

# Lake Boort Reserve

Management Plan  
March 2018

Authorised and published by Parks Victoria

Level 10, 535 Bourke Street, Melbourne VIC 3000

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This Management Plan is approved for implementation. Its purpose is to direct all aspects of management of the Lake Boort Reserve until the plan is reviewed.

A draft management plan was published in June 2016. All submissions were carefully considered in preparing this approved Management Plan.

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# Lake Boort Reserve

Management Plan  
March 2018





**Aboriginal and Torres Strait Islander people are advised that this document may contain images, names, quotes and other references of deceased people.**

### **Acknowledgements**

This plan was developed by Parks Victoria’s management planning team, which included Linda Greenwood, Joshua Chikuse, Mark Riley, Ian Foletta and James Hackel. Context Pty Ltd was commissioned in preparing the draft plan. Parks Victoria gratefully acknowledge the contributions made by many people in shaping this Plan. Special thanks go to the Project Control Group members. The contributions of many others are also acknowledged, including individuals and organisations who provided access to reports, other information or made submissions. Individuals and organisation providing submissions on the draft management plan are listed in Appendix 1.

Parks Victoria thanks the Boort community generally and especially all those who completed the online survey and who took the time to attend the Open House sessions held in Boort.

### **Disclaimer**

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

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**Cover image:** Rising moon at Lake Boort. (James Hackel)

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# Approved Management Plan

This Management Plan for Lake Boort provides a clear basis for the future management and protection of the reserve, and is approved for implementation.

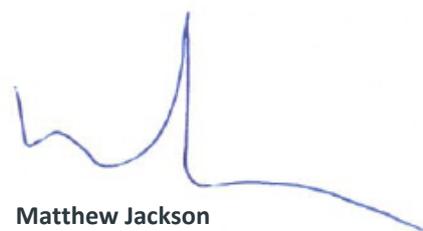
This plan recognises the enduring connections of Dja Dja Wurrung people to this place. It is a part of Dja Dja Wurrung Country. The approved plan is an important outcome of the Dja Dja Wurrung Recognition and Settlement Agreement (2013).

The draft plan was published in June 2016 to give interested people and organisations an opportunity to contribute to the final shaping of the plan. An Open House consultation session, an online survey and face to face discussions with stakeholders provided Parks Victoria with valuable input and contributed to the vision, goals and strategies in the plan. Parks Victoria received 22 submission from individuals and organisations on the draft plan which were carefully considered in preparing the approved plan.

Parks Victoria also recognises the important contributions that those who know and value the area can make to its management. In implementing the plan Parks Victoria and Dja Dja Wurrung are seeking to strengthen their relationships with the Boort community, community groups, The Shire of Loddon, North Central CMA, and a range of State government agencies and to partner with them in the management of Lake Boort and the delivery of the plan. The knowledge, skills and commitment of a wide range of people and organisations is needed to deliver the long-term, aspirational vision for this important place. All people and organisations are encouraged to continue to be involved with protecting and enjoying this important reserve.



**Rodney Carter**  
Chief Executive Officer,  
Dja Dja Wurrung Clans  
Aboriginal Corporation



**Matthew Jackson**  
Chief Executive Officer,  
Parks Victoria



Environment,  
Land, Water  
and Planning



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Flooding over the Boort-Pyramid Road in 2011

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# Executive Summary

## Lake Boort Reserve Management Plan March 2018

Lake Boort is part of a chain of Loddon River wetlands extending northwards from Boort to Kerang. The 502ha Lake Boort Reserve is a special place for the local community, for Dja Dja Wurrung, and for visitors. It is a rich cultural landscape offering a window into Aboriginal culture and traditions, and the history of colonial settlement. Lake Boort is believed to hold the highest density of scarred trees in Australia and this has the potential to be recognised as nationally significant. The scarred trees will be a focus of innovative research, interpretation and cultural tourism experiences.

Lake Boort has outstanding cultural and natural values, and this Plan seeks to recognise those values, define key strategies to protect them, and look to a future in which these values are celebrated as part of the heritage of Boort, of the Loddon region and of Australia. Like other wetlands across this region, Lake Boort has high natural values with more than 200 indigenous species of plants and animals, including over 20 that are rare or threatened. Lake Boort's status as a proposed State Game Reserve will provide for duck hunting and for the management of habitat for game species.

Lake Boort is a small reserve, with few facilities, enjoyed for recreation by the local community and visitors. Its bush setting close to the township of Boort means it offers an easily accessible natural setting within a broader modified rural landscape. In the past, trees have been cut for timber, and it has served as a permanent water-holding basin. Some unregulated uses of the reserve have had adverse impacts or increased the risk of damage to natural and cultural values: these include cutting trees for firewood, damaging cultural sites, driving off track resulting in erosion and soil compaction, rubbish being left behind and unattended campfires creating a risk of bushfire. This plan seeks to address these concerns.

The enduring connections of Dja Dja Wurrung Traditional Owners to Lake Boort are recognised through the Dja Dja Wurrung Recognition and Settlement Agreement (2013) and reflected in the *Dhelkunya Dja*, Dja Dja Wurrung Country Plan 2014-2034

Delkunya Dja identifies the need to heal rivers and waterways, and articulates a vision: 'Our rivers and waterways are healthy and meet the needs of our people and our land.' An Environmental Water Management Plan (EWMP) has been developed by the North Central Catchment Management Authority (North Central CMA) and is being implemented adaptively to restore Lake Boort as a 'temporary floodplain lake', a type of intermittent wetland with cycles of drying. This will enhance its status as a wetland of bioregional importance and will be part of enhancing habitat links between Lake Lyndger, Lake Boort, Kinypanial Creek and the Loddon River. This plan supports that initiative, subject to the findings of a pre-watering Cultural Heritage Management Plan.

This Plan is long-term and aspirational. It is the first such plan for Lake Boort. The 2003 Action Plan has provided the foundation for this plan, along with a review of other studies and reports, visits to the reserve and community engagement through an Open House consultation, online survey, stakeholder contact and formal submissions on the draft management plan.

The Management Plan defines a vision, and creates the basis for specific goals and strategies that address key management themes and issues.

## Cultural landscape and living heritage

Lake Boort will be recognised and managed as a nationally significant cultural landscape that encompasses both natural and cultural values:

The connection of Dja Dja Wurrung people to their country and cultural practices will continue to be respected and supported.

The cultural landscape and cultural sites of Lake Boort will be protected and interpreted.

Knowledge and living cultural traditions associated with the heritage significance of Lake Boort will be respected, and their revival/continuation will be supported.

The significance of Lake Boort's cultural landscape, scarred trees and other values will be further investigated to support protection, cultural tourism and assist partners in establishing a nomination to Australia's National Heritage List.

Aboriginal and historic places and features will be protected from damage by land management and recreation activities.

Survey and recording of significant features will continue using best available technology and methods for fragile features, to ensure that the techniques and skills used are a source of information for future generations.

Works will be planned, designed and conducted to minimise any potential impact, and in accordance with legislation.

## Healthy Country

Lake Boort's natural environment will be conserved, managed adaptively and progressively enhanced to sustain the natural systems and species and reconnect it via habitat and water links to the Boort wetlands: Lake Boort will be revitalised as a productive wetland that can support an enriched biodiversity, natural regeneration, revegetation and habitat protection, through supporting the delivery of the Environmental Watering Plan for Lake Boort in partnership with North Central CMA and Dja Dja Wurrung.

Pest plants and animals will be managed in partnership with adjoining landholders, with priority given to the plants and animals that pose the greatest threat to natural and cultural values and features.

Opportunities to enhance gamebird habitat will be encouraged.

The risks associated with bushfire in the reserve will be reduced through proactive landscape management, including environmental watering, careful planning of fire prevention and suppression actions and where appropriate, traditional burning.

## Experiencing Lake Boort

Nature-based activities and cultural interpretation will be the primary uses of Lake Boort: Duck hunting will continue to be permitted during designated seasons.

Interpretation of Lake Boort will focus on the cultural and natural values of the reserve as part of a wider cultural and wetland landscape.

Visitor appreciation of the cultural and natural values of Lake Boort will be enhanced through an interpretive trail, additional interpretive materials and improved signage.

A designated camping area with constructed fireplaces will be established to minimise risk and impacts to cultural and natural values.

Visitor uses will be zoned and access will be designed to be low-impact and to avoid highly sensitive areas and sites.

Nature-based and cultural tourism experiences will be encouraged to enhance visitor appreciation and contribute to the local economy, especially through interactive guided tours that may be offered by Dja Dja Wurrung businesses, and investigating options for supporting/enabling facilities and visitor services considered in consultation with the community.

Community and visitor awareness and appreciation of the reserve's values will be increased, and environmentally responsible practices and behaviours will be encouraged.

Recreation opportunities will be enhanced by exploring the options for new walking and shared tracks, designating camping areas to manage impacts, and providing new visitor information.

Access tracks, designated camping and campfires will be managed to minimise the risk to natural and cultural values.

### **Connections, participation and partnerships**

Management of Lake Boort will include active partnerships with Dja Dja Wurrung, key State government agencies, the Shire and the Boort community:

Dja Dja Wurrung people will be involved in management decision-making for Lake Boort.

Partnerships with the Boort community, Dja Dja Wurrung, The Shire of Loddon, North Central CMA, Goulburn-Murray Water, and other key organisations will be strengthened, and opportunities to work together to achieve shared goals for the reserve will be promoted.

Community appreciation of the values of Lake Boort will be enhanced through information and on-site interpretation.

The Boort community will be encouraged to continue its custodianship of Lake Boort, working in partnership with Dja Dja Wurrung, Parks Victoria and other organisations, and supporting and strengthening their involvement.

Collaborative partnerships will be established and strengthened, with Parks Victoria as facilitator and coordinator.

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River Red Gum regeneration, Lake Boort

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# 1 Overview

The Management Plan for Lake Boort Reserve establishes a vision, goals and strategies to guide the conservation of its natural and cultural values.

## 1.1 About this management plan

The Lake Boort Reserve Management Plan (the Plan) is a strategic guide to the management of the natural and cultural resources of Lake Boort and defines and provides for continuing and future uses for recreation, conservation, interpretation and education. The Plan outlines the natural and cultural values of Lake Boort and how Parks Victoria will ensure their protection, the services and facilities that will be provided for visitors, and the ways that local and wider communities and other government agencies can continue to be involved in managing the reserve.

The Plan articulates a **Vision** for Lake Boort in Chapter 2: it is long-term and aspirational, expressing how Lake Boort will look to a future visitor and describing the ultimate outcome of implementing the management strategies in this Plan.

The **Management Zones** provide a framework of geographical areas where specific management directions and priorities are to be applied, and where certain uses and activities can occur.

**Goals** and **Strategies** follow in Chapters 3, 4, 5, 6, and 7. Each of these chapters has a particular focus. **Goals** describe what management seeks to achieve and **Strategies** define the approaches, activities or methods that will be used to achieve the Goals.

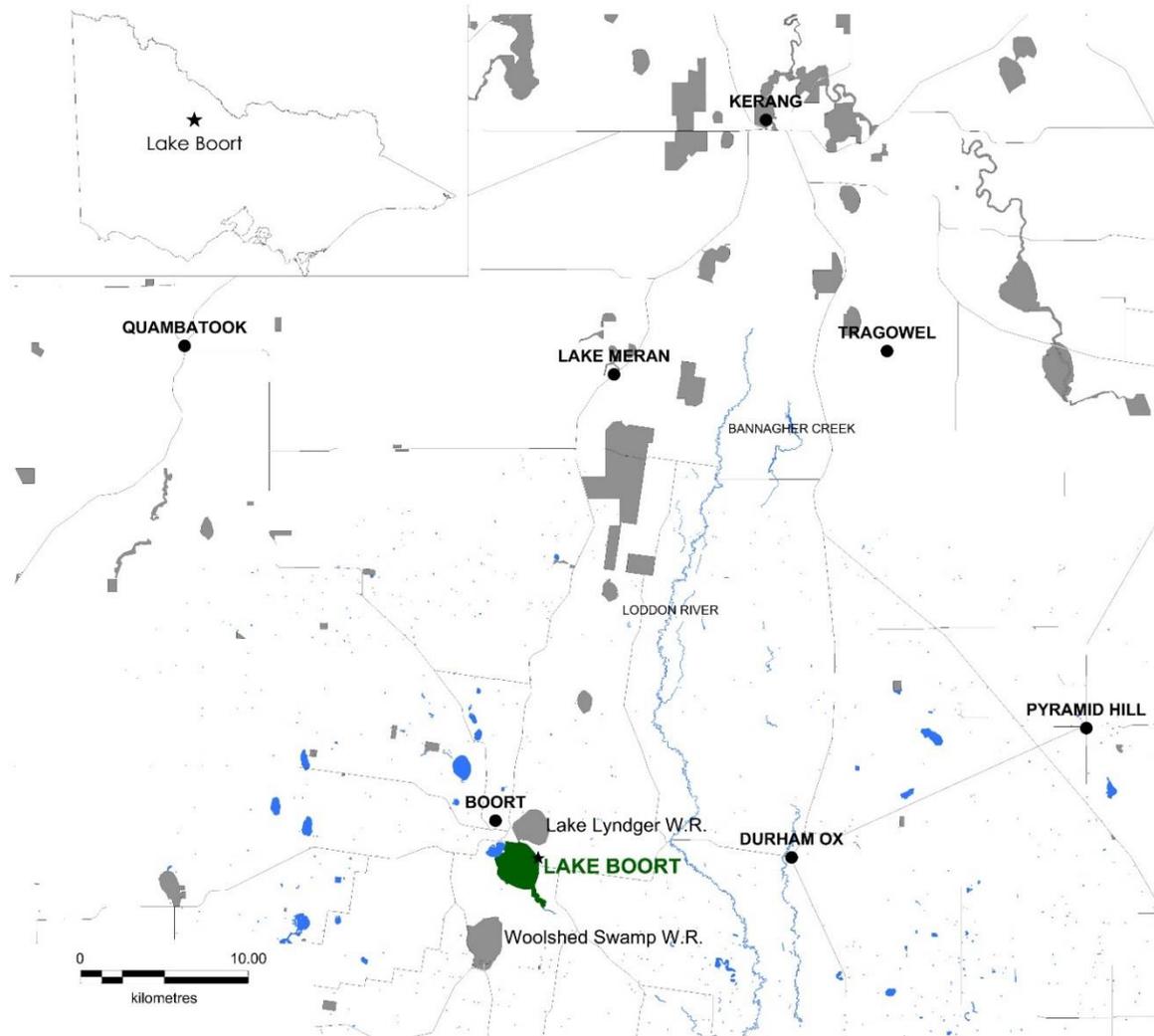
Implementation is addressed in Chapter 7 **Realising this Plan**.

## 1.2 Planning area

The Lake Boort Reserve (hereafter 'Lake Boort') is located in north-west Victoria, 1 km south of Boort township and 87 km north-west of Bendigo (Map 1: Location). The Plan covers Lake Boort, an area of 502 ha (Map 2: Planning Area), and includes a length of Kinypanial Creek which flows into Lake Boort from the southern end. Lake Boort is part of a group of wetland areas within the Loddon Basin referred to as the Boort District wetlands. Little Lake Boort is a public land reserve adjacent to Lake Boort that is managed by The Shire of Loddon as a permanent water body. To the north is Lake Lyndger Wildlife Reserve, another area of public land managed by Parks Victoria. The Plan does not cover Little Lake Boort or Lake Lyndger.

## 1.3 Dja Dja Wurrung Country

Throughout this Plan the term 'Country' refers to the concept of Country expressed by Indigenous Australians, and for this area by Dja Dja Wurrung. The concept of Country encompasses the physical landscape, its history, the indigenous species that live there, knowledge and traditions, stories both recent and ancient, and the deeply felt meanings and connections between Dja Dja Wurrung people and their Country. The Country of the Dja Dja Wurrung people extends from Mount Franklin in the south to Boort in the north and stretches from Donald in the west to Woodend, Redesdale and Rochester in the east.



**KEY**

- Lake Boort
- Other Parks and Reserves

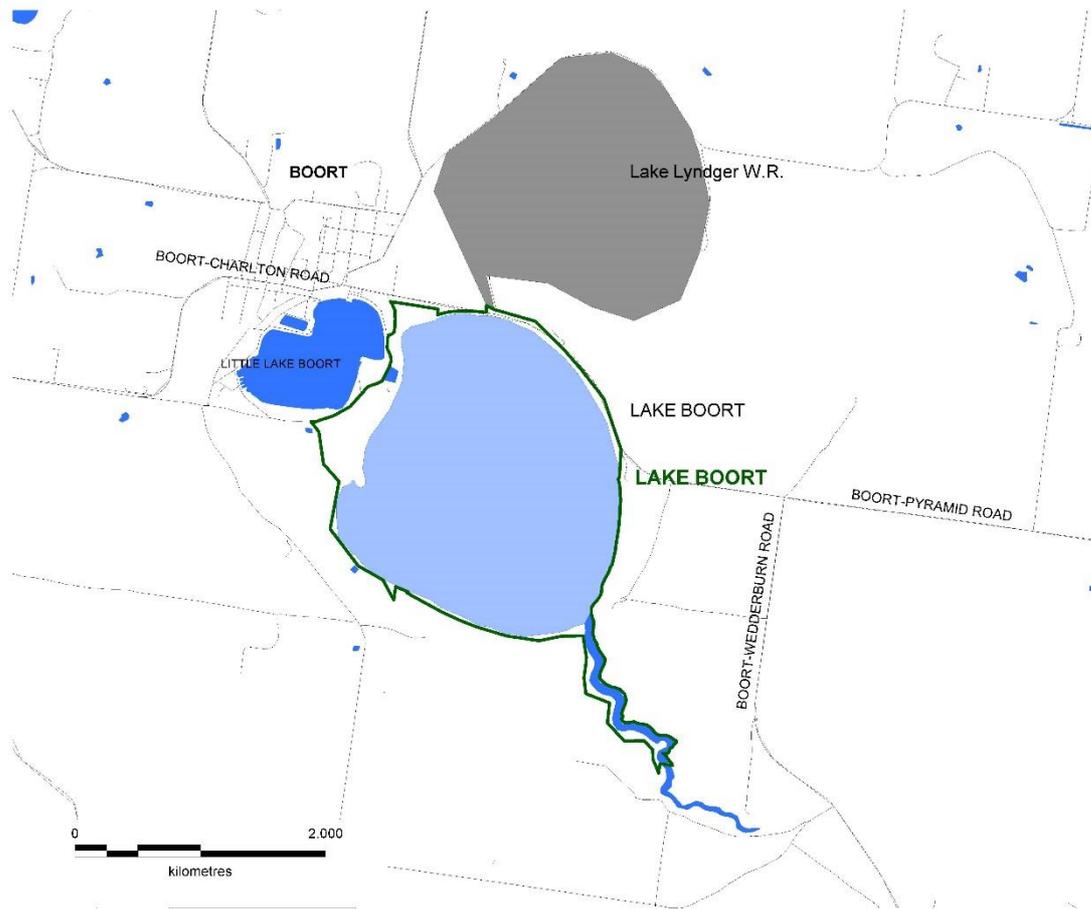
**Map 1: Location**



Lake Boort is within the Country of the Dja Dja Wurrung people and specifically the Yung Balug clan, one of sixteen clans that comprise the Dja Dja Wurrung nation. Boort sits close to the boundary of three language groups, the other two being the Wergaia and the Barapa Barapa, and with its rich food resources along with many other materials useful for tools, dwellings and cooking, may have been an inter-tribal meeting place (Long and Rogers 1999). Lake Boort is of outstanding cultural heritage value for the high density of scarred trees and other types of Aboriginal places it contains.

Lake Boort is of great cultural significance to Dja Dja Wurrung and is recognised as an important place in their Country Plan, titled *Dhelkunya Dja* (DDWCAC 2014). *Dhelkunya Dja* articulates a Vision for Country to ensure that:

*The health and wellbeing of our people is strong, and underpinned by our living culture. Our lands and waters are in good condition and actively managed to protect our values and to promote the laws, culture and rights of all Dja Dja Wurrung People. As this Country's First People we are politically empowered with an established place in society and capable of managing our own affairs from a strong and diverse economic base.*



**KEY**

- Lake Boort boundary
- Indicative water level (maximum fill level)
- Other Reserves
- Watercourses and bodies

**Map 2: Planning Area**

*Dhelkunya Dja* acknowledges that their Country is now also valued by many other people and cultures as part of their heritage, as places for recreation, and as a rich landscape that supports many diverse industries such as tourism, forestry, agriculture and beekeeping that rely on the natural resources that Country provides.

