

Lake Albacutya Ramsar Site Strategic Management Plan





Parks Victoria developed this Strategic Management Plan in conjunction with the Department of Sustainability and Environment and key stakeholders and coordinated the public comment process on the draft document.



This report was prepared with financial support from the National Wetlands Program, under the Natural Heritage Trust.

© The State of Victoria, Department of Sustainability and Environment, 2003

This publication is copyright. Apart from any fair dealing for the purposes of private study, research, criticism or review as permitted under the *Copyright Act 1968*, no part may be reproduced, copied, transmitted in any form or by any means (electronic, mechanical or graphic) without the prior written permission of the State of Victoria, Department of Sustainability and Environment. All requests and enquires should be directed to the Copyright Officer, Library Information Services, Department of Sustainability and Environment, 240 Victoria Parade, East Melbourne, Victoria 3002.

Disclaimers

This publication may be of assistance to you and every effort has been made to ensure that the information in the report is accurate. The Department of Sustainability and Environment does not guarantee that the report is without flaw of any kind or is wholly appropriate for your particular purposes and therefore disclaims all liability for any error, loss or other consequence which may arise from you relying on any information in this publication.

The views and opinions expressed in this document are those of the authors and do not necessarily reflect the views and opinions of the Commonwealth Government of Australia, the Federal Minister for Environment and Heritage, or Environment Australia.

This report is prepared without prejudice to any negotiated or litigated outcome of any Native Title Determination Applications covering land or waters within the plan's area. It is acknowledged that any future outcomes of Native Title Determination Applications may necessitate amendment of this report; and the implementation of this plan may require further notifications under the procedures in Division 3 Part 2 of the *Native Title Act 1993* (Cwth).

The plan is also 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.

Published in July 2003 by the Department of Sustainability and Environment
Level 14, 8 Nicholson Street, East Melbourne, Victoria.

Copies of this document are available at www.dse.vic.gov.au
National Library of Australia

Cataloguing-in-Publication entry

Victoria. The Department of Sustainability and Environment.
Lake Albacutya Ramsar Site: Strategic Management Plan

Bibliography.

ISBN 1 74106 582 8

Cover: Lake Albacutya (Photographs: Parks Victoria collection).

Printed on recycled paper.

Contents

1	INTRODUCTION	1
1.1	STRATEGIC DIRECTIONS STATEMENT	1
1.2	PURPOSE OF THE STRATEGIC MANAGEMENT PLAN	1
1.3	CONSULTATIVE FRAMEWORK	2
2	RAMSAR SITE DESCRIPTION	3
2.1	LOCATION	3
2.2	WETLAND TYPE	3
2.3	CRITERIA MET FOR RAMSAR LISTING	3
2.4	LAND TENURE AND MANAGEMENT	3
2.5	ADJACENT LAND USE	5
2.6	CATCHMENT SETTING	5
2.7	LOCAL GOVERNMENT	5
3	POLICY FRAMEWORK	7
3.1	STRATEGIES	7
3.2	MUNICIPAL STRATEGIC STATEMENTS, ZONING AND OVERLAYS	8
4	VALUES	9
4.1	WETLAND REPRESENTATIVENESS	9
4.2	FLORA AND FAUNA	9
4.3	WATERBIRDS	9
4.4	NATURAL FUNCTION	10
4.5	CULTURAL HERITAGE	10
4.6	SCENIC	10
4.7	ECONOMIC	10
4.8	EDUCATION AND INTERPRETATION	11
4.9	RECREATION AND TOURISM	11
4.10	SCIENTIFIC	11
4.11	CONDITION	11
5	MANAGEMENT OF RISKS	12
5.1	ALTERED WATER REGIMES	12
5.2	SALINITY	13
5.3	GRAZING	13
5.4	PEST PLANTS AND ANIMALS	13
5.5	RESOURCE UTILISATION	14
5.6	RECREATION	14
5.7	FIRE	15
5.8	EROSION	15
5.9	LEVEL OF RISK TO RAMSAR VALUES	15
6	SITE MANAGEMENT STRATEGIES	17

REFERENCES	22
APPENDIX 1 LIST OF CONTRIBUTORS	24
APPENDIX 2 RESOURCE LIST	25
APPENDIX 3 THREATENED STATUS OF FLORA	26
APPENDIX 4 THREATENED STATUS OF FAUNA	27
APPENDIX 5 ACTION STATEMENT RECOMMENDATIONS	29
APPENDIX 6 JAMBA, CAMBA AND BONN SPECIES	30
APPENDIX 7 LAKE ALBACUTYA RAMSAR INFORMATION SHEET	31

1 Introduction

The Strategic Management Plan for the Lake Albacutya Ramsar site is an integral component of a program to develop a comprehensive management framework for Victoria's Wetlands of International Importance (or 'Ramsar sites') listed under the Convention on Wetlands (Ramsar, Iran, 1971). The primary goal of the management framework is to maintain the ecological character of Victoria's Ramsar sites through conservation and wise use.

1.1 Strategic Directions Statement

The Strategic Directions Statement establishes Management Objectives for Victoria's Ramsar sites and Statewide Management Strategies to achieve these objectives (NRE 2002). The Strategic Management Plans for individual Victorian Ramsar sites apply the Management Objectives and Statewide Management Strategies, promoting a range of specific Site Management Strategies that will maintain, and in some cases, restore the ecological character of the sites. Individual plans cover 10 of Victoria's 11 Ramsar sites. Victoria's eleventh Ramsar site, the Edithvale-Seaford Wetlands, was listed in 2001 and is covered by a separate management plan. A diagram of the framework and related documents is shown below in Figure 1.1.

The Strategic Directions Statement provides the overarching policy framework for managing Ramsar sites in Victoria. It establishes Management Objectives for Ramsar site management across the State, which are then translated to the site-specific level by each of the Strategic Management Plans. The Management Objectives outlined by the Strategic Directions Statement are:

1. Increase the scientific understanding of wetland ecosystems and their management requirements.
2. Maintain or seek to restore appropriate water regimes.
3. Address adverse processes and activities.
4. Manage Ramsar sites within an integrated catchment management framework.

5. Manage resource utilisation on a sustainable basis.
6. Protect, and where appropriate enhance, ecosystem processes, habitats and species.
7. Encourage strong partnerships between management agencies.
8. Promote community awareness and understanding and provide opportunities for involvement in management.
9. Ensure recreational use is consistent with the protection of natural and cultural values.
10. Develop ongoing consistent programs to monitor ecological character.

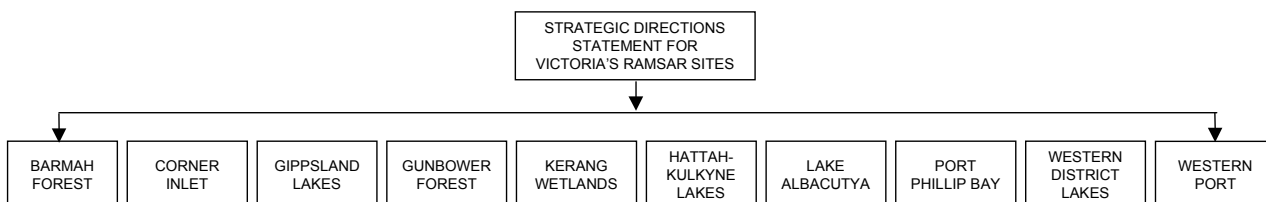
The Strategic Directions Statement also provides background information on the suite of relevant international conventions, as well as related Commonwealth and State policy and legislation which directs and supports the management and utilisation of Ramsar sites. The Strategic Directions Statement and Strategic Management Plans are therefore intended to be read as complementary documents.

1.2 Purpose of the Strategic Management Plan

The primary purpose of the Strategic Management Plan (SMP) for the Lake Albacutya Ramsar site is to facilitate conservation and wise use of the site so as to maintain, and where practical restore, the ecological values for which it is recognised as a Ramsar wetland. This will be achieved by implementing Site Management Strategies under each of the key objectives (derived from the Strategic Directions Statement).

The SMP for the Lake Albacutya Ramsar site provides management agencies and stakeholders with an appropriate management framework and the necessary information to ensure that decisions regarding land use and development, and ongoing management are made with full regard for wetland values in environmental, social and economic terms.

Figure 1.1 Framework for the strategic management of Victoria's Ramsar sites



The SMP has been structured in order to:

- provide a comprehensive site description;
- examine the legislation, policy and any related management instruments which direct or otherwise influence management both within and adjacent to the site;
- clarify the roles and responsibilities of management agencies;
- identify the values for which the site is recognised as a Ramsar site;
- assess threats to these values through systematic analysis of both current and potential risks; and
- give priority to Site Management Strategies that minimise and, where possible, eliminate identified risks to values.

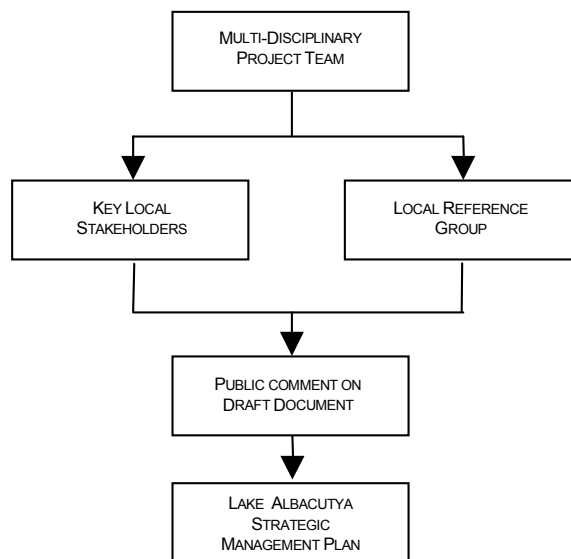
1.3 Consultative framework

The draft SMP has been developed collaboratively through a multi-disciplinary team comprised of Parks Victoria staff from regional and central offices. Throughout the process, members of a Local Reference Group and key local stakeholders have provided input (see Figure 1.2).

The SMP is a public document that has been formalised through a government approval process. As such, the SMP was subject to a public comment phase commensurate with State Government consultative processes. All comments received during the public consultation phase were considered in finalising the document.

The SMP is intended to operate over a six-year time frame and will be reviewed every three years to coincide with national reporting requirements under the Convention on Wetlands.

Figure 1.2 Lake Albacutya Ramsar site Strategic Management Plan consultation process



2 Ramsar Site Description

2.1 Location

Lake Albacutya is located in the Murray-Darling Depression bioregion (Murray Mallee subregion) approximately 400 km north-west of Melbourne. Lake Albacutya covers an area of approximately 5,731 ha and is one of a series of terminal lakes on the Wimmera River, the first of which is Lake Hindmarsh, when Lake Hindmarsh overflows Lake Albacutya is filled from Outlet Creek. The terminal Lakes system is the largest landlocked drainage system in the State and is part of the Wimmera Heritage River which extends from Polkemmet to Wirrengren Plain in Wyperfeld National Park.

2.2 Wetland type

Under the Ramsar Convention Lake Albacutya is recognised as a seasonal intermittent freshwater lake over 8 ha including floodplain lakes.

In Victoria wetlands are classified into eight categories (Corrick and Norman 1980). Under this classification system Lake Albacutya is categorised as a Permanent Open Freshwater wetland. The definition of 'permanent' in this classification reflects the fact that Lake Albacutya is a relatively deep lake and, after filling, holds water for several years.

