interest within reserves
- preservation of features of geological, natural or scenic interest
- destruction of dangerous weeds and the eradication of disease of animals and vegetation
- prevention and suppression of bush fires and other hazards
- encouragement of public use and enjoyment of reserves and education in, and a proper understanding and recognition of their purpose and significance and
- generally, the promotion of the public interest.

NP&WSA as a matter of policy invites comments from key agencies, groups and individuals before the draft management plans are formally released for comment from the general public.

This internal review stage aims to gain a measure of understanding amongst various stakeholders, with a view to retaining that support before the subsequent public exhibition period. The Lower South East Consultative Committee was consulted during the internal review stage for this plan.

Once a draft management plan has been prepared, an announcement is made in the *Government Gazette* and the plan is placed on public exhibition for at least three months. Any person may make submissions in relation to the plan.

The plan and submissions are then referred to the SA National Parks and Wildlife Council who may make further comments or recommendations to the Minister.

The Minister, after considering all representations, may then adopt the plan with or without alterations. Notice of adoption is published in the *Government Gazette* and copies of the plan are made available to the public.

Once a plan is adopted, the provisions will be carried out in relation to the reserve in question, and no activities are undertaken in conflict with the management plan. A similar process applies for any amendment proposed to a management plan.

1.2 Reserve Classification System

The classification which a reserve receives on being dedicated under the *National Parks and Wildlife Act 1972* is a general statement of the purpose for which that area was acquired. Examples of such classifications can be found below.

Conservation Parks protect wildlife and natural or cultural features which they contain. The development of visitor facilities in conservation parks tends to be kept to a minimum.

Game Reserves are established to conserve wildlife and manage game species. They have an important conservation role and may be declared open at prescribed times for strictly controlled hunting.

National Parks are areas considered to be of national significance by reason of wildlife or features of that land.

Recreation Parks conserve areas of significance which are managed for public recreation and enjoyment.

Regional Reserves are areas proclaimed for the purpose of conserving any wildlife or the natural or historical features of that land while, at the same time, permitting the utilisation of the natural resources of that land (eg.. mining).

1.3 Regional Context

The Ewens Ponds Conservation Park lies 25 km south of Mount Gambier in the lower south east of South Australia (figure 1). Land clearance in the region has been extensive and the park has been left as an island of scrub in a cleared, cultivated landscape. The park is located in an area characteristic of karst topography, whereby the ground surface has numerous depressions including 'cenotes' caused by the dissolution of the Gambier Limestone. Most of the karst features along the South East coast are hidden by a soil layer but the most visible are drowned cenotes such as Ewens and Piccaninnie Ponds. It is essential that each terrestrial or aquatic environment including the Ewens Ponds Conservation Park be seen in the context of a broader regional pattern of land use and community activity and be managed in a regional context.

1.3.1 Nature Conservation

Ewens Ponds Conservation Park is one of an array of parks whose principal value lies in the conservation of vegetation types otherwise unrepresented in the park system. The park contains a *vulnerable* vegetation association (*Eucalyptus obliqua*/*E. ovata*) Open forest. Small areas of this vegetation also occur in Telford Scrub CP and Penola CP. Two rare plants (scented paper-bark and tall saw-sedge) also exist. They are located in Telford Scrub CP, and Piccaninnie Ponds CP as well as PIRSA (Forestry) reserve's including Honan's Scrub NF and Woolwash NF.

The park encompasses a unique karst limestone feature made up of three interconnected ponds which drain into the sea through Eight Mile Creek. This feature forms the focus for visitor activity in the park and is similar to that found at Piccaninnie Ponds (figure 1). Within this unique and fragile aquatic environment are a variety of significant fauna species. Five freshwater fish, three crustaceans and one mollusc have been identified as significant and worthy of protection.

The continued viability of this park is dependant not only on the careful management of the park itself, but also on the existence of any other areas of native and aquatic vegetation and the corridors that may link them together (such as roadside reserves).

1.3.2 Fire Management

Fire management in parks is based on the guidelines and objectives contained in the Fire Management and Protection Manual (1989) which sets out objectives of fire management and DEHAA's fire policy and guidelines. The objectives of fire management as stated in the Manual are to:

- protect human life and the assets of properties adjacent to parks
- foster sound land use planning in relation to fire hazards
- maintain diversity of native plant and animal communities
- protect special features of reserves including cultural sites and built facilities
- manage fire, thus protecting land from degradation by erosion and subsequent invasion by weeds.

In addition to the guidelines set out in the Manual, DEHAA has prepared fire prevention plans for individual parks within the state. A fire prevention plan is prepared in accordance with the Country Fires Act, 1989 and provides an inventory of existing and future strategies for fire prevention. It provides important logistic and historic information on the location and nature of resources both within and outside the park. These plans are integrated with District Bushfire Prevention plans.

