



GUNDITJ MIRRORING

BUDJ BIM INDIGENOUS PROTECTED AREA

PLAN OF MANAGEMENT 2022–2027

ACKNOWLEDGEMENTS

Community members, staff and office bearers of the Gunditj Mirring Traditional Owners Aboriginal Corporation have contributed to this plan. GMTOAC would also like to acknowledge the significant contributions made by the Budj Bim Rangers and Winda-Mara Aboriginal Corporation.

Additional contributors: Louise Thomas (plan compilation).

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Contact

Gunditj Mirring Traditional Owners Aboriginal Corporation
Keeping Place/Business Centre:
248 Condah Estate Road
Breakaway Creek, Victoria, 3303

Postal Address

PO Box 216, Heywood, Victoria, 3304

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GLOSSARY¹

Budj Bim	1. 'High head' – the head of a Gunditjmara Creation Ancestor. 2. Place name for 'Budj Bim (formerly Mount Eccles) volcano'	Kurtonitj	Means 'crossing place'
Gunditjmara	'Gunditj' means 'belonging to' and 'mara' is the word for 'people'	Ngootyoong Gunditj Ngootyoong Mara	Healthy Country Healthy People
Gunditj Mirring	Name used to refer to Gunditjmara Traditional Owners. Gunditj means 'belonging to' and Mirring means 'Country'	Palawarra	Fitzroy River
Killara	Darlot Creek. Literal meaning 'always there' (i.e., there is always water in Killara to sustain kooyang and other aquatic resources)	Puunyaart	Grass (<i>Carex</i> spp.) gathered and used to weave gnarraban (baskets used to capture eels)
Kooyang	Short-finned eel (<i>Anguilla australis</i>)	Tae Rak	Lake Condah
		Tungatt Mirring	Stone Country, centred on volcanoes and lava flows, including Budj Bim volcano and the Budj Bim lava flow
		Yereoc	Modified or constructed water channel, or a wood structure built to form a weir (or barrier) across a channel or narrow waterway

ACRONYMS

ACHRIS	Aboriginal Cultural Heritage Register and Information System	GPS	Global Positioning System
AWA	Aboriginal Waterways Assessment	IPA	Indigenous Protected Area
CFA	Country Fire Authority	IUCN	International Union for Conservation of Nature
CHMP	Cultural Heritage Management Plan	LiDAR	Light Detection and Ranging
CIMS	<i>Cultural Information Management System</i>	MERI	Monitoring, Evaluation, Reporting and Improvement framework
CMA	Catchment Management Authority	RAP	Registered Aboriginal Party
DELWP	Department of Environment, Land, Water and Planning	SVP	Southern Volcanic Plain
EPBC	Environment Protection and Biodiversity Conservation Act	UNESCO	United Nations Educational, Scientific and Cultural Organization
EVC	Ecological Vegetation Classes	WSPA	Water Supply Protection Area
GMTOAC	Gunditj Mirring Traditional Owners Aboriginal Corporation	WH	World Heritage





FOREWORD

This plan recognises Gunditjmarā's continued commitment to care for country and outlines how we manage the IPA and work with the wider community to protect the cultural and natural values of the Budj Bim Cultural Landscape.

It recognises our customary management and governance through a range of networks and frameworks including World Heritage, National Heritage, our legal and cultural obligations, and best practice, both cultural and contemporary. It outlines the long-term outcomes we seek for ongoing protection and management.

This plan is a continuation from the 2010 Lake Condah IPA plan and subsequent 2015 Budj Bim IPA plan, and encompasses management for the properties of Lake Condah, Allambie, Vaughans, Muldoons, Peters, Lake Gorrie, Kurtonitj and Bryants. The Peters, Lake Gorrie and Bryants properties will be formally incorporated into this plan in agreement with the Commonwealth Government through this iteration of the plan.

An important development since the 2015 Budj Bim IPA plan is the inscription of the Budj Bim Cultural Landscape on the World Heritage list in July 2019, and this plan of management now includes the World Heritage Indicators. It also includes a monitoring, evaluation, reporting and improvement (MERI) process aligning our monitoring and reporting on environmental and cultural heritage management for both IPA and World Heritage management.

This plan will continue to assist us in improving our knowledge and understanding of management of cultural heritage, waterways, flora, fauna, fire management, along with other issues that may impact on values across the Budj Bim IPA. These will be addressed through adaptive management.

The plan will be revised in 2027/28 with new information and management approaches as needed, in line with our adaptive management approach.

The vision of "Healthy Country, Healthy People"² underpins this IPA plan of management.

Healthy Country, Healthy People – Ngootyoong Gunditj, Ngootyoong Mara in Gunditjmarā – is what we want for the IPA.

We all have a right and responsibility to care for Country, working together with respectful conversations to achieve our aspirations for Country.

We will work together to restore and improve ecosystems so that they are intact and resilient.

We recognise the connections between people and Country; between communities and Country – past, present and future.

Forever.



IPA PLAN AIMS

The Budj Bim IPA plan of management aims to:

- Update the 2015 IPA plan and its management actions
- Document GMT0AC's best practice planning incorporating both traditional and contemporary management practices
- Incorporate World Heritage land management planning requirements
- Incorporate new and emerging land and water management issues and propose new actions to help care for Country
- Provide a sound basis for future funding applications
- Incorporate monitoring, evaluation, reporting and improvement (MERI) practices to assist us with our adaptive management
- Encourage participation in planning for management of Country

OUR PEOPLE AND COUNTRY

2.1. GUNDITJMARA

Gunditjmaras are a living community with continuous links to the Budj Bim Cultural Landscape, a place with at least 6000 years of cultural history told through the landscape and the stories of the people who still live there.³ Around sixty clans⁴ have cared for Gunditjmaras Country since time immemorial, passing down lores, traditions, customs, and obligations to us.

We also acknowledge the former Kerrup-Jmara Elders Aboriginal Corporation and Elders who played a crucial role for over 40 years to acquire and return the properties in this plan to Gunditjmaras. Gunditjmaras have faced dispossession of land for many generations and without their tireless fight and continued advocacy, we wouldn't have achieved the following outcomes for our future generations:

- Allambie was returned to Gunditjmaras Traditional Owners in 1988 as part of the Alcoa Settlement Act
- Muldoons and Vaughans were acquired in 1990 by the State Government and the land titles were handed over to the Kerrup-Jmara Elders Corporation
- Tae Rak was returned to Gunditjmaras Traditional Owners in 2008 after successful native title consent, and in 2010 we reflooded Tae Rak
- Kurtonitj was returned to Gunditjmaras Traditional Owners in 2009 (purchased by Indigenous Land Corporation)
- Peters was returned to Gunditjmaras Traditional Owners in 2010 (purchased by Indigenous Land Corporation)
- Lake Gorrie was returned to Gunditjmaras Traditional Owners in 2015 (purchased by Indigenous Land Corporation).

We acknowledge and pay our respects to our Gunditjmaras Ancestors and Elders who have been before us, ensuring our continuous connection to Country. We acknowledge our Apical Ancestors:

- Jenny Green
- Lucy Sutton
- Susannah McDonald
- Billy & Mary Gorrie
- Eliza Mitchell
- James Lancaster
- William & Hannah King
- John Henry Rose
- James & Mary Sutton
- Andrew & Ellen Winter
- Mary, Mother of James Egan
- Mary McKinnon
- Timothy James Arden & Barbara Winter
- Louisa Taylor



2.2. GUNDITJ MIRRORING TRADITIONAL OWNERS ABORIGINAL CORPORATION

GMTOAC was established in 2005 by Gunditjmarra Traditional Owners to progress our rights and interests in native title, cultural heritage and caring for Country. GMTOAC is governed by its members, Gunditjmarra Traditional Owners and native title holders in line with the Corporations (Aboriginal and Torres Strait Islander) Act (2006).

GMTOAC was the first Registered Aboriginal Party (RAP) appointed under the Victorian Aboriginal Heritage Act (2006) and is responsible for the area that includes the Budj Bim Cultural Landscape.

Responsibilities relating to the IPA properties also include providing advice in relation to any works that may involve construction or excavation. GMTOAC completes cultural heritage management plans (CHMP) for certain projects at the IPAs to ensure that works will mitigate damage, regardless of whether a plan is required under the Aboriginal Heritage Act.

A key objective of GMTOAC relevant to this plan is “to ensure that the responsibilities and duties which arise under Gunditjmarra lore, custom, and beliefs are carried out in relation to:

- the protection of and caring for Country
- the protection and continuation of Gunditjmarra lore and custom.”⁵

Further information on GMTOAC governance can be found at the Office of the Registrar of Indigenous Corporations website.⁶

GMTOAC upholds the following pillars to advance the cultural identity and standing of Gunditjmarra peoples:

- Strengthening Gunditjmarra Resources
- Celebrating Gunditjmarra Community and Culture
- Providing Collective Leadership⁷

2.3. NATIVE TITLE

On 30 March 2007 the Federal Court of Australia delivered a consent determination over almost 140,000 hectares across the southwest of Victoria, recognising the Gunditjmarra People’s native title rights and interests across our traditional homelands and waters. The consent determination area is bounded on the west by the Glenelg River, and to the north by the Wannon River.⁸ This area includes Tae Rak (part of this IPA), Budj Bim National Park, adjacent to the IPA, along with other national parks and state forests.⁹

2.3.1. Cooperative management of Budj Bim National Park

A Cooperative Management Agreement for Budj Bim (Mount Eccles) National Park was established in 2007¹⁰ giving GMTOAC formal representation on the Budj Bim Council to address issues of management for the park and input into future planning. The Budj Bim Council consists of ten members, including six Gunditjmarra representatives and four from the State government: Parks Victoria, Department of Environment, Land, Water and Planning (DELWP) and Glenelg Hopkins Catchment Management Authority (GHCMA).¹¹ Cooperative management of Budj Bim (Mt Eccles) National Park is detailed in the *Ngooyoong Gunditj Ngooyoong Mara Southwest Management Plan*.¹² GMTOAC staff and the Budj Bim Rangers also maintain close contact with Parks Victoria staff regarding park management issues. The joint management arrangements also allow us to work together on issues that overlap IPA and park boundaries.