*Dhelkunya Dja* also acknowledges that Dja Dja Wurrung Country has been altered, often dramatically, and that some ecosystems and landscapes have suffered devastating change and requires healing (DDWCAC 2014: 9). In this Plan the use of the word Country is offered as a mark of respect, not an expression of exclusivity. This Plan recognises and values all community connections to Lake Boort.

### 1.4 Land status of Lake Boort Reserve

Lake Boort has been reserved for public use since 1881, with some additions /excisions in 1893, 1955 and 1959. It is currently reserved under the *Crown Land (Reserves) Act 1978 (Vic.)*. The area was recommended as a Lake Reserve in accordance with the former Land Conservation Council recommendation N2 of the Murray Valley Area in 1985. The 2003 Lake Boort Integrated Action Plan suggested that reservation under the National Parks Act would be appropriate to recognise the reserve’s outstanding cultural heritage values. When the reserve status was reviewed in 2008 as part of the VEAC River Red Gum Forests Investigation, VEAC recommended that this reserve (G 16) become a Natural Features Reserve – Bushland Area.



Regenerating River Red Gum seedlings on Lake Boort, 2017

This was subsequently changed to a Wildlife Reserve available for hunting as a result of the review detailed in the River Red Gum Community Engagement Panel Report of November 2008. The intention to change the status of the reserve to a Wildlife Reserve available for hunting was confirmed by the Victorian Government in its response to the VEAC River Red Gum Investigation in 2009.

The management of reserves is directed by a range of legislation, including legislative obligations such as those under the *Flora and Fauna Guarantee Act 1988* (Vic.), the *Heritage Act 1995* (Vic.), the *Aboriginal Heritage Act 2006* (Vic.), Victorian Government policies, and VEAC recommendations accepted by the Victorian Government. Lake Boort is a proposed State Game Reserve, to be formally reserved as a Wildlife Reserve under the Crown Land (Reserves) Act and further established under the Wildlife Act and the Wildlife (State Game Reserve) Regulations 2014. The Plan has been prepared to be consistent with this proposed land status and classification as a State Game Reserve. The implementation of changes to the status of the land and its classification are being undertaken by the Department of Environment, Land, Water and Planning (DELWP).

### Management of State Game Reserves

Wildlife Reserves that are open for hunting (State Game Reserves) are managed to conserve biodiversity and for visitor use. Key management objectives in accordance with the Crown Land (Reserves) Act are to:

- conserve and protect the natural features and values of the reserve, including any indigenous flora and fauna, maintain scenic features and landscapes, and preserve features of geological and geomorphological interest (primary objective)
- conserve and protect any cultural and historic features and associations
- protect historic and Aboriginal cultural values and sites
- provide opportunities for appropriate enjoyment, recreation and education by the public, and research and study where this does not conflict with the primary objective.

State game reserves are specifically designated to provide for game hunting. The Wildlife (State Game Reserve) Regulations 2014 provide for:

- the preservation of wildlife and wildlife habitat within State Game Reserves, with particular emphasis on indigenous game species
- the hunting, taking or destroying of certain game species within State Game Reserves
- the safety, enjoyment and recreation of visitors to State Game Reserves.



Boort Open House, November 2015

Parks Victoria has an active role in managing State Game Reserves and works hard to protect these reserves and ensure visitors have a safe and enjoyable experience. Compliance activities ensure the safety of hunters and the public, as well as the protection of reserves.

### 1.5 Foundations for this Plan

The Dja Dja Wurrung Recognition and Settlement Agreement of 2013 included a Traditional Owner Land Management Agreement which provided for the transfer of six areas to 'Aboriginal title' held by the Dja Dja Wurrung, to be jointly managed with the State: Greater Bendigo National Park, Kara Kara (part of) National Park, Kooyoora State Park, Paddys Ranges State Park, Hepburn Regional Park, and Wehla Nature Conservation Reserve. The agreement does not affect freehold land. Any existing interests, such as licences over Crown land, are unaffected by the agreement.

The intention to change the status of the Lake Boort reserve to a Wildlife Reserve – hunting permitted (State Game Reserve) was confirmed by the Government in its response to the VEAC River Red Gum Investigation in 2009, and this proposed status made it ineligible to be included as part of a Traditional Owner Land Management Agreement (and joint management) under the *Traditional Owner Settlement Act 2010* (Vic).

One outcome of the Dja Dja Wurrung Recognition and Settlement Agreement was the agreed development of a plan of management for Lake Boort State Game Reserve. Members of the Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC) were represented in the governance for the preparation of the Plan via the Project Control Group. The Agreement also provides for the negotiation of an Aboriginal Cultural Heritage Land Management Agreement (ACHLAMA) under the Aboriginal Heritage Act between the State and the Dja Dja Wurrung Clans Aboriginal Corporation (DDWCAC), to enable the implementation of the plan of management as well as the implementation of on-ground works.

The proposed public land status and the Dja Dja Wurrung Recognition and Settlement Agreement are key foundations of this Plan. Other key factors that will shape how Lake Boort is managed into the future are the existing plans and policies of State and Commonwealth government agencies and the aspirations of the Boort community, the Dja Dja Wurrung communities and other communities with an interest in Lake Boort.

## 1.6 Planning approach

This is the first management plan for Lake Boort. It builds on earlier studies and plans, particularly the 2003 Lake Boort Integrated Action Plan and the various studies of cultural and natural values and resources that informed the Action Plan. An audit of the Action Plan was undertaken by Parks Victoria to identify the status of all the listed actions. The Lake Boort Environmental Water Management Plan (NCCMA 2013) and recent vegetation monitoring undertaken by North Central CMA have provided updated information on the natural environment, biodiversity and water flows. The Shire of Loddon has also developed a range of plans and policies of direct relevance to Lake Boort and the Boort township, and these are referred to in the relevant sections of the Plan.

The development of the Plan involved several visits to Lake Boort and general inspections of the area, a review of a wide range of existing research, plans and policies, contact with a range of stakeholder organisations, and development of discussion papers and fact sheets as a basis for community engagement (see below).

No field survey work was undertaken as part of the development of this Plan, so the Plan relies on prior research into natural, cultural and community values. Key documents considered in the development of the Plan are listed in the References section.

Parks Victoria's management approach for Victoria's parks and reserves sits within the context of Commonwealth and State legislation, international treaties, conventions and other obligations, government policies and commitments, best practice principles and guidance.

The development of the Plan was guided by a Project Control Group consisting of Parks Victoria staff and representatives of DDWCAC and DELWP.

## 1.7 Community input

Community input was invited throughout the development of the draft Plan, with announcements in the media and on the Parks Victoria website. People were invited to submit information or contact the Parks Victoria planning team at any stage of the project.

An Open House was held on 20–21 November 2015 in Boort, offering an opportunity for interested people to meet Parks Victoria, DELWP and North Central CMA staff, discuss issues and have any concerns recorded. The Open House was conducted over two sessions, one on Friday afternoon and the other on Saturday morning. Around 45 people attended across both sessions, and engagement was lively and in depth. An online survey, available at and following the Open House, was open for a period of 5 weeks and received 217 responses. Together these opportunities provided significant input to the development of the Plan. This consultation identified several matters which have been addressed in the Plan. The main issues raised related to:

- the importance of restoring the lake's biodiversity through environmental watering
- the value of tourism to Boort
- recognition of Aboriginal culture and heritage as an important attribute of Lake Boort
- concerns about the risk of fire, cutting of timber, damage to sites, rubbish and damage from vehicles
- support for and opposition to duck hunting at Lake Boort.

The Draft Plan was released in June 2016 for public consultation. Twenty-two submissions on the Draft Plan were received from individuals and organisations (appendix 1) and carefully considered in preparing the approved Plan. Key issues raised in submissions related to:

- recognising the potential national significance of Aboriginal cultural values at Lake Boort, noting the area contains the highest density of scarred trees in Australia, and the potential for a National Heritage List nomination
- elevating regional cultural tourism and business opportunities including tourism partnerships with Dja Dja Wurrung
- the need for comprehensive survey recording and research of scarred trees and other cultural values to support planning, conservation, interpretation, cultural tourism development and water management

- requirements for future visitor site planning to consider potential establishment of visitor infrastructure to support cultural tourism, such as walking tracks, board walks, interpretation and facilities
- more accurately representing environmental watering information and more clearly reflecting the specific roles and responsibilities of various authorities in water management
- clarifying management accountabilities and requirements relating to parts of the reserve containing water infrastructure and public roads
- recognising Lake Boort as a State Game Reserve and the defined purpose for hunting and the enhancement of game habitat (noting relevant actions for State Game Reserves from the Victoria Government's Sustainable Hunting Action Plan 2016–2020)
- support and opposition to duck hunting, dog walking, camping, the use of powered watercraft, and horse riding
- rabbit and weed management
- the future of the Boort Target Club.

Key changes to the draft plan in response to submissions included:

- elevation of regional cultural tourism and business opportunities including tourism partnerships with Dja Dja Wurrung
- greater recognition of the potential national significance of Aboriginal cultural values at Lake Boort, the potential for a National Heritage List nomination
- support for comprehensive survey, innovative research, interpretation and cultural tourism experiences that focus on the culturally significant scarred trees
- recognition of Lake Boort as a proposed State Game Reserve to provide to for hunting and the enhancement of game habitat
- clarification of management accountabilities and requirements relating to the reserve boundary, various water authorities and water infrastructure, and public roads
- support for potential visitor infrastructure to support future cultural tourism, such as walking tracks, board walks, interpretation and facilities
- stronger alignment of the plans environmental objectives with current knowledge and monitoring to revitalise Lake Boort as a productive wetland, and support for partnerships with the delivery of the environmental watering and in pest plant and animal management
- allowing duck hunting throughout the reserve
- allowing use of motorised watercraft with a maximum 5 knot speed limit
- allowing dogs to be walked on-lead on walking tracks in the Conservation Recreation Zone
- allowing campfires and solid fuel BBQs only in constructed fireplaces within designated camping areas on a seasonal basis, prohibiting the use of chainsaws, and allowing firewood to be brought onto the reserve for use in constructed fireplaces
- prohibiting vehicles on the lake bed other than to launch vessels at the designated boat ramp
- prohibiting fuel stoves other than within designated camping areas
- prohibiting picnicking in the Conservation Zone.



Lake Boort is being restored as a temporary floodplain lake

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## 2 Vision and Zoning

The Vision for Lake Boort is long-term and aspirational, expressing how Lake Boort will look to a future visitor and describing the ultimate outcome of the management directions and strategies in this Plan.

### 2.1 Vision

The Vision seeks to give reality to the concept of Healthy Parks – Healthy People at Lake Boort and to embrace community aspirations. It reflects the significance of Lake Boort, expresses natural, cultural and community values and the partnerships needed to help achieve the Vision. The timeframe for the Vision is the life of the Management Plan including its development and beyond with a 15-year timeframe for review.

Water has revived Lake Boort, restoring it as a living, productive cultural and natural landscape that is again linked to the network of Boort wetlands. The long-term resilience of Lake Boort wetlands is ensured in the face of climate change. The natural landscape is thriving, with regular water allocations recreating a healthy ‘temporary floodplain lake’ where River Red Gums are regenerating, a diversity of native plants and animals are flourishing, game habitat is improved, and significant rare and threatened species are recovering. The impacts of pest plants and animals have been progressively reduced through coordinated programs with agencies and neighbouring landholders.

Dja Dja Wurrung are actively involved in management of the reserve. They bring traditional knowledge and connections to Country into the Lake Boort’s management. They harvest traditional resources, and practise their culture. The future of Lake Boort’s scarred trees and other cultural values are secured and protected through an Aboriginal Cultural Heritage Land Management Agreement and partnerships.

Lake Boort is recognised as a nationally significant cultural landscape, and a nomination to the National Heritage list has generated significant tourism opportunities. The reserve showcases the traditions and cultural history of the Dja Dja Wurrung people, and many visitors experience this through guided tours and interpretive walks. Businesses owned and operated by Dja Dja Wurrung are providing tourism and natural resource management services, and the local community is benefiting through increased tourism to the whole area.

Locals and visitors coming to the reserve continue to enjoy walking, bird-watching, cycling, fishing, dog walking, camping, picnicking and nature study. Duck hunting is permitted on a seasonal and sustainable basis. The location, timing and intensity of recreational activities has been managed to avoid conflicts between uses, and to reduce the risk of bushfire and potential damage to the environment and cultural sites.

Strong partnerships between Parks Victoria, Dja Dja Wurrung, the Department of Environment, Land, Water and Planning, the North Central Catchment Management Authority, The Shire of Loddon, community organisations, local landowners and the Boort community are working effectively to provide adaptive and responsive management of the reserve’s cultural, natural, educational and recreational values.



Drying cycle of Lake Boort, 2013

## 2.2 Management zones

Management zones provide a framework for the management strategies and guidance for their interpretation.

Management zoning:

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

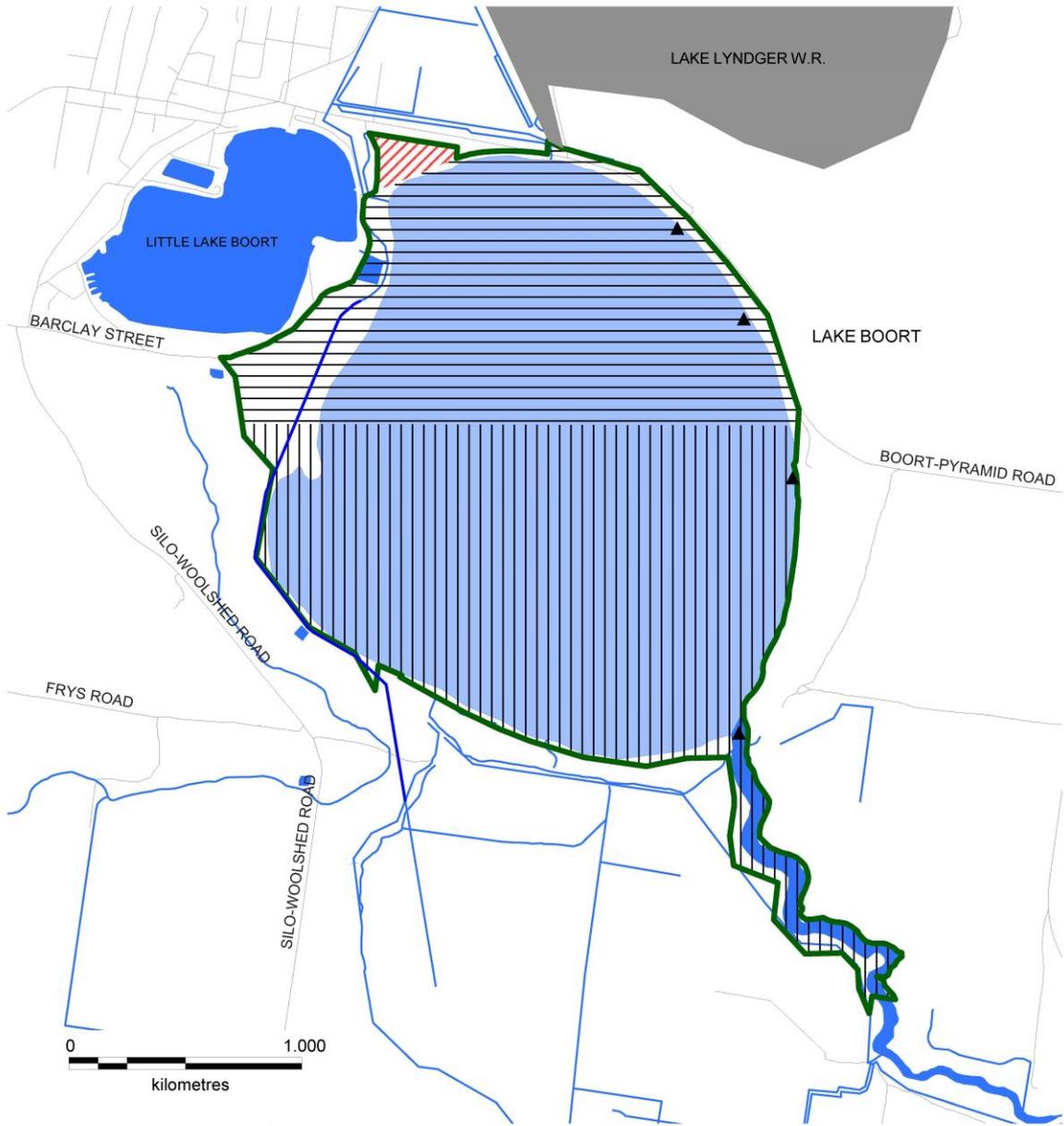
Lake Boort has been mapped into three zones where different management directions and priorities apply (Map 3). Overlays provide additional management direction where required to allow for requirements.

The zones and their management purposes are described below and summarised in Table 2.1. Zoning is an important tool to help inform users of public land about the sensitivities of a reserve, and enable areas of high sensitivity to be protected. In relation to Lake Boort, zoning will be used to protect the most significant areas from impacts associated with vehicles, camping, and timber and fire wood collection.

Many other areas have additional protection through legislative means, such as species and communities listed under the Flora and Fauna Guarantee Act and Special Water Supply Catchment Areas declared under the *Catchment and Land Protection Act 1994* (Vic.). Such areas have not been mapped or zoned but will be managed in accordance with relevant legislation and regulations. A number of small localised areas are managed for permitted uses such as public infrastructure. These areas are managed in accordance with licences, leases and other legislative means (see Section 6.3). The recreation activities permitted in each of the proposed zones are outlined in section 5.4. The zones applied to Lake Boort are as follows.

### Conservation and Recreation Zone

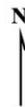
In this zone the management emphasis is on protection of environmental and cultural values while allowing for low-impact recreation. Dispersed recreation and nature-based tourism activities are encouraged. The level of activities and small-scale recreation facilities allows for activities to occur without significant impact on natural processes, which are integral also to the cultural landscape values of Lake Boort.



**Map 3: Zoning**

**KEY**

- |   |  |
|---|--|
|  Lake Boort boundary                         |  Other Reserves |
|  Conservation Zone                           |  Private Dam    |
|  Conservation and Recreation Zone            |  Watercourse    |
|  Change to land assignment possible          |  Tracks & Roads |
|  Indicative water level (maximum fill level) |  |
|  Waterbodies                                 |  |
|  Channel Number 3                            |  |



## Conservation Zone

The Conservation Zone covers the areas where the highest cultural and environmental values are found. The management focus in this zone is on protecting the identified values. Recreation is permitted but managed in a way that is sensitive to the identified values; this usually involves ensuring recreation is low key and dispersed with small-scale or no facilities.

**Table 2.1: Purposes and locations of management zones.**

Zone	Purpose/Location
Conservation and Recreation Zone	<p><b>Purpose:</b> To protect environmental and cultural values while allowing for recreation.</p> <p><b>Location:</b> The main entry to the reserve from the west side, including the area between Ring Road, Channel No. 3 and Lake Boort, Little Lake Boort, and the northern section of the Lake.</p>
Conservation Zone	<p><b>Purpose:</b> To protect the areas where the highest cultural values are found.</p> <p><b>Location:</b> The length of Kinypanial Creek, extending through the south-eastern area of the lake to encompass the main area of dead standing and fallen scarred trees. This area also includes areas of high natural values and a range of other significant cultural sites such as mounds, camp sites and artefact scatters.</p>



Long-billed Corellas, Lake Boort



Toe-hold scars, Lake Boort

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## 3 Cultural Landscape and Living Heritage

Lake Boort has a rich heritage that is a vital legacy for Aboriginal people today, for those in the future, for the local Boort community and for all Australians. It is a living cultural landscape that connects nature and people, and represents many stories, ancient and recent. Nature and culture are strongly linked through the traditions of Dja Dja Wurrung, for whom it has great significance.

### 3.1 Landscape

Lake Boort Reserve lies between Little Lake Boort and the township of Boort, a community of around 873 residents as of the 2016 census. Locally these two lakes are known as Big Lake and Little Lake. Lake Boort is surrounded by farming properties to the north, east, south and south-west, with grazing and cropping the main land uses. Little Lake Boort to the north-west is separated from Lake Boort by an irrigation channel and roadway, and Lake Lyndger to the north is linked to Lake Boort by a channel below the Boort–Pyramid Road.