1.3.3 Visitor Management

National Parks and Wildlife reserves provide a significant proportion of the opportunities for outdoor recreation in South Australia. In providing this service, a balance must be sought between the demand for recreation and conservation objectives of park management.

Tourism in South Australia is being widely encouraged at both a state and regional level as a means of stimulating economic activity and to provide local employment. It is important in the promotion of tourism that visitor use of the parks is directed to those parks which have some focus of interest and which can be adequately managed to both satisfy visitor demand and ensure that the parks' conservation values are not compromised. Ewens Ponds Conservation Park is one such park and consultation with Tourism SA, local tourism associations and tour operators will ensure that there is an integrated approach to tourism planning in the region and that their policies and practices are consistent with DEHAA policies on recreation use of parks.

Tourism is an important part of DEHAA's role within the Region. Ewens and Piccaninnie Ponds are recognised as tourist destinations of national and international significance providing opportunities for recreational freshwater scuba diving and snorkelling. They are the only parks in the South East region offering recreational opportunities of this type, with Ewens Ponds the only site available for non-CDAAs divers. Ewens Ponds and Piccaninnie Ponds Conservation Parks are also conveniently located for educational use by local schools. There is potential for the development of environmental education through an underwater viewing facility at Ewens or Piccaninnie Ponds. This feature would enable visitors to experience the underwater features without actually entering the water.

1.3.4 Cultural Heritage

The South East region exhibits an assortment of important sites which relate to Aboriginal occupation and early European settlement. Several studies have been undertaken on researching the history of Aborigines in the lower south east. The Aborigines inhabiting the park were known as the 'Boandik', one tribe among four others belonging to a larger group known as the 'Bunganditj'. Campbell, Cleland and Hossfield (1946) wrote that the Boandik tribe inhabited an area from the Glenelg River (in the south) up to Rivoli Bay (in the north) including land 50km inland.

Since European settlement the park has an extensive history. The three pond system within the Ewens Ponds Conservation Park was first discovered (date unknown) by Mr Thomas Ewens when his dog chased a kangaroo into the ponds. In 1937 a drainage programme was implemented to clear the area for farming and following the Second World War this programme escalated to further drain the land for the soldier settlement scheme which included the Ewens Ponds Conservation Park area. Since this time the area has become sub-divided with Ewens Ponds forming part of Section 915 (Hd of MacDonnell), with the terrestrial portion allotted into Sections 815, 888, and 904 (Hd of MacDonnell).

A trout farm began operation in 1978 under a miscellaneous lease of Ewens Ponds before it was proclaimed as part of the Conservation Park. The business is still in operation.

1.3.5 Pest Plants and Animals

The vegetation communities in the area have been altered considerably since European settlement. The long history of clearing and drainage of the region has resulted in substantial changes to the composition of the open forest and pond edge communities at Ewens Ponds. Most weeds are confined to areas that have been grazed/cleared or highly disturbed as a result of the management of the outflow from the trout farm.

NP&WSA currently has a weed control program in place concentrating on prescribed plant species. High priority is given to species which invade native vegetation which means that some species of concern for farmers are of lower priority. Two weeds (shiny leaf and blackberry) have a high priority in this park. They are also found in other South East region parks.

Presently both plant and animal control works are undertaken in conjunction with the Grant District Animal and Plant Control Officer including a fox control program. Future control of pest plants and animals may require the assistance of adjacent landowners for their successful management.

1.3.6 Land Acquisition

DEHAA will give consideration to the acquisition of available land for addition to the parks if it is likely to enhance the conservation or recreation values of those parks, or assist in their management. Management of additions will be subject to an amendment of the relevant plan, including the release of draft amendments for public comment.