2.4. LAND OWNERSHIP

The properties covered by this IPA plan of management have been returned to Gunditjmarra over the past four decades.

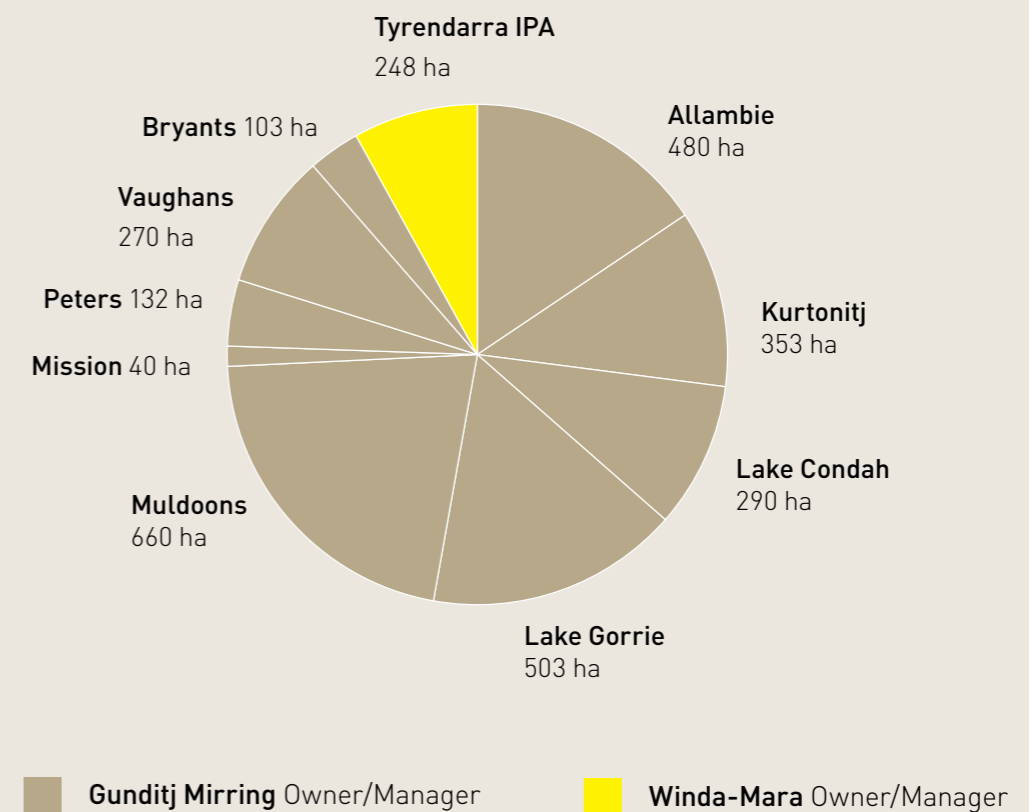
GMTOAC manages nine properties along the Budj Bim Cultural Landscape. The properties include two declared IPAs (Lake Condah IPA – incorporating the Lake Condah, Allambie, Muldoons and Vaughans properties – and the Kurtonitj IPA), and the properties known as Peters, Bryants and Lake Gorrie, as well as the Lake Condah Mission. The Tyrendarra IPA is owned by the Winda-Mara Aboriginal Corporation (Winda-Mara). Overall, the combined area owned and/or managed by GMTOAC is approximately 2,830 hectares.

Diagram 1 shows the ownership of the properties and their approximate size.

The total area to be included in this IPA plan of management is approximately 2,790 hectares (i.e., the total area shown in Diagram 1, minus the area of Lake Condah Mission and Tyrendarra).

Gunditj Mirring will continue to seek opportunities to strategically acquire properties along the Budj Bim Cultural Landscape. Any property acquired will be considered for inclusion in the IPA.

Diagram 1: Ownership and management of the properties and their approximate size



2.5. OPPORTUNITIES FOR GUNDITJMARA TO SPEND TIME ON COUNTRY

It is important for Gunditjmara to have access to and spend time on Country. The IPAs provide a safe space for engagement activities that foster continued connection to Country and strengthening of cultural identity. It is also important for Gunditjmara to contribute to any planning processes that ensure ongoing protection of cultural values for our continual connection to Country.

GMTOAC will provide opportunities for Gunditjmara to experience and participate in the work that we do on the IPA, such as water testing or ecological monitoring. GMTOAC has also partnered with Winda-Mara to deliver a Junior Ranger program with a focus on encouraging young people to engage with country, helping them to gain skills and knowledge in identifying cultural heritage sites, native plants and animals.

2.6. INTELLECTUAL PROPERTY

GMTOAC assert the rights of Gunditjmara to be self-determining about their land, identity, and heritage. GMTOAC operates to protect Gunditjmara lands and waterways, including the Budj Bim Cultural Landscape. To assist with the protection and use of our intellectual property (IP), which may include traditional knowledge relating to the IPA and its plan of management, we commissioned a legal firm to develop the *GMTOAC Intellectual Property Management Plan* (2021). GMTOAC are now working through the recommendations outlined in this plan, which include strategies to assist GMTOAC to:

- secure and assert its IP rights
- strengthen its brand and marketability
- consolidate its IP for future use
- foster a culture of rights awareness within the business
- comply with IP and other related laws
- protect Gunditjmara cultural IP in all activities of GMTOAC.

2.7. PARTNERSHIPS

GMTOAC works closely with other organisations on a range of projects that benefit the IPA and the Budj Bim Cultural Landscape. These formal and informal partnerships provide opportunities for respectful two-way learning and enable us to get the best advice possible to assist us in our decision-making for the management and protection of Country.

This includes a range of important formal partnerships, including (but not limited to):

- Australian Government
- Aboriginal Victoria, Department of Premier and Cabinet
- Glenelg Hopkins Catchment Management Authority (GHCMA)
- Department of Environment Land Water and Planning (DELWP)
- Parks Victoria
- Budj Bim Council.

Other partnerships include (but are not limited to):

- Country Fire Authority (CFA)
- Portland Field Naturalists
- University of Melbourne School of Engineering
- Monash University, Deakin University and others
- Great South Coast Group
- Neighbouring property owners/managers.

This cooperative and collaborative approach draws on expertise (including locals and volunteers) for specific projects as needed. The input of individuals and organisations is greatly valued and adds significant value to projects. We foster and develop these partnerships over time as needed to care for Country.

2.8. THE BUDJ BIM CULTURAL LANDSCAPE

The Budj Bim Cultural Landscape is located within Gunditjmara Country in south-eastern Australia and comprises three components: Budj Bim - Northern Component (Budj Bim IPA and National Park), Kurtonitj - Central Component (Budj Bim IPA) and Tyrendarra Southern Component (Budj Bim IPA and Tyrendarra IPA). Each component contains extensive evidence of Gunditjmara's aquaculture system. Gunditjmara have customary rights and obligations to their traditional Country and a continuing and evolving relationship with the Budj Bim Cultural Landscape.¹³

This section outlines the background to the World Heritage and National Heritage listings and the declaration of the properties as an IPA.

2.8.1. Traditional names

Lake Condah is traditionally known as Tae Rak, and Darlot Creek as Killara. Kurtonitj is also a traditional word meaning 'crossing place.' Other properties are generally named after their previous owners or location, such as Peters, Bryants, Lake Gorrie, Muldoons, Vaughans and Allambie.

GMTOAC will reinstate traditional names to the IPA properties or give traditional names reflecting significant species or places. For example, Brolgas are a well known feature of the Bryants property and this property could be given the traditional name Kurun (meaning Brolga).

ACTION 1

GMTOAC will engage and seek endorsement from GMTOAC members to rename the properties using traditional names

[IPA Manager]
30 December 2022



Sandbagging at the Allambie wetland for the GHCMA Budj Bim Connections Flagship Project. Pictured left to right: Jarred Obst (GHCMA), Ben Church (Winda-Mara) and Matt King (GHCMA).

2.8.2. World Heritage listing

The properties in this plan are part of the Budj Bim Cultural Landscape World Heritage Site, inscribed in 2019 on the United Nations Educational, Scientific and Cultural Organisation's (UNESCO) World Heritage List for their Outstanding Universal Values. The landscape includes the Budj Bim Volcano and Tae Rak (Lake Condah), as well as the Kurtonitj component, characterised by wetland swamps, and Tyrendarra in the south, an area of rocky ridges and large marshes.

The Budj Bim lava flows have enabled Gunditjmara to develop one of the largest and oldest freshwater aquaculture systems in the world. This system comprises channels, dams and weirs, which are used to contain floodwaters and create basins to trap, store and harvest kooyang (Short-finned eel, *Anguilla australis*), providing the population with an economic and social base for six millennia. Despite historic interruption for much of the 20th century, the property retains its authenticity.