Lake Boort, Little Lake Boort and Lake Lyndger (with Salt Lake and Woolshed Swamp) form the southern outlier of a discontinuous chain of scattered lakes and swamps that stretch north to Lake Meran (NCCMA 2014: 14). This once interconnected natural system of wetlands is today fragmented by land clearing and modification of waterways on the mid-Loddon floodplain, and by river regulation, resulting in impacts on the landscape, cultural and natural values. Little Lake Boort is the only one of these wetlands that is permanently filled. The others are filled intermittently by floods or environmental watering.

The landscapes of the northern riverine plains offer sweeping vistas in a predominantly modified rural landscape. Public land across this region is focused mainly on the Loddon River and this series of wetlands. Lake Lyndger, Lake Yando, Woolshed Swamp and Lake Meran are State Game Reserves. The nearest large parks or reserves are Leaghur State Park (between Lake Leaghur and Lake Meran) to the north, Terrick Terrick National Park to the east, and Wychitella Flora and Fauna Reserve to the south.

Many former swamps in this landscape, including Lake Boort, are bordered by a crescent shaped dune (lunette) formed from wind-blown sand during the Late Quaternary period. These lunettes are a dominant landscape feature, occurring on the eastern margins of the swamps, and the township of Boort is located in the highest ridge of the local dune complex. To the east of the Lake Boort lunette is the Riverine Plains land system, crossed by ephemeral drainage lines which follow former courses of the Loddon River.

Lake Boort is fringed by young and mature eucalypts, and tree corridors extend along Kinypanial Creek and the channel to Lake Lyndger. The bed of Lake Boort and the adjoining wetlands is composed of heavy, cracking orange and grey clays. Kinypanial Creek, part of which is included in the reserve, would have been a chain of waterholes, connected together and with Lake Boort during floods (Parks Victoria et al. 2003: 5; Long and Rogers 1999: 12–13).

Significant changes can be read in the landscape of Lake Boort in the different approaches to land management over the last 175 years. East of Lake Boort at the Lake Boort Station in the 1850s, Aboriginal and non-Aboriginal people worked together in running the property, making the first modifications to the wetland with the construction of a weir and then a cutting between the Loddon and Kinypanial Creek.



Fallen scarred tree

### **A cultural landscape worthy of National Heritage List nomination**

Lake Boort is a particularly significant part of this landscape in cultural terms, in part because it holds the highest density of scarred trees in Victoria, if not one of the highest densities in Australia, and has the potential to be recognised as nationally significant.

The Lake Boort area is believed to contain as many as 500 Aboriginal scarred trees bearing the markings of canoes, shelters, carrying vessels and other cultural modifications. Lake Boort represents a layered story of traditional cultural practices and occupation by the Dja Dja Wurrung over thousands of years, the legacy of post settlement land use and modification of the natural cycles, and more recently, the establishment of contemporary approaches to wetland management and restoration in partnership with Traditional Owners.

This is an extraordinary site. An exciting opportunity exists to raise awareness of these Aboriginal scarred trees and cultural landscape, garner support for the preservation, management and wider appreciation of the site, and put the region and this important Aboriginal place on the maps for Australians and visitors.

The Dja Dja Wurrung and the whole community can be beneficiaries of sustainably managed cultural tourism that recognises and conserves cultural heritage and Country. The cultural significance and tourism potential for Lake Boort may rival listed national heritage landscapes such as Lake Mungo and Budj Bim. A common element across these cultural landscapes is the unique living heritage and relationships of Traditional Owners with the ecology and water cycles of ancient floodplains in their Country.

Further research and recording of the scarred trees and other cultural values in this landscape will assist in documenting the significance of the place to establish a greater understanding, appreciation and support for nomination for inclusion on the National Heritage List.

The establishment of the Pyramid–Boort Irrigation System in the 1920s and 1930s, particularly construction of the No. 3 Channel and road that now separates Lake Boort and Little Lake Boort, resulted in significant changes to the hydrology of the wetland, and therefore to its ecology.

From the 1850s to 1996 water was permanently held in the wetland, so that the natural wetting and drying cycle did not occur, although the water level did fluctuate. This resulted in a number of impacts on cultural and natural values, and in particular the death of the large trees across the bed of the wetland, many of which retain cultural scars, and a change in the pattern of vegetation. Part of the northern area of the wetland cleared of trees for water-skiing. Today the restoration of Lake Boort as a temporary floodplain lake is the priority, and again Dja Dja Wurrung will be engaged in the management of this place.

#### Goal

The cultural landscape of Lake Boort is recognised as nationally significant.

#### Strategy

Support Dja Dja Wurrung, The Shire of Loddon and Aboriginal Victoria (with other partners as appropriate) in further research and the development of a nomination for Lake Boort (alone or with other associated wetlands) to the National Heritage List in recognition of its outstanding cultural heritage values.

### 3.2 Cultural heritage

Lake Boort is a place of great cultural significance and an extraordinary cultural landscape, containing Aboriginal and historic places, landscapes and associations that represent many aspects of the rich and diverse history of this locality. These places, along with remembered stories, written documents, objects and collections, and traditional knowledge form the cultural heritage of Lake Boort.

Dja Dja Wurrung managed Lake Boort as part of their Country for thousands of years. The landscape contains evidence of a remarkable range of features that illustrate aspects of daily life of Dja Dja Wurrung people which reveals practices of both cultural and scientific importance, such as cooking ovens, hunting, stone-tool making, camping, gathering, ceremony and burials, as well as demonstrating continuing connections during the colonial period up to the present.

Heritage is more than objects and buildings; it is also about intangible and intrinsic values, places, associations and experiences. Heritage is also at the heart of community identity and Lake Boort is a place with living cultural heritage connections for a number of communities. It is part of how individuals and groups define themselves and their place in the world. Many people value Lake Boort and respect its Aboriginal and settler heritages, and the place it holds in community life today. Lake Boort – or the Big Lake – is important to the communities of Boort, and to people who have visited the area over many years for recreation, to visit Aboriginal sites, to study the natural environment or to engage in seasonal duck hunting.

The word ‘Boort’ means ‘smoke signal’ in Dja Dja Wurrung language (VACL 2002). For the Dja Dja Wurrung Traditional Owners, Lake Boort is part of their Country and they retain strong and enduring connections, both ancient and contemporary to this area. The Dja Dja Wurrung have a rich culture that is embodied in the land, environment, languages, oral histories, cultural lore and customs, and their Dreaming stories. Dja Dja Wurrung connections are expressed through the Recognition and Land Settlement Agreement, the Dhelkunya Dja Country Plan, and through people’s continuing connections and involvement with Lake Boort. Lake Boort has a rich heritage that is a vital legacy for Aboriginal people today, for those in the future, for the local Boort community and for all Australians.



Remnants of the timber and wicker-work weir built in the late 1840s

### Lake Boort's Aboriginal cultural heritage

Lake Boort's cultural heritage has not yet been fully documented. Around 140 scarred trees have been recorded to date. There could be as many as 500 trees with cultural scars on them, showing the variety of ways in which Aboriginal people used this landscape. The trees have been estimated to be over 300 years of age, and retain the scars from the cutting of bark for canoes, shields, and food, water and baby carriers. It is one of the few remaining sites in Australia where you can see trees with toe-hold scars created to access a hollow, bark removed for drying Possum skins, bark for shelters, possum extraction holes, ownership markers, bark used for grinding flour and bark cuttings for burials. Many trees have multiple scars.

Lake Boort is one of only two places in Victoria with such a high density and diversity of recorded scarred trees and cultural scars, demonstrating the many ways Aboriginal people used bark. Dja Dja Wurrung want to continue and hand on this cultural practice. One reason why Lake Boort is so significant is that the death of the trees back in the 1850s (or soon after) has prevented overgrowing of the scars, thereby preserving their original characteristics and adding to their research value (Long and Rogers 1999: 79).

The flooding of the lake above natural levels also covered traditional oven mounds, protecting them from rabbit burrowing and other disturbances. Twenty large circular cooking mounds have been recorded on the Victorian Aboriginal Heritage Register (VAHR), but at least another 34 have been located; most are associated with camping sites around the margins of the lake and Kinypanial Creek. Excavation of one cooking mound gave radiocarbon dates of around 2000 years ago, and the analysis offered insights into Aboriginal camping, harvesting and cooking methods as well as the manufacture of stone tools (Long and Rogers 1999; Johnston and Webber 2004).



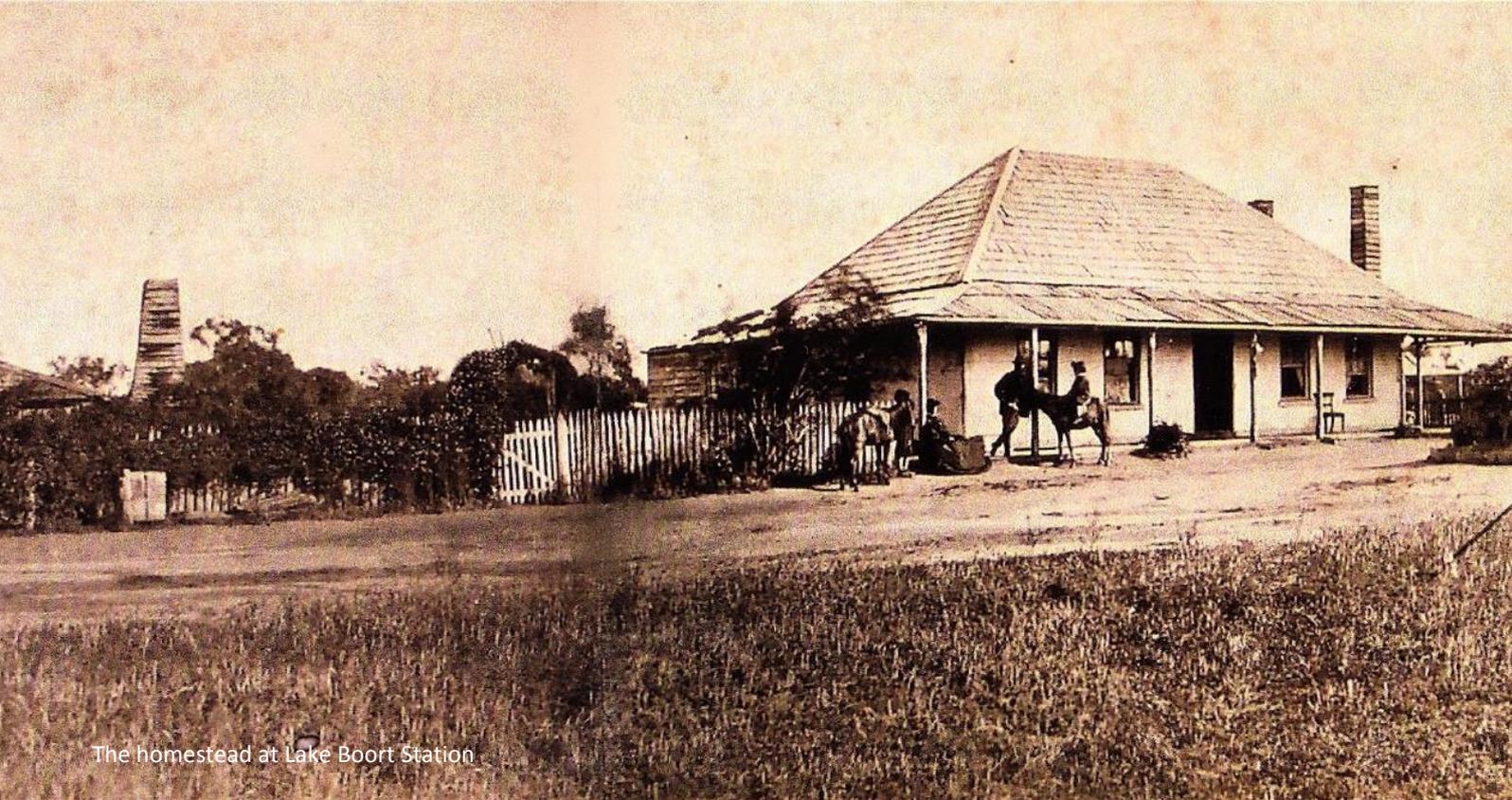
'Aboriginal Camp on Lake Boort Creek' – possibly 1860s

The human story of Lake Boort is one of change. Dja Dja Wurrung people witnessed Major Mitchell's journey across the Loddon plains in 1836, and soon after met settlers coming to the lower Loddon to establish grazing stations. Lake Boort also has a rich 19th century heritage, linked to the early colonial period of land settlement, with Boort Station established on the east bank of Kinypanial Creek in 1839. Aboriginal people were employed at the Lake Boort Station, where Aboriginal and non-Aboriginal people worked together in running the property, making the first modifications to the wetland with the construction of a weir and then a cutting between the Loddon and Kinypanial Creek (Blackfellows Cutting). Remnants survive of a timber and wicker-work weir built to hold water in Lake Boort in the late 1840s. The building of the weir on Lake Boort marked the start of irrigation, an important step in developing local agriculture in the 1850s.

There is some uncertainty about rediscovered images such as 'Aboriginal Camp on Lake Boort Creek', which is believed to have been from a collection of images held by Henry Godfrey who took over Lake Boort Station in 1843. A series of photographic images of Dja Dja Wurrung ancestors were taken by John Hunter Kerr in the 1850s at the property 'Fernyhurst', farther south of Lake Boort near Kinypanial Creek. The renowned etched barks held in the British Museum were also taken by Kerr from mia mias near the Kinypanial Creek in 1854. The Honorary Correspondent Supply Depot at Lake Boort Station, near Kinypanial Creek, was set up during the 1860s and 1870s, dispensing food, clothing and other provisions to Aboriginal people. This location, which represents an important part of the history of the area, is also outside the reserve.

Boort township was established on the higher ground overlooking the swamps in the 1870s and 1880s. There was little violence around Boort, unlike so many other places, where attempts were made to drive Aboriginal people off their Country, and where retaliatory raids by both sides created a virtual state of warfare.

Aboriginal people remained in the area and camped in and around Lake Boort through until the 1880s, and after 1882, they were actively encouraged to move to distant reserves and missions (Long and Clark 1999; Long and Rogers 1999; Ward and Ballinger 2001). The early period of European exploration and settlement is reflected in the landscape as Lake Boort was adapted to meet the needs of an agricultural district and township community. Timber was cleared from the northern part of the lake in the late nineteenth century and further clearing occurred in the mid-twentieth century (Long and Rogers 1999). A market garden known as the 'Chinese Garden' once thrived on the triangular allotment next to the clay target club.



The homestead at Lake Boort Station

For the local community, Lake Boort (Big Lake) has been a place to enjoy fishing, hunting, walking, waterskiing and bird watching, as well as a local resource. The landscape reveals many of these past activities, and the Boort community's sense of connection to the lake is evident in recent projects such as the Tortoise Trail, interpretative shelters, and Pillars of Our Past.

In managing a place, it is important to identify and appreciate the significance of materials held elsewhere that can contribute to an understanding of the significance of that place. Continuing clan connections are expressed through family histories and passed down stories (Haw and Munro 2010: xi). Other parts of Lake Boort's heritage are in museums and other repositories in Australia and overseas. Documentation of Aboriginal life and culture at Lake Boort is revealed through photographs, in the bark etchings now held by the British Museum, through documents (such as settler diaries and other records) and through artefacts held in various private and public collections. These all form part of the cultural heritage of Lake Boort (Haw and Munro 2010).

### Managing cultural heritage

Despite the importance of Lake Boort's cultural heritage, there is still much work needed to fully record all the sites and values, as well as to understand what they can tell us through research and study. As a result of many years of partial submersion, the trees across the lake bed died around 150 years ago. These standing trees are becoming increasingly fragile and some have fallen. A range of possible treatments designed to increase the longevity of the scarred trees have been proposed (Thorn and Long 2001) but has not been implemented to date. Several excellent examples of scarred trees, including a canoe tree, were cut and placed as a display in an enclosure near the entry to the lake, but their condition has deteriorated. The remnants of the timber and wicker-work weir are equally fragile. Detailed recording of the scarred trees and the selection of some examples for preservation either in situ or in a museum appear to offer the best option.

Risks to the cultural heritage of Lake Boort include vehicles driving over and disturbing sites, tree decline, cutting or collecting of timber for firewood, disturbance to mounds from rabbit burrowing, and the collection of artefacts. The risk of fire may be increased by some recreational activities. Environmental watering of the lake may result in a more rapid decline of the trees and would require careful assessment and monitoring, but may also protect other sites, reduce the risk of fire and ultimately return Lake Boort as a productive cultural landscape where Dja Dja Wurrung can continue cultural practices and share their heritage with visitors.



Fallen scarred tree on the lakebed at Lake Boort

### **Conservation of Aboriginal cultural heritage values at Lake Boort**

Although some previous survey and recording has occurred at the lake, this has not been comprehensive, and many scarred trees, oven mounds and other sites have yet to be documented or researched. Comprehensive surveys of scarred trees, oven mounds and other values are required at Lake Boort to assist in conservation and in understanding and celebrating its significance. A partial survey was conducted at Lake Boort in the 1990s, and recent observations indicate that the condition of many trees has deteriorated since this work.

Because the lake's water level was artificially maintained above its natural maximum level for many decades, the timber was frequently waterlogged and exposed to air. This has caused wood rot in many of the dead scarred trees that have fallen to the ground. Many of the fallen and standing scarred trees are very fragile. Over time it is inevitable that more scarred trees will weather, rot, crack, fall and finally disintegrate. It is therefore important that as much of this unique heritage is recorded and that the most viable and significant scarred trees are preserved in place for as long as possible. Many scarred trees are structurally sound and will remain for future generations.

Parks Victoria works with Dja Dja Wurrung Traditional Owners to determine appropriate management options. A range of management techniques to preserve and protect trees can be used but are not always feasible. Capping of stump ends, wood sealants and hardening compounds, fuel reduction to protect from bushfires, restrictions on potentially harmful visitor activities, and monitoring condition are all possible strategies in managing scarred trees. In some cases, it may be possible to relocate particularly significant and structurally sound trees that have fallen, but some trees may be too fragile. Innovative recording such as 3D modelling can also ensure that information is available and accessible in the future.

The establishment of visitor facilities, maintenance of water infrastructure, clearing of vegetation, environmental watering, management activities such as destroying rabbit warrens, can all pose threats to Aboriginal heritage. Survey and recording are essential for protecting the values from potential threats and developing plans for heritage conservation.



Aboriginal oven mound at Lake Boort

Climate change appears likely to increase risks from bushfires, floods, storms and ecosystem stress, and to produce generally hotter and drier conditions. Ephemeral wetlands may dry out as a result of reduced water flows in inland waterways, and there are also associated risks to cultural heritage. For example, at Lake Boort, Aboriginal heritage sites may be impacted by bushfire as well as fire suppression activities. Changes to ecosystems and the reduction in water availability may affect connections to Country and the opportunities to harvest some resources, and may result in the loss of totemic species (Parks Victoria 2010: 2–3, 67–68).

Dja Dja Wurrung Clans Aboriginal Corporation is a Registered Aboriginal Party with statutory roles and responsibilities under the Aboriginal Heritage Act. Parks Victoria, Dja Dja Wurrung, DELWP, the North Central CMA and The Shire of Loddon all have a role in identifying and protecting cultural heritage places. Because of the density of Aboriginal places in the reserve, it is reasonable to assume that any works or management activities, including those by other agencies and authorities, may require a Cultural Heritage Permit (CHP), and some may require a Cultural Heritage Management Plan (CHMP). The need for a CHMP will depend on what, where, and how activities will be undertaken. For example, the North Central CMA has engaged with Dja Dja Wurrung in planning the delivery of environmental water to Lake Boort. In recognition of the cultural significance of the entire wetland, the North Central CMA is preparing a voluntary Cultural Heritage Management Plan (CHMP) for the Boort–Lyndger–Kinypanial system to identify cultural heritage sites and values that may be at risk from environmental watering, and to establish appropriate management solutions.

A Cultural Heritage Land Management Agreement (ACHLMA) made under the Aboriginal Heritage Act would be consistent with the Dja Dja Wurrung Recognition and Settlement Agreement, and would ensure the meaningful involvement of Dja Dja Wurrung in the management of the reserve. An ACHLMA is a voluntary agreement made between two or more parties relating to the management or protection of Aboriginal cultural heritage. One of the parties must be a relevant Registered Aboriginal Party. For Lake Boort, the Cultural Heritage Agreement would be made between the State Government and the DDWCAC. It would formalise the management arrangements and practicalities in relation to the ongoing management of the Aboriginal cultural heritage.