2.3 Criteria met for Ramsar listing

To be listed as a Wetland of International Importance or a 'Ramsar site', wetlands must meet one or more internationally accepted criteria in relation to their zoology, botany, ecology, hydrology or limnology and importance to waterfowl. The Ramsar Convention updated the criteria in 1999. The new criteria will be applied to Lake Albacutya when the site Ramsar Information Sheet is next updated in 2005. The former criteria met by Lake Albacutya when listed in 1982 were:

- 1(a) is a particularly good representative of a natural or near-natural wetland characteristic of one, or common to more than one, biogeographical region;
- 1(b) is representative of a wetland which plays an important role in the natural functioning of a major river basin or coastal system, especially where located in a trans-border position;
- 3(a) regularly supports more than 20,000 waterfowl;

3(c) regularly supports substantial numbers of individuals from particular groups of waterfowl; and

3(c) regularly supports 1% of the individuals of a population of one species or subspecies of waterfowl.

Information on how Lake Albacutya meets these criteria is detailed in Chapter 4.

2.4 Land tenure and management

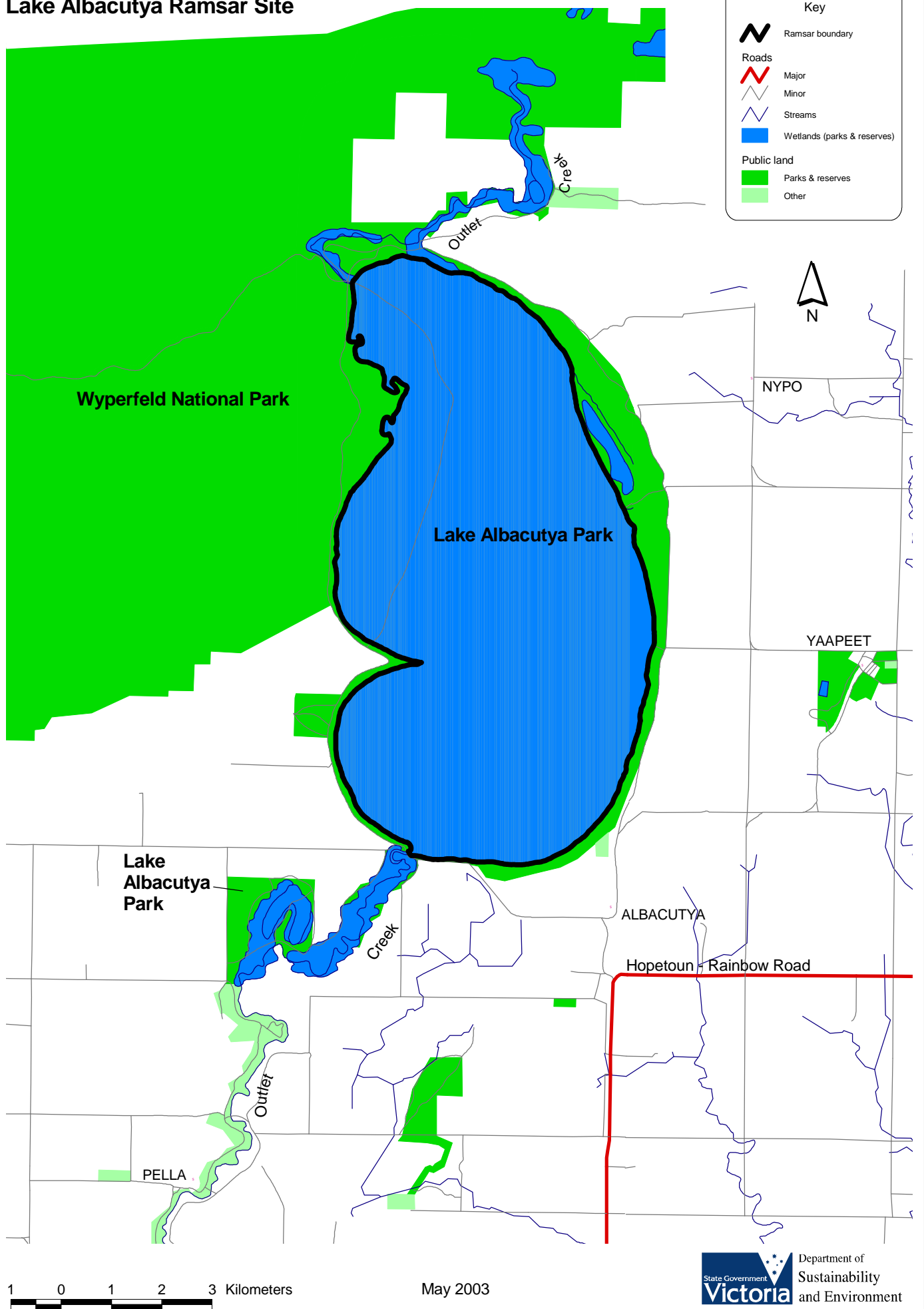
Lake Albacutya is located within Lake Albacutya Park proclaimed under Schedule 3 of the *National Parks Act 1975 (Vic.)*. Schedule 3 parks are required to be managed in accordance with the following objectives set out in the National Parks Act:

- to make provision, in so far as is appropriate to each such park, for the protection and preservation of indigenous flora and fauna and of features of scenic or archaeological, ecological, historic or other scientific interest;
- subject to such provision as is made under sub-paragraph (1), to make provision for the public to observe, experience or otherwise become acquainted in those parks with the countryside and rural skills activities and pursuits and for carrying on, in those parks and for those purposes, agricultural, horticultural, or other agrarian projects and botanical, zoological, or other scientific studies or projects; and
- to make provision in accordance with the foregoing for the use of parks by the public for the purpose of enjoyment, recreation or education and for the encouragement and control of that use.

The recommendations of the former Land Conservation Council (LCC 1989) also direct the management of the park.

Parks Victoria manages the Lake Albacutya Ramsar site. In addition a range of Government agencies are responsible for ensuring that management complies with a broad range of legislative requirements. The successful management of the Lake Albacutya Ramsar site therefore relies on effective cooperation and partnership between the various site and functional managers. Lead management agencies and their key responsibilities are summarised in Table 2.1.

Lake Albacutya Ramsar Site



Key

- Ramsar boundary
- Roads**
 - Major
 - Minor
 - Streams
- Wetlands (parks & reserves)
- Public land**
 - Parks & reserves
 - Other

2.5 Adjacent land use

Lake Albacutya Park is abutted by Wyperfeld National Park on the northern and western boundaries. The remaining adjacent land is freehold and used primarily for dryland cropping and grazing.

The Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC), that came into force on 16 July 2000, identifies Ramsar sites as matters of national environmental significance for which the Commonwealth has a significant responsibility. Wise use principles extend beyond the Ramsar site boundaries. The EPBC Act sets out procedures for assessing actions with potentially significant impacts on Ramsar values, whether these actions are proposed within or outside site boundaries.

2.6 Catchment setting

The Lake Albacutya Ramsar site lies within the Wimmera River Basin. The Basin is land-locked and covers an area of approximately 24,011 km² and supports a population of approximately 50,000. Dryland agriculture accounts for over 80% of the Basin's land use. The remaining land use includes urban and industrial development, conservation, forestry and irrigated agriculture (DWRV 1989).

2.7 Local Government

The Lake Albacutya Ramsar site is located within the Hindmarsh Shire Council.

Table 2.1 Lead management agencies and their key responsibilities

Statewide agency	Responsibility	Local agency	Responsibility
Parks Victoria	Management of parks and reserves.	Parks Victoria Mildura	Manage Lake Albacutya and the surrounding Lake Albacutya Park.
Department of Sustainability and Environment (DSE)	Strategic direction for park and reserve management; flora and fauna management and implementation of the Ramsar Convention in Victoria; catchment and water management, forest management, coastal and port management; leasing, licensing and management of public land, strategic and statutory land use planning including the administration of the Victorian Planning Provisions.	DSE Horsham	Policy advice for the management of Lake Albacutya.
Department of Primary Industries (DPI)	Provides strategic direction for fisheries management and research, agricultural services and sustainable development of Victoria's energy and mineral resources.	DPI Horsham	Manage recreational fishing for Lake Albacutya Ramsar site in accordance with <i>Fisheries Act 1995</i> .
Victorian Catchment Management Council	Advise State Government on catchment management, and land and water resource issues and priorities. Encourage cooperation between land and water managers. Promote community awareness on catchment management issues.	Wimmera CMA	Develop and implement Regional Catchment Management Strategies. Prepare and implement Action Plans. Manage surrounding catchment and inflowing streams and drainage. License all works on waterways (except dams).
Environment Protection Authority (EPA)	Co-ordination of all activities relating to the discharge of waste into the environment and the generation, storage, treatment, transport and disposal of industrial waste and the emission of noise and for preventing or controlling pollution and noise and protecting and improving the quality of the environment.	EPA Bendigo	Licence sewage and other discharges. Monitor water quality. Develop State environment protection policies for specified segments of the environment (eg. SEPP Waters of Victoria).
Non-metropolitan Urban Water Authorities	Provision of water and sewerage services and the management of urban water supply storages and catchments.	Grampians Water	Provide water and sewerage service to towns.
Rural Water Authorities	Manage and operate the Irrigation Districts and the Stock and Domestic system, and administer the diversion of water from waterways and the extraction of groundwater.	Wimmera Mallee Water	Manage rural water resources in the Wimmera and Mallee, including headworks and regulation of water extraction for agriculture. Delegated functions under the <i>Water Act 1989</i> .
Local Government/Shires	Regulation of local development through planning schemes, on-ground works and management of local roads and urban and some rural drainage.	Hindmarsh Shire	Administer planning scheme.

3 Policy framework

The suite of relevant international conventions, and the Commonwealth and Victorian legislation and policy that directs management and use of Ramsar sites, are outlined in the Strategic Directions Statement. This Chapter covers the local policy framework comprising plans, strategies and municipal planning provisions as well as statewide strategies approved after publication of the Strategic Directions Statement.

3.1 Strategies

There are a range of existing plans and strategies that provide for the protection and enhancement of the natural and cultural values of the Lake Albacutya Ramsar site. Victoria has a strong planning framework and as a result these plans and strategies demonstrate a high level of integrated planning and address many aspects of wise use. These plans and strategies are:

- Draft Environmental Flow Study Wimmera River System (SKM 2002);
- Wimmera Floodplain Management Strategy (WCMA 2001);
- Wimmera Weed Action Plan: Summary 2000-2004 (NRE 2002);
- Wimmera Rabbit Action Plan 2000-2005 (NRE 2001);
- Draft Wimmera Waterway Management Strategy (Sinclair Knight Merz 2000);
- Draft Wimmera Native Vegetation Plan (WCMA 2000);
- Heritage Rivers and Natural Catchment Areas Draft Management Plans, Volume 1, Western Victoria (NRE 1997);
- Wimmera Regional Catchment Strategy (Wimmera Regional CALPB 1997);
- Mallee Parks Management Plan (NRE 1996);
- Outlook for Outlet Creek and the Terminal Lakes (NRE 1995);
- Feasibility of Enhancement of Flooding Regime of the Wyperfeld National Park by Supplementary Releases from Headworks (RWC 1993);
- Mallee Regional Landcare Plan (Landcare 1993);
- River Red Gum Dieback in the Lower Wimmera River Catchment (Wouters 1993);
- Wimmera Catchment Salinity Management Plan (WCCG 1992);

- Wimmera River Integrated Catchment Management Strategy (WCCG 1992);
- An Assessment and Review of Crown Water Frontages in the Wimmera (SKM 1991);
- Rivers and Streams Special Investigations Final Recommendations (LCC 1991); and
- Wimmera Area Final Recommendations (LCC 1986).