Key attributes of the Budj Bim Cultural Landscape are:

- Gunditjmara cultural traditions, knowledge, and practices, including traditional management practices and cultural associations of the Gunditjmara, who retain an exceptional interrelationship with their natural environment. This is expressed through oral traditions, dance, landscape management methods such as cultural burning, and resource utilisation, such as basket weaving and rock building.
- The physical evidence of Gunditjmara Aquaculture in the landscape – the Budj Bim volcano, lava flows, and the constructed evidence of aquaculture, both archaeological and contemporary, along the waterways and wetlands formed by the Budj Bim lava flow.
- The interconnected geological, hydrological and ecological systems. This includes modified channels (yereoc), weirs (stone and wood), dams, ponds and sinkholes developed to manage water and water flows to systematically trap, store and harvest kooyang.

This IPA plan of management assists in the ongoing management and protection of Outstanding Universal Values outlined in the nomination.

A map of the inscribed world heritage area is shown in Figure 1.

2.8.2.1. Management and governance of World Heritage

Protection of World Heritage values on the IPA are guided by this plan of management. This plan will assist in documenting the monitoring and protection of many of the landscape attributes and interconnected systems. Key indicators for addressing likely pressures on attributes are considered in each part of Section 5: Management of the IPA, as well as the associated Monitoring, Evaluation, Reporting and Improvement (MERI) plan.

GMTOAC has established a Budj Bim World Heritage Unit that works in partnership with various stakeholders to support Gunditjmara engagement and participation in the protection and management of the Budj Bim Cultural Landscape.

At a higher level, a Steering Committee has been established that includes membership from GMTOAC, Winda-Mara, World Heritage experts and state and federal agencies. It is the role of the Steering Committee to make sure that World Heritage values are protected and enhanced. The Committee will ensure the following:

- Aboriginal heritage is properly managed during development and land use activities, or regarding any act or omission which may harm Aboriginal cultural heritage.
- The environmental and cultural values of the Budj Bim Cultural Landscape continue to be maintained and enhanced.
- Any issues, threats or impacts to the Budj Bim Cultural Landscape are addressed and actioned in ways that respect the sustainability of the landscape and Traditional Owner rights.

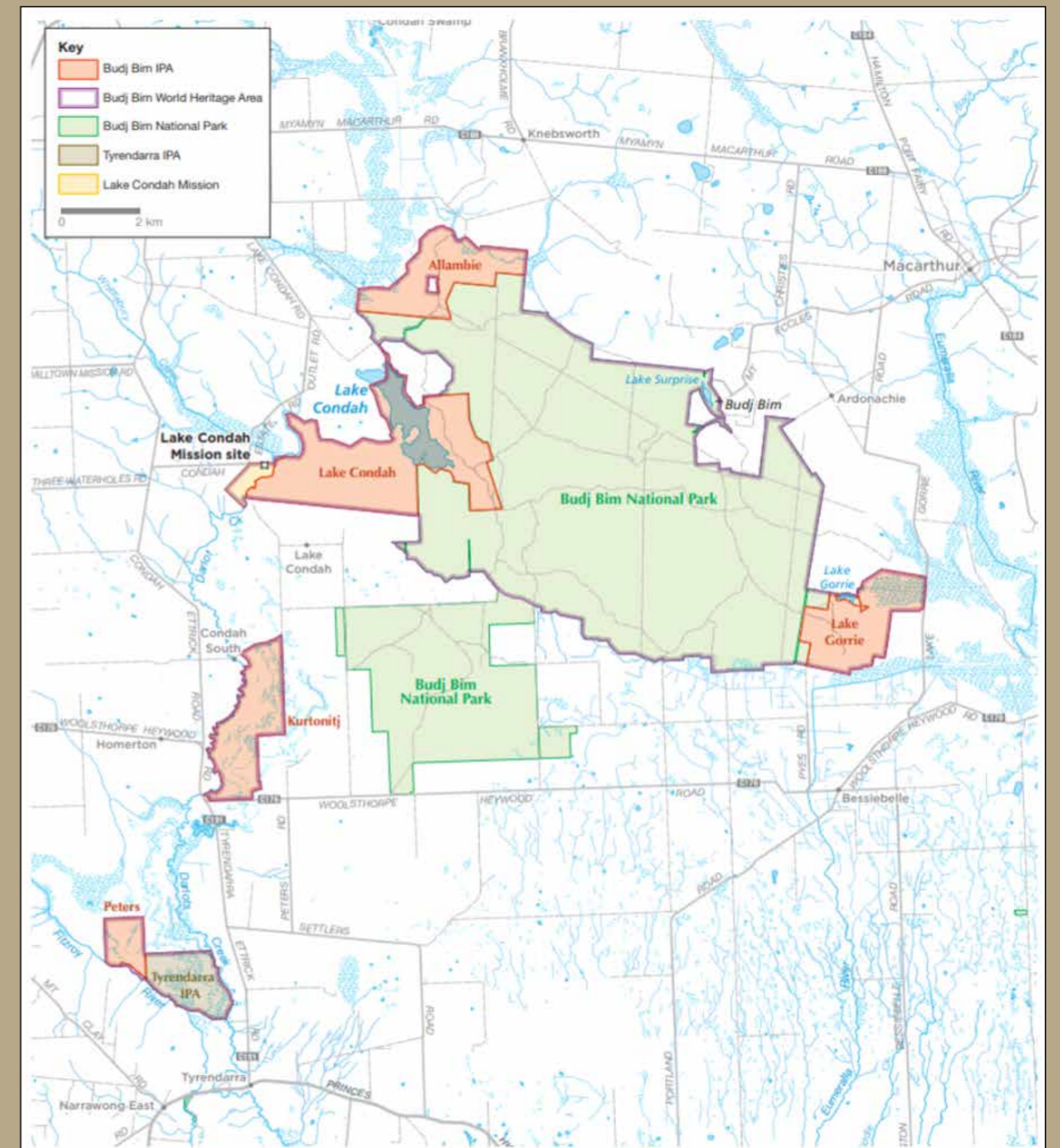


FIGURE 1

The Budj Bim Cultural Landscape, including the World Heritage boundaries, Budj Bim National Park and the Budj Bim and Tyrendarra IPAs

- A Strategic Management Framework and annual work plans are developed and implemented.
- World Heritage Periodic Reporting requirements are met.
- Strategic management goals are applied in the care and safeguarding of the Budj Bim Cultural Landscape and managed through robust customary and legal governance and legal systems.

ACTION 2

Develop the World Heritage Strategic Management Framework, and incorporate this IPA plan of management into the Budj Bim World Heritage Action Plan

World Heritage Executive Officer
30 September 2022



Gunditjmara representatives in Baku, Azerbaijan, for the inscription of the Budj Bim World Heritage Landscape. Photo by Cornel Ozies.

2.8.3. National Heritage listing

The Budj Bim Cultural Landscape was included on the National Heritage List in 2004. The listing includes the properties of Lake Condah, Allambie and Muldoons, Tyrendarra as well as Budj Bim (Mt Eccles) National Park. These boundaries have not been updated since the additional properties have been purchased or returned. During the World Heritage nomination process, UNESCO recommended that the National Heritage and World Heritage areas be aligned. GMTOAC will pursue this alignment.

ACTION 3

Pursue alignment of National Heritage and World Heritage areas

World Heritage Executive Officer
30 December 2022

2.8.4. Declaration of Indigenous Protected Areas

The Budj Bim IPA is proposed under International Union for Conservation of Nature (IUCN) Category VI: protected areas with sustainable use of natural resources. The primary objective for management of this category is "to protect natural ecosystems and use natural resources sustainably, when conservation and sustainable use can be mutually beneficial".

Declaring these properties as IPAs has two-way benefits, giving us recognition as Indigenous landowners for contributing land to the national reserve system and enabling support from the Australian Government that funds the Ranger program and implementation of the IPA plans of management. This allows us to have a greater focus on sustainable natural resource management.

The first property on the Budj Bim Cultural Landscape declared as an IPA was Tyrendarra in 2003, followed by Kurtonitj in 2009 and Lake Condah (including the properties of Allambie, Vaughans and Muldoons) in 2010.

When the Lake Condah IPA plan of management was reviewed in 2014/2015, the Lake Condah and Kurtonitj IPAs were brought together under the Budj Bim IPA, along with three properties that were still to be declared: Lake Gorrie, Bryants and Peters. GMTOAC sent a formal letter of intention to the Australian Government in June 2018 requesting recognition of the Budj Bim IPA, including the three additional properties. This process will be finalised on completion of this IPA plan.

ACTION 4

Pursue dedication of additional IPA properties with Commonwealth

IPA Manager
30 December 2022

While combining the properties into one IPA reduces the number of IPAs, the overall area contributed to the national reserve has increased with the addition of the three properties.

Although it is part of the Budj Bim Cultural Landscape, the Tyrendarra property remains a separate IPA as it is owned and managed by Winda-Mara and has its own plan of management.

The Interim Biogeographic Regionalisation for Australia category of Southern Volcanic Plain (SVP) is one of the under-represented bioregions of the national reserve system. In total, the Budj Bim Cultural Landscape (including the three additional properties listed above) will contribute up to 2,791 ha to the national reserve, potentially representing up to 5–6% of the protected SVP bioregion in Victoria. The Victorian Volcanic Plain is also one of Australia's 15 National Biodiversity Hotspots. Lake Condah is also listed in the Directory of Important Wetlands in Australia and restoration of the hydrology in 2010 has improved the significant wetland ecological values of the landscape.