## Goals

Landscapes, features and values associated with cultural heritage, including Dja Dja Wurrung connections, are recognised, respected, protected and celebrated.

Contemporary Dja Dja Wurrung connections are an integral part of cultural heritage management.

## Strategies

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Strengthen the involvement of Dja Dja Wurrung in the protection and interpretation of Lake Boort's cultural heritage and landscape.

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Prepare a Cultural Heritage Management Plan for Lake Boort to address the relevant activities in this Management Plan, and support the North Central CMAs preparation of a voluntary CHMP for environmental watering.

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Establish an Aboriginal Cultural Heritage Land Management Agreement with Dja Dja Wurrung for the ongoing management of Aboriginal cultural heritage at Lake Boort.

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In partnership with Dja Dja Wurrung, support mapping of all areas containing cultural heritage at Lake Boort, and add them to the Victorian Aboriginal Heritage Register to help to protect them from adverse impacts associated with land management activities and proposed works or fire suppression activities.

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Explore opportunities and partnerships to:

- document and map all trees with cultural scars at Lake Boort, recognising that all the dead standing or fallen trees of a reasonable size across the whole lake bed that are likely to show evidence of cultural scars, and similarly for those on the lake fringes and in Kinypanial Creek
  - identify specific scarred trees for either in-situ and/or museum standard preservation
  - remove to safe storage or undertake in-situ conservation and interpretation works on the group of scarred trees in the enclosure
  - should an in-situ conservation measure be viable, establish an acceptable rate of loss for the scarred trees and priorities for conservation
  - progressively identify and record all other cultural features
  - undertake recording of cultural features on the lakebed as the water recedes and before grasses regrow
  - build capacity for the management of cultural landscape and values
  - identify and respond to risks to specific sites by undertaking protective works (realign or close the Management Vehicles Only track for example)
  - seek partnerships with universities to support the development of cultural heritage research at Lake Boort (for example, through summer school programs and post-graduate research).
- 

Recognise Lake Boort as a cultural landscape on the Victorian Aboriginal Heritage Register, rather than as a series of sites, to increase appreciation of the extent, diversity and richness of the tangible and intangible Aboriginal cultural heritage associated with Lake Boort.

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Develop an agreement regarding the intellectual property of Dja Dja Wurrung and how it will be safeguarded and respected in sharing knowledge as part of managing Lake Boort reserve.

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Work with adjoining property owners to support their participation in the recording and management of cultural heritage places and values, recognising that Lake Boort's cultural heritage extends across the boundaries of the reserve into adjoining public (e.g. south along Kinypanial Creek) and private land. Share resources and provide advice and practical skills to adjoining landowners to help them manage significant cultural features.

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Recognise the importance of documents, materials and collections held elsewhere as part of Lake Boort's cultural heritage and significance, and their potential role in interpretation.

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### 3.3 Dja Dja Wurrung cultural traditions and activities

The importance to Dja Dja Wurrung of being on Country is expressed in the vision statement of the *Dhelkunya Dja* Country Plan. Lake Boort offers an opportunity for the practise of traditions and cultural activities, engaging the Dja Dja Wurrung community as well as the wider community. These could include:

- using and reviving traditional knowledge to guide how Country is managed
- sharing of stories, values and customs with the wider community
- actively engaging in ceremonies and teaching traditional techniques such as cutting bark for various purposes, constructing cooking ovens and making stone tool
- recording and protecting cultural heritage places and features.

These activities could take place throughout the reserve. A defined area or areas could be designated for activities such as culture camps for education and cultural transmission by Dja Dja Wurrung. Parks Victoria will consult Dja Dja Wurrung about the need for a specific area for these activities. Parks Victoria can also provide temporary exclusive use of a specific locality within the reserve for a specific purpose.

As part of the Dja Dja Wurrung Recognition and Settlement Agreement, the State of Victoria recognised specific rights on Country for Dja Dja Wurrung people. These were put into law through five Authorisation Orders that broadly cover accessing plants and forest produce, hunting, fishing, camping and water access. Some of these orders include the right to do certain things without needing a licence or permit that other people would need.

#### Goal

Dja Dja Wurrung cultural traditions and knowledge is practised and shared at Lake Boort.

#### Strategies

In partnership with Dja Dja Wurrung, define how cultural practices relevant to the cultural heritage of Lake Boort will be revived or continued.

Facilitate cultural renewal and the revival of cultural traditions and practices by Dja Dja Wurrung people to sustain the cultural heritage significance of Lake Boort. This may include bark harvesting and the creation of new scarred trees as well as other resource uses such as hunting, fishing, camping, water access and taking plants and forest produce.



Scarred tree: Lake Boort



The wetting and drying cycle is critical for the recovery of Lake Boort's vegetation communities

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## 4 Healthy Country

Lake Boort's natural environment will be conserved, managed adaptively and progressively enhanced to reconnect it via habitat and water links to the Boort wetlands and sustain the natural systems and species.

Lake Boort is part of a regionally significant series of wetlands and contains a precious cultural heritage, set within a natural environment that retains a variety of important plant and animal species. At Lake Boort, nature and culture are linked through the traditions of Dja Dja Wurrung peoples, for whom it is a living cultural landscape. Revival of this wetland will be challenging, because it faces many issues: pest plants and animals, visitor impacts, fire risk, disconnection from natural water flows, and climate change. Managing the natural and cultural values and restoring the wetland is a major challenge that requires strong and engaged partnerships.

### 4.1 Healthy ecosystems

The Loddon River flows across the northern plains to the Murray. Parallel north-flowing creeks mark old courses of the Loddon. Kinypanial Creek links the Loddon to Lake Boort, with its waters then flowing onwards through a series of wetlands. This landscape is rich with the potential of water in a relatively dry plains environment. Water creates the productivity and rich web of life that gives these wetlands such significance as natural remnants in a largely changed landscape.

Lake Boort is important as a remnant of the Red Gum and Black Box wetlands that are characteristic of the Northern Plains landscape. Now returning to an appropriate regime for the environmental values present at the wetland, Lake Boort will again become an intermittently full wetland, enhancing its natural productivity. Its biodiversity values will be enhanced by management actions to address impacts from pest plants and animals and mitigate risks from recreation activities.

As a wetland, Lake Boort's primary natural values relate to the cycle of wetting and drying. With water, Lake Boort is a haven for feeding and nesting waterbirds. Aquatic plants regenerate quickly as the lake bed changes from dry, cracked clays to a lush wetland. The River Red Gums, once constrained to the edge of the wetland by the ever-present water, are now regenerating on the lake bed, starting the slow process of recreating the River Red Gum woodland that was there in the 1850s. All vegetation communities at Lake Boort are classified as vulnerable, endangered or depleted within the Victorian Riverina bioregion.

Over 80 species of birds, including 42 species of waterbirds, have been recorded using the Lake Boort reserve, including rare and vulnerable waterbirds such as the Freckled Duck, Blue-billed Duck and Australasian Shoveler. The Lake Boort reserve is also home to many important animals that are increasingly rare because of habitat loss, including the Growling Grass Frog, Grey-crowned Babbler and Woodland Blind Snake. Many other animals, such as turtles, wallabies, lizards and a multitude of insects, are not rare but are still important as part of the characteristic fauna of the reserve. Significant plant species include the rare Pale Spike-sedge, Sweet Fenugreek and Spiny Lignum.

Retaining and enhancing habitat links between Lake Boort and nearby wetlands, Kinypanial Creek and the Loddon River will sustain regional biodiversity in the face of landscape-scale changes that are likely in response to climate change. For Dja Dja Wurrung, the natural values of Lake Boort are fully intertwined with its cultural meanings and connections, including their uses as resources.

### Vegetation communities and flora

Lake Boort is a temporary floodplain lake of bioregional importance; this type of wetland is 60% depleted across Victoria, and Lake Boort represents around 8% of the remnant in the North Central CMA region (NCCMA

2013: 15). The wetland and Kinypanial Creek comprise the majority of the reserve area. Lake Boort is fringed with River Red Gums, with Black Box on the higher ground. There are 60 indigenous vascular plant species at Lake Boort, including two that are rare in Victoria (Table 4.1). Virtually nothing is known of the area's non-vascular flora, which includes mosses, liverworts, lichens, fungi and algae (David Meagher, pers. comm.). The predominant pattern of vegetation distribution reflects past water regimes, with River Red Gum regeneration on the lake bed indicating recovery since the artificially high water level was reduced. Vegetation communities at Lake Boort can be broadly characterised as:

- River Red Gum woodland of the lake bed and its associated understorey,
- surrounding Black Box community, or
- aquatic vegetation, open water and associated mud-flat habitats when the lake is inundated.

**Table 4.1: Number of rare or threatened flora and fauna species known from Lake Boort Reserve.**

Group	Total	EPBC	FFG	Victorian Advisory List					
				E	V	R	NT	DD	PK
<b>Fauna</b>									
At Lake Boort	82	2	7	6	6	0	4	1	0
Likely to be present	44	0	2	1	1	0	3	0	0
<b>Flora</b>									
At Lake Boort	60	0	0	0	0	0	0	0	0
Likely to be present	47	0	0	0	0	2	0	0	1

EPBC: listed under *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth).

FFG: listed under *Flora and Fauna Guarantee Act 1988* (Vic.)

Victorian Advisory List: E = endangered, V = vulnerable, R = rare, NT = near threatened, DD = data deficient, PK = poorly known.

The North Central CMA is undertaking vegetation surveys at Lake Boort (NCCMA 2016) and has established several long-term vegetation monitoring quadrats within the lake as a future benchmark to assess the effectiveness of ecological management such as environmental watering.

There are four main ecological vegetation communities (EVCs), three wetland EVCs and one dryland EVC across the eight quadrat locations (NCCMA 2016), as follows.

**Intermittent Swampy Woodland/Lake Bed Herbland Complex** (EVC A119) represents most of the reserve. It occurs across the floor of the wetland is an open River Red Gum dominated woodland with a ground-layer including a substantial component of herbaceous species adapted to drying mud within lake beds. This complex occurs in the deepest part of the lake and has therefore been the most profoundly affected by changes to hydrology (resulting from European land use). All of the large, old River Red Gums that formed the canopy of this complex at Lake Boort are dead, however many young River Red Gums are regenerating since 1996 due to a more natural wetting and drying cycle. Indigenous understorey species have been displaced and weeds are dominant.

Understorey species include Southern Liquorice, a pink-flowered inland form of Australian Hollyhock, Rat-tail Couch, Common Blown-grass and Rosinweed, the endangered Hoary Scurf-pea, and the rare Sweet Fenugreek. Some of these survive periods of prolonged inundation as seed, while others persist as dormant tuberous rootstocks. When flooded, Intermittent Swampy Woodland in the deeper sections of the lake forms a complex with Aquatic Herbland (EVC 653) (Damien Cook pers. obs. 1993). Lake Bed Herbland EVC 107 is classified as depleted within the Victorian Riverina bioregion.

**Intermittent Swampy Woodland** (EVC 813) occupies a thin margin around the edge of the reserve, except at Kinypanial Creek. It occurs the shallow margins of the lake is dominated by River Red Gum occasionally with Black Box. There is a scattered shrub layer consisting of Tangled Lignum and a higher understorey of Eumong in some areas.

Native understorey species in areas that are mostly shallowly inundated include Spiny Flat-sedge, Southern Cane-grass, Mallee Love-grass, Plains Sedge, Spreading Sneezeweed, Common Nardoo, Common Blown-grass and Grass Bindweed. This vegetation community is classified as vulnerable within the Victorian Riverina bioregion.

**Lignum Swampy Woodland** (EVC 823) occupies a very narrow margin at about the normal high water level of parts of the lake, mostly on the western and southern edges. Typically it has an understorey dominated by Tangled Lignum in association with a Black Box / River Red Gum / Eumong woodland up to 15 metres tall. The ground layer includes species that are promoted by intermittent inundation, including Southern Cane-grass, Common Nardoo, Poison Pratia, Knob Sedge, Small Spike-sedge, Rosinweed, and the rare Spiny Lignum. This vegetation community is classified as vulnerable within the Victorian Riverina bioregion.

**Low Rises Woodland** (EVC 803) occupies a narrow strip on the north-eastern edge of the reserve, above the level of the highest floods. It is an open woodland on relatively well-drained, fertile soils associated with low rises such as lunettes. The tree canopy consists of Bull Mallee, Grey Box and Buloke, with a smaller tree layer including Willow Wattle, Berrigan, and Hooked Needlewood. In the past it also supported Slender Native Pine, but this species was selectively cut out because of its value as a termite-resistant building material (Paul Haw pers. comm.).

The understorey consists of sparse shrubs over a species-rich grassy and herbaceous ground layer including Mallee Wattle, Hedge Saltbush, Short-leaf Bluebush, Gold-dust Wattle. In the most intact areas the grassy and herb-rich field-layer supports Rough Spear-grass, Knotty Spear-grass, Spider Grass, Bristly Wallaby-grass and chenopods and small herbs including Ruby Saltbush, Nodding Saltbush, Nodding Chocolate-lily and Variable Sida. Much of the area where this EVC formerly occurred at Lake Boort has been cleared or is highly disturbed. This vegetation community is classified as endangered within the Victorian Riverina bioregion.

Vegetation modelling indicates other areas of the reserve, such as Kinypanial Creek and inundated areas of the lake, may also support Plains Woodland (EVC 803), Lignum Swamp (EVC 104) and Aquatic Herbland (EVC 653).

## Fauna

Lake Boort is home to a variety of native fauna. The seasonal wetting and drying cycle results in a highly productive wetland when water is present, attracting a wide diversity of waterbird species, sometimes in large numbers. In 2010–2011, while Lake Boort was holding water, the waterbirds present included bitterns, cormorants, egrets, grebes, herons, ibis, spoonbills, swans, with Little Black Cormorants, Great Crested Grebes, and Australasian Grebes breeding. During bird surveys at Lake Boort, between June 2016 and May 2017, prior to and after flooding, 76 species of birds, including 40 wetland birds, were recorded. The surveys noted breeding by waterbird species such as cormorants and darters in 2017.

Threatened species noted in the survey included Freckled Duck, Hardhead, Royal Spoonbill, Little Egret, Eastern Great Egret, White-bellied Sea Eagle, Glossy Ibis, Brolga, Whiskered Tern, Grey-crowned Babbler and Brown Treecreeper (NCCMA 2017). A number of the waterbird species present at Lake Boort are game duck species available for hunting during the open season including Australian Shelduck, Australian Wood Duck, Chestnut Teal, Grey Teal, Hardhead, Pacific Black Duck and Pink-eared Duck.

Lake Boort is important for terrestrial bird species as well, and for a range of fauna including frogs, pythons, blind snakes and other reptiles. A total of 84 vertebrate fauna species have been recorded at Lake Boort, and it can be expected that there are many other lesser known organisms, such as invertebrates, fungi and other life forms that form an important part of the local ecology.



Australasian Darter chicks on a nest in Lake Boort

### Risks and threats to natural values

The primary cause of decline in the natural values of Lake Boort has been the altered hydrology (section 4.2). Introduction of environmental water on a five-year cycle is proposed, and this will provide the basis for revitalisation of the wetland and its values. Re-establishing the River Red Gum woodland across the lake bed is likely to require reseeding in spring linked to the environmental watering program, given the location of living trees and a seed throw of less than 30 metres (Cook and Bayes 2015: 4).

Other risks to the natural values of Lake Boort reserve include:

- fire: River Red Gum vegetation community is regarded as fire sensitive
- poorly managed environmental watering (e.g. flood durations that are too short or long, too early or late, too deep or shallow, etc.)
- inappropriate flushing of water from Little Lake Boort or the Channel No. 3, and poorly managed water infrastructure
- pest plants and animals, including invasive species such as aquatic plants and Common Carp
- protected wildlife being taken or harmed during duck hunting.

Lake Boort has more than 40 introduced plants, four of which are declared noxious weeds. Around 15 to 20% of the overall vegetation across Lake Boort consists of introduced species, and some of these are considered to increase the fire risk, as well as limiting opportunities for native plant regeneration (Parks Victoria et al. 2003: 19). Priority weeds include Spiny Rush, Spear Thistle, Horehound, Boxthorn, Bridal Creeper and Pepper Tree, as they are the greatest threat because of their ability to compete with and replace native vegetation.

### Ecosystem services and economic benefits

Ecosystem services are the tangible benefits that people receive from nature. Wetlands improve water quality through filtration, help regulate floods, air and water purification, preventing soil erosion, nutrient cycling including absorbing and storing carbon, and provide significant cultural and recreational benefits, helping fulfil peoples' spiritual, educational and recreation needs. A 2010 study of ecosystem services associated with remnant native vegetation in an agricultural flood plain environment measured or estimated carbon storage, concluding that river red gum sites were the most valuable for carbon storage (Smith 2010 in Cook and Bayes, 2015).

## Ecological objectives for Lake Boort’s environmental and cultural watering

Lake Boort is being restored as a temporary floodplain lake. The North Central CMA’s ecological objectives for the environmental watering defined in the Lake Boort Environmental Water Management Plan are to be updated to reflect contemporary knowledge following the identification and classification of specific vegetation communities in vegetation monitoring surveys in 2016 and 2017 . The specific environmental objectives are likely to be further adapted over time to reflect updated scientific information and Dja Dja Wurrung cultural and ecological values. North Central CMA is collaborating closely with Dja Dja Wurrung to build capacity for cultural watering and the management of water allocations. Ecological goals and strategies for this reserve may need to be adjusted to reflect a future Environmental Water Management Plan and its associated cultural and ecological objectives.

### Goals

The diversity and condition of ecosystems, habitats, and self-sustaining populations of communities and species are restored.

Support the recruitment and maintenance of River Red Gum, Black Box and aquatic habitats and provide opportunities for waterbird foraging, nesting and breeding.

The quality of ecosystem services is maintained, including carbon capture and storage.

### Strategies

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Integrate Dja Dja Wurrung contemporary and traditional knowledge into the management of the reserve, and encourage the sharing of all forms of ecological knowledge.

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Restore the Lake Boort ecosystems and ecosystem processes primarily using environmental watering. Support North Central CMA’s ecological objectives for Lake Boort and:

- restore the distribution of River Red Gums and associated floristic communities across the bed of Lake Boort
  - maintain the extent and restore the health of Black Box and vegetation communities surrounding the high-water mark of Lake Boort
  - maintain a Spiny Lignum population and reinstate the populations of non-tufted graminoids typical of the temporary floodplain lake, such as Southern Cane Grass and Common Spike-sedge
  - enhance the existing habitat of ground foraging fauna by retaining all fallen timber
  - restore vegetation species diversity typical of aquatic and semi-aquatic environments when the wetland is inundated
  - monitor vegetation seed source and on-going recruitment, and if necessary examine the desirability of a program of direct seeding and hand planting of River Red Gums and other wetland species as water recedes to enhance the speed of recolonisation of the lake bed, being alert to the potential impacts on cultural sites.
- 

Liase with the North Central CMA to:

- deliver environmental water to Lake Boort and use pre-delivery and post-delivery species monitoring to adaptively manage the reserve
  - manage pest plants, including identification of weed species that may be advantaged by environmental watering, prior treatment, monitoring and addressing re-establishment
  - prevent potential invasions by aquatic plant and animal pest species, and respond quickly to any invasions
  - install carp exclusion devices at the inlet to the lake prior to introducing water
  - monitor wetland bird species, including food sources and breeding success particularly of threatened species such as Freckled Duck and Hardhead and, as needed, implement temporary restrictions to prevent visitor access to nesting area.
- 

Protect Eastern Long-necked Turtle nesting areas, particularly from impacts by foxes, dogs and humans.

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Consider the potential impacts of climate change across the Boort District wetlands, and work collaboratively with North Central CMA, DELWP, other agencies and land managers, scientists, community groups and neighbours to adopt climate change adaptation measures.

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Support partnership projects to address priority pest plant threats including Bridal Creeper and Pepper Trees, and control foxes and rabbits (and cats if needed), working with adjoining landowners, the Shire of Loddon, DELWP, North Central CMA and local community organisations. Maintain secluded areas to help protect waterbirds from predators.

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Recognise the habitat values of the dead standing and fallen trees, particularly for nesting and roosting and hollow-dependent species; support work to supplement loss of hollows with nest boxes.

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Working in partnership with The Shire of Loddon, DELWP, North Central CMA, adjoining landowners and land managers, and community organisations to increase the habitat links between Lake Boort and adjoining wetlands and remnants, including with the balance of Kinypanial Creek.