(See Appendix 2 for complete reference.)

Catchment management authorities in Victoria are currently reviewing their regional catchment strategies. The revised regional catchment strategies, once accredited by government, will guide future investment in the catchment under some State natural resource management programs, the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust. This strategic management plan will be recognised under the Wimmera Regional Catchment Strategic framework.

Three recently developed statewide strategies are relevant to the management of Lake Albacutya Ramsar site.

The Victorian River Health Strategy (VRHS) provides a framework that enables Government and community to manage and restore rivers in the State. The VRHS aims to achieve healthy rivers, streams and floodplains which meet the environmental, economic, recreational and cultural needs of current and future generations (NRE 2002d). The VRHS establishes regional planning processes for CMAs to prepare regional river health strategies which will coordinate other river-related action plans and direct the development of annual works programs.

The Indigenous Partnership Strategy (NRE 2001) provides the framework for building effective relationships with Indigenous communities, who have a fundamental role in the management of Victoria's natural resources, as traditional custodians of the land and waters. This strategy sets out key initiatives to assist in the development and delivery of services to Indigenous people, which should be applied during management planning.

Victoria's Native Vegetation Management – A Framework for Action (NRE 2002d) establishes the strategic direction for the protection, enhancement and revegetation of native vegetation across the State. The framework focuses on managing native

vegetation to provide sustainable landscapes and to protect productive capacity and environmental values of land and water resources.

3.2 Municipal Strategic Statements, zoning and overlays

The Hindmarsh Shire has produced a Municipal Strategic Statement that covers the Lake Albacutya Ramsar site. Although the Statements address a number of important land management and environmental issues, it does not emphasise the environmental values of the Lake Albacutya Ramsar site or the risks to its values.

Zoning pursuant to the *Planning and Environment Act 1987* has been applied to the Lake Albacutya Ramsar site, as part of a review of local planning schemes, to control land use and development. The Public Conservation and Resource Zone (PCRZ) has been applied to Lake Albacutya. The PCRZ is the most appropriate zone for the Lake Albacutya Ramsar site as it allows for the protection of areas of significance.

The PCRZ aims to:

- protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values;
- provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes;
- provide for appropriate resource based uses.

Furthermore, the Hindmarsh Planning Scheme applies an Environmental Significance Overlay (Schedule 3 – Wimmera River Protection) to the Wimmera River and Outlet Creek, which provides protection for rare or threatened species along their frontages. The purpose of Environmental Significance Overlays is to identify areas where the development of land may be affected by environmental constraints and to ensure that development is compatible with identified environmental values.

Furthermore, the Hindmarsh Planning Scheme also applies a Land Subject to Inundation Overlay (LSIO) over the known flood prone land along the Wimmera River, the Outlet Creek and Lake Albacutya and its immediate catchment areas.

The purpose of the LSIO includes:

- to ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity;
- to protect water quality in accordance with the provision of relevant State Environment Protection Policies, particularly in accordance with Clauses 33 and 35 of the State Environment Protection Policy (Waters of Victoria).

4 Values

The key environmental values of the Lake Albacutya Ramsar site for which it was listed (representativeness, flora and fauna and waterbirds) are summarised below. Other values described include natural function, cultural heritage, scenic, economic, education and interpretation, recreation and tourism, and scientific.

4.1 Wetland representativeness

In Victoria wetlands are classified into eight categories. Lake Albacutya is classified as Permanent Open Freshwater with 'permanent' meaning that, after filling, the lake holds water for many years. However, Lake Albacutya may also be dry for long periods.

In Australia, there has been a dramatic reduction in natural wetland area since European settlement. A total of 37% of Victoria's wetland area has been lost, primarily as a result of drainage. In contrast since European settlement approximately 200 artificial impoundments in Victoria have been created which has contributed to the expansion of permanent open freshwater wetland habitat in the State. Artificial wetlands however, are often of low ecological value for they have unnatural water regimes and lack the habitat diversity of natural wetlands (NRE 1997). Lake Albacutya accounts for 7% of the pre European area of natural permanent open freshwater wetland habitat in the State and 10% of the remaining area of permanent open freshwater wetland habitat in Victoria's protected area network (table 4.1).

Lake Albacutya is also a good example of a terminal lake, which are inadequately protected in Victoria (ANCA 1996).

4.2 Flora and fauna

More than 21 species of indigenous flora and 124 species of indigenous fauna have been recorded at the Lake Albacutya Ramsar site (NRE 1999a; NRE 1999b). Of these, 1 flora species and 3 fauna species are considered to be nationally threatened under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* (Appendices 3 and 4).

A total of 10 flora species and 28 fauna species considered to be threatened in Victoria have been recorded at the Lake Albacutya Ramsar site. Sixteen fauna species recorded are listed under the *Flora and Fauna Guarantee Act 1988* (Vic). One species, Freshwater Catfish, is listed as part

of the Lowland Riverine Fish Community of the Southern Murray-Darling Basin. There are action statements for 5 of these species (Appendices 3 and 4).

Native non-endemic threatened species Murray Cod, Silver Perch, Freshwater Catfish and Golden Perch are present in the Wimmera River Basin as a result of past and present stocking by Fisheries Victoria for recreational angling purposes. These species could move into Lake Albacutya in times of flood but have not been recorded to date, except for the Freshwater Catfish (Appendix 4). The Wimmera River basin is the only system in the State where Freshwater Catfish can be legally taken and size and bag limits apply.

The Lake Albacutya provenance of River Red Gum is internationally known as the best performing of this species and are of global significance because of their great adaptability and rapid growth in temperate conditions. The provenance has excellent salt-tolerance and straightness (Bren and Acenolaza 2000).

A total of 4 bird species listed under the Japan-Australia Migratory Birds Agreement (JAMBA) and 7 species under the China-Australia Migratory Birds Agreement (CAMBA) visit the Lake Albacutya Ramsar site (Appendix 5). Four of these species are common to both agreements. Seven species listed under the Bonn Convention on Conservation of Migratory Species of Wild Animals have also been recorded at the Lake Albacutya Ramsar site (Appendix 5).

4.3 Waterbirds

When full Lake Albacutya provides important feeding, resting and breeding habitat for 42 waterbird species.

In terms of carrying capacity the lake occasionally supports in excess of 10% of the Victorian population of the Freckled Duck. The lake has supported internationally significant numbers (Watkins 1993) of the Banded Stilt (greater than 10,000) (Robinson 1984). Other large numbers of waterbirds recorded include 100 Pacific Heron, 100 Yellow-billed Spoonbill, 3,000 Australasian Shelduck, 3,000 Pacific Black Duck, 20,000 Grey Teal, 1000 Australian Shoveler, 1,500 Hardhead, 2,000 Maned Duck and 3,000 Eurasian Coot (ANCA 1996).

A total of 6 species of waterbird have been recorded breeding at the lake including Darter,

Little Pied Cormorant), Australian Shelduck, Masked Lapwing, Red-kneed Dotterel and Red-capped Plover (ANCA 1996).

Hindmarsh overflows, Lake Albacutya is filled from Outlet Creek, and is a natural flood mitigation area, storing excess runoff and releasing it slowly during times of low flow. It also has a small local catchment.

4.4 Natural function

Lake Albacutya is situated second in a series of terminal lakes of the Wimmera River. When Lake

Table 4.1 Representativeness of Victorian wetland types present at the Lake Albacutya Ramsar site

Wetland type	Pre European area (ha) in Victoria	Area (ha) remaining in Victoria	Area (ha) in Victoria's protected area network ¹	Ramsar coverage in Victoria (ha)	Lake Albacutya (ha)
Permanent Open Freshwater	70,658	190,694 ²	55,729	25,352	5,706

¹ includes areas of Ramsar sites

² increases from Pre-European area in Victoria to area remaining in Victoria is due to the construction of dams, weirs and other impoundments

4.5 Cultural heritage

Lake Albacutya is within the Wergaia Language Area (Clark 1990). The lake features in local aboriginal mythology through the various accounts of the Brambrambult story relating to Duan, a 'Dreaming track' can be seen to follow the Wimmera River from near Stawell to past Lake Wirrengren (Stone 1911, Matthews 1904). Duan, the flying-squirrel, followed a kangaroo (Purra) from somewhere near Stawell, and it ran away northerly down the Wimmera River, forming the present watercourse. The kangaroo grazed a long time about Lake Hindmarsh, eating the grass quite bare, and formed the lake. It went on and grazed about Lake Albacutya where another lake was formed in the same way. (Matthews 1904).

All Aboriginal sites, places and objects are protected under the *Archaeological and Aboriginal Relics Preservation Act 1972* (Vic.) and the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Cwlth). There are 3 archaeological sites registered with Aboriginal Affairs Victoria within the Ramsar site including scarred trees and stone artefact scatters. The area has not been adequately surveyed however, so it is likely that there are more archaeological sites to be discovered.

Ongoing discussions need to take place with local Aboriginal people in order to facilitate the management of Aboriginal cultural heritage. In particular, managers need to ensure that Aboriginal heritage values are not adversely impacted in the course of implementing other site management strategies.

In 1995 a Native Title Determination Application covering almost a million hectares, and including

the Lake Albacutya Ramsar site was lodged with the National Native Title Tribunal. In 2002, after participating in a mediation process, an in-principle agreement was reached between the Wotjobaluk people and the State Government. This agreement gives significant recognition to the Wotjobaluk as descendants of the people who occupied the land before European settlement, while also maintaining the rights of current landholders. All interest groups will have to accept the agreement before it can be finalised.

Lake Albacutya Park (incorporating the Ramsar site) has been listed on the Register of the National Estate for its heritage values as well as its outstanding natural values.

4.6 Scenic

The River Red Gum and Black Box communities around the margins of the lake and the large expanse of water when the lake is full are an important and dominant visual feature for the surrounding landscape.

4.7 Economic

The components, functions and attributes of the Lake Albacutya Ramsar site provide a variety of direct and indirect economic values to the area. The direct economic values provided by Lake Albacutya include agriculture and the use of the lake for recreation and tourism. In contrast, the various regulatory ecological functions of the lake have important indirect measurable values, which support or protect economic activities that have direct measurable values. The indirect economic values provided by Lake Albacutya include flood and flow control, nutrient and sediment storage, and groundwater recharge.

4.8 Education and interpretation

Visitor information, interpretation and education assist visitor enjoyment and foster understanding, appreciation and protection of Ramsar sites and their values.

Current information and interpretation services at the Lake Albacutya Ramsar site include walking tracks, advice and support to school education programs and self guided nature trails.

In addition an interpretation sign is located at the entrance of the park produced as part of the Victorian Ramsar wetlands interpretation project. The aim of the project is to promote understanding and gain community support for Ramsar sites and wetlands.

4.9 Recreation and tourism

The Lake Albacutya Ramsar site attracts over 6,000 visitors annually. However, visitor numbers significantly increase when the lake is full. Visitor activities include bushwalking, camping, 4WD driving, trail bike riding and birdwatching. When the lake is full it provides an excellent opportunity for water based recreational activities such as swimming, boating and fishing. Hunting for duck and feral animals is also permitted at the lake.

4.10 Scientific

The Lake Albacutya Ramsar site has been an important site for a number of research studies particularly in the fields of floodplain ecology and hydrology.

In addition the Lake Albacutya Ramsar site has outstanding geomorphological significance. The sediments around the lake margin and surrounding dunes form an important record of past water levels and the lakes geochronological features reflect climatic changes in the region over the last ten million years.