The vegetation of the Budj Bim Lava Flow

"HAS NATIONAL CONSERVATION SIGNIFICANCE; IT REPRESENTS A SUITE OF VERY RARE VEGETATION TYPES IN UNIQUE COMBINATION. THESE EXCEPTIONAL BIODIVERSITY VALUES ACCORD BEAUTIFULLY WITH THE WELL-DOCUMENTED AND OUTSTANDING GEOLOGICAL, GEOMORPHOLOGICAL, ANTHROPOLOGICAL, CULTURAL AND HISTORICAL VALUES OF THE AREA".



GOVERNANCE OF THE IPA

3.1. GUNDITJMARA GUIDING PRINCIPLES

Gunditjmara are guided by five principles in making decisions on management of the properties:

- The protection of the Budj Bim Cultural Landscape is paramount
- The Budj Bim Cultural Landscape is a dynamic living place
- The Budj Bim Cultural Landscape is a place of learning
- Connections with the Budj Bim Cultural Landscape are strengthened
- All uses and users of the Budj Bim Cultural Landscape respect its significance.

The five guiding principles and a learning and adaptive management approach to heritage management were originally developed for the Lake Condah Restoration Conservation Management Plan (2008). These are largely based on planning, action, monitoring, learning and adaptation, and now apply across the Budj Bim Cultural Landscape.

3.2. LEGISLATIVE FRAMEWORKS

Aside from customary obligations and governance, GMTOAC works within a range of key legislation in managing the IPA. This includes, but is not limited to, the following commonwealth legislation:

- *Aboriginal and Torres Strait Islander Heritage Protection Act (1984)*
- *Aboriginal Land (Lake Condah and Framlingham Forest) Act (1987)*
- *Environment Protection and Biodiversity Conservation Act (1999)*
- *Native Title Act (1993).*

It also includes, but is not limited to, the following state legislation:

- *Aboriginal Heritage Act (2006)*
- *Catchment and Land Protection Act (1994)*
- *Country Fire Authority Act (1958)*
- *Fisheries Act (1995)*
- *Flora and Fauna Guarantee Act (1988)*
- *Heritage Act (2017)*
- *National Parks Act (1975)*
- *Parks Victoria Act (1998)*
- *Planning and Environment Act (1987)*
- *Local Government Act (1989)*
- *Water Act (1989)*
- *Wildlife Act (1975)*
- *Environment Protection Act (2017) and Environment Protection Amendment Act (2018)*

Relevant local government planning schemes include:

- Glenelg Planning Scheme
- Moyne Planning Scheme.

3.3. GOVERNANCE AND DECISION MAKING FOR THE IPAS

3.3.1. Plan development and implementation

Development and implementation of the plan of management is overseen by the IPA Manager, with the plan signed off by the GMTOAC Board. The lifecycle of the plan of management is shown in Figure 2. The centre of this diagram illustrates GMTOAC and Gunditjmara involvement in all stages of the plan cycle. External agencies and partners invited to participate in plan development, implementation and review are shown on the outside. This process enables us to tap into expertise at different levels of partner organisations when needed to help us achieve our plan outcomes.

GMTOAC's IPA Manager and World Heritage Executive Officer oversee projects on the IPA, with daily land and water management activities undertaken by the Budj Bim Rangers – employed by the Winda-Mara Aboriginal Corporation – and GMTOAC staff, including a dedicated World Heritage team.

IPA projects are also supported by GMTOAC's Cultural Heritage team, Aboriginal Water Officer, policy and research staff, economic development, risk management and media and communications staff.

Given the key role of the Budj Bim Ranger program, Winda-Mara also assists with key decision making, meeting formally with GMTOAC on a regular basis.

3.3.2. Gunditjmara involvement

Gunditjmara have a strong interest in the management of the IPA. Development, implementation and review of the plan provide excellent opportunities to facilitate Gunditjmara involvement on Country. Management of the IPA aims to facilitate family connections and engagement, strengthening connections with Country. We encourage community to spend time on Country and to participate in management activities whenever possible. It is also important for us to be accountable to the community for our management of Country. Each year we provide a comprehensive overview of plan progress to

Gunditjmara through our Annual Reporting and AGM processes, and through regular workshops. We will also regularly produce audio-visual summaries of plan achievements (see Section 4.1). We have a range of formal meetings throughout the year, such as those dealing with Native Title business and general meetings for members. We will also seek further informal engagement beyond these. We will use expression of interest processes to seek input on programs when appropriate. We want community to feel comfortable in being involved.

3.3.3. IPA Advisory Committee

The IPA Advisory Committee meets once a year (usually around May) to review the progress of land management activities for the year, identify information gaps and work priorities for the following year.

Membership of the IPA Advisory Committee consists of representatives of GMTOAC, Winda-Mara, Budj Bim Rangers, DELWP, Glenelg Hopkins CMA, Country Fire Authority, Parks Victoria, and the National Indigenous Australians Agency.

Many of the ongoing partnerships with government agencies and organisations are facilitated through their involvement in this committee. Members often have significant involvement in plan implementation throughout the year, such as in fire management and recovery and pest plant and animal management projects.

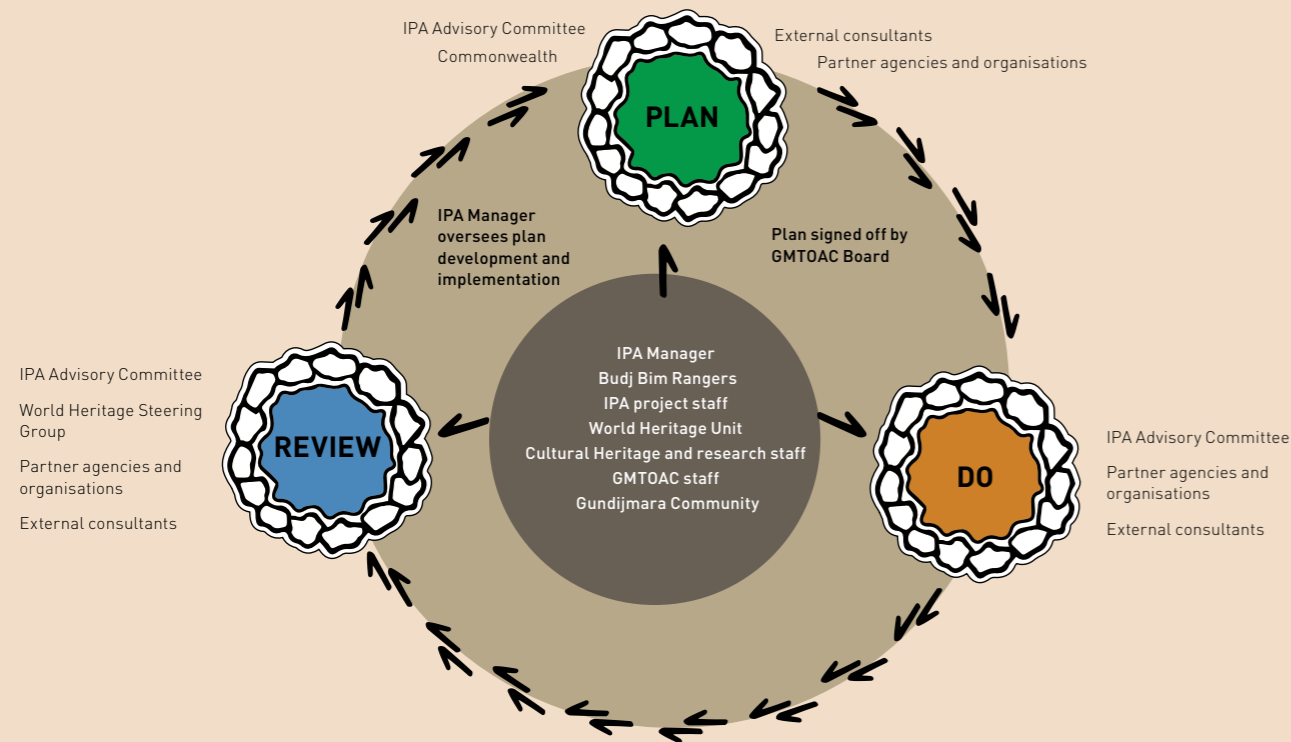
3.3.4. World Heritage Steering Committee

The Budj Bim World Heritage Steering Committee is responsible for the Budj Bim Strategic Management Framework that incorporates this IPA plan of management, adding further oversight and accountability to the management of the Budj Bim Cultural Landscape (see Section 2.8.2.1). This IPA plan also assists the committee to understand our cultural and contemporary management of Country and our strategic priorities. It will provide the basis for further World Heritage planning, compliance, EPBC processes, risk management and addressing emerging issues. It will also help to ensure the IPA and World Heritage reporting processes and underpinning program logic are aligned.

3.3.5. Plan review

GMTOAC will undertake mid-term and end of term reviews of the IPA plan of management using the MERI process outlined in the appendix of this document. GMTOAC remains committed to the adaptive management approach. We will document and review our learning from plan implementation and continuously improve the way we undertake management of country. The MERI process will involve reviewing our progress and achievements with Gunditjmara and the IPA Advisory Committee. The review process will also assist us in documenting and reporting on changes to World Heritage indicators, an important part of our World Heritage reporting process.