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## 4.2 Hydrology and watering

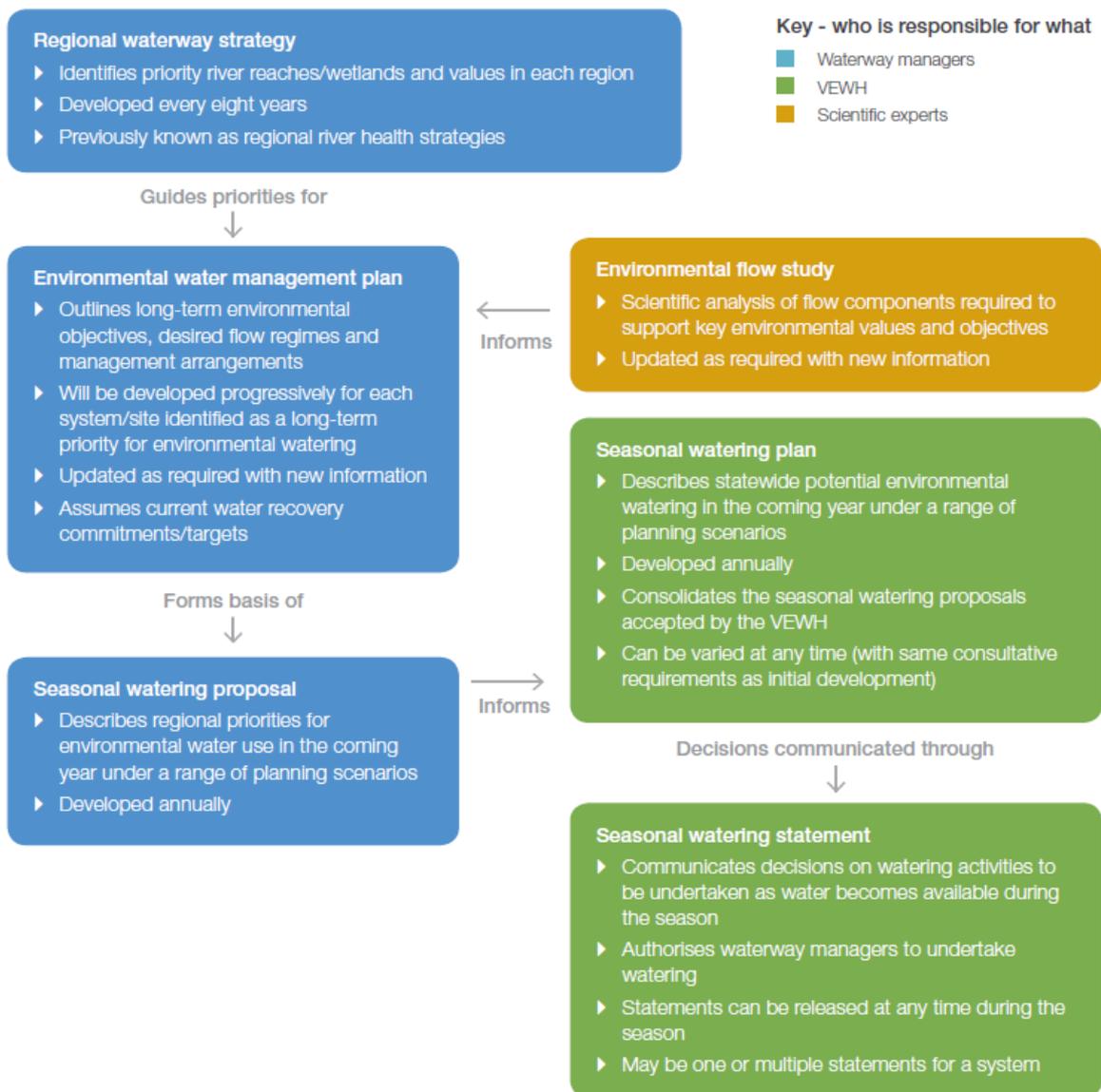
Lake Boort forms part of an important series of wetlands that stretch across the northern plains from Boort to Kerang. It is classified as a temporary floodplain lake, which is one of the most depleted wetland types in Victoria, and it is a bioregionally important wetland. The wetland forms the major part of the reserve, being around 405ha of the 502ha reserve. Lake Boort's natural values relate to its habitat diversity, water bird carrying capacity and species diversity; some key species are water dependent (NCCMA 2013: 10).

Lake Boort and Little Lake Boort were originally a single, intermittent wetland that was naturally inundated by Kinypanial Creek floodwaters. Overland flows from the Borung Plains to the west also contributed. Lake Lyndger would also have benefited from Lake Boort's overflows (Parks Victoria 2003). Prior to European occupation Lake Boort would have filled intermittently to a maximum depth of around 1.5 metres for periods of up to one year, with regular drying phases lasting over two to three years (NCCMA 2016:6). Lake Boort was once connected to the adjoining Little Lake Boort and Lake Lyndger through natural floodways, and to the Loddon River via Kinypanial Creek. After water filled these wetlands it would have flowed northwards and, with water from the distributary channels out of the Loddon River, filled the rest of the wetlands between Boort and Kerang (NCCMA 2013: 17).

A significant change to the hydrology of Lake Boort was the introduction of an artificial water regime between 1850 and 1997, during which time the lake remained permanently filled. This was created by the combination of an 1850s weir, a cutting between Kinypanial Creek and the Loddon River, and the raising of the height of the overflow by the establishment of an artificial sill to the northern drainage point of the wetland. Later Lake Boort was used for the discharge of excess or poor-quality irrigation water, artificially maintaining a higher than natural water level in the wetland (NCCMA 2013:18). Today roadways, irrigation infrastructure and other interventions have significantly changed the opportunity for natural water flows into Lake Boort. As a result, natural flows now occur primarily via overland flows from the west (Borong and Wedderburn) entering Kinypanial Creek, or in large floods from the Loddon River overtopping the 1883 structure on Blackfellows Creek and flowing into Kinypanial Creek.

Currently Lake Boort is watered artificially in accordance with the Lake Boort Environmental Water Management Plan via an inlet on the western side of the irrigation system. The North Central CMA is the lead agency in relation to environmental watering. Parks Victoria works closely with the North Central CMA to improve the health of parks and rivers, in a way that is consistent with broader catchment and river strategies.

North Central CMA and the Victorian Environmental Water Holder (VEWH) undertake detailed planning for environmental water at both the long term and annual scales. This includes the development of site specific environmental water management plans by the CMAs and a State-wide Seasonal Watering Plan by VEWH (DELWP 2016). Water management responsibilities are outlined in Figure 4.1. Collectively, these plans provide detailed objectives for environmental water management and set out a range of actions including those needed to mitigate risks and manage threats to achieving the objectives, including complementary works such as pest plant and animal control.



**Figure 4.1: Water management responsibilities. (Source: VEWH 2016)**

The restoration of Lake Boort as a temporary floodplain lake is guiding the Environmental Water Management Plan which will focus on delivering intermittent water flows, enabling the wetland to experience both wet and dry cycles. The planned watering regime will provide water to Lake Boort in spring, once every five years or so, depending on the availability of water and adapting to natural flood cycles.

An important consideration is the need for an extended drying period of up to three years to promote the recruitment, growth and maintenance of River Red Gums across the bed of the wetland, eventually replacing the large trees which were lost when the wetland was held at an artificially high level. The ‘seasonally adaptive approach’ will also need to consider the height of the River Red Gum seedlings so as not to overtop them in an environmental watering (NCCMA 2013: 25, 30).

Available environmental water allocations will be shared across the Boort wetland as outlined in the North Central CMA’s Loddon River System Environmental Water Management Plan (2015) and Loddon River System Seasonal Watering Proposal 2015–16 (2014).



Kinypanial Creek enters the southern side of Lake Boort

The distribution of environmental water via the irrigation network to Lake Boort proposed by the North Central CMA (Figure 4.2) involves the delivery of irrigation water in one of three ways (NCCMA 2013: 19):

- from the Pyramid–Boort Channel No. 3 on the north-west side of Lake Boort
- into Little Lake Boort and then from Little Lake Boort through the Little Lake Boort Flushing Channel, which outfalls into Lake Boort
- from the Pyramid–Boort Channel No. 2/2 to Kinypanial Creek via Boags Weir.

All three methods have been used to maximise the amount of water to Lake Boort and assist with flood mitigation. The environmental watering of Lake Boort under the first two options would not provide water to Kinypanial Creek. A survey of the wetland bathymetry (Figure 4.3) indicates that the capacity of the wetland is 5817 ML at full supply level (90.79 m AHD), which would provide an approximate wetland depth of 1.8 metres (NCCMA 2013: 7).

Large natural flood events such as which occurred in 2011 and 2016 still inundate the lake. In 2011 Lake Boort received significant flows from the Loddon River, filling the lake. The lake dried progressively over about 18 months and remained dry from 2013 until natural flooding occurred again in spring 2016. Significant recruitment and regeneration of River Red Gum seedlings has occurred across areas of the lakebed during these wetting and drying phases.

There are concerns that environmental watering may result in a more rapid loss of the scarred trees and an increase in the erosion of mounds, camp and stone tool working sites. Environmental watering may also provide some positive benefits in relation to cultural heritage values, and past water levels are considered to have reduced the harvesting of timber from the lake, resulting in more scarred trees being retained, and to have protected mounds from damage by rabbits and erosion. An assessment of potential impacts is to be undertaken by North Central CMA via a voluntary Cultural Heritage Management Plan under the Aboriginal Heritage Act.

Concerns about the salinity of surface water, rising saline water tables and higher than natural salt levels in Lake Boort (Parks Victoria 2003) are no longer considered a significant risk. Successive flooding events have flushed salt from the lake. The regular drying cycle of Lake Boort since 1996 is also considered to allow rainwater to remove salt as the rainwater and salt solution permeates through dry cracking clay soils, entering the water table. Winds are also able to remove dried salt from the dry lake bed. Water quality monitoring will form part of the proposed environmental watering.

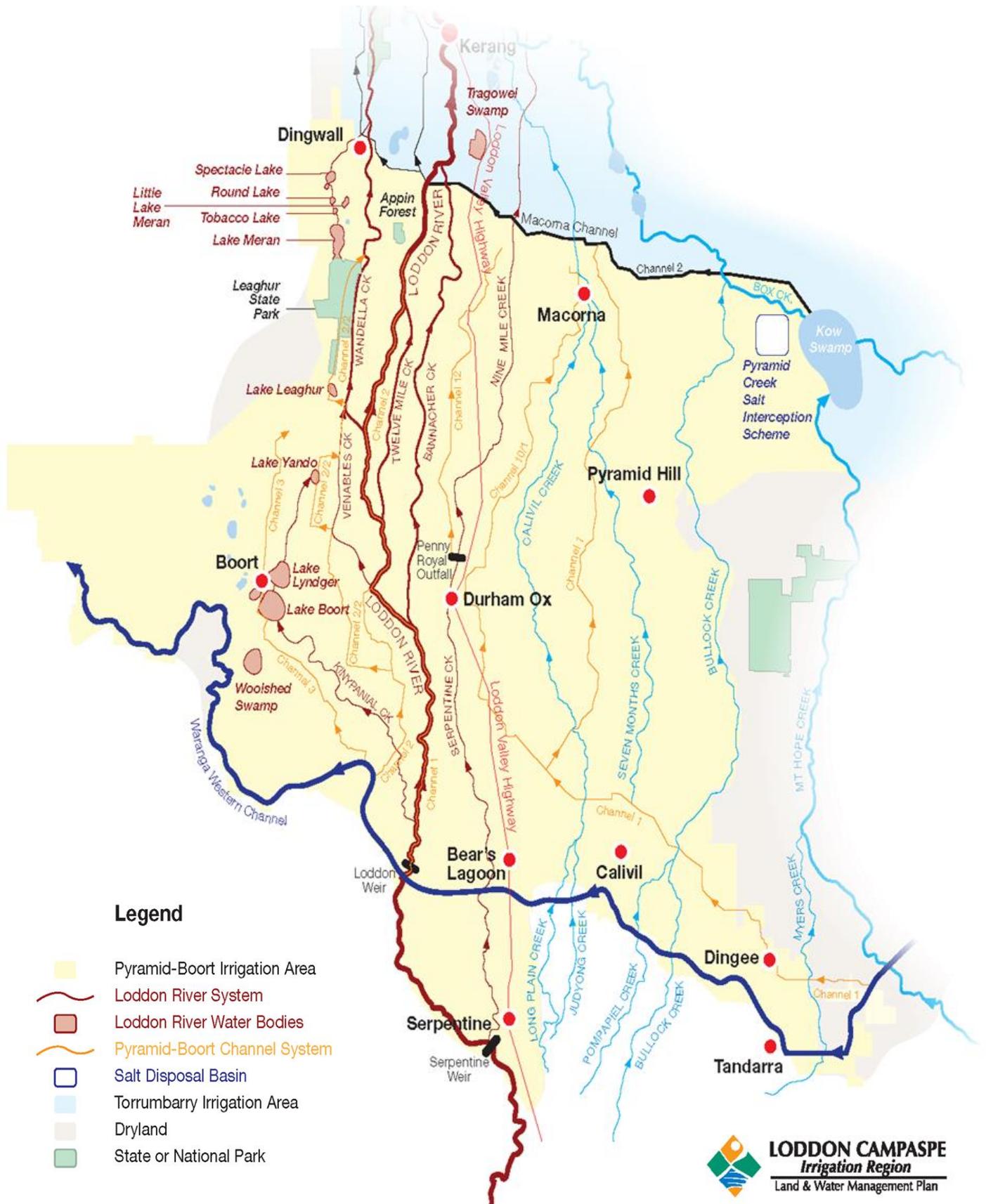
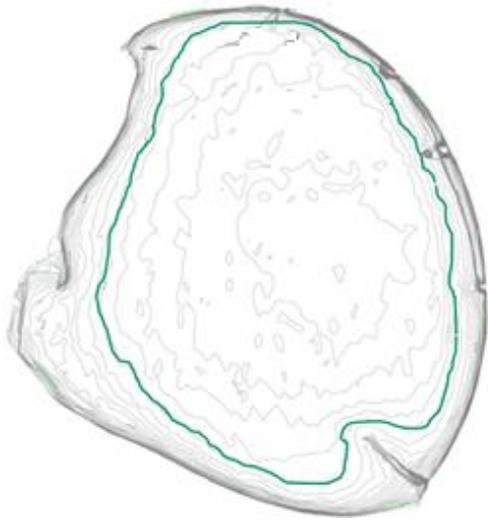


Figure 4.2: Schematic representation of the Pyramid-Boort Irrigation Scheme. (Source: North Central CMA)



**Figure 4.3: Lake Boort bathymetry. The green line indicates the shoreline at full supply level.**  
 (Source: North Central CMA)

The Little Lake Boort Flushing Strategy (June 2002) was developed to control salinity levels in Little Lake Boort. Flushing of Little Lake Boort is carried out when flood water or environmental water is available, to improve the salinity and environmental health of Little Lake Boort. Water is discharged from Little Lake Boort into Lake Boort via a flushing channel subway under Channel No.3, Lily Pond and the inlet channel to Little Lake Boort on the western side of Lake Boort. It is important that water discharged from Little Lake Boort or Channel No. 3 into Lake Boort conforms to the objectives of Lake Boort’s Environmental Management Plan; for example, to avoid prolonged periods of high water levels following flood events, which could drown regenerating River Red Gum seedlings.

<p><b>Goals</b></p> <p>Lake Boort is rehabilitated as a temporary floodplain lake, based on an Environmental Watering Management Plan.</p> <p>Kinypanial Creek is sustained and enhanced through the addition of environmental water.</p>
<p><b>Strategies</b></p> <hr/> <p>Support the North Central Catchment Management Authority and Goulburn-Murray Water in determining and implementing the requirements for environmental watering of Lake Boort and the preferred methods of water delivery given the natural and cultural values of Lake Boort.</p> <hr/> <p>Work with the North Central Catchment Management Authority to achieve ecological objectives through adaptive implementation of an Environmental Water Management Plan.</p> <hr/> <p>Support the North Central CMA and Dja Dja wurrung in implementing outcomes of the voluntary Cultural Heritage Management Plan associated with environmental watering.</p> <hr/> <p>Support the North Central CMA in monitoring of the outcomes of the environmental watering program, including impacts on cultural values and improve understanding of the effects of climate change on Lake Boort as part of the Boort District wetlands.</p> <hr/> <p>Liaise with Goulburn–Murray Water (GMW) to ensure that operational changes to irrigation infrastructure that may be mooted in the future will not limit future opportunities to deliver environmental water to Lake Boort to support the cultural and natural values of the reserve.</p> <hr/> <p>Liaise with Goulburn–Murray Water (GMW), The Shire of Loddon and North Central CMA to ensure that water releases from Little Lake Boort or the Number 3 Channel does not compromise ecological objectives for Lake Boort.</p> <hr/>



Dja Dja Wurrung traditional burning delivered in partnership with Forest Fire Management Victoria

### 4.3 Fire management

Fire is a part of the natural environment and is important in many ecosystems for regeneration. Aboriginal people used fire across much of Australia as part of land management and cultural activities. A challenge for fire management is to protect lives and social, cultural, environmental and economic assets, and manage fire regimes to maintain and enhance biodiversity and sustain healthy Country. Bushfire is potentially the most critical and catastrophic risk to the Aboriginal scarred trees at Lake Boort.

#### Fire management framework

The Code of Practice for Bushfire Management on Public Land (DEPI 2012) provides the framework for public land fire management across the state. Fire management on public land in non-urban areas including national and other parks, state forests, reserves and other Crown land is the responsibility of the Department of Environment, Land, Water and Planning (DELWP) and is delivered by DELWP, Parks Victoria and other agencies via Forest Fire Management Victoria.

The Country Fire Authority (CFA) is responsible for protecting private land in rural Victoria. Parks Victoria is a major partner with DELWP in development and implementation of fire management strategies for the parks estate, both for biodiversity management and protection of life and social and economic assets.

‘Safer Together’ is a recent Victorian Government initiative to develop a strategic bushfire management planning framework that, with the help of communities, identifies values to be protected from bushfire, assesses the bushfire risk to those values, and sets out strategies to manage this risk in partnership with communities. Seven Bushfire Risk Landscapes have been defined across Victoria for strategic planning for bushfire management. Lake Boort is in the Mallee and Murray Goulburn Bushfire Risk Landscape which is considered under the Strategic Bushfire Management Plan for the Mallee and Murray Goulburn (DELWP 2015c).

The current Fire Operations Plan for the Loddon Mallee Region (DELWP 2015a) sets out the planned fire preparedness activities that will be carried out on public land in each fire district until June 2018, including proposed burns, slashing and track works and additions to the permanent network of strategic fuel breaks. The Fire Management Zone for Lake Boort is a Planned Burning Exclusion Zone, similar to Woolshed Swamp to the south and Lake Lyndger to the north. There are no proposed fire prevention activities within the Lake Boort reserve.

The Loddon Mallee Regional Strategic Fire Management Plan 2011–2021 (LMRFMPC 2011) is a regional strategic plan designed to ‘facilitate municipal fire management planning by providing guidance on the Loddon Mallee risk environment and potential risk treatments’ and to ‘support fire management planning and implementation’ at municipal and regional levels’.

Shires also play a role in assessing and managing fire risks. The Shire of Loddon’s Municipal Fire Plan (Shire of Loddon 2012) identifies that slashing on the Boort Pyramid Road is to be undertaken. VicRoads is responsible for this roadside slashing. There are also two slashed fire breaks through Lake Lyndger. In Victoria, typical fire weather is from the north and north-west; Little Lake Boort is on the west to north-west side of Lake Boort, and on the north side the Boort–Pyramid Road serves as a firebreak.

### **Risk of bushfire**

The Shire of Loddon has the lowest rankings for both grass and forest fire likelihood and historically has had a ‘low level of ignitions, low fuel levels and an average bushfire season length of 126 days’ (Shire of Loddon 2012: 19). Some areas in the shire have been assessed as having a bushfire risk, ‘particularly rural adjoining vegetated crown land and residential/rural residential adjoining rural’ (The Shire of Loddon 2012: 22).