4.11 Condition

Vegetation

Open River Red Gum and Black Box communities dominate the vegetation surrounding Lake Albacutya. The understorey throughout these communities is dominated by exotic species due to grazing disturbances. The majority of River Red Gums along the eastern side of the lake and smaller isolated areas on the western side of the lake are suffering from dieback. The dieback is caused by a combination of reduced surface flows and saline groundwater (Wouters 1993). When the lake is dry, it is colonised by a lake bed herbfield community. Increasing grazing pressure by rabbits, kangaroos and domestic stock between flood periods has resulted in the introduction and dominance of exotic species in the community.

Hydrology

The Lake fills irregularly and contained water for only four periods last century: 1909-1929, 1956-1968, 1974-1983 and 1992-1994. The Lake has a maximum depth of eight metres (O. Peach, pers comm.), and a full capacity of 290,000 megalitres. The flooding frequency of the lake has been estimated to have changed from 1 in 17 years to 1 in 23 years by Binnie and Partners (1993). More recent studies (e.g. Bren and Acenolaza 2000), predict a much reduced flooding frequency - for more information see Section 5.1.

The Wimmera River flows from the highlands of western Victoria into Lake Hindmarsh, which in wet years, overflows into Outlet Creek, carrying water to Lake Albacutya and sometimes to the lakes beyond. In most years the Wimmera River does not have sufficient flow to replace evaporative losses from Lake Hindmarsh, and so Lake Albacutya fills intermittently.

The longest dry period on record is 27 years (1929-1956). Lake Albacutya last filled in mid 1974 and small flows entered the lake in 1981, 1983, 1992-93 and 1996 (Bren and Acenolaza 2000).

5 Management of Risks

The key risks to the environmental values at the Lake Albacutya Ramsar site are discussed below. The risks include altered water regimes, salinity, grazing, pest plants and animals, inappropriate resource utilisation, recreation, fire and erosion, which were in some cases established prior to the listing of the site.

These risks and their impacts result from activities in the wetland, on adjoining land and in the catchment. Protection of the site therefore requires an integrated approach. A wide variety of measures are being implemented at the Lake Albacutya Ramsar site to deal with risks. They include planning, research, site works, catchment works and education. A brief summary of these measures relevant to each risk is provided.

5.1 Altered water regimes

Lake Albacutya is one of a series of intermittent terminal lakes on the Wimmera River. Regulation of the Wimmera River since late last century and the increasing demands of the Wimmera-Mallee Stock and Domestic Water Supply System on natural river flows have reduced the frequency and extent of natural flooding reaching the terminal lakes.

It has been determined that the natural frequency of flooding for Lake Albacutya is 1 in 17 years on average under natural conditions. With the current diversions and regulation of water in the system the flooding frequency for Lake Albacutya has lengthened to just over 23 years, an increase of approximately 30% (Binnie and Partners 1993).

A more recent study undertaken by Bren and Acenolaza (2000) shows that a "natural flooding" (data from 1889-1944) frequency at the entrance to Wyperfeld National Park was about 1 in 20 years, but currently has declined to about 1 in 100 years (data from 1945-1999). Water enters the park from the northern end of Lake Albacutya via Outlet creek. Under "natural" conditions a two year rainfall of 1,174 mm was required to produce flooding, but under the "current" conditions a two year rainfall of 1,317 mm is required to produce the same level of flooding. The change in the nature of the rainfall-streamflow relationship was not investigated but is likely to be associated with increased storages and diversions from system, and possible influences of changing land use in the headwaters of the Wimmera River (2002).

Severe dieback is now apparent in the River Red Gum and Black Box communities of the Lake

Albacutya Ramsar site. This is attributed to increasing saline groundwater, a reduction in the frequency and extent of floodwaters reaching the lake and possible rising groundwater levels (Wouters 1993). The riparian woodlands of the Wimmera River represent a significant proportion of the remaining indigenous tree cover in the region of which the River Red Gum and Black Box communities of the lake are an important component. The River Red Gum and Black Box communities of the Lake Albacutya Ramsar site provide habitat for threatened fauna including the Regent Parrot. The Land Conservation Council (1991) noted that the vegetation communities associated with the Outlet Creek System are under considerable pressure and will continue to degrade unless alternative water management arrangements are put in place.

Other changes occurring within the Lake Albacutya Ramsar site as a result of the reduction in the frequency and extent of floodwaters reaching the lake include lakebed herbfield communities being replaced by annual weeds, reduced recruitment of the threatened Native Orache and Three-nerve Wattle (which colonise the dry lake bed after flooding events), and reduced waterbird habitat (NRE 1996).

A total of 35,000 ML of water savings for environmental flows will be achieved through the Northern Mallee Pipeline Project. Although the water requirements to sustain the environmental health of the terminal lakes are not precisely known, it is unlikely that 35,000 ML is sufficient, especially considering that water savings are currently shared between the Wimmera and Glenelg Rivers. For example, the capacity of Lake Albacutya alone is 290,000 ML.

A possible option for improving supplies to the terminal lakes would be to complete pipelining of the whole Wimmera-Mallee domestic and stock supply system, known as the Wimmera-Mallee Pipeline Project. This project involves replacing the existing 17,500 km channels with a new 6,000 km pipeline system throughout 2.3 million hectares of the region.

A feasibility study for piping the remainder of the Wimmera Mallee water indicates that savings of 83,000 ML for environmental purposes are possible at a cost of about \$177 million (i.e. \$2,000 per ML). The study was jointly funded by the federal and State governments and was completed in October 2001. A sustainable water management

strategy for the Wimmera Mallee Region has been developed (State Government of Victoria et al. unpublished).

The detailed planning phase, which is also being funded by the Federal and State Governments, will take place over the next 12 to 18 months. The community-based steering committee is now seeking the necessary \$300 million from both Federal and State Governments to implement the project. Recently the State Government has committed \$77 million.

5.2 Salinity

The Lake Albacutya Ramsar site and its associated vegetation communities are threatened by rising regional water tables as a result of widespread vegetation clearing in the region. Although it was predicted that the groundwater will rise within 2 metres of the bed of Lake Albacutya by the year 2001, measurements taken by Parks Victoria show there has been no significant change to levels (Bren and Acenolaza 2000). However the results suggest an increasing salinity over time which probably reflects a lack of recharge by freshwater from flooding. If this trend continues there will be dieback of Black Box as well as Red Gum due to increased salinity. It is likely that a flood would recharge groundwater and displace saline groundwater by pressure. Thus the lack of flooding can be reasonably viewed as leading to increased salinity in the Red Gum forest environment of Lake Albacutya and Wyperfeld Nation Park (Bren and Acenolaza 2000).

The impacts associated with salinity are being addressed by catchment works carried out as part of a number of catchment strategies including the Wimmera Regional Catchment Strategy and the Wimmera Catchment Salinity Management Plan.

5.3 Grazing

Excessive grazing pressure by rabbits and kangaroos has caused degradation of native vegetation and hence faunal habitat at the Lake Albacutya Ramsar site.

The most obvious impact of grazing has been an absence of regeneration of woody species, a loss of perennial taxa from the shrub and ground layers and the introduction and establishment of alien species particularly in the lake bed herbfield community.

The depletion of understorey vegetation reduces the availability of ground cover for ground dwelling fauna, which may expose them to increased rates of predation. Soil disturbance, and changes in soil

nutrient status caused by intensive grazing, favour some introduced species over their native counterparts and help to perpetuate the spread of weeds (Westbrooke 1990; Cheal et al. 1992; Cheal 1993). Other impacts include trampling of vegetation, and soil erosion and compaction.

Grazing pressure by rabbits has been reduced within the Lake Albacutya Ramsar site through rabbit harbour destruction and the introduction of the calicivirus. Grazing by livestock is allowed under licence on the lakebed (see also Section 5.5).

5.4 Pest plants and animals

Pest plants in the Lake Albacutya Ramsar site can be divided into two categories:

- **agricultural weeds** including Spiny Burr-grass and Horehound; and
- **environmental weeds** including Bridal Creeper, Prickly Pear, Paterson's Curse, Tree Tobacco, Spiny Rush, Peppercorn, Onion Weed, Wild Oat, Great Broome, Saffron Thistle, Skeleton Weed, Wild Melon, Mediterranean Barley-grass, Common Heliotrope, Perennial Rye-grass, Common Evening Primrose, Variegated Thistle, Caltrop and Bathurst Burr.

Environmental weeds are of major concern because they reduce opportunities for regeneration of indigenous flora through competitive growth and by changing soil conditions required for successful germination and development. Flora communities at greatest risk of weed invasion include those of highest conservation significance such as the threatened Native Orache and Three-nerve Wattle, which colonise the dry lake bed.

A number of introduced animals have been recorded at the Lake Albacutya Ramsar site. Problem species include European Carp, foxes, cats, bees, introduced birds and rabbits. The threats posed by feral rabbits are outlined in section 5.3.

Carp enter Lake Albacutya in times of flood from Lake Hindmarsh via Outlet Creek. Modification of habitat and the decline in native fish numbers are likely causes of the rapid spread and abundance of carp (Stuart et al. 2001). The feeding habits of carp cause severe damage by muddying the water and making the environment unsuitable for many of the aquatic biota that naturally thrive in the lake.

Predation of native wildlife by foxes and cats are listed as threatening processes under the *Flora and Fauna Guarantee Act 1988*. The extent and impact of fox and cat predation on native fauna at the Lake Albacutya Ramsar site is currently

unknown. However, the following categories of native fauna are considered to be at risk from predation:

- arboreal mammals including Brushtail possums;
- bird species that spend much of their time at or near the ground nesting and/or feeding including the threatened Freckled Duck and Blue-billed duck;
- reptiles; and
- amphibians.

Loss of hollow bearing trees from Victorian native forests is listed under the *Flora and Fauna Guarantee Act 1988* as a potentially threatening process. Introduced birds (particularly Starlings and Indian Miners), honey bees and wasps compete with native fauna for nesting hollows in trees including hollow nesting mammals such as Brushtail possums and hollow nesting birds such as the threatened Regent Parrot. The extent and impact of increased competition for hollows by introduced species on indigenous fauna are currently unknown at the Lake Albacutya Ramsar site.

The impacts associated with pest plants and animals are being addressed through a range of measures including fox baiting, monitoring and treating pest plant infestations. Continued coordination with adjacent land owners is integral to any pest plant and animal control measures.

5.5 Resource utilisation

There are currently three stock grazing licenses that allow for grazing on the lakebed herbfield community. The licences cover an area of 2,116 ha or 37% of the Ramsar site. Most examples of this community in the Mallee, including the Lake Albacutya Ramsar site, have been significantly disturbed by grazing (NRE 1996). Stock grazing disturbs the community through soil compaction, increased nutrient input, spread of weeds, selective grazing and trampling. However, grazing regimes are managed through licence conditions to minimise these disturbances and improve the condition of the lakebed herbfield community. The Mallee Parks Management Plan (1996) recommends the removal of grazing from the lakebed for an extended period, and monitoring of vegetation re-establishment.

The Lake Albacutya Ramsar site is used for a number of commercial activities including seed collection and fisheries, which pose a number of threats to the site's values.

The commercial collection of seed from Lake Albacutya provenance of River Red Gum has

occurred on a number of occasions. Propagates of this seed are frequently used to lower saline water tables or as an ornamental in saline areas. Although commercial quantities of Lake Albacutya provenance seed are now available from plantation sources, it is necessary to return to the original source to maintain genetic vigour (NRE 1996).

The impact of seed collection is limited to a number of isolated trees. Seed has not been collected commercially since 1991 because of the low quantity available. However, future seed collection may reduce available seed stock required for regeneration if inadequately managed.