FIGURE 2
Governance and implementation of the Budj Bim IPA





COMMUNICATION AND ENGAGEMENT FOR THE IPA PLAN

4.1. COMMUNICATION AND ENGAGEMENT WITH GUNDITJMARA COMMUNITY

It is extremely important for Gunditjmara to be engaged in development of the IPA plan and to have opportunities to be involved in the implementation of projects.

A workshop with Rangers from GMTOAC and Winda-Mara was held in late November 2020 to obtain input into plan development and project logic.

A GMTOAC-led workshop in March 2021 provided an opportunity for Gunditjmara to engage with the development of the plan and to raise items that they wished to include.



Participants at the IPA workshop held in Portland, November 2020

Feedback from community members at the two workshops highlighted the following management issues:

- Raising the weir height
- Restoring Lake Gorrie
- Restoring wetlands
- Following up on recommendations in Kurtonitj hydrological systems reports
- Having our own firefighting equipment/unit
- Capacity building to record stories and events
- Programs for youth
- Junior Ranger programs
- Education through schools and tours
- Encouraging unemployed community members to participate in activities and training
- Monitoring water quality impacts from agriculture
- Land health changes – feral animals, weeds, human activity, climate change
- Controlling feral animals and weeds
- Water and soil testing
- Climate change impacts on water and soil quality
- Review cattle grazing
- Controlled burns, monitoring the health of Country that includes, fish and eels, soil, trees, flora and fauna
- Provide feedback on what is happening with cultural burning

- Look at environmental impact of tourism
- Making sure there is enough workers to support IPAs and infrastructure to support tourism
- Greater community consultation – meetings twice a year to engage re partnerships, plans etc.
- Acknowledgement of Kerrup-Jmara's previous work and fight
- Acknowledgement of community input to plan
- Kooyang farming and jobs
- Job opportunities
- Cultural camps for those not living on Country
- Women's and men's business
- Caring for Country
- Bringing orchard back to life
- Wish to rebuild old home on the mission
- A sense of belonging, learn stories of ancestors, learn language
- Risk management, communication, review complaints, emergency response, licensing requirements
- Medicine plants.

Communication will also help to enable documentation of community stories relating to the IPAs and their management.

ACTION 5

Produce audio-visual updates for GMTOAC members and community about the IPAs

IPA Manager | Annually

ACTION 6

Hold an annual workshop to support Gunditjmara engagement in the management of the IPA

IPA Manager | Annually

ACTION 7

Communicate IPA plan achievements to Gunditjmara in community meetings, GMTOAC annual reports and other community publications including the use of CIMS to share information relevant to this plan and its activity e.g., feral animal management, cultural burning, cultural heritage etc.

IPA Manager & Media and Communications Officer | Ongoing

ACTION 8

Engage with Gunditjmara to identify and monitor culturally significant native flora and fauna species and develop management actions to enhance these species

IPA Manager | Ongoing

4.2. COMMUNICATION WITH THE BROADER COMMUNITY OF SOUTHWEST VICTORIA

It is important to communicate with the wider community about the significance of the Budj Bim Cultural Landscape to Gunditjmara and to demonstrate the land management techniques and responsible stewardship of the IPA properties. This may create opportunities to further connect with other landholders and the broader community.

Communication could also involve stories in local media, local government publications and other regional newspapers, newsletters and social media.

ACTION 9

Develop opportunities to share information about management of the Budj Bim Cultural Landscape with the regional community

Media and Communications Officer
Ongoing

4.3. COMMUNICATION WITH NEIGHBOURING LAND MANAGERS

The cooperation of neighbours is crucial to the success of the IPA plan of management, particularly in the areas of stock management, pest plant and animal control, water management, fire management and other shared land management issues, as well as cultural heritage awareness and protection. Communication activities with neighbours could include visiting key properties on the landscape with farmers to share and discuss important elements of the plan.

Regular meetings with adjacent and nearby landholders to the IPA properties will help foster and maintain goodwill and good working relationships.

Possible activities could include cultural heritage workshops for landholders to help raise awareness of heritage significance and site protection.

ACTION 10

Engage with neighbouring landholders on an annual basis, or as required, to build and maintain relationships and manage cross-boundary issues

IPA Manager and Budj Bim Rangers
Ongoing



MANAGEMENT OF THE IPA

This section of the IPA plan of management describes the values of the landscape and what has been documented to date, identifies potential threats, gaps in knowledge, World Heritage key indicators, and actions to protect values. Actions marked with “WH” are those that relate to World Heritage key indicators.

5.1. CULTURAL HERITAGE

"...THE OUTSTANDING ATTRIBUTES OF GUNDITJMARA AQUACULTURE COMPRISE TRADITIONAL AND CONTEMPORARY GUNDITJMARA KNOWLEDGE AND PRACTICE AND THE INTERCONNECTED BUDJ BIM LAVA FLOW, TAE RAK – KILLARA WATER FLOW AND THE MODIFIED ENVIRONMENT TO SUPPORT KOOYANG HUSBANDRY. ALL COMPONENTS OF THESE INTER-RELATED SYSTEMS CONTINUE TO FUNCTION AT A HIGH LEVEL, AND THUS UNDERPIN THE OUTSTANDING UNIVERSAL VALUE OF THE CONTINUING BUDJ BIM CULTURAL LANDSCAPE".



Cultural heritage can be tangible (e.g., physical evidence of the aquaculture system or stone houses) and intangible (e.g., Gunditjmara knowledge and practices). This plan of management incorporates both aspects.

Tangible Gunditjmara cultural heritage continues to be recorded and mapped and is preserved by Gunditjmara and protected under state and commonwealth legislation. There are more than 100 recorded sites within the Budj Bim Cultural Landscape and these are listed on the Aboriginal Heritage Register.

The Aboriginal Cultural Heritage Register and Information System (ACHRIS) is used to map, record and document the aquaculture and other Gunditjmara cultural heritage sites on the IPA properties.

Many cultural heritage surveys and reports have been completed over the past four decades. These have documented aspects of the aquaculture system, stone houses and a range of other cultural heritage sites. Cultural Heritage Management Plans are also completed for projects to be undertaken on the properties, and these provide further opportunities to document previously unrecorded sites as well as to ensure management and protection as required.

Several universities have worked with us over many years to document our cultural heritage sites. Monash University in particular has been involved in a range of heritage investigations of the aquaculture system at the properties. In 2018, University of Melbourne's School of Engineering signed a ten-year partnership agreement with GMTOAC to share traditional engineering knowledge of the aquaculture systems with Indigenous and non-Indigenous engineering students. University of Melbourne has also been funded through the Australian Research Council to undertake a project "Indigenous Engineering: interpreting engineering foundation of Budj Bim." Using geospatial methods, this project aims to explore Gunditjmara engineering of the aquaculture complex.



An aerial (drone) view of the aquaculture system connecting the lake and a sinkhole.
Photo by Tyson Lovett-Murray.

In 2019/2020, a DELWP-funded project used Light Detection and Ranging (LiDAR) photography and spatial technology to map the landscape. This has identified previously unrecorded aquaculture sites as well as recording many other features of the landscape and contributing to understanding of canopy cover, bushfire recovery, cultural burning and other processes. It also provided skills development training for GMTOAC staff.

5.1.1. Cultural heritage knowledge gaps

While there has been substantial surveying of cultural heritage over the years, there is a need to revisit previously recorded sites to document them using Global Positioning System (GPS) technology and to re-assess their condition and significance. Recent LiDAR data may also assist this process.

The more recently acquired properties on the IPA may also benefit from further surveys to identify other previously unrecorded cultural heritage sites.

The potential impacts of climate change on the functioning of the aquaculture system are also not well understood at this stage.

5.1.2. Potential threats

Cultural heritage sites could be affected by a range of processes and events if these are not carefully managed. Potential threats may include the use of heavy machinery and other vehicles, fire, vegetation regrowth, bracken, weeds, feral animals and wandering stock, excess visitation, and climate impacts. A precautionary management approach is important since there are previously unrecorded cultural heritage sites still being revealed through events such as bushfires. Fire also has the potential to affect the dating of sites.

5.1.3. World Heritage key indicators for cultural heritage

The following cultural heritage key indicators were documented in the World Heritage nomination and need to be incorporated in our management actions:

- Continuation of documentation of Gunditjmara knowledge and practices by the Gunditjmara
- No significant decline in the condition and function of the aquaculture features (channels, weirs, dams and ponds) at the Tae Rak, Kurtonitj and Tyrendarra complexes
- Decrease in number of existing trees impacting on channel features
- Decrease in the number of new trees establishing in channel features
- Increase in area surveyed for cultural sites
- Increase in information on condition of cultural heritage sites added to information systems.

These indicators help to inform the actions outlined below.

5.1.4. Cultural heritage management actions

The following management actions will help us to mitigate threats to cultural heritage. Other actions, for example weed and feral animal control and visitor management, will be included in the appropriate sections of this plan.

Nicky Hudson – Aboriginal Water Officer GMTOAC



ACTION 11

Map and document condition of the aquaculture system (channels, weirs, dams and ponds) at the Tae Rak and Kurtonitj complexes

[WH] GMTOAC working group
30 December 2022

ACTION 12

Monitor aquaculture systems annually to ensure there is no decline in the condition and function of the aquaculture features

[WH] GMTOAC working group
30 December 2022

ACTION 13

Annually map and document vegetation that may be affecting channel features and other cultural heritage sites and incorporate into vegetation management programs

[WH] Research Officer and World Heritage Executive Officer | Annually

ACTION 14

Continue to map and document previously unrecorded cultural heritage sites uncovered by fire or LiDAR photography

[WH] GMTOAC working group
30 December 2022

ACTION 15

Add information on cultural heritage site condition gained through IPA plan actions to ACHRIS

[WH] GMTOAC working group
30 December 2022

5.2. WATERWAYS

It is important for Gunditjmarra that we have healthy waterways throughout the landscape, as they provide a sustainable ecosystem for supporting life on Country. Our management includes the monitoring of water quality, fish and species surveys, and the management of flows throughout the lake and aquaculture systems that are crucial to maintaining the cultural and environmental values of the properties.