The main known causes of bushfire within The Shire of Loddon in the period 1997–2009 (LMRFMPC 2011: 10–11) have been deliberate or accidental ignitions by humans, such as campfire escapes, machinery failure, powerlines (65.8%) and natural ignitions from lightning (10.7%); 23% of fires could not be identified. There is no record or evidence of fires at Lake Boort for most of the period from 1850 to the 1990s. A bushfire in Woolshed Swamp in mid-February 2010 that burnt 19 ha is the only fire recorded since 1970 on the DEPI/DELWP Biodiversity Interactive Mapping system.

A bushfire starting in the reserve would be of concern to the Boort community and adjoining landowners. Community concerns also include the amount of fuel at certain times (primarily weeds), the possible difficulty for the CFA in accessing the lake bed if a fire occurred there, and the risks associated with fires from vehicle exhaust sparks and campfires. The risks of fire ignition from an unattended or escaped campfire is greatest during summer, when fire danger is generally at its highest. There is also a concern that fire prevention or suppression activities could harm cultural sites at Lake Boort.

It has been suggested that in some seasons weed growth on the lake bed is increasing the fire risk for adjoining properties and the township of Boort. However, fuel loads generally remain low. The proposed environmental watering of the lake will increase soil moisture and reduce the prevalence of such weeds, gradually returning Lake Boort to a more natural wetland environment. Regeneration of River Red Gum forests requires flooding, not fire, and River Red Gums can be sensitive to fire, which kills seedlings and younger trees and cause burn-out and collapse of older hollow-bearing trees (Palmer and Cahir 2010).

### **Traditional burning**

Dja Dja Wurrung continue to maintain cultural responsibilities to Country through traditional burning practices undertaken in partnership with DELWP and Parks Victoria. Dja Dja Wurrung engage with DELWP in the preparation and implementation of fire operations plans and work together to ensure fire operations consider impacts on cultural heritage and Native Title rights.

In undertaking several traditional burns on public land over recent years, DELWP is working closely with Dja Dja Wurrung on the development of formal protocols for the planning and implementation of cultural burning. Cultural burning is generally of lower intensity and scale relative to other planned burning and uses techniques and timeframes which minimises impacts to wildlife and habitat. Cultural burning at Lake Boort will also be planned to avoid the risk of impacts on scarred trees.

## Goals

Minimise the incidence of fire in the reserve.

The risk of bushfire into and from the reserve is reduced to provide high level of protection for human life and property, and to minimise potential damage to cultural, environmental and other reserve assets.

## Strategies

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Solid fuel barbecues and campfires are to be permitted only within the reserve from 1 March to 30 November, and only within constructed fireplaces at designated camping areas.

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Work with DELWP, the CFA, The Shire of Loddon and Dja Dja Wurrung to integrate fire management and maximise benefits to local communities, visitors and ecosystems, exclude fire from the lake bed and protect the Aboriginal scarred trees and other cultural heritage sites from the risk of bushfire and impacts from fuel reduction and fire suppression activities.

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Work with Dja Dja Wurrung and DELWP in considering possible traditional burning within appropriate areas of the reserve.

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Manage fire suppression activities and, if required, reduce fuel hazard including fuel loads using best available options to protect environmental values and significant cultural features, such as:

- using DELWP's Preferred Fire Suppression Tactics in Sensitive Areas
- using localised techniques such as slashing
- minimising ground disturbance
- minimising the risk of exposure to fire retardants.

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Liaise with The Shire of Loddon and VicRoads to ensure that fuel reduction areas adjacent to the reserve are maintained.

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Work with neighbouring landowners, and the Boort community to build understanding of fire risk and fire management.

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Undertake rehabilitation and recovery work as soon as possible to minimise the spread of weeds and the risk of erosion.

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Encourage post-fire archaeological survey work to record sites and identify damage to Aboriginal cultural heritage.

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Cultural tour visiting scarred tree

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## 5 Experiencing Lake Boort

Lake Boort offers an opportunity for people to experience a special cultural landscape by engaging with nature, people and stories during the lake's cycles of wetting and drying.

### 5.1 Visitor experience

Lake Boort has an outstanding array of natural and cultural features and important histories which provides a unique and changing setting for visitors. Visitor uses and activities at Lake Boort need to be sustainable, and management needs to ensure that these activities are sensitive to the cultural and natural values of the reserve. Opportunities for a range of recreational activities and cultural experiences will be maintained while protecting the reserve's natural and cultural environment.

Lake Boort is an important recreation asset for Boort township, enjoyed by locals and visitors alike. For the local community, Lake Boort is highly valued as a natural wetland and a cultural landscape. Lake Boort offers a range of recreational activities, depending on the water levels of the lake, including camping, kayaking, walking, bird watching, picnicking, dog walking, fishing, nature study, duck hunting, and visiting cultural sites. The inundated area of the reserve is a declared hunting area during declared duck seasons, and public access to this area is restricted at specified times of the day. Cultural and bird watching tours visit both lakes, and school groups visit from time to time to look at Aboriginal sites. Lake Boort also offers a unique cultural heritage experience (see sections 5.2 and 5.6).

Linked by trails from Little Lake Boort, Lake Boort is easily accessible from the Boort townships on foot, by bicycle or by car. Little Lake Boort is an important recreation site for boating, waterskiing, canoeing, sailing, fishing and bird watching. Visitors are likely to enjoy the same range of activities, perhaps walking or cycling the trail around Little Lake Boort and then on to Lake Boort itself.

Parks Victoria defines Visitor Experience Areas (VEA) throughout Victoria to highlight areas that are significant for a range of specific visitor opportunities. VEAs are intended to ensure that the visitor experience can continue sustainably without compromising underlying environmental and cultural values. The Boort VEA incorporates Lake Lyndger, Lake Boort and Woolshed Swamp wildlife reserves interspersed with agricultural land, and includes Boort township and the Little Lake Boort recreation area managed by The Shire of Loddon. Most of the VEA provides low key recreation use and hunting in a significant cultural landscape.

In the past, additional facilities at Lake Boort have not been considered necessary, given its level of dispersed use and its location close to Boort township where there are toilets and picnic and camping areas. Lake Boort does, however, require recreation activities to be defined to minimise the potential impacts on natural and cultural values, and to enhance cultural experiences. This may include establishing more appropriate interpretation, clearer signage, a parking area, designation of camping areas, construction of fireplaces, better defined paths and limited all-season vehicle access. Designating camping areas and removing dispersed camping may concentrate some visitor impacts at times, such as during declared duck hunting seasons. Trialling of temporary and portable toilet facilities at these peak times may demonstrate the need for permanent facilities.



Connecting with nature

Nature-based tourism is a priority for The Shire of Loddon, and Lake Boort has been identified as a key attraction and it offers opportunities for partnerships between Parks Victoria, the Shire and Dja Dja Wurrung people. Potential tourism opportunities in the future may demonstrate additional requirements for facilities or other infrastructure to support growth in cultural tourism experiences at the reserve. Any additional visitor facilities to support tourism growth will need to be planned and established sustainably with community consultation.

Parks Victoria’s policies and guidelines for recreation and tourism ensure that activities are sustainably planned, designed and managed. In particular, licensed tour operators must comply with Adventure Activity Standards (AAS). Parks Victoria also consults and works with a number of peak recreation organisations to provide better and sustainable recreation experiences in the reserves that it manages, including Four Wheel Drive Victoria, Bushwalking Victoria, Mountain Bike Australia (MTBA), Australian Deer Association, Sporting Shooters Association of Australia, and Field & Game Australia.

#### Goals

Opportunities for a range of recreation activities are maintained at Lake Boort.

Recreation activities and visitor facilities are offered without significant impact on natural and cultural values of Lake Boort.

#### Strategies

Maintain a range of recreation activities at Lake Boort as per Table 5.1, with some activities occurring within defined areas only, prioritising the protection of the natural and cultural environment and minimising conflict between activities that would impact on the quality of these experiences.

Minimise the impact of visitors on environmental and cultural values.

Minimise impacts associated with duck hunting, and especially in high use periods such as opening weekend; examples could include portable toilets the designated camping area, and liaise with the Game Management Authority and Field & Game Australia in relation to promoting the RESPECT Campaign.

## 5.2 Information, interpretation and education

Information, interpretation and education play an important role in raising visitor awareness, providing opportunities for visitors to deepen their understanding of a reserve’s values, ways in which they should interact with the place and how it is being managed. The concept of ‘leaving no trace’ is relevant to a sensitive and highly significant landscape like Lake Boort.



Connecting with cultural heritage

Interpretive shelters have been built along a walking track at Lake Boort by local community members, and further information is available in the 'Pillars of Knowledge' interpretive walk in Boort and local publications. A boardwalk links the Little Lake Boort and Lake Boort walking tracks at the northern end, with dramatic interpretive sculptures marking this link point.

There is a loop walking track within the Lake Boort Reserve on the west side of the Channel No. 3, accessed from Ring Road, with part of the track circling the former racing track rehabilitated by the Boort community. Informal guided walks around Lake Boort are occasionally organised by community members. Commercial tour operators run bushwalking, bird watching and Aboriginal ecotours to Lake Boort and several other local wetlands. There is no park guide or brochure or other on-site interpretation.

Development of a cultural, arts and environmental multi-functional facility in Boort has been proposed to provide a base for cultural interpretation, tours and related activities. It has been suggested that it could also serve as a keeping place, holding and ensuring the preservation of significant objects such as artefacts and selected scarred trees removed from the Lake Boort area. A feasibility study undertaken in 2006 examined the options for a stand-alone centre, an extension to an existing facility, or upgrading existing displays. It concluded that a high-quality, smaller-scale display colocated with the Boort Resource and Information Centre was the most feasible in terms of resources at that time (Bramark Consulting 2006).

### Sharing the story of Lake Boort's scarred trees

Surveys and research on Lake Boort's scarred trees and other cultural and natural values would help to highlight opportunities for guided tours and visitor experiences, identify potential sites of interest, support tourism design and interpretation planning, and ensure that cultural values are featured but also protected. Information and interpretation must also be based on sound research and Dja Dja Wurrung cultural knowledge. Dja Dja Wurrung cultural knowledge is intellectual property that must be respected, and public or commercial use must be authorised appropriately. Intangible heritage used for commercial purposes may be subject to Intangible Heritage Agreements under the Aboriginal Heritage Act.

## Goals

Visitors feel welcomed, are well informed about the Lake Boort's cultural and natural values, sites and ecosystems, and how they can engage in the opportunities available to visitors.

Dja Dja Wurrung cultural activities are recognised and supported.

## Strategies

Enhance visitor awareness of the significance and sensitivity of cultural heritage to impacts through signage, information and enforcement. Provide information to manage visitor access and activities to prevent avoidable damage to cultural heritage and landscapes.

Recognise Dja Dja Wurrung as the primary cultural interpreters of the Aboriginal history and heritage of Lake Boort, and incorporate Dja Dja Wurrung language in interpretation.

Working with Dja Dja Wurrung, The Shire of Loddon, and Boort Tourism/Boort Development Committee, enhance the interpretation of the cultural heritage values of Lake Boort through on-site, hard copy and digital information. Prepare a visitor guide for Lake Boort, and provide information about available cultural and nature-based experiences at Lake Boort Reserve on the Parks Victoria webpage.

Explore opportunities to partner with Dja Dja Wurrung, local community members and experts who wish to present cultural tours, guided walks and other interpretation activities at Lake Boort. Facilitate the expansion of the Little Lake Boort guided cultural tours to include Lake Boort.

Explore opportunities to support the aspirations by Dja Dja Wurrung, The Shire of Loddon and others for the concept and feasibility of a keeping place and culture and interpretation centre in Boort township to assist in the recognition, conservation and interpretation of the cultural and natural values of the reserve.

Encourage and support school visits to Lake Boort. Provide pre-visit information and encourage schools to participate in land and water management activities.

## 5.4 Recreation activities

Recreation is an important way for people to engage with a place or reserve. Recreation activities can be broadly grouped into two categories:

- nature-based activities, which have a strong focus on the natural setting or landscape
- adventure-based activities, in which the main attraction is the activity itself.

Many things will influence the experience of recreating at Lake Boort, including the weather, the presence of water, sense of tranquillity, and feeling of safety, conflicts with other uses or users, poor condition of facilities, and a lack of interpretation and way-finding. Given the high cultural and natural values, careful management is required for recreational activities that may pose a potential risk to those values. Potential impacts from recreational activities include:

- bushfire, which is potentially the most significant and catastrophic risk to the scarred trees and a significant risk to regenerating River Red Gums and vegetation communities
- trampling of vegetation, soil compaction, erosion, deep rutting, ground disturbance to cultural sites, and crushing of remnants of fallen scarred trees are significant risks from vehicles going off-track, especially motorbikes or during boat launching, and vehicles can also impact the condition of the main management track during wet conditions
- firewood collection and cutting of fallen trees, which poses a risk to scarred trees and fauna habitat
- damage to scarred trees from shooting.

Recreation activities are permitted in accordance with conditions shown in Table 5.1.

## Walking and cycling

Walking is a popular activity at Lake Boort, particularly on the Tortoise Trail from town (length 9.3 km return) which follows the western and southern edge of the lake, ending at Kinypanial Creek. Interpretative shelters have been created along the route, but some have been damaged by vandals. The walking track around Little Lake Boort links to tracks within Lake Boort Reserve, and there is also a loop walk on the west side of Channel No. 3, accessed from Ring Road. The Little Lake Boort walking track is managed by The Shire of Loddon; it has visitor facilities (toilets, barbecues, parking) on the town side of Little Lake Boort. Walking and cycling may be combined with other nature-based activities such as bird watching, visiting cultural sites, painting and drawing, and other forms of nature study.

Low-key infrastructure and interpretation may need to be developed, building on the current tracks and linking with The Shire of Loddon's Tracks and Trails Plan. Potential improvements for walking include maintenance of the Tortoise Trail and way-finding signage. Creating a short interpretive loop walk may provide an easier opportunity to see and understand the natural and cultural values of Lake Boort, and may encourage people to park and walk rather than using the management vehicle only track.

## Picnicking

There are no picnic or barbecue facilities within Lake Boort Reserve, but there are excellent facilities near Little Lake Boort. Issues associated with picnicking include litter and campfire risk to scarred trees. Picnicking is not permitted in the Conservation Zone.

## Camping

There are concerns about the impacts of dispersed camping in the reserve, particularly on cultural values, including risks from campfires, the cutting and collection of firewood harming habitat and fallen scarred trees, soil erosion and compaction, vegetation damage associated with off-track vehicle use and boat launching, human waste and rubbish, and impacts on cultural sites such as cooking mounds, standing scarred trees and artefact areas. Because of these impacts and risks, camping will be permitted only in designated camping areas on the western side of the reserve (see Map 4).

Large numbers of hunters may camp in the reserve during the opening weekend of declared duck hunting seasons, and they may also camp in larger groups. Although there is accommodation in Boort, duck hunters generally prefer to camp close to the hunting area. There are no existing facilities provided within the reserve. Temporary portable toilet facilities may be trialled during peak periods to assess the need for permanent facilities at these camping areas. There are rubbish removal facilities in the reserve. Visitors are encouraged to dispose of waste responsibly by taking wastes home or disposing of them at refuse stations and other disposal points on their return journey.

## Campfires and firewood collection

Campfires and barbecues are an important cultural and social element of the camping experience for many visitors. Bushfires from escaped campfires and solid fuel barbecues could irrevocably destroy the significant cultural values of Lake Boort's scarred trees, and this risk is particularly high during the summer period. Campfires and solid fuel barbecues are prohibited in the reserve, except in constructed fireplaces in the designated camping area from 1 March to 30 November. Gas stoves and gas barbecues are permitted all year around in designated camping areas. All fires are, however, subject to total fire ban regulations. The collection of firewood and the use of chainsaws is prohibited in the reserve. Firewood and other solid fuels may be brought into the reserve for use in constructed fireplaces in the designated camping areas.



Canoeing is a popular activity when Lake Boort is filled.

### **Boating, canoeing and kayaking**

The use of motorised water craft at Lake Boort is limited to a 5 knot speed limit at all times to minimise noise and wake disturbances that may impact wildlife and the tranquillity of the reserve. Vehicles with boat trailers may launch vessels from the designated boat ramp off the Boort–Pyramid Road. Elsewhere vessels may be launched only by hand or with the assistance of hand trolleys. Vehicles and boat trailers are not permitted to access the lake bed to avoid damage to the lake bed, regenerating vegetation and cultural values. Vegetation regrowth will be managed at the boat ramp to allow unimpeded access. There is limited launching access at the ramp, and water levels will not always be adequate for boating in some seasons. Hunting regulations define the ways in which boats can be used when duck hunting.

### **Dog walking**

Dogs are permitted to be walked on formed roads and tracks in the reserve, but must be on a lead and under control at all times. Gun dogs may accompany hunters throughout the reserve in accordance with hunting regulations, but must be under voice control. Dogs, including gun dogs, are permitted in the designated camping areas, but must be on a lead and under control.

### **Fishing**

Fishing may be undertaken in accordance with fishing regulations. Access to the lake may be restricted during declared duck hunting seasons.

### **Horse riding**

Horses are prohibited in the reserve because of the potential for impacts on natural regeneration, the introduction of weeds and damage to cultural sites. There are more suitable opportunities nearby including Greater Bendigo National Park.

### **Duck hunting**

Duck hunting has been permitted at Lake Boort for many years, and will continue to be permitted during declared duck hunting seasons. The Victorian Government has expressed its intention for Lake Boort to be reserved as a Wildlife Reserve available for hunting (State Game Reserve). There are five other state game reserves close to Boort: Lake Lyndger (332 ha), Lake Yando (90 ha) and Lake Leaghur (82 ha), Woolshed Swamp (472 ha) and Lake Meran (191 ha).



Chestnut Teal, a declared game duck species

Hunting is permitted on all Crown land unless prohibited by specific regulations. As a proposed State Game Reserve, Lake Boort will have a range of restrictions under the Wildlife Act (State Game Reserve) Regulations 2014. Only declared game duck species are permitted to be hunted during the open season. Hunting of non-game ducks, other game species and pest animals is not permitted unless specifically authorised. The Sustainable Hunting Action Plan 2016–2020 (DEDJTR 2016) includes a number of ways to improve the opportunity for hunting across the State that will be relevant to Lake Boort Reserve. This includes reviewing the future status of pest hunting within State Game Reserves. Hunting laws are contained in the Wildlife (Game) Regulations 2012, *Wildlife Act 1975* and *Firearms Act 1996*. Other laws on land management and animal welfare are contained in other legislation (GMA 2017).

There are no official figures on the number of hunters who shoot at specific wetlands during duck seasons. In early 2017 approximately 27 000 game licences were valid for duck hunting in Victoria. The use of Lake Boort for duck hunting depends on the presence of water and food resources for waterbirds. Until 1997 Lake Boort was maintained as a permanent water body, and duck hunting was popular. The change in the water regime and the millennium drought resulted in less duck hunting over several seasons, but natural flooding in 2011 resulted in good duck hunting seasons in 2012, 2013, and in 2017.

The seasonal watering plan proposed by the North Central CMA would provide water to Lake Boort in spring about once every five years, depending on the availability of water. The wetting–drying water regime intended for Lake Boort will increase the productivity of the wetland and benefit game habitat. It is unlikely that the timing of environmental watering would result in sufficient water during the duck hunting season (from mid March to early June) to attract significant numbers of waterbirds, except in years where significant natural flows added to this water level. It is therefore likely that a good duck hunting season would be likely at Lake Boort once or twice during every 4 to 6 years. Alternative wetlands nearby may be preferred by duck hunters during drier years.

During wetter years, the opening weekend of the duck hunting season is likely to attract significant numbers of hunters. The opening weekend is an annual tradition and significant social event for many duck hunters, with hunters coming together for a range of activities other than hunting, such as camping in groups. Some hunters camp for the weekend, while others might visit the lake for a day or part of a day. After the opening weekend there are fewer numbers on weekdays and subsequent weekends, with reinvigorated hunter activity again before the close of the season. Peak duck hunting times occur around sunrise and sunset, although hunting may occur throughout the day.

Access to the lake for activities such as fishing, bird watching, kayaking and guided tours is usually permitted in designated hunting areas between 10 am and 2 hours prior to sunset during the duck season. Management of hunters during the opening weekend and throughout the duck season is a priority to minimise adverse impacts on cultural sites and natural values. For example, hunters will be informed of the potential risks of harming scarred trees when firing on ducks. Leaving shot shells on the lake bed or its margins is unacceptable.