Until recently commercial fishing for yabbies was permitted under licence in Lake Albacutya. A total of six licence holders were allowed to fish commercially for yabbies in the public waters listed on Schedule 8 of the *Fisheries Regulations 1998*. These licence holders were also able to fish for scalefish. Commercial inland fishing in Victoria has been reviewed and has resulted in the State Government buying out the remaining commercial Inland Fisheries Access Licences. In addition, a bag limits on recreational fishing for yabbies has recently been introduced. Fisheries Victoria can still issue permits for the commercial exploitation of noxious aquatic species under section 81 of the Fisheries Act 1995.

The impacts associated with inappropriate resource utilisation are being addressed through a range of measures including regulating grazing activities.

5.6 Recreation

The Lake Albacutya Ramsar site provides substantial recreational opportunities to the public (see section 2.4). Many recreational activities however, which can be managed by appropriate behaviours, adherence to codes of conduct and restricted access to sensitive areas, pose a threat to the values of the Lake.

The impact of recreational activities at the Lake Albacutya Ramsar site is greatly influenced by whether the lake is full or dry. The lake last filled in 1974 and retained water to 1983. While the lake held water, significant problems relating to visitor management were experienced as annual visitor numbers rose from 6,000 to over 50,000. The high visitor numbers lead to problems associated with litter, damage to native vegetation, firewood collection, soil erosion and compaction, and disturbance to fauna. Many fauna species at the Lake Albacutya Ramsar site, particularly waterbirds, are sensitive to disturbance at roosting, feeding and nesting sites. Disturbance by visitors

during breeding season may pose a potential threat to the survival of threatened species such as the Freckled Duck and Blue-billed Duck. In response a visitor management strategy has been developed by Park staff to minimise the impact of high visitation on the lakes values.

Hunting for ducks (under the *Wildlife (Game) Regulations 2001*) and feral animals such as foxes, rabbit and cats is permitted at the Lake Albacutya Ramsar site. The impact of hunting on site values has not been determined.

Contamination of wetlands from the accumulation of lead shot is listed as a threatening process under the *Flora and Fauna Guarantee Act 1988* (NRE 2002a). The use of lead shot was prohibited for duck hunting in Victoria in 2002. However, waterbirds which feed in or on the edges of wetlands such as the deep diving Blue-billed Duck and predators such as the White-bellied Sea-eagle are still at risk of lead poisoning from accumulated lead shot (FFG Action Statement No.32). Lead shot can still be used for hunting quail, pest animals and for clay target shooting. The extent of the lead contamination in Lake Albacutya is not known.

The risks associated with recreation are being addressed through a range of measures. These measures include a significant enforcement and monitoring presence during duck season, monitoring and management of significant populations of threatened species (eg. Freckled Duck) when present, the enforcement of fishing regulations dealing with fish size and catch limits and the development of visitor interpretation and education programs.

5.7 Fire

The Lake Albacutya Ramsar site is located in northern Victoria where high fire danger conditions occur throughout summer. Wildfires, inappropriate fuel reduction burning and fire suppression operations have the potential to reduce the site's values. Impacts include loss of feeding, roosting and breeding sites of waterbirds, hollows for hollow dependent species such as ducks and parrots, seed source for native flora regeneration and Aboriginal archaeological sites.

Phosphate-based fire retardants may also adversely affect aquatic biota and native vegetation regeneration and recruitment. The suppression of fire can also have a significant impact on the environmental values of the site. Changes to natural fire regimes can adversely affect the diversity of flora and its dependent fauna. Fire frequency, intensity and season can

have a major influence on the floristic composition of grassy woodland communities and grassland communities, which are the predominant vegetation types surrounding Lake Albacutya.

The impacts associated with fire are being addressed through the implementation of the Code of Practice for Fire Management on Public Land (1995) and the development of the Guidelines and Procedures for Ecological Burning on Public Land in Victoria, which will provide a consistent framework and process for planning and implementing ecological burning programs.

5.8 Erosion

The Lake Albacutya Ramsar site has a lunette of sandy material on its eastern side. Due to prevailing wind and wave action the lunette is moving gradually from west to east. The progress of the lunette has slowed over the last decade as a result of a revegetation program. Effects of erosion are more pronounced on the western shoreline of Lake Albacutya and further revegetation is required in the area of The Bluff and at Red Gum Lagoon to prevent dunes encroaching on the shoreline Red Gums.

5.9 Level of risk to Ramsar values

The goal of the integrated management framework (incorporating the Strategic Directions Statement and corresponding Strategic Management Plans) is to facilitate the maintenance of ecological character at Victoria's Ramsar sites by minimising risks to values. This objective will be achieved through the implementation of strategically prioritised management actions. The proposed management actions are prioritised according to their ability to address the identified threats or risks.

A *strategic risk assessment* process based on the broad concepts and principles of ecological risk assessment has been undertaken for the Strategic Directions Statement and Strategic Management Plans (NRE 2002 – Appendix 7). This process relied on a clear understanding of the range of direct and indirect pressures facing the wetlands, as well as the legislative and policy context.

A systematic and strategic analysis of risk provides the necessary information to site managers; and facilitates priority setting, resource allocation and informed decision-making. It also provides a better understanding of management issues.

The strategic risk assessment process has established the basis for objectively assigning higher, medium and lower priority levels to risks at

Ramsar sites and the management actions designed to address them. The strategic risk assessment approach also facilitates an understanding of the relationship between specific risks and values. The strategic risk assessment framework draws on two major relevant documents: the US Environment Protection Authority's Guidelines for Ecological Risk Assessment (USEPA 1997), and the Ramsar Convention's Wetland Risk Assessment (RCB 1999).

The main risks to the environmental values and ecological character of the Lake Albacutya Ramsar site are summarised below in Table 5.1. It should be noted that the level of risk has not been assessed against the effort currently being applied to mitigating the risk. Based on our current understanding altered water regimes, grazing and pest animals are considered the most serious threat to the site's environmental values and ecological character.

Table 5.1 Level of risk to Ramsar values at the Lake Albacutya Ramsar site

	Risks									
	Altered water regime	Salinity	Grazing	Pest animals	Pest plants	Resource utilisation	Recreation	Fire	Pollution	Erosion
Lake Albacutya	◆◆◆	◆◆	◆◆◆	◆◆◆	◆◆	◆	◆	◆	◆	◆

- ◆◆◆ **Higher priority risk** - risks that currently or may potentially result in the significant loss of the site's environmental values and ecological character.
- ◆◆ **Medium priority risk** - risks that currently or may potentially result in the moderate loss of the site's environmental values and ecological character.

- ◆ **Lower priority risk** - risks that currently or may potentially result in the minor loss of the site's environmental values and ecological character.

6 Site Management Strategies

A number of Site Management Strategies have been developed in response to the analysis of risks to the values at the Lake Albacutya Ramsar site. The Site Management Strategies are grouped under the relevant Management Objectives established by the Strategic Directions Statement.

The Site Management Strategies for the Lake Albacutya Ramsar site promote a range of specific management actions that will maintain, and in some cases restore the ecological character of the site. The Site Management Strategies are designed to:

- a) address risks that are having an adverse impact, or are likely to have an adverse impact on ecological character; and
- b) highlight existing strategies and actions that are consistent with wise use principles.

The successful coordination and cooperation of the lead agencies, as well as the continued efforts of the many community and interest groups, is essential for the long-term conservation of the Lake Albacutya Ramsar site. The Strategic Directions Statement, statutory mechanisms, management plans and management strategies will guide the implementation of this Strategic Management Plan.

DSE will have overall responsibility for:

- facilitating the implementation of the Strategic Directions Statement and Strategic Management Plans for Ramsar sites by ensuring relevant agencies incorporate relevant strategies into their work programs;
- coordinating and reporting on the progress and/or issues with implementation of the Strategic Directions Statement and Strategic Management Plans for Ramsar sites;
- ensuring monitoring programs are established in accordance with the Strategic Directions Statement and Strategic Management Plans for Ramsar sites;

- ensuring the regular review of Strategic Management Plans for Ramsar sites;
- preparing the Victorian chapter of Australia's National Report to triennial Conferences of the Contracting Parties to the Ramsar Convention; and
- the six yearly update of the Ramsar Information Sheets for each site.

In order to clarify accountabilities, the lead agency responsible for the implementation of each strategy is identified. Lead agencies will monitor implementation of the strategies for which they are responsible. Lead agencies are encouraged to record progress on their responsibilities and extent of implementation and provide information in the form of annual summary reports to DSE. This information will be consistent with a format to be developed by DSE and will contribute to Victoria's chapter in the National Report to the Convention on Wetlands, prepared every three years.

A rating of relative priority accompanies each Site Management Strategy. Definitions of these priorities are as follows:

Higher: Strategies that, when implemented, will significantly contribute to the maintenance of ecological character.

Medium: Strategies that, when implemented in conjunction with Higher priority strategies will support the maintenance and contribute to the restoration of ecological character.

Lower: Strategies that, when implemented in conjunction with Higher and Medium priority strategies, will result in enhancement of ecological character.

Management Objective 1

Increase the scientific understanding of wetland ecosystems and their management requirements.

	Site Management Strategy	Lead agency	Priority
1.1	Support research needed to determine more appropriate water regimes for the Ramsar site based on the hydro-ecological requirements of the lake.	PV, DSE	Higher
1.2	Continue long-term monitoring of the following suspected causal factors of River Red Gum dieback at Lake Albacutya: salinity reduced occurrence of floodwater and rising groundwater.	WCMA, PV, DSE	Higher
1.3	Assist and encourage surveys and research into key flora and fauna species and their habitat requirements.	PV, DSE	Medium

Management Objective 2

Maintain or seek to restore appropriate water regimes.

	Site Management Strategy	Lead agency	Priority
2.1	Participate in the Bulk Entitlement process for the Wimmera River to negotiate for an optimum environmental water allocation for the Wimmera River system and identify if there are any options for using the allocation to improve the water regime in Lake Albacutya.	DSE, PV,	Higher
2.2	Implement the actions of the Wimmera Regional Catchment Strategy concerning the provision of environmental flows to address water quality and biodiversity protection.	WCMA	Higher

Management Objective 3

Address adverse processes and activities.

	Site Management Strategy	Lead agency	Priority
3.1	Increase the number of deep-rooted plants in recharge areas of the Upper Wimmera River Catchment and on the lunettes around the terminal lakes system including Lake Albacutya. Use indigenous species on public land.	WCMA, DSE, PV	Higher
3.2	Participate in appropriate consents for use and development on adjacent land under the <i>Planning and Environment Act 1987</i> and during the Environmental Effects Statement process (<i>Environmental Effects Act 1978</i>).	PV, DSE	Higher
3.3	Continue fox baiting and control programs where benefit to significant species can be demonstrated.	PV	Higher
3.4	Maintain rabbit densities at levels that will provide for the progressive long-term recovery of native vegetation.	PV	Higher
3.5	Ensure proponents are made aware that development proposals that may impact on Ramsar values should be referred to Environment Australia or an approved State authority as directed by the <i>EPBC Act 1999</i> .	DSE, WCMA	Higher
3.6	Prepare a kangaroo management plan.	PV	Higher
3.7	Investigate mechanisms to restrict carp entering Lake Albacutya via Lake Hindmarsh during periods of high river flow.	PV	Higher
3.8	Control environmental weeds according to the conservation significance of species at greatest risk from invasion.	PV	Medium
3.9	Encourage continued research into the impact of increased competition for hollows by introduced species on indigenous fauna.	DSE, PV	Medium
3.10	Liaise with DSE and other fire management agencies to minimise the potential damage to significant values during fire suppression operations.	PV	Lower
3.11	Revegetate priority areas to prevent erosion and damage of shoreline vegetation.	PV	Lower

Management Objective 4

Manage within an integrated catchment management framework.