Key waterways in the Budj Bim IPA include Killara (Darlot Creek), Tae Rak (Lake Condah), Eumeralla River, and Palawarra (Fitzroy River) (see Figure 3). There are also numerous smaller wetlands and natural drainage lines that carry water depending on seasonal and climatic conditions.

Drains constructed post colonisation, such as Condah Drain, have also affected wetlands and aquaculture systems for many years. Lake Gorrie is a large wetland system that was drained for agriculture, with water directed into the Eumeralla drainage system.

THE TRADITIONAL NAME FOR DARLOT CREEK, KILLARA, MEANS 'ALWAYS THERE' – THERE IS ALWAYS WATER TO SUSTAIN KOOYANG AND OTHER AQUATIC RESOURCES.

Condah Water Supply Protection Area (WSPA) was declared under the *Water Act 1989* (Vic) and protects flows to the Budj Bim Cultural Landscape. Under a Local Management Plan for the WSPA, Southern Rural Water manages water licencing in the catchment area to ensure compliance with water use limits. In 2022 a license for 2.5 gigalitres of unallocated water in the Palawarra (Fitzroy River) system was granted to GMTOAC to help maintain water flows on the Budj Bim Cultural Landscape.

In 2019 we undertook a case study, funded by Glenelg Hopkins CMA, trialling an Aboriginal Waterways Assessment (AWA) tool to monitor waterway health of several waterways on

Gunditjmarra Country, including Killara. The case study and AWA tool helped to develop baseline scores and community targets for improvements to our waterways, leading to positive outcomes such as the removal of willow trees from parts of Killara. We will continue to use and adapt the AWA tool for the monitoring of waterway quality and conditions on our IPAs and to support and protect our cultural resources and values.

Water quality monitoring will continue, and GMTOAC is working with Glenelg Hopkins CMA and DELWP to better understand what is happening in the system and how to manage risks. Revegetation and an understanding of nutrient movements through the lake may assist. We are also planning for weed control and revegetation of the banks of Killara to support a healthier ecosystem (as addressed in the weed section below). Some water flow and quality monitoring data are available at Homerton Bridge Darlot Creek and may provide information for our monitoring. A draft response plan for poor water quality and fish kills has been developed.

A report has been produced with recommended rules for release of lake water, and these will be reviewed by GMTOAC and considered for adoption.

A hydrological study has been undertaken for Kurtonitj. This report contained recommendations for further investigations of the flow regimes (natural, traditional and recent), development of a model of water balance and cultural and ecological aims for management of the wetland.

A hydrological study outlined the potential to restore more natural water regimes to the part of the wetland system that falls within the Lake Gorrie property.

The recommendations from the various hydrological reports above involve potentially complex projects, some with further modelling and design work and substantial budgets required. A hydrological consultant is providing advice on prioritisation and implementation of these recommendations for GMTOAC consideration and adoption, with the resulting report due in the second half of 2022.

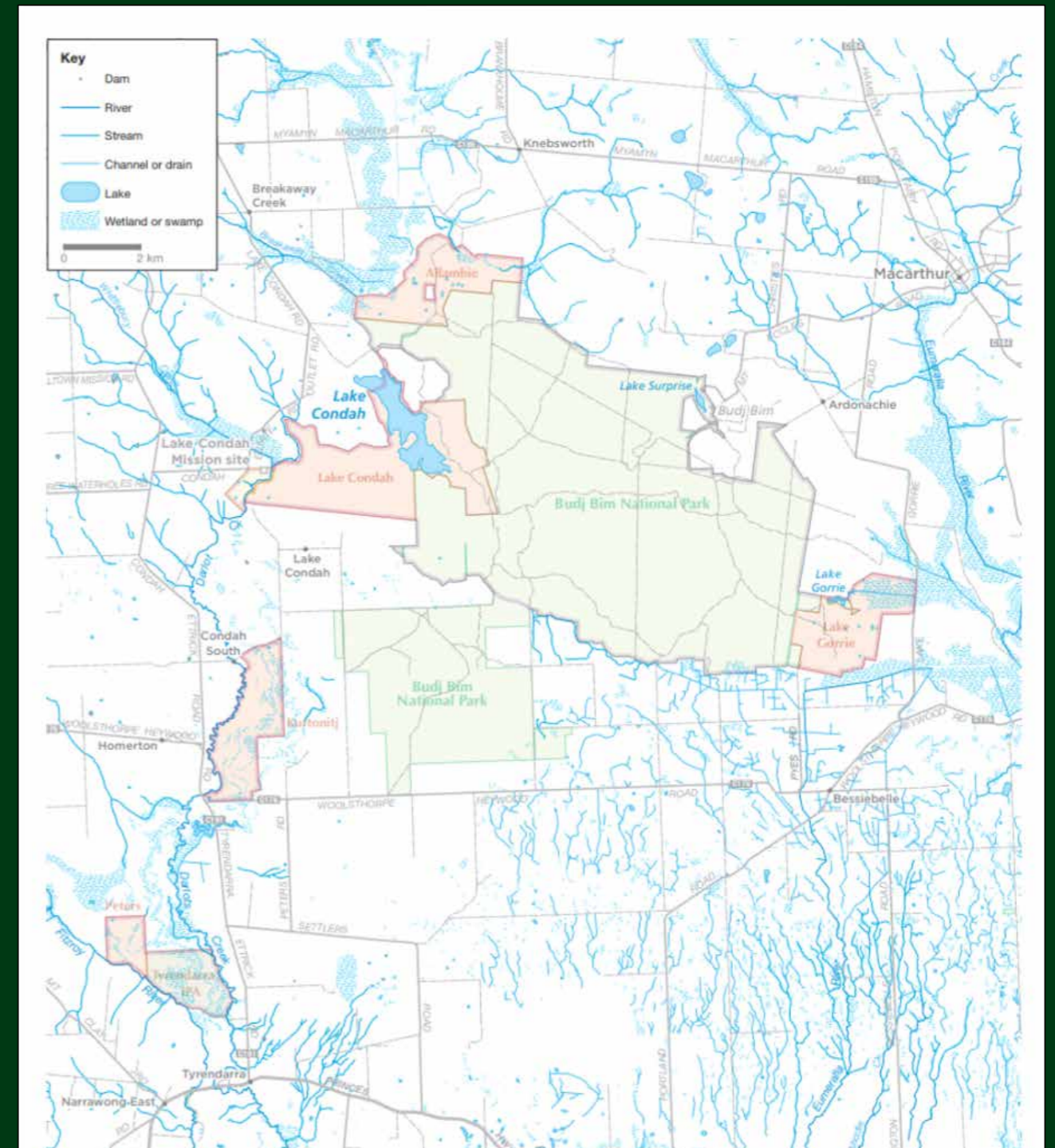


FIGURE 3
Waterways of the Budj Bim IPAs



5.2.1. Knowledge gaps

The hydrology of the Allambie property is not well understood. Further investigation would help to inform future projects and protection of wetland values at this site.

While our monitoring of water quality at the properties has provided valuable information, reviewing other available data for the waterways of the area, such as fish survey reports and WaterWatch data, could contribute further to our knowledge of water quality.

5.2.2. Potential threats

Key potential threats to waterways (and associated aquatic and riparian life) include changes to water quality and quantity and stream/wetland condition. Climate change impacts will also affect water quality and quantity and increase the risk of high intensity fires. Such fires could also scorch riparian canopy, increase sediment and nutrient inputs to the water, and affect water quality and stream depth.

5.2.3. World Heritage key indicators for water

The following water-related key indicators were documented in the World Heritage nomination:

- Water flows are within the range that enables sustainable functioning of the Gunditjmarra aquaculture system
- No decrease in water quality.

These indicators help to inform the actions outlined below, along with recent hydrological studies and the recently established water quality monitoring process.

Alicia Sherriff – Kooyang Aquaculture Processing Supervisor GMTOAC

5.2.4. Waterway management actions

Note: The acronym AWO in the actions below refers to Aboriginal Water Officer.

ACTION 16

Identify key waterway, wetland and groundwater sites to monitor for water quality and flows

[WH] AWO | 30 December 2022

ACTION 17

Obtain advice to inform and develop flow and water quality monitoring to support the health of key aquatic species at IPA waterways. Develop appropriate benchmarks and monitoring schedule

[WH] AWO | 30 June 2023

ACTION 18

Obtain water quality monitoring equipment and source appropriate training for GMTOAC staff to undertake monitoring, as needed

AWO | ongoing

ACTION 19

Set up Fulcrum/CIMS to receive water monitoring records. Share and discuss water records as appropriate with relevant agencies

[WH] AWO | 30 June 2022

ACTION 20

Continue to work with Traditional Owners to identify cultural values of waterways and wetlands to help prioritise management actions

AWO | ongoing

ACTION 21

Prioritise projects to follow up on the recommendations for future works from hydrology reports completed in 2020 for Tae Rak, Kurtonitj and Lake Gorrie and the operational rules for Tae Rak

AWO and consultants | 2022/2023

ACTION 22

Continue willow removal along Killara and replace with appropriate native species

GM LM crew in partnership with GHCMA Ongoing

Denis Rose pictured with
Cherry Ballart.
Photo by Justin McManus.