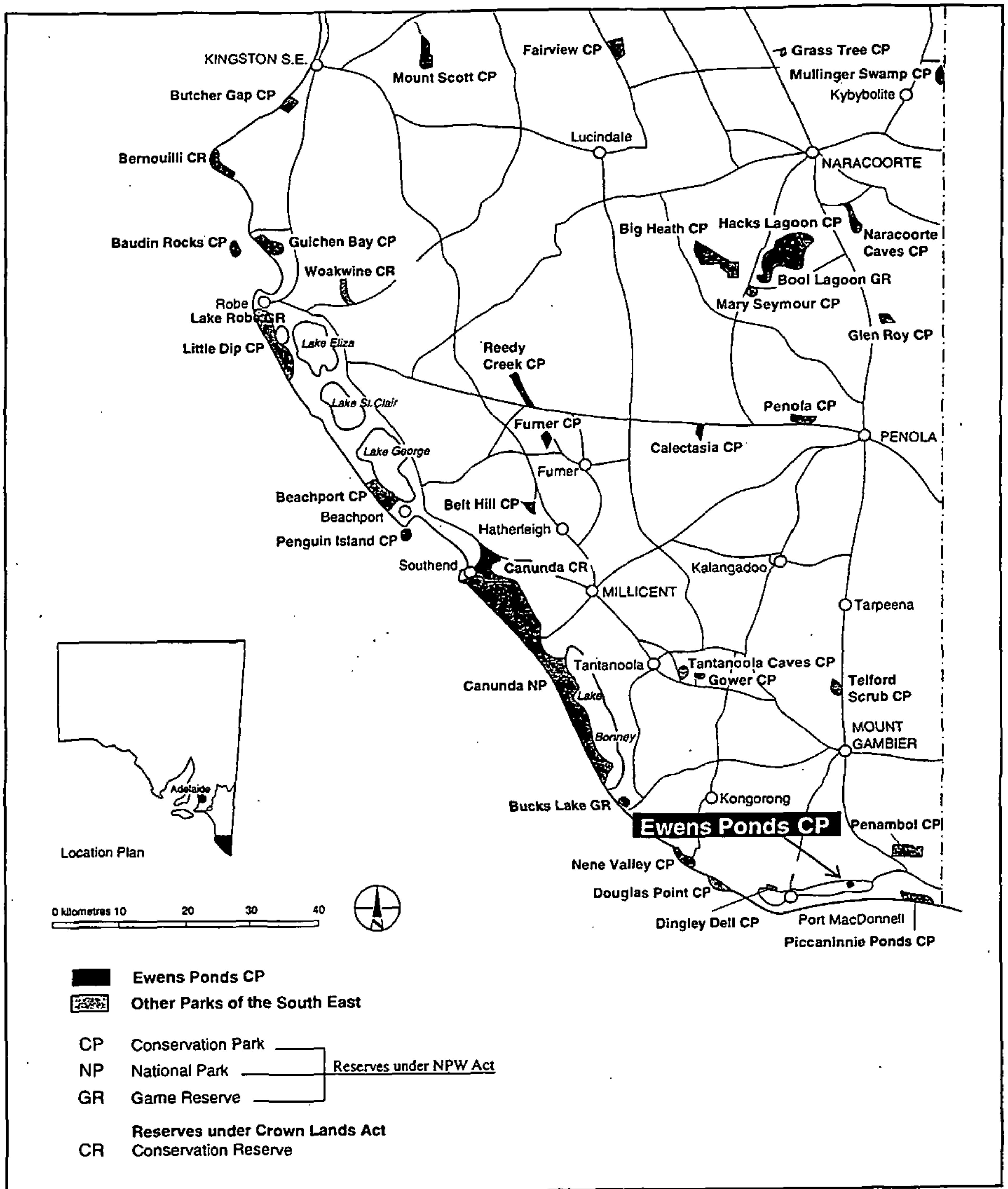


Figure 1

Ewens Ponds Conservation Park

Location Map

2.0 Park Description

Ewens Ponds Conservation Park lies 10 kilometres north-east of Port MacDonnell and 25 kilometres south of Mount Gambier (figure 1). It was constituted in 1976 under the *National Parks and Wildlife Act, 1972*. The original park comprised of Sections 815, 888, 904 Hundred of MacDonnell, however in November 1993 Section 915 Hundred of MacDonnell was added to the park. The park now has a total area of 34 hectares (figure 2).

The park contains remnants of the terrestrial and aquatic vegetation communities which existed prior to clearing and development. The fauna within the park is also relatively unique within South Australia and the physical features of the ponds are unique within Australia.

The main attraction of the park is the drowned cenotes known as Ewens Ponds. These ponds and Branch Drain 7 form the headwaters for the Eight Mile Creek and are the source of most of the flow in the creek. A small area on the south-eastern boundary of the park was leased to the South Eastern Water Conservation and Drainage Board for office and storage purposes.

2.1 Climate and Topography

The lower south east of South Australia experiences a cool moist climate with the Port MacDonnell area receiving approximately 750mm of rainfall each year. Most of the rainfall occurs during winter. Ewens Ponds Conservation Park is part of an interdunal flat which slopes gently towards the south-west.

2.2 Land Use

Agriculture is the predominant land use in the surrounding region, with dairy farming being the most common, although a small number of surrounding farms graze beef cattle. Several farms adjoin the park, with two utilising water from the ponds for stock watering, irrigation of pastures, and for fish ponds. Located on the southern boundary of Section 815 is the trout farm. Water is drawn from the second pond to supply the fish ponds. The discharge goes back to Eight Mile Creek below the third pond via a channel (figure 2).

Adjacent to the north-eastern corner of the park is a recreation reserve (Section 887, Hundred of MacDonnell) containing the Eight Mile Creek Hall, controlled by the Eight Mile Creek Progress Association.

2.3 Flora

There are three vegetation communities in the park. These include;

Open forest - this community consists of the terrestrial species of the park. The vegetation includes messmate stringybark (*Eucalyptus obliqua*) and swamp gum (*E. ovata*) with an understorey of blackwood (*Acacia melanoxylon*), native cherry

(*Exocarpos cupressiformis*), coastal beard-heath (*Leucopogon parviflorus*), tall saw-sedge (*Gahnia clarkei*) and bracken (*Pteridium esculentum*).