	Site Management Strategy	Lead agency	Priority
4.1	Implement the actions of the Wimmera Catchment Salinity Management Plan and the Wimmera Regional Catchment Strategy related to minimising the effects of rising water tables and salinity.	WCMA	Higher
4.2	Implement the actions of the Wimmera Regional Catchment Strategy related to reducing nutrient and chemical pollution of waterways.	WCMA	Higher
4.3	Coordinate pest plant and animal control efforts with adjacent landholders including implementation of the Wimmera Weed Action Plan 2000.	PV	Higher

Management Objective 5

Manage resource utilisation on a sustainable basis.

	Site Management Strategy	Lead agency	Priority
5.1	Remove stock grazing from the lakebed of Lake Albacutya (and exclude other grazers for an extended period). Monitor the pattern of vegetation re-establishment (Mallee Parks Management Plan 1996).	PV	Higher
5.2	Continue to manage recreational fishing in line with the <i>Fisheries Act 1995</i> and principles of ecologically sustainable development.	DPI	Medium
5.3	Ensure that the commercial collection of seed from the Lake Albacutya provenance of River Red Gum does not endanger or deleteriously affect natural populations (Mallee Parks Management Plan 1996).	PV	Medium

Management Objective 6

Protect and where appropriate enhance ecosystem processes, habitats and species.

	Site Management Strategy	Lead agency	Priority
6.1	Using best practice management, undertake actions to promote recruitment in areas severely affected by dieback around Lake Albacutya.	PV	Higher
6.2	Implement <i>Flora and Fauna Guarantee Act 1988</i> Action Statements for listed species under the Act.	DSE, PV	Higher
6.3	Determine and implement appropriate strategies for the long-term restoration of the lake bed herbfield community (Mallee Parks Management Plan 1996).	PV	Medium
6.4	Locate and protect roosting, nesting and breeding sites of endangered and migratory bird species threatened by disturbance.	PV	Lower
6.5	Adopt ecological burning and manipulative fire regimes where it can be demonstrated to be of value to the sites natural values.	PV	Lower

Management Objective 7

Encourage strong partnerships between management agencies.

	Site Management Strategy	Lead agency	Priority
7.1	Establish and maintain regular communication and links between all relevant management agencies of the Lake Albacutya Ramsar site.	PV	Higher

Management Objective 8

Promote community awareness and understanding and provide opportunities for involvement in management.

	Site Management Strategy	Lead agency	Priority
8.1	Promote community participation in habitat protection and enhancement works through groups such as Friends of Lake Albacutya.	PV	Higher
8.2	Encourage involvement of local Aboriginal people in all facets of Ramsar site management, consistent with the commitment of the Indigenous Partnership Strategy to recognise the fundamental role Aboriginal indigenous communities have in natural resource management.	PV	Higher
8.3	Consult with local Aboriginal people to ensure that other site management strategies in this plan do not adversely impact on Aboriginal cultural heritage values.	PV	Higher
8.4	Incorporate Lake Albacutya Ramsar site into the visitor information, interpretation and education program of Lake Albacutya Park as outlined in the Mallee Parks Management Plan to promote the natural and cultural values of the Ramsar site.	PV	Medium
8.5	Continue to form partnerships with community groups to facilitate the implementation of management activities.	PV	Medium
8.6	Identify opportunities and encourage community involvement in ecological monitoring activities.	PV	Lower

Management Objective 9

Ensure recreational use is consistent with the protection of natural and cultural values.

	Site Management Strategy	Lead agency	Priority
9.1	Protect Aboriginal cultural sites in consultation with the South West and Wimmera Regional Cultural Heritage Program, any native title claimants, other local Aboriginal groups, AAV and DSE.	PV	Higher
9.2	Maintain and develop visitor services consistent with the protection of natural and cultural values.	PV	Medium
9.3	Protect and interpret, where appropriate, sites of European historical interest and significance in consultation with local historical societies.	PV	Medium
9.4	Encourage visitors to practise minimal impact techniques and to adhere to recreational codes of conduct.	PV	Medium
9.5	Monitor the use of the lakes by recreational fishers and enforce regulations to control illegal fishing practices.	DPI, PV	Medium
9.6	Implement the Lake Albacutya visitor management strategy when the lake holds water.	PV	Lower

Management Objective 10

Develop ongoing consistent programs to monitor ecological character.

	Site Management Strategy	Lead agency	Priority
10.1	Develop an ongoing consistent program to monitor the ecological character of Lake Albacutya, measured in a statistically sound way and recorded in appropriate databases. Factors such as frequency of flooding, water height, salinity, nutrients, algae, macroinvertebrates, flora and fauna should be measured.	DSE, PV	Higher
10.2	Monitor the effectiveness of rehabilitation, revegetation and habitat protection works.	PV	Higher
10.3	Continue to record fauna species usage of the Lake Albacutya Ramsar site and provide data to update relevant Victorian databases.	DSE, PV	Higher

Lead agency key:

DPI Department of Primary Industries

DSE Department of Sustainability and Environment

PV Parks Victoria

WCMA Wimmera Catchment Management Authority

References

- Binnie & Partners (1993) *Study of Flood Events within Wyperfeld National Park*. Occasional Paper Series NPPL No. 10. Department of Natural Resources and Environment, Victoria.
- Bren, L. and Acenolaza, P. (2000) *An Analysis of Ecohydrological Change in Lake Albacutya Park and Wyperfeld National Park: Lake Albacutya and Outlet Creek Watering Options*. University of Melbourne, Victoria.
- Cheal, D. C. (1993) Effects of stock grazing on the plants of semi-arid woodlands and grasslands. *Proceedings of the Royal Society of Victoria*. **105**(1):57-65.
- Cheal, D. C., Parkes, D., Parsons, R. F. and Sluiter, I. R. K. (1992) Vascular plants and communities. In: *Endangered species and communities and threatening processes in Murray Mallee*. Australian National Parks and Wildlife Service and the Murray-Darling Basin Commission, Canberra.
- Clark, Ian D. (1990) *Aboriginal Languages and Clans: An Historical Atlas of Western and Central Victoria, 1800-1900*. Department of Geography and Environmental Science, Monash University, Victoria.
- Department of Natural Resources and Environment (1996) *Mallee Parks Management Plan*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (1997) *Victoria's Biodiversity: Directions in Management*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (1999a) *Flora Information System*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (1999b) *Atlas of Victorian Wildlife*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (2001) *Indigenous Partnerships Strategy*. Aboriginal Affairs Victoria, East Melbourne, Victoria.
- Department of Natural Resources and Environment (2002) *Management of Victoria's Ramsar Wetlands: Strategic Directions Statement*. Department of Natural Resources and Environment, Melbourne.
- Land Conservation Council (1989) *Mallee Area Review Final Recommendations*. Land Conservation Council. Melbourne.
- Loyn, R.H, Lumsden, L.F, Ward, K.A. (2002). 'Vertebrate Fauna of the Barmah Forest, a Large Forest of River Red Gum *Eucalyptus camaldulensis* on the Floodplain of the Murray River'. *Victorian Naturalist*. Vol. 119 (3), Murray River Special Issue.
- Matthews, R.H, (1904) 'The native tribes of Victoria: their languages and customs' in *Proceedings of the American Philosophical Society, Philadelphia*, Vol. 43, No.175, pp.54-70 [Gr. 6505].
- Rural Water Corporation (1993) *Feasibility of Enhancement of Flooding Regime of the Wyperfeld National Park by Supplementary Releases from Headworks*. A draft report by Hydrotechnology, Victoria.
- Ramsar Convention Bureau (1999) *Wetlands Risk Assessment*. Seventh Meeting of the Conference of the Contracting Parties to the Convention on Wetlands (Ramsar, Iran, 1971) in San José, Costa Rica. Ramsar Convention Bureau, Gland, Switzerland.
- Robinson, D. (ed.). (1984). *Victorian Bird Report 1983*. Bird Observers Club, Melbourne.
- State Government of Victoria, Wimmera Mallee Water, Department of Employment, Workplace Relations and Small Business, Sinclair Knight Mertz, (unpublished) *Piping the System A Sustainable Water Management Strategy for the Wimmera Mallee Region*.
- Stone, A.C., (1911) 'The Aborigines of Lake Boga, Victoria' in *Royal Society of Victoria, Proceedings*, 23:433-468. Victoria.
- Stuart, I., Jones, M. and Koehn, J. (2001) *Targeting Spawning Habitats to Control Carp Populations*. 12th Australian Vertebrate Pest Conference, 21-25 May 2001, Melbourne, Victoria.

United States Environment Protection Authority
(1997) *Draft Final Guidelines for Ecological Risk Assessment*. United States Environment Protection Authority, Washington D.C., United States of America.

Watkins, D (1993) *A National Plan for Shorebird Conservation in Australia*. Australian Wader Studies Group, Royal Australian Ornithologists Union, Melbourne.

Westbrooke, M. E. (1990) Effects of activity on weediness in mallee communities - studies at Mallee Cliffs National Park and Nanya Station, south western NSW, in J.C., Juss, P.J. and Jones, G.K. (eds). *The Mallee Lands: A Conservation Perspective*. CSIRO, Melbourne, pp. 276-9.

Wouters, C. (1993) *River Red Gum Dieback in the Lower Wimmera River Catchment*. Department of Natural Resources and Environment, Victoria.

Appendix 1 List of Contributors

Multi-disciplinary Project Team Members

Simon Casanelia	Conservation Officer, National Parks Policy and Strategy, Parks Victoria	Cheryl Wouters	Environmental Program Manager, Mallee District, Parks Victoria
Ben Churchill	Team Leader Environment Strategy, National Parks Conservation and Policy, Parks Victoria	Phillip Murdoch	Ranger in Charge, Hattah- Kulkyne National Park, Parks Victoria
Ian Walker	Environmental Chief Ranger, West Region, Parks Victoria	Janet Holmes	Senior Policy Officer, Parks, Flora and Fauna Division, DSE
Andrew Marshall	Chief Ranger, Mallee District, Parks Victoria		

Public Submissions

Australasian Wader Studies Group	Paech, O. – Friends of Lake Albacutya
Australian Defence Organisation	Rainbow Country Fire Association
Bird Observers Club of Australia	Southern Rural Water
Doxey's Royal Hotel	Victorian Farmers Federation
Environment Australia (Wetlands Section)	Wimmera Catchment Management Authority
Field and Game Australia Inc.	Yarriambiack Shire Council
Hindmarsh Shire Council	

Contacts for further information and collaboration

Friends of Albacutya	Murray-Darling Freshwater Research Centre
Hindmarsh Shire Council	Natural Resources Conservation League
Mallee Catchment Management Authority	Wimmera Catchment Management Authority
Mildura Rural City Council	Yarriambiack Shire Council