The Game Management Authority’s objectives are to promote sustainability and responsibility in game hunting through enforcement, licensing, education, training, research, and resource sustainability (GMA 2017). The Authority promotes sustainable and responsible game hunting through its ‘Respect – Hunt Responsibly’ message. Opportunities exist to enhance existing partnerships with hunting organisations such as Field & Game Australia and with volunteers to improve game habitat, remove discarded shot shells and promoting responsible hunting.

## New and emerging activities

A range of other sports or activities, such as geocaching, take place in parks and reserves and others may emerge in the future. Provided they can be undertaken without impacting values or create a risk or disturbance to other visitors, they are generally acceptable.

### Goals

Recreation activities are managed to minimise impacts on cultural and environmental features and values, and on other visitors.

Improved way-finding and walking tracks for visitors.

### Strategies

Permit activities in accordance with conditions specified in Table 5.1.

Promote ‘minimal impact’ and ‘respect’ messages to all users of the reserve in partnership with GMA, Field and Game Australia and other groups.

Define and designate camping areas on the western side of the reserve. Trial the use of temporary portable toilets at designated camping areas for significant camping periods such as duck season opening weekend, and assess the need for permanent facilities. Prohibit camping in the rest of the reserve. Monitor the new camping arrangements, and review the outcome after 3 years, and if adverse impacts are still apparent, prohibit camping in the reserve.

Prohibit timber collection for firewood or any other purpose, prohibit the use of chainsaws, and encourage all campers to use portable fuel stoves. Permit campfires and barbecues only within constructed fireplaces in designated camping areas from 1 March to 30 November.

Prohibit loaded firearms and hunting within 100 m of any designated camping area.

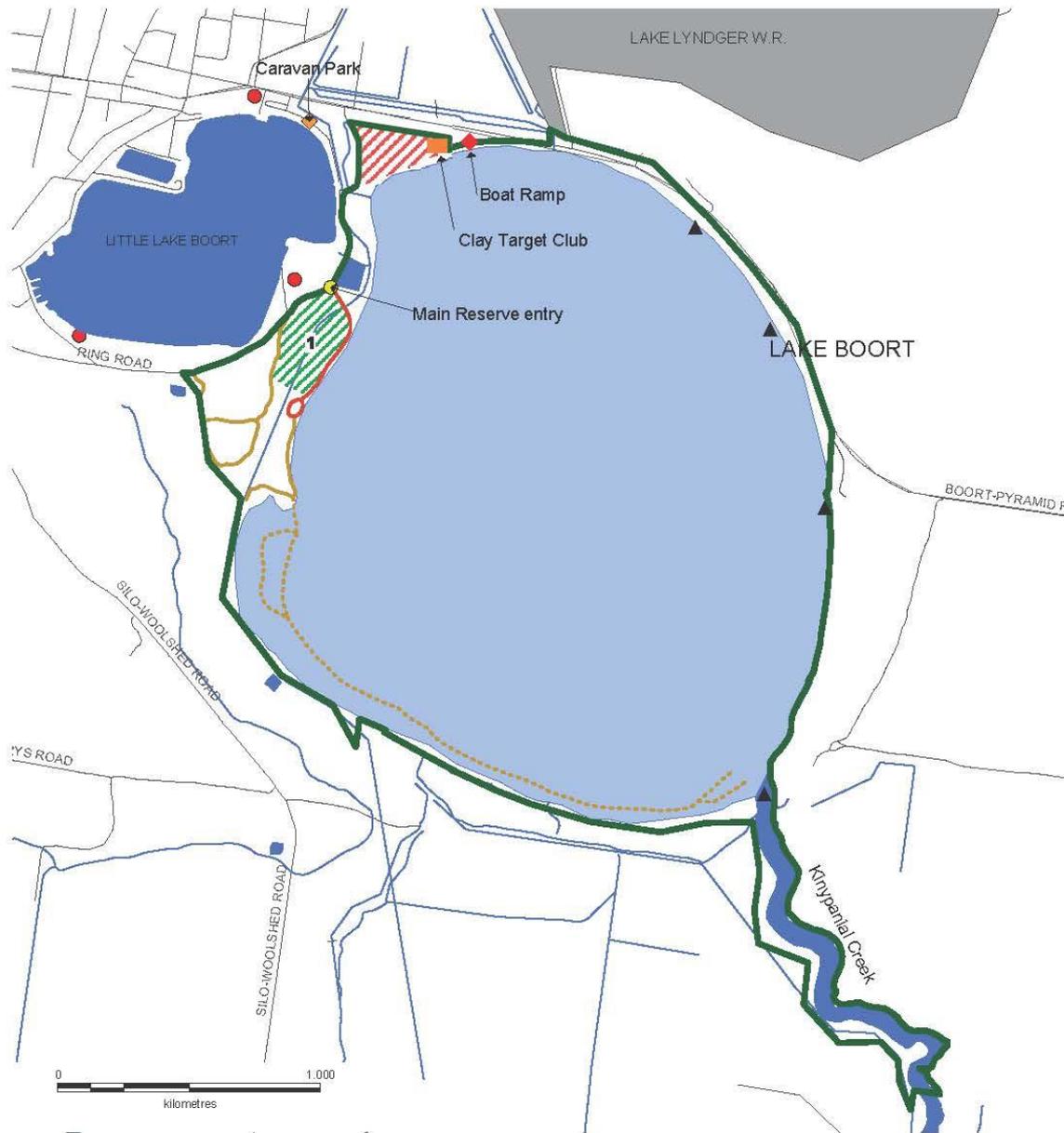
Prohibit picnicking in the Conservation Zone.

Implement the relevant actions of the Sustainable Hunting Action Plan 2016–2020, including the following:

- Improve hunting location knowledge by improving signage at State Game Reserves and other public land where hunting is permitted.
- Explore options to expand hunting in partnership with Traditional Owners, land managers and relevant stakeholders.
- Explore opportunities for game licence holders to hunt pest species at State Game Reserves, subject to appropriate pest control protocols.
- Improve physical access to State Game Reserves.
- Improve State Game Reserve habitat.

Allow canoeing and other boating with a 5 knot speed limit in the reserve, and require all vessels to be launched by hand or hand trolley (except at the designated boat ramp off the Boort–Pyramid Road). Prohibit vehicles from the lake bed except to launch vessels from the designated boat ramp.

Identify opportunities to establish a short loop walking track, accessed from the public vehicle track.



**KEY**

- |  |   |
|--|---|
|  Lake Boort boundary          |  Change to land assignment possible  |
|  Indicative water level (max) |  Designated camping area             |
|  Waterbodies                  |  Lake Boort Clay Target Club         |
|  Watercourse or channel       |  Management Vehicle Only (MVO) track |
|  Private dam                  |  MVO track to be closed              |
|  Road                         |  Public vehicle track                |
|  Other Reserve                |  Facilities: toilets, picnic         |
|  |  Designated boat ramp                |



**Map 4: Access and Visitor Areas**

**Table 5.1: Summary of recreation activities in zones.**

Activity	Conservation & Recreation Zone	Conservation Zone
Canoes, kayaks	Yes	Yes
Boating: powered	Yes	Yes
	Limited to maximum speed of 5 knots	
Launching and retrieving vessels	Yes	Yes
	Vessels may be launched by hand or hand trolleys. Vehicles are not permitted on the lake bed except to launch vessels at the designated boat ramp off Boort–Pyramid Road.	
Camping: designated areas	Yes - Camping permitted in designated areas shown on Map 4. Camping may be subject to bookings, fees and site capacity.	No
Camping: dispersed	No	No
Cycling	Yes - On formed tracks only	No
Dog walking	Yes - Dogs may only be walked on lead, only on formed roads and tracks. Dogs must remain on lead and under control in designated camping areas.	No
Dogs: gun dogs	Yes	Yes
	Gun dogs may be used in accordance with game regulations for duck hunting and must remain under effective control at all times. Gun dogs must remain on lead and under control within designated camping areas.	
Education activities	Yes	Yes
Fires: liquid or gas fuel stoves and BBQ appliances	Yes - Within designated camping areas only.	No
Fires –campfires and solid fuel BBQ appliances	Yes - Permitted from 1st March to 30 November within constructed fireplaces within designated camping area only.	No
Firewood collection	No	No
	Firewood may be brought into the reserve for campfire use within designated camping areas. Use of chainsaws is not permitted.	
Fishing	Yes	Yes
Fossicking and prospecting	No	No
Four-wheel driving	No	No
Geocaching	Yes - Digging or interference with scarred trees not permitted.	No
Guided activities	Yes	Yes
Horse riding	No	No
Duck hunting	Yes	Yes
	Subject to game and firearms licences and conditions, and only during the declared season. Other hunting is not permitted. Loaded firearms and hunting not permitted within 100 m of a designated camping area.	
Organised or competitive events	Yes - Subject to permit	No
Orienteering and regaining	No	No
Picnicking	Yes	No
Swimming	Yes	Yes
Vehicle access and trailbike riding	Yes - Vehicles and registered trailbikes permitted on public vehicle tracks only (see Map 4); not permitted on the lake bed and riverbank.	No
Walking	Yes	Yes
Water-skiing, wake boarding, jet-skiing, windsurfing, kite-surfing	No	No

## 5.5 Vehicle access

A limited number of roads and tracks are open to public vehicles within the reserve. Vehicle access for visitors has been difficult at times during wet conditions, car parking areas are undefined, and there are few way-finding and information signs.

Vehicle access to Lake Boort has caused damage: the Management Vehicles Only track is poorly located and deeply rutted, and illegal off-track driving, including trailbikes on the lake bed, risks damage to regenerating vegetation and cultural sites, including Aboriginal oven mounds. Vehicles are not permitted on the lake bed or river bank, except for launching boats at the designated boat ramp off the Boort–Pyramid Road.

Vehicle access is to be rationalised and improved and damage to values minimised. The existing Management Vehicles Only track within the Conservation Zone will be closed and rehabilitated to protect cultural values and recovery of the lake bed and regenerating vegetation. Strategies to prevent vehicle access following this closure is essential.

A section of the existing MVO track near the main entry to the reserve from Ring Road will be opened to public vehicles to enable access to the proposed designated camping area. The surface of the track will be improved for all-season two-wheel-drive access, a returning loop established and opportunities for parking identified. Use of vehicle and walking tracks by non-motorised vehicles such as bicycles is acceptable.

### Goal

Vehicle access is clearly defined, with improved compliance with regulations.

### Strategies

Maintain a section of the current Management Vehicles Only track to provide public vehicle access to the proposed camping area, improve all-weather condition of this access, create a turning loop at the end of the track and establish opportunities for parking (see Map 4 Access and Visitor Areas).

Close and rehabilitate the section of the Management Vehicles Only track and informal side tracks which impact the lake bed and cultural sites, and prohibit vehicles within the Conservation Zone, except emergency vehicles (see Map 4).

Work with user groups and volunteers to support management and maintenance of the vehicle track network.

## 5.6 Tourism and commercial visitor services

### Tourism benefits

The Shire of Loddon recognises that nature-based tourism has economic benefits for Boort, and Lake Boort and is regarded as a key asset because of its outstanding natural and cultural features and the opportunities for guided tours focusing on Indigenous culture and places, particularly because a Dja Dja Wurrung tour operator is already running tours at Little Lake Boort. The Shire of Loddon's tourism strategies (Shire of Loddon 2011a,b,c) recognise the Boort wetlands as areas with a high and as yet unrealised potential for nature tourism, with opportunities for establishing small nature tourism businesses. Duck hunting is also regarded as a generator of economic activity during the hunting season, and as a form of tourism. The overall value of tourism to the Boort economy has not been evaluated.

### Building nature-based and cultural tourism

Building nature-based tourism opportunities is a priority for The Shire of Loddon and this is reflected in the Shire's Municipal Strategic Statement, Council Plan 2013-2017, Tourism Strategy and Nature Tourism Plan. Lake Boort and other lakes and wetlands in the Boort area are seen as having the potential for nature-based tourism and to support small nature tourism businesses (The Shire of Loddon 2011b:6, 8). While visitor numbers for Boort are relatively low, the caravan park at Lake Boort is generally full from November to Easter, with visitors enjoying the water-based activities in Little Lake Boort.

Currently Bendigo Regional Tourism is preparing a Destination Management Plan in collaboration with surrounding shires, including The Shire of Loddon. The primary strength of The Shire of Loddon is seen to be nature-based tourism with emerging trends including history and heritage, as well as food and dining. The focus of this plan is destination development, and The Shire of Loddon has identified its priorities as building its accommodation base, building nature-based tourism (including Indigenous tourism) and leveraging agriculture through farm-gate opportunities.

Visitor numbers to Lake Boort have not been recorded. Licensed tour operators offer educational tours for schools, and bushwalking and bird watching tours to Lake Boort and some other nearby wetlands, and school groups visit Lake Boort to look at Aboriginal sites. Duck hunting also brings visitors into the region from March to June during declared duck seasons. Attractions and recreation activities that draw visitors to an area can generate economic opportunities for Boort and other nearby towns.

To encourage visitors to stay longer, The Shire of Loddon's tourism strategy proposes to increase the number of self-contained cabins in caravan parks owned by the shire, including in Boort, to encourage the development of nature-based tourism opportunities such as bushwalking, cycling, canoeing, bird watching and fishing, and to encourage tourism initiatives related to cultural heritage, Aboriginal culture and nature-based tourism.

### **Aspirations for Lake Boort Aboriginal cultural tourism**

The Lake Boort cultural landscape and its scarred trees are recognised as one of the key Aboriginal cultural heritage places in Australia. The unique Aboriginal cultural heritage of the Lake Boort region has largely remained intact, with thriving Aboriginal businesses working in and around the lake, providing opportunities for locals and visitors to engage and appreciate this extraordinary treasure. The place is known and appreciated nationally for its exceptional Aboriginal cultural heritage values and through the Dja Dja Wurrung People who represent these values through their living culture.

Cultural tourism opportunities must be based on equitable partnerships with Traditional Owners who must be beneficiaries of commercial opportunities based on their cultural heritage. The Shire of Loddon has expressed an ambitious intention to work in partnership with Traditional Owners to establish a medium to long term plan to unveil a major aboriginal cultural trail weaving its way from Melbourne, through significant sites in Central Victoria to the north and leveraging potential National Heritage Listing for Lake Boort.

Existing pathways for cultural tourism funding and development in Victoria have been established in other contexts, such as the Gunditjmarra master planning and tourism implementation for the Budj Bim National Heritage Landscape funded with support from Regional Development Victoria. This represents a potential pathway for Dja Dja Wurrung, the Shire of Loddon and their tourism partners. The scope, scale and feasibility of a cultural tourism vision for Lake Boort is a long-term aspiration that must be tested.

Any associated access and facilities at Lake Boort to support cultural tourism experiences must be carefully planned to avoid impacts to cultural heritage, natural values and other uses. Parks Victoria as the land manager for Lake Boort is accountable for planning, construction and maintenance of visitor facilities and associated community consultation. Without future, external tourism investment to support the establishment of such facilities, Lake Boort reserve would otherwise remain a basic visitor site with limited facilities and access.



Cultural tour by kayak

In addition, the Shire has suggested an Indigenous and wetlands brochure for the Boort area (The Shire of Loddon 2013a: 22). At present there are no visitor facilities at Lake Boort; the nearest toilets are at Little Lake Boort, west of the caravan park. A walking trail at Lake Boort was developed by the local community and includes interpretive signboards. A boardwalk has been developed at Little Lake Boort and a series of interpretation pillars (Pillars of Our Past) throughout the town serve to interpret Boort’s stories, including its Aboriginal past and present. The community plan for Boort focuses on Big Lake (Lake Boort), particularly in relation to the development of tourism opportunities and an Aboriginal Centre to ensure that the ‘very significant sites on Big Lake’ are preserved (Boort Community Planning Team 2003).

#### Goals

Sustainable tourism builds on the cultural and natural values of Lake Boort.

Cultural tourism initiatives provide business and employment opportunities for Dja Dja Wurrung.

#### Strategies

Encourage cultural tourism initiatives that enhance community appreciation of Country and heritage values, places and landscapes

Encourage the development and presentation of cultural and nature-based guided tours at Lake Boort by licensed tour operators.

Encourage the aspirations of Dja Dja Wurrung in the development of cultural tourism products (such as guided tours) designed to provide employment and economic development opportunities.

Promote Lake Boort, linked to Little Lake Boort and Boort township, as a place offering an Indigenous cultural experience, through the Parks Victoria website.

Work with Dja Dja Wurrung, The Shire of Loddon, regional tourism, tour operators and other land managers to define and deliver consistent messages about the significance of Lake Boort.

Explore opportunities to support nature-based and cultural tourism development aspirations by Dja Dja Wurrung, The Shire of Loddon and others, and investigate associated opportunities for tourism facilities and services (such as commercial eco-cabin accommodation and a boardwalk) in consultation with the community while ensuring natural and cultural values are protected.

## 5.7 Risks and safety

Parks Victoria has a responsibility as the land manager to identify, mitigate and alert visitors to potential hazards and risks in the reserve. Parks Victoria's Risk Management Guidelines direct both risk assessment and remedial action.

Parks Victoria is not the lead agency for most emergency response situations, but provides a range of support roles. Parks Victoria's Goldfields Park Area Emergency Management Plan applies to the reserve. There are a variety of risks present in any natural environment, including falling tree limbs, venomous animals, heat and cold, and water may be a drowning hazard. Bushfire may be a significant hazard in high fire danger periods. Visitors may create hazards for other visitors through their behaviour, use of vehicles, use of firearms and in other ways. Visitors need to be aware of hazards and risks to help them ensure they have a safe visit to the reserve. Safety messages are presented to visitors through signs and other types of information. Ranger patrols are infrequent at Lake Bort. Compliance with regulations associated with hunting is required.

### Goal

Visitor, volunteer and staff safety is a key consideration in all aspects of management

### Strategies

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Work cooperatively with the responsible agencies in emergency response.

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Provide updates to tour operators and community groups that undertake activities on the reserve.

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Audit identified risks and hazards within the reserve regularly in accordance with Parks Victoria's operational guidelines and emergency management plan for the reserve.

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Promote visitor awareness of potential risks in the reserve, including risks associated with recreational activities, through signs and visitor information.

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Undertake additional ranger patrols, coordinating with other agencies, during periods of increased risk (based on risk assessments).

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Lake Boort is being restored as a temporary floodplain lake



Water management infrastructure at Channel No. 3

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## 6 Authorised uses

Land uses, infrastructure and other authorised activities at Lake Boort will contribute to the protection of the cultural landscape and its values.

### 6.1 Reserve boundaries and adjacent uses

The reserve is bounded on the north by the Boort–Pyramid Road (managed by VicRoads), on the east and south by freehold land used for agriculture, and on the north-west by the Ring Road and Little Lake Boort (managed by the Little Lake Boort Committee of Management). A section of Kinypanial Creek (approximately 1500 metres) is within the Lake Boort reserve and is bounded on each side by freehold properties. The primary adjoining land uses are grazing and cropping.

Concerns have been raised by adjacent public land managers about the need to clarify boundaries, land assignments, and possible mapping errors in the area between Lake Boort Reserve and Little Lake Boort Reserve, the area of the Boort Clay Target Club, Chinese Garden, and along the Boort–Pyramid Road. Proposed changes to the land assignment for these areas of the reserve are subject to agreement by adjacent land managers (see map 3 and map 4). DELWP is the accountable agency for defining land assignments.

The Shire of Loddon Planning Scheme applies to the area. Lake Boort Reserve is zoned Public Conservation and Resource Zone (PCRZ) and the predominant zoning of neighbouring land is Farming Zone (FZ). The irrigation infrastructure adjacent to Lake Boort (Channel No. 3) appears to be within the Lake Boort – Little Lake Boort PCRZ zone, rather than in a Public Use Zone.

The purposes of the Public Conservation and Resource Zone (PCRZ) are to protect and conserve the natural environment and natural processes for their historic, scientific, landscape, habitat or cultural values, to provide facilities which assist in public education and interpretation of the natural environment with minimal degradation of the natural environment or natural processes, and to provide for appropriate resource-based uses.

There are a number of overlays in the planning scheme that apply to Lake Boort:

- **Environmental Significance Overlay (ES01)** applies to Lake Boort. This overlay recognises areas where the development of land may be affected by environmental constraints and values.
- **Vegetation Protection Overlay (VP01)** is also applied to Lake Boort. This overlay is designed to protect significant pockets of remnant vegetation, recognising that the remaining areas of native vegetation in The Shire of Loddon are significant for habitat, biodiversity and the land management benefits they provide, such as erosion control and watertable regulation.
- A **Floodway Overlay** covers Lake Boort and Kinypanial Creek. This overlay, along with the Land Subject to Inundation Overlay illustrates the way in which water flows across this landscape.