Closed grassland - this community surrounds the ponds. Common reeds (*Phragmites australis*) and bulrush (*Typha angustifolia*) dominate this area. Scattered through this association are Tea-tree thickets consisting of *Leptospermum pubescens* and *Melaleuca squarrosa*. These vegetation associations, in the upper reaches of the ponds, have root systems which stabilise the banks and prevent contamination by surface run-off.

Pond vegetation - communities within Ewens Ponds are variably distributed with depth. There is no single dominant species although this is related to location and depth. The dominant species are the water ribbon (*Triglochin procerum*), shield pennywort (*Hydrocotyle verticillata*), streaked arrowgrass (*Triglochin striata*), and *Lilaeopsis polyantha*. These species range in depth from the surface to approximately five metres, respectively. Below that level they are unable to consolidate the fine organic matter which overlies the sands. As a consequence blue-green algae form dense mats. Other types of algae are also present below five metres including *Anabena*, *Oscillatoria* and *Lyngbya*. The freshwater red alga (*Batrachospermum*), often classified as "rare, but locally abundant" is also present within the small cave at the bottom of the third pond and beneath the landing of the first pond.

The channels between the ponds support a different community again and are dominated by the watercress (*Nasturtium officinale*), *Sium latifolium*, and the common spike-rush (*Eleocharis acuta*).

One of the unique features of Ewens Ponds and one which makes it a valuable biological site is that many of the plants which are submerged in the ponds occur elsewhere but are only partly submerged in marshes. They survive fully submerged in Ewens Ponds due to the water clarity. Carbon dioxide required for photosynthesis is obtained from the water, and essential nutrients are obtained by the roots from the soil. For example, the shield pennywort (*Hydrocotyle verticillata*) is usually recorded as a bog species which is never submerged, but in Ewens Ponds it is only found beneath the water surface. The moss (*Fissidens rigidulus*) is an unusual site record as the genus is usually found within the spray zone of waterfalls, yet at Ewens Ponds it is completely submerged.

2.4 Fauna

There is a wide variety of fauna including fish, amphibians, mammals, reptiles, molluscs and arthropods. The following is a table listing the fauna species found in the park.

Mammals	Water rat	<i>Hydromys chryogaster</i>	
	Swamp rat	<i>Rattus lutreolus</i>	
	Black rat	<i>Rattus rattus</i>	*
	House mouse	<i>Mus musculus</i>	*
	European fox	<i>Vulpes vulpes</i>	*
	European rabbit	<i>Oryctolagus cuniculus</i>	*

Amphibians	Common eastern froglet Ground frog Eastern banjoy frog Spotted grass frog Southern toadlet Brown tree frog Bell frog	<i>Crinia signifera</i> <i>Geocrinia laevis</i> <i>Limnodynastes dumerillii</i> <i>Limnodynastes tasmaniensis</i> <i>Pseudophyme semimarmorata</i> <i>Litoria ewingii</i> <i>Litoria raniformis</i>	
Fish	Ewens pygmy perch Australian grayling Short-finned eel River blackfish Pouched lamprey Common galaxid Black bream Yellow-eye mullet Congolli Rainbow trout	<i>Nannoperca variegata</i> <i>Prototroctes mareana</i> <i>Anguilla australis occidentalis</i> <i>Gadopsis marmoratus</i> <i>Geotria australis</i> <i>Galaxis maculatus</i> <i>Acanthopagrus butcheri</i> <i>Mugil cephalus</i> <i>Pseudaphritis urvilli</i> <i>Salmo gairdneri</i>	# # *
Crustaceans	Spiny lobster Burrowing crayfish Freshwater crayfish	<i>Euastacus bispinosus</i> <i>Engaeus strictifrons</i> <i>Geocharax sp.</i>	
Mollusc	Freshwater mussel	<i>Hydriddella narracanensis</i>	

- * Introduced species
- # Listed as a Protected Species under the Fisheries Act, 1982

The crustaceans and mollusc are potentially threatened. All four species are restricted to the south-eastern corner of South Australia and western Victoria. Many other molluscs and crustaceans occur in Ewens Ponds but are more wide spread in south-eastern Australia.

Many aquatic birds such as pacific black duck (*Anas superciliosa*), swamp harrier (*Circus approximans*) and the straw-necked ibis (*Threskiornis spinicollis*) are frequent visitors to Ewens Ponds.

2.5 Infrastructure

External access is via a road reserve (off Lower Nelson Road West) and car park controlled and maintained by the District Council of Grant and to a lesser extent maintained by DEHAA. Internal access for management purposes includes: a track from the car park, through the northern part of the park to the Lower Nelson Road West; a vehicle track from the car park to the third pond landing; and from the landing to a gate on the southern boundary, where there is no through access. There is also a gate located on the south-eastern boundary of the park providing access to the old South Eastern Water Conservation and Drainage Board depot site (figure 2).