Related Websites

www.ramsar.org
www.ea.gov.au
www.dse.vic.gov.au
www.parkweb.vic.gov.au

Appendix 2 Resource List

Further reading

- Department of Natural Resources and Environment (1995) *Outlook for Outlet Creek and the Terminal Lakes*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (1996) *Mallee Parks Management Plan*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (1997) *Heritage Rivers and Natural Catchment Areas Draft Management Plans, Volume 1, Western Victoria*. Department of Natural Resources, Victoria.
- Department of Natural Resources and Environment (2001) *Indigenous Partnerships Strategy*. Aboriginal Affairs Victoria, East Melbourne, Victoria.
- Department of Natural Resources and Environment (2001) *Wimmera Rabbit Action Plan 2000-2005*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (2002) *Healthy Rivers, Healthy Communities and Regional Growth: Victorian River Health Strategy*. Department of Natural Resources and Environment, Victoria.
- Department of Natural Resources and Environment (2002) *Wimmera Weed Action Plan: Summary 2000-2004*. Department of Natural Resources and Environment, Victoria.
- Environment Australia (2001) *A Directory of Important Wetlands in Australia, Third Edition*. Environment Australia, Canberra.
- Landcare (1993) *Mallee Regional Landcare Plan*. Landcare Victoria.
- Land Conservation Council (1986) *Wimmera Area Final Recommendations*. Land Conservation Council, Melbourne.
- Land Conservation Council (1991) *Rivers and Streams Special Investigations Final Recommendations*. Land Conservation Council, Melbourne.
- Mallee Dryland Community Working Group. (1993) *Mallee Dryland Salinity Management Plan*. Salt Action, Victoria.
- Ramsar Convention Bureau (1997) *The Ramsar Convention Manual: A Guide to the Convention on Wetlands (Ramsar, Iran, 1971)*, 2nd edn. Ramsar Convention Bureau, Gland, Switzerland.
- Rural Water Corporation (1993) *Feasibility of Enhancement of Flooding Regime of the Wyperfeld National Park by Supplementary Releases from Headworks*. Catchment Management Services Report No. 1993/40. Rural Water Corporation, Victoria.
- Sinclair Knight Mertz (1991) *An Assessment and Review of Crown Water Frontages in the Wimmera*. Wimmera Catchment Management Authority, Victoria.
- Sinclair Knight Merz (2000) *Draft Wimmera Waterway Management Strategy*. Wimmera Catchment Management Authority, Victoria.
- Sinclair Knight Mertz (2002) *Draft Environmental Flow Study Wimmera River System*. Wimmera Catchment Management Authority, Victoria.
- Wimmera Catchment Coordinating Group (1992) *Wimmera River Integrated Catchment Management Strategy - Final Report*. Wimmera River Catchment Coordinating Group, Horsham.
- Wimmera Catchment Coordinating Group (1992) *Wimmera Catchment Salinity Management Plan*. Wimmera Catchment Coordinating Group, Victoria.
- Wimmera Catchment Management Authority (2000) *Draft Wimmera Native Vegetation Plan*. Wimmera Catchment Management Authority, Victoria.
- Wimmera Catchment Management Authority (2001) *Wimmera Floodplain Management Strategy*. Wimmera Catchment Management Authority, Victoria.
- Wimmera Regional Catchment and Land Protection Board (1997) *Wimmera Regional Catchment Strategy*. Wimmera Regional Catchment and Land Protection Board, Victoria.
- Wouters, C. (1993) *River Red Gum Dieback in the Lower Wimmera River Catchment*. Department of Natural Resources and Environment, Victoria.

Appendix 3 Threatened Status of Flora

Common name	Scientific name	FFG Listed	Status in Victoria	Status in Australia
Cup Wattle	<i>Acacia cupularis</i>		r	
Downy Swainson-pea	<i>Swainsona swainsonioides</i>	L	e	
Fine-hairy Spear-grass	<i>Austrostipa puberula</i>		r	
Fleshy Minuria	<i>Kippistia suaedifolia</i>		v	
Native Orache	<i>Atriplex australasica</i>		k	
Native Scurf-pea	<i>Cullen australasicum</i>	L	e	
Red Microcybe	<i>Microcybe multiflora ssp. multiflora</i>		v	
Ridged Water-milfoil	<i>Myriophyllum porcatum</i>		v	V
Three-nerve Wattle	<i>Acacia trineura</i>		v	
Yellow Microcybe	<i>Microcybe pauciflora ssp. pauciflora</i>		e	

Source: Victorian Flora Information System DSE (2003)

FFG Listed

- L Listed under the *Flora and Fauna Guarantee Act 1988*
- A An action statement has been prepared for the management of this species.

Status in Victoria

- e Endangered in Victoria, i.e. rare and at risk of disappearing from the wild state if present land use and other causal factors continue.
- v Vulnerable in Victoria, i.e. rare, not presently endangered but likely to become so soon due to continued depletion, or which largely occur on sites likely to experience changes in land use which threaten the survival of the species.
- r Plants which are rare in Victoria but which are not considered otherwise threatened. This category indicates relatively few known stands.
- k species poorly known, suspected of being in one of the above categories.

Status in Australia under the EPBC Act 1999

- CE A native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- E A native species is eligible to be included in the endangered category at a particular time if, at that time:
(a) it is not critically endangered; and
(b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- V A native species is eligible to be included in the vulnerable category at a particular time if, at that time:
(a) it is not critically endangered or endangered; and
(b) it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

Appendix 4 Threatened Status of Fauna

Common name	Scientific name	FFG Listed	Status in Victoria	Status in Australia
Mammals				
Common Dunnart**	<i>Smithopsis murina</i>		Vul	
Mitchell's Hopping-mouse	<i>Notomys mitchelli</i>		LR	
Birds				
Australasian Shoveler	<i>Anas rhynchos</i>		Vul	
Baillon's Crane**	<i>Porzana pusilla</i>	L	Vul	
Black-eared Cuckoo	<i>Chrysococcyx osculans</i>		LR	
Blue-billed Duck	<i>Oxyura australis</i>	L	End	
Brown Treecreeper	<i>Climacteris picumnus</i>		LR	
Bush Stone-curlew	<i>Burhinus grallarius</i>	L, A	End	
Caspian Tern	<i>Sterna caspia</i>	L	LR	
Crested Bellbird	<i>Oreoica gutturalis</i>	L	LR	
Freckled Duck	<i>Stictonetta naevosa</i>	L, A	End	
Glossy Ibis	<i>Plegadis falcinellus</i>		LR	
Great Egret	<i>Ardea alba</i>	L	Vul	
Gull-billed Tern	<i>Sterna nilotica</i>	L	End	
Hardhead	<i>Aythya australis</i>		Vul	
Hooded Robin	<i>Melanodryas cucullata</i>	L	LR	
Major Mitchell's Cockatoo	<i>Cacatua leadbeateri</i>	L, A	Vul	
Mallee Emu-wren	<i>Stipiturus mallee</i>	L	Vul	V
Malleefowl	<i>Leipoa ocellata</i>	L, A	End	V
Musk Duck	<i>Biziura lobata</i>		Vul	
Nankeen Night Heron	<i>Nycticorax caledonicus</i>		LR	
Painted Snipe**	<i>Rostratula benghalensis</i>	L	CEn	
Purple-gaped Honeyeater	<i>Lichenostomus cratitius</i>		Vul	
Regent Parrot	<i>Polytelis anthopeplus</i>	L	Vul	V
Royal Spoonbill	<i>Platalea regia</i>		Vul	
Whiskered Tern	<i>Chlidonias hybridus</i>		LR	
White-bellied Sea-eagle**	<i>Haliaeetus leucogaster</i>	L, A	Vul	
Fish				
Freshwater Catfish**	<i>Tandanus tandanus</i>	L*	End	

Source: Atlas of Victorian Wildlife DSE (2003) and ** Parks Victoria records

*Listed under the *Flora and Fauna Guarantee Act 1988* as part of the Lowland Riverine Fish Community of the Southern Murray-Darling Basin

FFG Listed

- L Listed under the *Flora and Fauna Guarantee Act 1988*.
- A An action statement has been prepared for the management of this species.

Status in Victoria

- CEn Critically Endangered: A taxon that is facing an extremely high risk of extinction in the wild in the immediate future.
- End Endangered: A taxon that is not Critically Endangered but is facing a very high risk of extinction in the wild in the immediate future.
- Vul Vulnerable: A taxon that is not Critically Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.
- LR Lower Risk – near threatened: A taxon that has been evaluated, does not satisfy the criteria for any of the threatened categories, but which is close to qualifying for Vulnerable. In practice, these species are most likely to move into a threatened category should current declines continue or catastrophes befall the species.
- DD Data Deficient - A taxon where there is inadequate information to make a direct or indirect assessment of its risk of extinction based on its distribution or population status. Listing of taxa in this category indicates that more information is required and acknowledges the possibility that future investigation will show that a threatened classification is appropriate. Status in Australia under the EPBC Act 1999

Status in Australia under the EPBC Act 1999

- CE A native species is eligible to be included in the critically endangered category at a particular time if, at that time, it is facing an extremely high risk of extinction in the wild in the immediate future, as determined in accordance with the prescribed criteria.
- E A native species is eligible to be included in the endangered category at a particular time if, at that time:
(a) it is not critically endangered; and
(b) it is facing a very high risk of extinction in the wild in the near future, as determined in accordance with the prescribed criteria.
- V A native species is eligible to be included in the vulnerable category at a particular time if, at that time:
(a) it is not critically endangered or endangered; and
(b) it is facing a high risk of extinction in the wild in the medium-term future, as determined in accordance with the prescribed criteria.

Appendix 5 Action Statement Recommendations

Common name	Scientific name	Major recommendations from action statements
Bush Stone-curlew	<i>Burhinus grallarius</i>	<ul style="list-style-type: none"> Survey the distribution and abundance of the species in western Victoria and the Murray Valley. Protect critical Bush Stone-curlew habitat. Investigate the effects of fox predation on and appropriate grazing strategies for the Bush Stone-curlew.
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>	<ul style="list-style-type: none"> Undertake annual ground or aerial surveys of known breeding sites throughout Victoria during nesting season. Determine critical habitat and encourage research to understand diet preferences. Protect known nesting sites of the White-bellied Sea-Eagle. Incorporate the protection of suitable habitat in relevant planning documents.
Freckled Duck	<i>Stictonetta naevosa</i>	<ul style="list-style-type: none"> Coordinate searches for Freckled Duck prior to the duck hunting season and consider closure of wetlands to duck hunting if Freckled Duck are found. Educate duck hunters in waterfowl identification through the Waterfowl Identification Test. Give enforcement priority to wetlands that are open to hunting and where Freckled Duck are located.
Major Mitchell's Cockatoo	<i>Cacatua leadbeateri</i>	<ul style="list-style-type: none"> Negotiate with landholders and land managers to conserve and enhance native vegetation suitable for use by Major Mitchell's Cockatoos on private and public land. Reduce grazing pressure and control predators on public land that contains suitable breeding sites for Major Mitchell's Cockatoos. Provide adequate resources to detect illegal activities at key times such as nesting. Ensure that the conservation of Major Mitchell's Cockatoo is considered during the preparation and implementation of management plans. Implement a program of public awareness and liaison. Coordinate research on the demographics of the species and on the effects, if any, of the feral Honey Bee on breeding potential. Identify potential routes for vegetation corridors to link communities that are important to the survival of the Major Mitchell's Cockatoo, and investigate the possibility of revegetation where necessary.
Malleefowl	<i>Leipoa ocellata</i>	<ul style="list-style-type: none"> Continue to monitor the Malleefowl. Refine survey techniques and describe and map the critical habitat of the Malleefowl. Continue fox control programs. Undertake further research. Implement the Fire Protection Plan for public land in NW Victoria, and refine this plan when critical Malleefowl habitats are identified and mapped. Continue to seek acquisition of small private land blocks with the aid of community groups such as the Mid-Murray Field naturalists and Victorian Conservation Trust. Continue to cooperate with individuals and community groups to protect Malleefowl and their habitat

Source: FFG Action Statements, DSE website.