5.3. FLORA AND FAUNA

Plants, animals, fungi, and ecological communities at the IPA properties have cultural significance for Gunditjmarra as well as having significant broader biodiversity values.

Flora and fauna are managed through a mix of cultural and contemporary practices. For example, cultural burning is used to manage particular plants and habitats, while contemporary specialist knowledge and technologies add to our understanding of flora and fauna and their management needs.

The exceptional nature of flora and fauna of the IPA is widely recognised, as outlined previously.

DELWP's Biodiversity Response Planning project has identified Budj Bim Volcanics as one of its focus landscapes, outlining the unique flora and fauna values, threats and ecological processes of the area. This project will form an important part of the ongoing partnership with DELWP and has the potential to be a source of future funding for projects.

5.4. FLORA

5.4.1. Cultural and biodiversity values

Significant flora values were mapped and documented in a 2007 survey of ecological vegetation classes (EVCs) at Lake Condah, Allambie, Muldoons, Vaughans, Kurtonitj and Tyrendarra. The report noted the vegetation of the lava flow has national conservation significance, and *"represents a suite of very rare vegetation types in unique combination."*

This survey has been repeated in 2022 and will contribute to our knowledge of flora values (refer to Action 23 below).

This report also documented weeds on the properties and their recommended control options, which has been used to plan weed programs in the decade since.

Museum Victoria conducted a Bush Blitz program in March 2011 on the Lake Condah, Kurtonitj and Tyrendarra IPA properties, which also documented a diverse range of flora species.

Since these two projects were completed, a detailed master list of flora species has been maintained for the properties that incorporates all subsequent plant surveys/observations work. This list identifies culturally significant species, status, weed species, as well as on which property the species are located.

5.4.2. Weeds

Weeds identified as part of the surveys listed above are controlled by the Ranger team, and this forms a significant part of their work program. Much of the control work over the past decade has focused on weeds such as Bathurst burr, sweet briar, thistles and teasel. Rangers have completed a significant amount of willow and blackberry control work on the banks of Killara with funding and assistance through Glenelg Hopkins CMA, and future works will be required to maintain and revegetate this area.

A Weed Management Plan will be completed for the IPA properties as part of the GMTOAC Traditional Owner Biodiversity Reading and Healing Country Project. This plan sets out the rationale for weed control programs on the fire affected areas of the IPA, and the individual strategies for weeds will apply wherever they occur on IPAs.

The draft weed plan contains the project rationale and management actions for three key activities:

1. Removal/treatment of invasive plant species on culturally significant sites, including the Muldoons fish trap system and house sites
2. Monitoring of vehicle tracks at Muldoons, Vaughans and Allambie. Regular inspection of the vehicle tracks at these fire affected properties and carrying out weed treatments as required
3. Removal/treatment of South African honeybush at Lake Gorrie.

The plan also contains templates for priority setting and documentation, as well as biosecurity protocols for preventing the spread of weeds and pathogens. The plan will be used for strategic planning of works including a treatment calendar.

A field book with identification and treatment information will also be prepared for use by the Land Management Team.

Weed surveys and mapping are also occurring in spring 2022, focusing on priority species such as South African honeybush and St John's Wort. This is being undertaken as part of the Fauna and Weed Survey of Budj Bim Cultural Landscape by Nature Glenelg Trust (see fauna section 5.5.1).

Weed treatment aims to use minimal chemicals for maximum effect, with a long-term goal of reducing chemical use by increasing understanding of weed life cycles and ecology and exploring the use of cultural fire to manage adult plants and weed seed banks.

5.4.3. Revegetation

Budj Bim Rangers continue to carry out a significant amount of revegetation work using local species across the properties. Planting of tubestock and direct seeding have both been used, with a focus on trees, large shrubs, and native grasses. Local seed has been collected, cleaned and stored by Greening Australia at their Portland seedbank, and propagated by regional nurseries. The Budj Bim Rangers and Land Management Crew also collect seed, which is then grown through a local partnership with Seawinds Nursery.

GMTOAC staff are also working on a calendar for seed collection throughout the year. This will be used in the development of a revegetation plan for the landscape. This plan will focus on totemic and harvest plant species and the habitat plants of animals that are important foods for Gunditjmarra. It will consider the ecological roles of different species and the interactions between native and pest species (e.g., spread of seeds).

Significant areas of revegetation will also be completed as part of landscaping around the new infrastructure. Revegetation will include culturally important species, greatly increasing the numbers of these plants and providing an accessible source of seed to collect for future revegetation on Country.

5.4.4. Impacts of introduced animals and native fauna on flora

Feral pigs, goats and deer are affecting native flora and fauna values and causing soil disturbance. See further details in Section 5.5.3.

Overgrazing of the tree canopy (particularly manna gums) by koalas is an issue across several properties on the landscape. Monitoring of canopy and tree health, along with management options, will be undertaken in partnership with DELWP and Parks Victoria through the Koala Management Program (Budj Bim Cultural Landscape) plan, in line with the Victorian Koala Management Strategy.

5.4.5. Fire impact on flora

A bushfire in the summer of 2019/2020 (see Section 5.6.4 for more details) burned undergrowth vegetation across a substantial area of the IPA properties. GMTOAC has undertaken fire recovery programs with assistance from DELWP and other agencies including vegetation surveying and pest plant and animal control programs.

Large, hollow-bearing, old trees (alive and dead), were particularly affected by the fires, as were large hollow ground logs. The effect of this on fauna populations is unknown, but protection of remaining hollow-bearing trees will be important.

There are also likely to be native species regenerating after the fire, such as blackwood and black wattle, and these should be monitored and protected from pest animal over-browsing.

Fire-affected areas were photographed shortly after the fires. These locations will be revisited and rephotographed to monitor vegetation recovery. LiDAR photography undertaken in early 2020 may also provide a comparison of canopy cover for bushfire recovery at the properties.

5.4.6. Vegetation offsets

Vegetation offsets will be conducted in line with vegetation management plans.

5.4.7. Gaps in flora knowledge

To increase understanding and enhance management of flora species and habitats, the following gaps need to be addressed:

- Location and extent of priority and emerging weeds
- Effects of fire on weeds
- Effects of fire on native species and communities
- Management for wildfire reduction
- Native grassland restoration
- Impact of stock and pest animal grazing/ browsing on weed control
- Knowledge of vegetation values on more recently acquired IPA properties
- Health of vegetation
- Understanding of aquatic and riparian vegetation
- Understanding of community desires for growing or protecting culturally important plant species
- Feasibility of creating seed production areas.

5.4.8. Potential threats

Potential threats to flora that need to be managed include over-browsing by native or feral animals, weed invasion, wildfire, changes in hydrology, ground disturbance, low abundance of some species, climate change, and lack of monitoring.

5.4.9. World Heritage key indicators for flora

The following flora-related key indicators were documented in the World Heritage nomination:

- Increase in health of recorded Ecological Vegetation Classes as measured by the Habitat Hectare method
- Increase in area and availability of culturally significant native species, such as puunyaart grass
- Pest plants controlled in line with Victorian Government requirements and targets
- Decrease in pest plant species in riparian areas.

These indicators help to inform the actions outlined below.



5.4.10. Flora management actions

Actions to address potential threats to flora are listed below.

ACTION 23

Undertake botanical surveys to map, describe and monitor habitats and botanical species compositions and health across the IPA properties (as a follow-up to the 2007 Botanical Management Plan) [WH]

IPA Manager | 30 June 2024

ACTION 24

Develop a revegetation plan

IPA Manager | 30 June 2023

ACTION 25

Finalise weed plan

[WH] IPA Manager | 30 June 2023

ACTION 26

Continue to implement control programs to manage priority pest plants/weeds

[WH] Budj Bim Rangers | Ongoing

ACTION 27

Develop biosecurity plan to prevent introduction and spread of weeds and pathogens at the IPA properties

[WH] Budj Bim Rangers and IPA Manager
30 June 2023

ACTION 28

Continue to map weed infestations, control works, revegetation and flora survey sites on Fulcrum/CIMS

[WH] Budj Bim Rangers & Land Management Crew GMTOAC
Ongoing

5.5. FAUNA

5.5.1. Native fauna

The properties support culturally significant fauna species, along with fauna of regional, state and national significance.

Over the past two decades, fauna surveys have taken place at the properties, listed below:

- A 2003 survey confirmed the presence of culturally significant, threatened species such as Tiger Quoll, Intermediate Egret, Great Egret, Powerful Owl, Barking Owl and Common Bent Wing Bat, among others.
- Museum Victoria's 2011 Bush Blitz program on the Lake Condah, Kurtonitj and Tyrendarra IPA properties documented a diverse range of fauna species. Species lists provided in the Bush Blitz survey report are a valuable compilation of new and older records, and participants contributed valuable photographic records.
- In 2008, the Mt Eccles lava flow botanical management plan also documented the discovery of a Mountain Grasshopper or Katydid (rare in the lowlands of Victoria) at a stony rise area on the Lake Condah property.
- Bird surveys by Portland Field Naturalists have also documented a wide range of waterbird and other species at Tae Rak over many years. Along with the highly valuable records these surveys have created, they have also provided excellent two-way learning opportunities for Budj Bim Rangers and field naturalist members. Survey data collected three to four times per year has been incorporated into Birdlife Australia's database. Data includes sightings collected prior to weir construction and post weir records and reports ,45,46.
- A 2020 fauna survey used live-trapping, camera-trapping and sound recording to survey small mammals at four sites across the Lake Condah, Tyrendarra, and Kurtonitj properties and provided training and protocols for these methods. These activities recorded low rates of trapping success which was attributed to likely predation and dry conditions.