Visitor facilities include landings for entrance at the first pond, and exit at the third; a maintained walking/vehicle track from the third pond to the car park; and a toilet block (Rota Loo - self composting) located off the car park in the open forest section of the park. The toilet caters for disabled persons.

The majority of users come to the park for scuba diving and snorkelling in the ponds. Visitors also picnic on the maintained edge of the first pond, and wander through the northern portion of the park.

Future developments in the park may include a facility suitable for underwater viewing of the pond environments.

3.0 Management Prescription

The management of Ewens Ponds Conservation Park will be achieved by fulfilling the objectives and actions outlined below.

3.1 Nature Conservation

Ewens Ponds Conservation Park offers a diverse range of habitats suitable for many different animals and plants ranging from terrestrial to freshwater species. One vegetation association and two plant species of conservation significance occur in the park. The swamp gum (*Eucalyptus ovata*)/stringybark (*E. obliqua*) Open forest association is a *vulnerable* association in the South East. Scented paperbark (*Melaleuca squarrosa*) and tall saw-sedge (*Gahnia clarkei*) also exist and are *rare* plants in the region.

Several fish and invertebrates of conservation significance exist in Ewens Ponds. Two fish species ewens pygmy perch (*Nannoperca variegata*) and river blackfish (*Gadopsis marmoratus*) are both protected species under the Fisheries Act, 1982. All of the remaining aquatic species particularly the spiny lobster (*Euastacus bispinosus*) and burrowing crayfish (*Engaeus strictifrons*) are considered to have a high conservation significance due to their limited distributions in south-eastern Australia.

The park is to be managed primarily for the conservation of its natural resources. Public recreational use should not compromise the natural values of the park. The development of visitor infrastructure will put emphasis on an appreciation and understanding of the parks natural values.

Objectives

- Preserve the ecological integrity of the park.
- Improve knowledge of the park which contributes to the management of the parks resources.

Actions

- Allow land and water use that is compatible with preserving the park's natural environment.
- Encourage conservation groups such as Friends of Mount Gambier Area Parks, Field Naturalist Societies, Schools and other agencies to carry out work which assists DEHAA in fulfilling the park objectives.
- Rehabilitate any degraded areas within the park.
- Continue monitoring the water quality and aquatic flora and fauna in Ewens Ponds, evaluate the monitoring program, establish acceptable levels for parameters and amend if a need is demonstrated.
- Encourage and assist research into the natural resources of the park, and implement appropriate management programs to conserve these resources.
- Initiate discussion with PIRSA (Fisheries) to have *Euastacus bispinosus* and all *Engaeus* species declared protected species in South Australia.

- Provide resources when appropriate and available to assist with research.

3.2 Visitor Management

Ewens Ponds Conservation Park is a popular destination for both local residents and tourists. It receives an estimated 4000 visitors p.a. with its peak visitation during the summer holiday period. The park offers activities including bird watching, bush walking, scuba diving, and snorkelling. At present however, there is minimal management in place to control the activities of divers and snorkellers. DEHAA is currently preparing a permit system in consultation with key stakeholders for managing the scuba diving and snorkelling activities in Ewens Ponds.

This permit system will include an annual and daily permit arrangement for both snorkelling and scuba diving. An indemnity will need to be signed before the purchase of each permit and a minimal qualification will be required for all scuba divers (Open Water). There are limitations on the number of divers allowed in Pond 1 at any one time and divers are only permitted to swim through the channels with the current flow. There are restrictions on the types of equipment allowed in the ponds unless under specific arrangements (i.e.. no weights to be worn by snorkellers) and only training that does not require any skills testing will be allowed.

Public access and safety facilities are sufficient to allow swimming in Pond 1 only. Due to the fragile nature of the pond environments swimmers must take care around the edges of the pond. Swimmers are also reminded that water temperatures in the pond can lead to hypothermia.

Future development of interpretative infrastructure will put emphasis on an appreciation and understanding of the parks natural values. DEHAA will also ensure the use of environmentally safe materials when constructing in and/or near the pond environments.

Objectives

- Provide/Allow visitor use and enjoyment of the park while protecting its natural values.
- Increase public understanding of the park's purpose and ecological significance.

Actions

- Allow swimming in Pond 1 only.
- Implement a permit system to manage diving, snorkelling activities and public safety within the ponds to ensure the conservation and sustainable use of the environment.
- Protect the Ponds environment by prohibiting the use of recreational equipment considered inappropriate including the following examples: Underwater scooters, dive sleds, air lift bags, air compressors and hookahs, shot lines, guidelines, spear guns, sailboards, surfboards, boats, air mattress's and vehicle tubes.
- Assess the state of the landing at the exit of Pond 3. Make necessary repairs.

- Provide entrance signage and brochure plus other appropriate interpretative facilities for park users where a need is demonstrated.
- Investigate the feasibility of an underwater viewing facility/experience and provide if appropriate.