Appendix 6 JAMBA, CAMBA and Bonn Species

Common name	Scientific name	JAMBA	CAMBA	Bonn
Blue-billed Duck	<i>Oxyura australis</i>			✓
Caspian Tern	<i>Sterna caspia</i>			✓
Freckled Duck	<i>Stictonetta naevosa</i>			✓
Glossy Ibis	<i>Plegadis falcinellus</i>		✓	✓
Great Egret	<i>Ardea alba</i>	✓	✓	✓
Marsh Sandpiper	<i>Tringa stagnatillis</i>	✓	✓	✓
Painted Snipe	<i>Rostratula benghalensis</i>		✓	
Ruddy Turnstone	<i>Arenaria interpres</i>	✓	✓	✓
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	✓	✓	✓
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>		✓	✓

Primary Source: NRE (1999b)

Appendix 7 Lake Albacutya Ramsar Information Sheet¹

Information Sheet on Ramsar Wetlands

Categories approved by Recommendation 4.7 of the Conference of the Contracting Parties.

1. Date this sheet was completed/updated:

May 1999

2. Country:

Australia

3. Name of wetland:

Lake Albacutya, Victoria

4. Geographical coordinates:

Latitude: 35°46'S

Longitude: 141° 58'E

5. Altitude:

Approximately 80 metres

6. Area:

5,731 hectares

Note: This is a revised area figure based on GIS Mapping (1995) and does not represent any change to the Ramsar site boundary.

7. Overview:

Lake Albacutya only receives water in exceptionally wet years (about every 20 years). It takes 3 or 4 years to dry 20 year cycle. When full it supports large numbers (10,000+) of ducks, swans and coots. Large numbers of Freckled Duck have also been recorded.

8. Wetland Type:

Inland: P

9. Ramsar Criteria:

1a, 1b, 3a, 3b and 3c

Please specify the most significant criterion applicable to the site:

10. Map of site included?

Please tick yes -or- no

11. Name and address of the compiler of this form:

Parks Victoria
378 Cotham Road
Kew VIC 3101 Australia

12. Justification of the criteria selected under point 9, on previous page.

1(a) The wetland is a particularly good representative example of a natural or near-natural wetland characteristic of the appropriate biogeographical region.

and

1(b) The wetland is a particularly good representative example of a natural or near-natural wetland common to more than one biogeographical region.

Lake Albacutya is a good example of a terminal lake in the Murray-Darling Depression biogeographic region and in the wider Murray-Darling Basin.

3(a) Regularly supports 20,000 waterfowl.

The lake, when flooded, has supported up to 20,000 Grey Teal, more than 10,000 Banded Stilts, 3,000 Pacific Black Duck, 3,000 Australian Shelduck, 2,000 Maned Duck and 3,000 Eurasian Coot (ANCA 1996).

3(b) Regularly supports substantial numbers of waterfowl from particular groups.

When flooded, the lake is particularly important for supporting large numbers of ducks and Banded Stilt (see above).

3(c) Regularly supports 1% on the individuals in a population of one species or subspecies.

When flooded Lake Albacutya has been recorded as supporting in excess of 10% of the Victorian Freckled Duck population and 3.5% of the Australian population of the Freckled Duck (*Stictonetta naevosa*). The lake has also supported internationally significant numbers of Banded Stilt (ANCA 1996).

13. General location:

¹ Ramsar Information Sheets are formal documents lodged with the Ramsar Bureau. They are updated every six years. The last update was in 1999. New or revised information has not been added since 1999 and there may be inconsistencies with that in the body of the plan. The Ramsar Information Sheets will be updated next in 2005.

North-west Victoria, 14 km north of Rainbow.

14. Physical features:

The Wimmera River which flows from the highlands of western Victoria into Lake Hindmarsh, which in wet years, overflows into Outlet Creek which then carries water to Lake Albacutya. In most years the Wimmera River does not have sufficient flow to replace evaporative losses from Lake Hindmarsh, and so Lake Albacutya fills intermittently.

The longest dry period on record being 27 years (1929-1956). Lake Albacutya last filled in mid 1974 and has been dry since 1983.

Lake Albacutya abuts the Big Desert dune system which consists of irregular and parabolic dune chains and sand plains of the Lowan Sand. Heavy alluvial grey cracking clays of the Coonambidgal Formation occur along Outlet Creek, and these are partly overlain by grey and brown sands of variable depth. Lake Albacutya has a lunette of sandy material on its eastern side.

Average annual rainfall in the area is 360 mm.

15. Hydrological values:

Lake Albacutya has no operational function for water supply or water conservation and serves principally as a recreational area for tourists and local residents, and as a natural wetland.

16. Ecological features:

The vegetation along Outlet Creek and around Lake Albacutya differs considerably from that of the surrounding dry country. Red Gum woodlands fringe the lake, with Black Box and Cypress Pine woodlands on higher ground. There are also some small areas of buloke woodlands. Grey Mulga, Three-nerve Wattle, Small Cooba, Wallow, Lignum, and grasses grow beneath the woodlands. When the lake is dry, grasslands occupy the lake-bed.

The lake periodically supports in excess of 10 000 ducks and swans and 10 000 coots.

17. Noteworthy flora:

Threatened Species

- *Acacia trineura* (Three-nerve Wattle) - vulnerable
- *Stenopetalum velutinum* (Velvet Thread Petal) - vulnerable
- *Psoralea patens* (Spreading Psoralea) - endangered

- *Austrostipa puberula* (Fine-hairy Spear-grass) - rare
- *Myriophyllum porcatum* (Ridged Water-milfoil) - vulnerable

18. Noteworthy fauna:

Freckled Duck (*Sictonetta naevosa*) - rare in Victoria. There were 700 Freckled Duck on Lake Albacutya during February 1983. Extrapolations from counts made in Australia during January and February of 1983 (a drought year) suggested a total population of approx. 20,000 birds. Thus in 1983, Lake Albacutya held 3.5% of the total population of Freckled Duck.

Other threatened birds in Lake Albacutya Park are:

- Blue-billed Duck (*Oxyura australis*) - rare
- White-bellied Sea-Eagle (*Haliaeetus leucogaster*) - rare
- Malleefowl (*Leipoa ocellata*) - rare
- Baillon's Crake (*Porzana pusilla*) - insufficiently known
- Bush Thick-knee (*Burhinus magnirostris*) - vulnerable
- Pink Cockatoo (*Cacatua leadbeateri*) - indeterminate
- Regent Parrot (*Polytelis anthopeplus*) - rare
- Red-lored Whistler (*Pachycephala rufogularis*) - vulnerable
- Striated Grasswren (*Amytornis striatus*) - vulnerable
- Slender-billed Thornbill (*Acanthiza iredalei*) - rare
- Bush Stone Curlew (*Burhinus grallarius*) - vulnerable
- Major Mitchell's Cockatoo (*Cacatua leadbeateri*) - vulnerable

Fish:

- Freshwater Catfish (*Tandanus tandanus*) - vulnerable

Reptiles:

- Tree Goanna (*Varanus varius*) is a threatened species ('insufficiently known') has been collected at Lake Albacutya.

Mammals:

- Mitchell's Hopping Mouse (*Notomys mitchelli*) - rare

19. Social and cultural values:

The Jakelbalek tribe occupied the land between Pine Plains and Lake Albacutya. The lake features in local aboriginal mythology as Nalbagadja, the place where Purra the kangaroo fed on bitter quandongs while fleeing from

Wembulin the spider. Albacutya is derived from the aboriginal word 'nalbagadja' and means 'place of bitter quandongs'.

There are seven surface scatters around Lake Albacutya, which contain fireplaces, hearths, freshwater mussels, middens and other aboriginal cultural material. The area has not been adequately surveyed however, so it is likely that there are more archaeological sites to be discovered.

20. Land tenure/ownership:

Reserved under Schedule 3 of the *National Parks Act 1975* (Vic) as part of the Lake Albacutya Park.

21. Current land use:

(a) On site: When holding water Lake Albacutya is a popular recreation area (i.e. for boating, fishing and shooting, as well as passive recreation).

With the drying out of the Lake, the lake-bed is colonised by plants taking advantage of the bare ground. Unfortunately, many of the plants best adapted to this colonisation process are introduced weeds which are difficult to control. Lake-bed cropping and grazing licences are issued to local farmers to help reduce weeds and vermin.

More than 30 licensed commercial fishermen operate in the Mallee streams and lakes. Most of these fishermen operate on Lake Albacutya at some time when it contains water. The Lake is netted for Redfin and provides exceptional catches of yabbies.

(b) The surroundings/catchment: Dryland farming, mainly wheat and wool.

22. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land use and development projects:

Over several decades, commitment of flows for agricultural and domestic purposes has reduced the frequency and extent of natural flooding in Lake Albacutya. Since the last update of the Ramsar information sheet in 1992, change in ecological character at the site has generally not been significant though some effects of long term changes persist.

Dieback of the River Red Gum and Black Box communities is continuing at Lake Albacutya. This is attributed to rising groundwater levels, increasingly saline groundwater and reduced

occurrence of floodwaters and contributes to a loss of breeding habitat for threatened parrot species. Lakebed herbfields are being replaced by annual weeds as a result of infrequent flooding.

Over the years there have been a number of proposals to increase water flow to the downstream end of the Wimmera River system, most recently by making water savings by piping stock and domestic diversions in the Wimmera-Mallee water-supply system to reduce transmission losses.

23. Conservation measures taken:

The values at Lake Albacutya have been recognised through listing on the National Estate Register.

Reservation under Schedule 3 of the *National Parks Act 1975* provides for protection of natural values.

The Mallee Parks Management Plan 1996 and the Wimmera Heritage River Draft Management Plan 1997 outline strategies to protect the natural values at Lake Albacutya. Strategies relating to provision of water include processes for allocating water savings made as a result of an ongoing program to pipe stock and domestic supplies.

Action Statements under the Flora and Fauna Guarantee Act 1988 have been produced for the following fauna species that occur at the Ramsar site. They outline conservation measures for the species.

- White-bellied Sea-eagle (1994)
- Malleefowl (1994)

24. Conservation measures proposed but not yet implemented:

In an integrated approach to planning at Ramsar sites, management strategies are being prepared for all Ramsar sites in Victoria, including Lake Albacutya, to provide general strategic direction and site specific strategies. The strategies will be completed by June 1999.

A bulk water entitlement conversion process will be initiated for the Wimmera River system in 1998. However, while further long term reduction of flows will be prevented, there is unlikely to be a noticeable gain of environmental water for Lake Albacutya.

25. Current scientific research and facilities:

Monitoring of die-back of flood-dependent vegetation was initiated in 1993 with a baseline

survey of the extent of River Red Gum dieback on the lower Wimmera River.

Pre duck season surveys are undertaken when the lake has water.

26. Current conservation education:

There is a Visitor Information Centre located at the Park.

The Department of Conservation and Environment has produced a one page leaflet describing various aspects of the Park.

27. Current recreation and tourism:

When holding water, Lake Albacutya is used for boating, fishing, yabbing and water-skiing. There is a concrete boat launching ramp at Western Beach; at Yaapeet Beach boats may be launched from the shore when the lake is full.

28. Jurisdiction:

Government of Victoria.

29. Management authority:

Managed under the Department of Natural Resources and Environment Parks Program by Parks Victoria - 5,731 ha (100%)

30. Bibliographical references:

Beaglehole, A. C. (1979). The Distribution and Conservation of Native Vascular Plants in the Victorian Mallee. Western Victorian Field Naturalists Clubs Association, Portland.

Martindale, J. (1988). Waterfowl Count in Victoria, January 1987. RAOU Report No. 37. Royal Australasian Ornithologists Union, Moonee Ponds, Victoria.