The historic features within the reserve are not recognised in the Heritage Overlay in the planning scheme, but the Lake Boort Dam associated with the Honorary Correspondent Supply Depot at Lake Boort Station is on the Victorian Heritage Inventory (VHI Ref 7581), and its age means that it has automatic legal protection under the *Heritage Act 1995*. All Aboriginal heritage whether recorded or not is protected under the Aboriginal Heritage Act.

The Shire of Loddon’s Council Plan expresses the desire to build tourism as an economic activity: ‘Our economy is far more diversified. We are bringing more tourists into our network for agri-tourism and nature based holiday experiences or to hear tales of our rich heritage’ (Shire of Loddon 2013: 14).

The Council Plan also recognises key issues such as climate variability and volatility, noting the floods in 2011 and increased fire risk, and the challenges of managing all water resources carefully.

Neighbouring land uses and activities could affect the values and management of the reserve, and equally the reserve could affect neighbours. Key issues include:

- management of pest plants and weeds
- lack of clarity on the boundary, resulting in incorrectly aligned fences
- construction of private dams on the creek or in the reserve without license
- construction of levees and flood mitigation infrastructure
- management of fuel loads and fire breaks
- domestic animals entering the reserve from adjacent areas
- blocking of water channels
- spillage of chemicals, oils or other pollutants.

<b>Goal</b>
Lake Boort’s cultural landscape and setting is protected through cooperative action.
<b>Strategies</b>
Work collaboratively and cooperatively with neighbouring landowners to address issues on or near the boundary of the reserve. Ensure local organisations and neighbouring landowners have current contact details for the responsible Parks Victoria officers to enable reporting of any concerns.
Work cooperatively with neighbouring landowners to reduce pest plant and animal populations in and adjoining the reserve.
Work cooperatively with neighbouring landowners to address the management of fire risks.
Liaise with DELWP and adjacent public land managers to clarify and resolve appropriate boundary alignments and land assignments.

## 6.2 Water supply and utility infrastructure

All water infrastructure and associated management activities within the reserve are subject to licensing requirements. There are two outfall structures on the Goulburn–Murray Water channel which borders the west side of the reserve. One delivers water from the Channel No. 3 and the other from the Little Lake Boort Flushing Channel. Leakage of water from these structures has been remedied, but there is still a problem with weeds in these locations.

The sill level of the overflow structure from Lake Boort to Lake Lyndger to the north was adjusted a few years ago, and new culverts were installed under the Boort–Pyramid Road to re-establish a more natural overflow pattern and assist with floodwater movement. There is also an outlet structure nearby that is currently closed. Concerns have been raised that as River Red Gum seedling regeneration advances, there may be an impact to water flows immediately adjacent to the inlet and outlet structures. Vegetation removal to maintain the effective operation of the infrastructure and water flows may become required and would be subject to licensing, cultural heritage compliance and other considerations.

The Shire of Loddon is coordinating the development of a proposed flood mitigation infrastructure design for the Boort township. A levee bank proposed to be built through the Chinaman’s Garden area in the Lake Boort Reserve could affect the hydrology of Lake Boort, as well as the siting of the proposed designated camping area and the reserve’s values. The proposal, including alternative options that would not affect Lake Boort Reserve, need to be carefully considered in consultation with stakeholders.

## Goal

Lake Boort is supplied with environmental water through the best available means.

## Strategies

Liaise with Goulburn–Murray Water in relation to the maintenance and management of the two outfall structures, including responsibility for remediation of any adverse impacts such as weeds.

Support the environmental watering of Lake Boort and the preferred methods of water delivery given the natural and cultural values of Lake Boort.

Liaise with Goulburn–Murray Water to ensure that any future operational changes to irrigation infrastructure will not limit future opportunities to deliver environmental water to Lake Boort to support the cultural and natural values of the reserve.

Liaise with the Shire of Loddon, Goulburn–Murray Water, North Central CMA, Dja Dja Wurrung and other stakeholders in considering the shire’s proposals for establishing flood mitigation infrastructure within Lake Boort Reserve.

Liaise with Goulburn–Murray Water, DELWP and North Central CMA regarding requirements for future vegetation management adjacent to inlets and outlets at Lake Boort.

### 6.3 Licensed and occasional uses (within the reserve)

There are a small number of public and private occupancies within the reserve, and some public services require a range of infrastructure to be located there.

Uses and their management are subject to licensing and conditions to protect the area’s values.

#### Private dams

There are four private dams within the reserve, three on the north-east side of the reserve, and one on Kinypanial Creek, all served by a Goulburn–Murray Water channel which provides the adjoining landowners with a single annual fill for domestic and stock purposes. The channel apparently cuts through several Aboriginal heritage sites, and maintenance of the channel by Goulburn–Murray Water risks further damage to those sites.

The dam on Kinypanial Creek obstructs water flows in the creek and needs to be decommissioned. Use of an open channel to deliver this water results in significant water loss, and its replacement by a pipeline has been suggested. This would also overcome the risk of further damage to the Aboriginal sites.

#### Clay target shooting

The Boort Clay Target Shooting Club operates from an area on the north side of the reserve. The majority of the clubs facilities lay outside the reserve. Clays are thrown from the club into the reserve with fragments and shot falling onto the wetland. Noise from shooting may disturb other visitors and there may also be a risk that visitors within the reserve could roam within the range of fire. Clay fragments litter the lakebed and the use of lead shot is a potentially threatening process (DSE 2003). Waterfowl can ingest lead shot resting on the lake bed, resulting in high blood lead levels and possible death. Animals that prey on waterfowl, particularly eagles and other birds of prey, are also at risk. Lead shot is already prohibited for duck hunting and many clay target clubs across Victoria no longer allow the use of lead shot.

#### Stock grazing

Stock grazing is prohibited within the reserve. The southern boundary of the reserve has been surveyed and fenced in consultation with the adjoining landowners. Stock trespass does not appear to be a current management issue or risk. Should it occur, Parks Victoria would take action to enforce the regulations.



Firewood collection is not permitted in Lake Boort Reserve

## Apiculture

The reserve is not presently used for apiculture. The Victorian Government's Apiculture (beekeeping) on public land policy (DEPI 2013) describes how apiculture is managed on public land. Feral honeybees can pose a threat to native fauna through competition for nesting hollows. Threats to native flora and fauna arising from the use by the feral honeybee of nesting hollows and floral resources is listed as a threatening process under the Flora and Fauna Guarantee Act.

## Firewood collection

Deforestation of River Red Gum across the large area of the north-eastern part of the wetland dates from the Second World War, when 250 000 tonnes of timber was cut and sent to Melbourne (Haw & Munro 2010, cited in NCCMA 2013: 18). Firewood collection in the reserve is not permitted. There is recent and continuing evidence of the cutting of fallen timber, presumably for firewood, possibly for use by campers or picnickers in the reserve. This poses a serious risk to the scarred trees, some of which have fallen, and all of which are protected under the provisions of the Aboriginal Heritage Act. There are significant penalties for damaging Aboriginal heritage. Fallen timber is also important habitat for fauna such as reptiles and invertebrates, and its loss affects natural heritage values.

The collection of timber is to be prohibited within the reserve. Authorisation Orders associated with the Dja Dja Wurrung Recognition and Settlement Agreement 2013 enable Dja Dja Wurrung peoples to take and use natural resources. No other forms of forestry or timber harvesting are permitted within the reserve.

The reserve may also be subject to a range of other infrequent uses, such as education, research, events and commercial filming. Requests for occasional or one-off uses will be considered by Parks Victoria on their merits and in relation to the overall vision, strategic directions and goals established in the Plan.

Traditional Aboriginal cultural activities, education and awareness program may be initiated from time to time by Dja Dja Wurrung. It is anticipated that arrangements for these uses and activities may be addressed through the proposed Aboriginal Cultural Heritage Land Management Agreement noted in Chapter 3.

## Goal

Authorised uses of the reserve are managed to minimise the effect on reserve values, significant features and visitors.

### Strategies

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Review all uses and occupancies and ensure an appropriate license or permit is or has been issued and maintained.

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Manage all uses and occupancies in accordance with the appropriate policy, procedures and legislation. Ensure the conditions on uses protect the natural and cultural values of Lake Bort.

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Maintain liaison with public infrastructure and utility providers to ensure that reserve values are protected, and that the potential impacts associated with the infrastructure and its maintenance are minimised.

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Prohibit the gathering of timber within the reserve. Display signs to inform visitors and campers about scarred trees and the restrictions on campfires and fuel stoves.

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In consultation with GMW and adjoining landowners, decommission the private dams within the reserve by 2020 and mitigate the damage caused to Aboriginal sites within the reserve through channel maintenance.

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Maintain authorised occasional uses in accordance with relevant legislation and to minimise any impacts on reserve values.

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Manage commercial filming and photography in accordance with Parks Victoria's operational policies.

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Monitor to ensure permit conditions are met.

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Through a Cultural Heritage Agreement, establish protocols for Dja Dja Wurrung occasional uses and activities.

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Prohibit the use of lead shot from November 2018.

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Liaise with The Shire of Loddon and Bort Clay Target Club regarding potential relocation of the club, the clean-up of clay target fragments and to ensure adequate safety measures are in place to ensure visitors safety.

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Black-box vegetation community

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## 7 Realising this Plan

The goals and strategies for Lake Boort will be achieved through effective partnerships and agreements.

### 7.1 Managing in partnerships

The Lake Boort Management Plan is a guide to future management by Parks Victoria, in partnership with other key agencies and stakeholders. Implementing this Plan will involve a combination of routine management actions combined with specific programs and projects designed to tackle the management needs of this special cultural landscape. The strategies and goals defined in the previous chapters will direct management action. The Plan is long-term, and will not be achieved quickly, but each step taken will be towards the goals outlined here. Priorities for activities outside routine maintenance will be dependent on funding and partnerships. An important role for Parks Victoria will be to establish and facilitate partnerships to deliver this Plan. In preparing this plan, Parks Victoria has noted the strong commitments to the management of Lake Boort by Dja Dja Wurrung (section 7.2), the Boort community (section 7.3), the Shire of Loddon and the North Central CMA.

The government agencies (Commonwealth and State) with responsibilities that relate to Lake Boort are listed in Table 7.1. Other organisations with a key role in the delivery of this Plan include the Shire of Loddon, DDWCAC, regional tourism organisations, and key Boort community groups (e.g. Boort Development Committee, Boort Tourism, Boort Historical Society, Boort Resource and Information Centre, and others).

#### Goals

Effective working partnerships in managing Lake Boort are strong and activated.

#### Strategies

Establish and maintain effective relationships with all key partners to help implement the vision, goals and strategies in the Plan (Table 4).

Hold a forum with Dja Dja Wurrung and other key partners to review progress and coordinate priorities.

Facilitate the development of partnerships that can deliver priority strategies.

#### Goal

Parks Victoria, partner agencies and neighbouring landowners and managers work together to ensure land management programs achieve shared goals and mutual benefits.

#### Strategies

Support North Central CMA, DELWP, and Dja Dja Wurrung in the development of a Cultural Heritage Management Plan that considers the environmental watering and the potential activities in this Plan to ensure that cultural heritage impacts and benefits are recognised and mitigated.

Working in partnership with key agencies, local organisations and adjoining landowners and managers, address issues such as pest plants and weeds, vandalism, fire risk. Seek participation and support from other agencies as needed to access expertise and funding to support this work.

Apply and communicate a Good Neighbour policy to management of issues on or near the boundary of the reserve.

**Table 7.1: Key organisations.**

Organisation	Role
Parks Victoria	Land manager, Lake Boort.
Department of the Environment, Land Water and Planning	DELWP advises on the establishment of parks and reserves and provides policy advice and strategic direction for their management, including flora and fauna values, threatening processes, statutory planning, regulatory frameworks including regulations, and water and fire management.
Dja Dja Wurrung Clans Aboriginal Corporation	The representative entity for the Dja Dja Wurrung People as a partner with the State of Victoria under the Recognition and Settlement Agreement 2013 and Traditional Owner Settlement Act. Appointed Registered Aboriginal Party under the Aboriginal Heritage Act.
Commonwealth Department of the Environment	Responsible for the Environment Protection and Biodiversity Conservation Act.
Commonwealth Environmental Water Holder	Management of Commonwealth environmental water entitlements.
North Central Catchment Management Authority	Coordination and monitoring of natural resource management programs in north central Victoria. Management of waterways including planning, delivery and monitoring of environmental watering, including to Lake Boort. Regional environmental water manager.
Shire of Loddon Council	Local council responsible for regulation of local development through planning schemes and on-ground works.
Goulburn–Murray Water	Water Authority responsible for the management of water-related services in the irrigation area of northern Victoria. Responsible for making seasonal allocations in the region. Delivers water for all users including waterway managers.
Murray–Darling Basin Authority	Responsible for preparing, implementing and enforcing the Murray-Darling Basin Plan. Responsible for planning integrated management of water resources across the Murray-Darling Basin.
Victorian Environmental Water Holder	Manages and coordinates Victorian environmental water entitlements into the future.
Game Management Authority	A statutory authority responsible for the regulation of game hunting in Victoria. It delivers programs to improve and promote responsible hunting in Victoria.

(Source: NCCMA 2013: 6)

## 7.2 Managing with Dja Dja Wurrung

This Plan offers new ways in which Parks Victoria, Dja Dja Wurrung Traditional Owners and DELWP can explore working together, engaging with other agencies and the Boort community to benefit the management of the reserve, and support the implement the Plan’s goals and strategies.

### Goal

Traditional Owners caring for their Country is an integral part of the management of Lake Boort.

### Strategies

Bring Dja Dja Wurrung knowledge and cultural obligations into cultural management activities at Lake Boort, including the handing on of culture, knowledge and traditions.

Support employment opportunities for Dja Dja Wurrung in areas such as cultural tourism, land management, visitor services and interpretation.

## 7.3 Engaging local and wider communities

Many people have strong connections to Lake Boort. These connections arise from people’s experience and knowledge of this place, and for many Lake Boort contributes to a personal, family or community sense of identity. Some people and groups have long histories of connection, perhaps linked to past uses and activities, while for others their links are through recreation activities, study or research. For Dja Dja Wurrung, Lake Boort is part of Country, and for those who live in Boort the Big Lake (Lake Boort) is part of home.

Community engagement during the development of the Plan indicated strong support for a Friends group, the involvement of Traditional Owners, recreation and conservation groups, schools, history and heritage groups, and partnering with local businesses.

Volunteers are welcomed in all Victorian parks. At present Lake Boort Reserve does not have a formal Friends group, but the Boort community through local organisations has actively contributed to its management. For example, the Boort community has rehabilitated the old racing track in the western part of the reserve, developing a walking track and planting the site with indigenous plants.

### Goal

People’s connections to place and Country are recognised through active engagement in management.

### Strategies

Recognise and promote communities’ connections to Lake Boort and its stories through specific community-based projects such as oral history, story-telling, walks, writing and art, and recording information about specific places.

Develop opportunities for local communities, neighbours and community groups with living connections and extensive knowledge of Lake Boort to work together and with park staff, and use their knowledge to improve land and water management.

Facilitate volunteer involvement in management of Lake Boort through:

- a Friends or similar group
- Landcare
- recreation groups such as hunting organisations.

## Goal

Local, regional and state-wide communities are aware of the outstanding cultural and natural values of Lake Boort and the processes of wetland revival and sustainability into the future.

## Strategies

Raise the level of community awareness of Lake Boort as a cultural landscape and bioregionally significant wetland through an open day designed to provide information, share knowledge, report on issues and update on management priorities.

Encourage links with local and regional schools to increase their awareness of and involvement in management and learning activities related to Lake Boort and other wetlands (see also 6.1).

Working in partnership with the Game Management Authority, the Field & Game Australia and the Traditional Owners to communicate the cultural heritage values of Lake Boort (and other regional wetlands) to duck hunters who hunt here, and to regional duck hunting clubs.

Work in partnership with recreation and conservation organisations including Field and Game Association, BirdLife Australia, Bushwalking Victoria and others to promote minimal impact codes and codes of behaviour for users of Lake Boort reserve.

## 7.4 Research and monitoring

Research and monitoring are essential components of adaptive management, providing objective evidence to support decision-making. Research can include work on ecology, cultural heritage, recreation and community perceptions, and can include agency and university-based research, as well as opportunities for ‘citizen science’. Different forms of knowledge — science and traditional knowledge, for example — can be combined to bring new understandings and adapt management.

Earlier studies on the cultural heritage of Lake Boort have recognised that it offers some special research opportunities, particularly on the cultural scars on dead trees, as many will be ‘as made’ with little bark over-growth. The ongoing deterioration of dead scarred trees on the lake bed makes this task urgent. Equally important is the recording of all the cultural features – scarred trees, mounds, camp-sites, stone tool working areas. Table 7.2 lists the major knowledge gaps that need to be addressed.

**Table 7.2: Key research gaps.**

Cultural heritage: landscape, sites and values
Recording of cultural features, particularly all cultural scars given the continuation of tree decline.
Identification, mapping and analysis of camp sites, cooking ovens, stone tool working sites and scarred trees to understand past Aboriginal land use patterns.
Investigate trialling and monitoring in situ measures (including materials conservation options) for conserving selected scarred trees.
Assess the significance of Lake Boort in relation to the national heritage values.
Ecosystems, communities and species
Presence, abundance and status of flora and fauna species at Lake Boort, and the changes following environmental watering.
Nature and extent of introduced plants and the impact of environmental watering.
Investigate the potential to increase landscape connectivity of Lake Boort as a part of the wider wetland system recognising that this whole landscape contains cultural and natural values and features of importance.
Water and wetlands
Flow and flooding regime for achieving Dja Dja Wurrung cultural watering and the restoration of Lake Boort as a productive natural wetland: such research can be built through monitoring outcomes of the North Central CMA’s environmental watering.

Ecologically, the reintroduction of an environmental watering regime offers the opportunity for research into the success factors involved in the revival of the wetland in relation to the available water and seasonal conditions (etc.), offering opportunities for comparisons with other nearby wetlands. The North Central CMA has established vegetation monitoring sites within the reserve and are undertaking fauna surveys as a baseline to measure the effectiveness of environmental watering. Like many activities, monitoring will contribute significantly to adaptive management.

A range of other research opportunities can be expected to arise throughout the life of the Plan. Parks Victoria has a collaborative Research Partners Program with leading universities and research institutions.

**Goal**

Improved understanding of cultural features and ecological processes, achieved through research and monitoring, contributes to management of the reserve and its values.

**Strategies**

Support research and monitoring by partner agencies to improve management effectiveness and build the knowledge base (see Table 5).

Encourage collaborative biodiversity surveys, where possible combining citizen science and traditional owner knowledge and recognising both the scientific and cultural value of species and communities.

In partnership Dja Dja Wurrung (DDWCAC) and research partners develop a research strategy designed to progressively build an understanding of Aboriginal use of the Lake Boort landscape (see Table 6).

Work with Research Partners in coordinating, applying and promoting research to address management questions and knowledge gaps (see Table 6).

In partnership with Dja Dja Wurrung, encourage Aboriginal cultural heritage training programs to use Lake Boort, thereby contributing to research and recording.

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## Appendix 1: Submissions on the draft plan

Twenty-two submissions on the draft plan were received from individuals and organisations, including one marked as confidential.

Name	Organisation
Robin Crocker	Robin Crocker and Associates
Laurie Levy	Coalition Against Duck Shooting
Rod Poxon	Boort Development Committee
Denis Hannigan	Boort Clay Target Club
David Weaver	—
Gavin Parkes	DELWP
Barry Kennedy	Little Lake Boort Committee of Management
Amanda Johnson	DELWP
Ian McLauchlan	Shire of Loddon
Jida Gulpilil	—
Graeme Lanyon	—
Sharon Wells	Pan & Bacchanalia
Robert Nicholls & Garry Murray	Yung Balug Clan
Damien Cook	—
Paul Haw	—
Brad Drust	North Central CMA
Brad Miles	—
Peter Walsh	—
David McNabb	Field & Game Australia
Phil Pinyon	Shire of Loddon
Mark Toomey	Victorian Environmental Water Holder
Geoffrey Swanton	Transport Safety Victoria
Confidential	Confidential



Prints of waterfowl and wildlife in the mud at Lake Boort



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