3.3 Pest Plants and Animals

Pest plants within the park include Blackberry, Shiny leaf, Buchan weed, Phalaris, Aleppo and Radiata pine. Shiny leaf, Blackberry and Radiata pine in particular occur in several other South East reserves. All plants are present in varying quantities, mainly around the fringes and in the Branch Drain 7. The Friends of Mount Gambier Area Parks group undertake pine removal in this park.

Introduced species include Rainbow trout, rabbits and foxes. Rabbits and foxes are known to be in the park and neighbouring properties. Rainbow trout are currently believed to be in the park and Eight Mile Creek. They have the ability to impact on the threatened fauna found in Ewens Ponds including native fish and crustaceans.

Objective

- Control and, where possible eradicate pest plants and animals from the park.

Actions

- Control pest plants and animals in conjunction with the Grant District Animal and Plant Control Board, and surrounding landowners.
- Remove *Pinus radiata* and shiny leaf from the park.
- An assessment of the rainbow trout numbers present in the ponds system will be conducted. Eradication measures will be taken in consultation with PIRSA (Fisheries) if deemed necessary.

3.4 Other Uses

The land use surrounding the Ewens Ponds Conservation Park varies from grazing, dairying, fish production and drainage. A fish farm adjoining the park to the east extracts water via a channel from Pond 2 and discharges effluent via an outlet channel into Pond 3. A dairy to the west of the park extracts water from the Branch Drain 7 for stock watering and irrigation (figure 2). There currently is no formal licencing/permit arrangement for either the water extraction/outflow by the trout farm to and from Ewens Ponds, or for access through part of the park to private properties (Section 952 and Section 861).

DEHAA has monitored the water quality of Ewens Ponds and acknowledge that there is at present no evidence to suggest that the current land uses surrounding the park are affecting the water quality (Appendix I).

The South Eastern Water Conservation and Drainage Board (SEWCDB) manage Eight Mile Creek as part of the flood mitigation system for the area. The creek is dredged annually to allow for the high winter rainfall (runoff) from adjoining private

lands. The SEWCDB used a portion of land in the park for storage purposes but this is no longer required by the Board.

Objectives

- Maintain the quality of water entering, within and leaving the ponds.
- Accommodate other uses existing in the park.

Actions

- Provide concessions for commercial activities in the park which are deemed appropriate for that location (i.e. snorkel tours), do not compromise its ecological integrity, and for which a need has been demonstrated.
- Ensure the trout farm discharges are made through appropriate structures and to agreed outflow points in accordance with approved guidelines and requirements by DEHAA.
- Liaise with surrounding landholders regarding the potential impacts of these landuses on the natural values of the park.
- Monitor the chemical composition, in particular contaminants, of water entering the ponds from surrounding land, establish acceptable levels for parameters, and take appropriate action based on these results.
- Issue a license to the trout farm for the removal of water from and the discharge of waste water to the Ewens Ponds system.
- Issue a license to the dairy farm for the removal of water from the park.
- Formalise legal access through the park by owners of Section 952 and Section 861.
- Liaise with the SEWCDB regarding the timing of creek dredging.

4.0 Priorities for Implementation

This section provides a summary of the management proposals outlined in the plan and gives an indication of the priority and duration of each proposal.

Actions	Priority	Duration
3.1 Nature Conservation		
• Allow land and water use that is compatible with preserving the park's natural environment.	High	Ongoing
• Encourage conservation groups such as Friends of Mount Gambier Area Park, Field Naturalist Societies, Schools and other agencies to carry out work which assists DEHAA in fulfilling the park objectives.	Mod.	Ongoing
• Rehabilitate any degraded areas within the park.	Mod.	Ongoing
• Continue monitoring the water quality and aquatic flora and fauna in Ewens Ponds, evaluate the monitoring program, establish acceptable levels for parameters and amend if a need is demonstrated.	High	Ongoing
• Encourage and assist research into the natural resources of the park, and implement appropriate management programs to conserve these resources.	Mod.	Ongoing
• Initiate discussion with PIRSA (Fisheries) to have <i>Euastacus bispinosus</i> and all <i>Engaeus</i> species declared protected species in South Australia.	Mod.	Short
• Provide resources when appropriate and available to assist with research.	Low	Ongoing
3.2 Visitor Management		
• Allow swimming in Pond 1 only.	High	Ongoing
• Implement a permit system to manage diving, snorkelling activities and public safety within the ponds to ensure the conservation and sustainable use of the environment.	High	Ongoing
• Protect the ponds environment by prohibiting the use of recreational equipment considered inappropriate including the following examples: Underwater scooters, dive sleds, air lift bags, air compressors and hookahs, shot lines, guidelines, spear guns, sailboards, surfboards, boats, air mattress's and vehicle tubes.	High	Ongoing
• Assess the landing at the exit to pond 3. Make necessary repairs	High	Short
• Provide entrance signage and brochure plus other appropriate interpretative facilities for park users where a need is demonstrated.	High	Ongoing
• Investigate the feasibility of an underwater viewing facility/experience.	Mod.	Long
3.3 Pest Plants and Animals		
• Control pest plants and animals in conjunction with the Grant District Animal and Plant Control Board, and surrounding landowners.	High	Ongoing
• Remove <i>Pinus radiata</i> and shiny leaf from the park	Mod.	Ongoing
• An assessment of the rainbow trout numbers present in the ponds system will be conducted. Eradication measures will be taken in consultation with PIRSA (Fisheries) if deemed necessary.	Mod.	Ongoing
3.4 Other Uses		
• Provide concessions for commercial activities in the park which are deemed appropriate for that location (i.e.. snorkel tours), do not compromise its ecological integrity, and for which a need has been demonstrated.	Mod.	Ongoing

- | | | |
|--|------|---------|
| • Ensure the trout farm discharges are made through appropriate structures and to agreed outflow points in accordance with approved guidelines and requirements by DEHAA. | High | Ongoing |
| • Liaise with surrounding landholders regarding the potential impacts of these landuses on the natural values of the park. | Mod. | Ongoing |
| • Monitor the chemical composition, in particular contaminants, of water entering the ponds from surrounding land, establish acceptable levels for parameters, and take appropriate action based on these results. | Mod. | Ongoing |
| • Issue a license to the trout farm for the removal of water from and the discharge of waste water to the Ewens Ponds system. | High | Ongoing |
| • Issue a license to the dairy farm for the removal of water from the park. | High | Ongoing |
| • Formalise legal access through the park by owners of Section 952 and Section 861. | Mod. | Short |
| • Liaise with the SEWCDB regarding the timing of creek dredging. | Mod. | Ongoing |

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APPENDIX I - Environmental Monitoring of Ewens Ponds

The water quality of Ewens Ponds has been monitored since 1979 following the opening of the trout farm in 1978. The frequency of monitoring differed over the years, however consistent data from 1991 had been collected for the following parameters.

Parameter	ANZECC Limits
Total Dissolved Solids (TDS)	< 1000 mg/L
TKN as Nitrogen	Requires site specific information
Soluble and Total Phosphorus	Requires site specific information
Oxidised N as Nitrogen	Requires site specific information

Monitoring occurred twice per year along the Eight Mile Creek/Ewens Ponds area with no evidence to suggest that any land use in the area is altering the quality of the water in the ponds.

The monitoring regime has been revised with a more detailed environmental analysis to be undertaken. The following chemical and biological parameters will now be analysed;

Chemical parameter	Conductivity pH Alkalinity Total Phosphorus Soluble Phosphorus Nitrate and Nitrite Ammonia
Biological parameter	Zooplankton Phytoplankton

This monitoring regime will be undertaken quarterly, together with a quantitative assessment of pond vegetation. Acceptable levels for the parameters listed above will be established and an action plan devised to respond if circumstances change and those levels are exceeded. Quantitative surveys of pond vegetation will be undertaken annually.

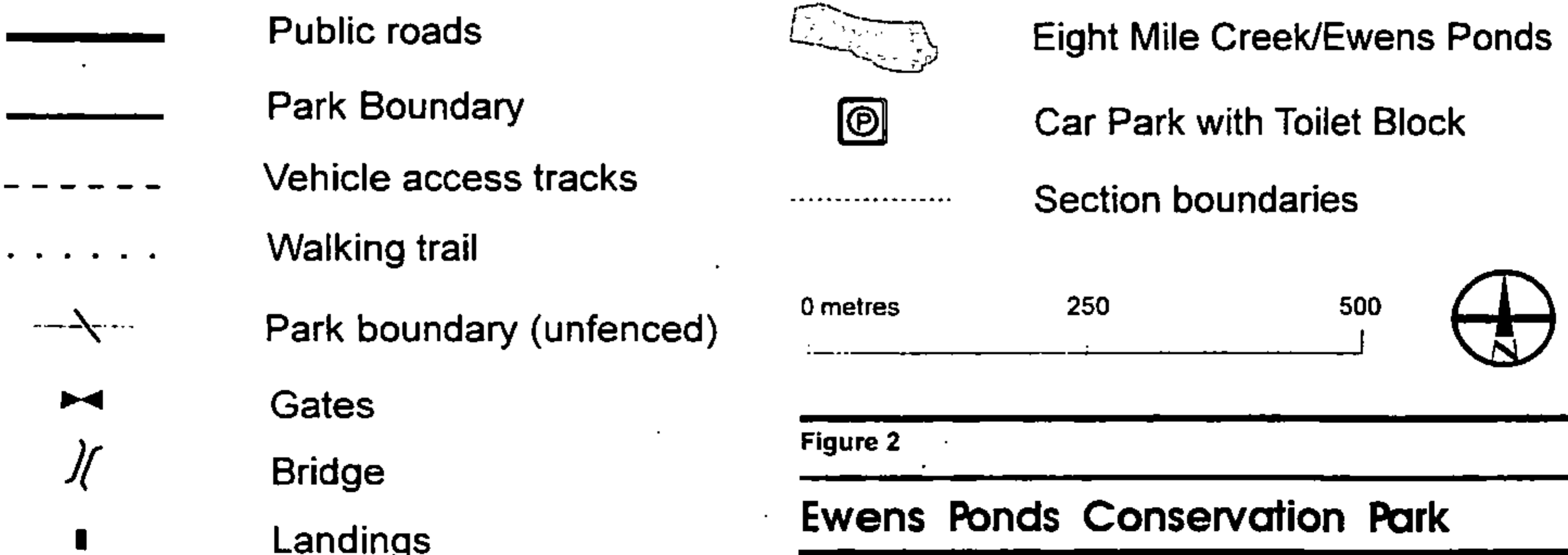
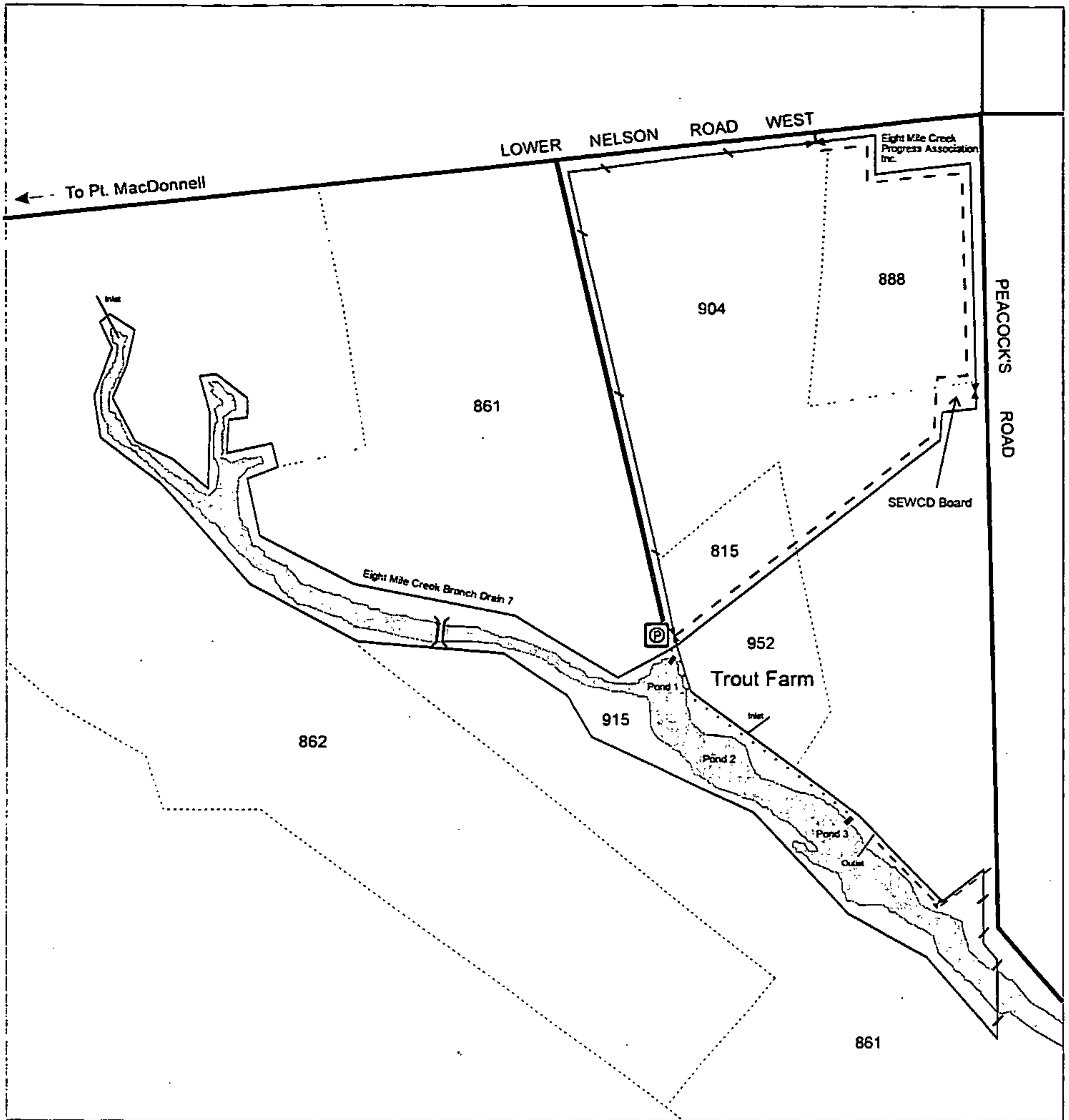


Figure 2
Ewens Ponds Conservation Park