Positive changes in bird numbers and improved habitat (including for breeding) have been observed and recorded since weir construction in 2010.

An increase in numbers of Hardhead ducks, new breeding records for some species, the presence of small migratory waders such as Sharp-tailed sandpipers, as well as rare species such as Freckled duck have been documented.⁴⁵

Recorded bird species of note (as listed on Victoria Flora & Fauna Guarantee Act list of threatened taxa 2021) include:

- Australasian bittern (critically endangered)
- Brolga (endangered)
- Blue-billed duck (vulnerable)
- Freckled duck (endangered)
- Musk duck (vulnerable)
- Great egret (vulnerable)
- Intermediate egret (critically endangered)
- Little egret (endangered)
- Magpie goose (vulnerable)
- Hardhead (vulnerable)
- Grey goshawk (white phase) (endangered)
- White-bellied sea eagle, (endangered).⁴⁶

Good numbers of hardhead and Blue-billed ducks are now noted to be regularly turning up in winter and spring.⁴⁷

Prior to the weir's construction, only one record (2007) of two Blue-billed ducks had been noted at the lake.⁴⁸ Brolgas have also been recorded at Bryants.

- Fauna surveys have been conducted during 2022 by Nature Glenelg Trust, including surveys of birds, mammals, reptiles and invertebrates. These surveys are planned to be completed by the end of 2022.

Management for healthy populations of culturally significant fauna species is a priority for the Budj Bim Cultural Landscape. Possible species for reintroduction or focused management will be determined in consultation with the Gunditjmara community.

5.5.2. Kooyang and other fish

Acoustic tagging of kooyang was undertaken in 2008 and 2020 and continues. The movement of tagged kooyang through the lake, the weir, and Killara will help to inform management of the weir flows. The 2020 satellite tagging project has demonstrated their journey from Tae Rak out to sea prior to spawning. Some of the tags were recorded near Tasmania and Sydney, while the furthest tag was recorded near New Caledonia. The report from this study also lists the fish species caught in Fyke netting at the bypass pipe coming out of the lake towards Killara as predominantly redfin perch, followed by common galaxias, tench, southern pygmy perch, and tupong. The report notes that introduced redfin perch were not present in Lake Condah during surveys a decade ago but are now present in significant numbers.

Aspects of this study that can be further developed to inform management include:

- Exploring opportunities for assisting kooyang migration by enabling passage through the bypass pipe in dry periods and adjusting lake levels
- Studying newly inundated shallow littoral habitats of the upstream end of the lake for their importance to kooyang feeding and growth.

Post bushfire surveys were conducted by GMTOAC staff at Killara to assess effects on Glenelg Crayfish (Environment Protection and Biodiversity Conservation Act listed) and River Blackfish

(listed as vulnerable in Victoria). The project developed skills in survey planning, design, and implementation within GMTOAC. It also highlighted the impact on crayfish of poor water quality observed in Tae Rak and Killara at the time which prompted subsequent water quality investigations.

In 2019, the Kooyang Killara Water Project piloted a six-tub solar powered aquaculture facility for kooyang, located in the bull paddock at the mission. The pilot facility was overseen by GMTOAC, Deakin University School of Life and Environmental Sciences, Deakin Research, Wannon Water and the Victorian Fisheries Authority and was funded by the Victorian Government Aboriginal Water Program. GMTOAC staff and Gunditjmara community members participated in a training program for animal welfare and use of the monitoring and reporting equipment and chemicals. Some kooyang were netted and relocated to the pilot facility. The Gunditjmara Research Assistants successfully built their competence with the daily schedule of feeding the kooyang, monitoring water levels and flows and recording the results. The program was suspended with the onset of the pandemic restrictions with the kooyang released back into Tae Rak.

Further kooyang population and migration monitoring needs to be developed. This may also assist with developing commercial Kooyang projects at the IPA.

5.5.3. Pest animals

Pest animals recorded at the properties include cats, dogs, goats, red deer, fallow deer, red fox, European rabbit and brown hare, pest fish (brown trout, rainbow trout, eastern gambusia, goldfish and redfin perch). Feral pigs are a new and growing threat. There is potential for them to damage stone cultural heritage sites and they pose a safety risk for community visiting and camping at the property. They may also be spreading weed seeds because of their diverse diet and are degrading some wetlands through digging.



Rangers and GMTOAC staff have observed deer numbers increasing over the past few years. A volunteer has been undertaking annual estimates of deer numbers for several years now, which also indicates that the population is increasing.

The Budj Bim Rangers have worked consistently over many years to control pest animals and monitor progress. Until recently, rabbits, foxes and feral cats have been the focus of control works. Targeted control of feral cats and foxes helps to protect a suite of small to medium sized native vertebrates including EPBC-listed spot-tailed quoll and southern brown bandicoot. However, feral pigs are now emerging as a primary focus for management. Despite control efforts, feral pigs and deer have expanded in the IPAs, spreading from neighbouring forest areas.

5.5.3.1. Budj Bim invasive species project control group

As part of the bushfire program Bushfire Biodiversity Response and Recovery, in partnership with DELWP, a Budj Bim invasive species project control group has been established to ensure a coordinated response to management of pest animals across the Budj Bim World Heritage Landscape and some adjacent private land. The primary role of the reference group is to provide leadership and coordination between agencies to achieve a collaborative approach to the ongoing management of pest animals, specifically feral pigs, foxes, deer, goat and feral cats. The group will provide input on operational planning and technical advice on control implementation and provide short term solutions and long term directives to management

that enable pest management objectives to be met and relationships between internal and external stakeholders to be maintained. This group has membership from GMTOAC, Winda Mara, DELWP, GHCMA, and Parks Victoria.

This group has developed the Budj Bim Integrated Pest Control Activity Plan to manage pest threats in the wake of the fire. The plan aims to:

- Reduce the impact of predation by introduced pest animals on the survival and recovery of threatened native fauna species, especially where predation has the potential to expedite localised or species-level extinction
- Reduce the impact of introduced herbivores, including feral pigs, on the survival and recovery of threatened flora species, habitat and vegetation communities
- Reduce the impact of high threat weeds on the survival and recovery of threatened flora species, and vegetation communities.

The plan includes ground and aerial shooting for large herbivores at targeted locations to protect critical habitat and EVCs, and ground trapping and baiting at targeted (accessible) locations across the landscape.

In April and May 2021, a 10-day aerial shooting program was undertaken. The following feral animals were treated during the program:

- 1066 Fallow Deer
- 2 Red Deer
- 38 Pigs
- 60 Goats
- 10 Foxes.

In March 2022, 233 deer were controlled during an aerial shoot carried out in collaboration with Parks Victoria and DELWP. This is a much lower number than was removed in 2021. It is hoped that this indicates that there are now fewer deer impacting on vegetation in the IPA.



5.5.4. Knowledge gaps

Gaps in knowledge of fauna include:

- Populations of mammal species across the properties, particularly culturally significant species
- Impacts (e.g., predation) on native fauna by pest species
- Locations of large trees with hollows or nest sites that need protection from fire (e.g., as used by Wedge-tailed Eagles, Powerful Owls)
- Invertebrate, kooyang and fish populations since reflooding
- Understanding of whether Frog Chytrid fungus is present in wetland areas
- Koala impacts on tree health and pig/deer/goat impacts on undergrowth, swamps and creek banks.

5.5.5. Potential threats

Key potential threats relating to fauna include:

- Lack of information on species presence and abundance
- Habitat threats (see flora section)
- Effects of pest animals, particularly feral pigs
- Pathogens such as Frog Chytrid fungus
- Lack of cultural burning
- Wildfire.

5.5.6. World Heritage key indicators for fauna

The following fauna-related key indicators were documented in the World Heritage nomination:

- Maintain or increase diversity of known native fauna populations as measured by presence and numbers
- Maintain sustainable levels of kooyang (eel) population for use by the Gunditjmarra for cultural purposes
- Numbers of pest animals kept below key Victorian Government targets for the region and land type

- Decrease in impacts of cattle grazing on aquaculture features
- No increase in European Carp, Mosquito Fish or other introduced fish species.

These indicators help to inform the actions outlined below.

5.5.7. Fauna management actions

ACTION 29

Conduct wide-scale fauna surveys across the properties. Select key species to focus on and establish population numbers for future benchmarking

[WH] IPA Manager and World Heritage Unit
30 June 2023

ACTION 30

Develop and implement long term kooyang and fish monitoring program

[WH] AWO | 30 June 2024

ACTION 31

Continue to monitor and control pest animals and measure impacts

[WH] IPA Manager and World Heritage Unit
Ongoing

Aaron Morgan on site at a cultural burn.

Source: GMTOAC 2019/2020 Annual Report (p.21).



5.6. FIRE MANAGEMENT

5.6.1. Cultural burning – Weeyn Yarkeen Strategy

Weeyn Yarkeen (Fire Dreaming) is a strategy for implementing cultural burns across the IPAs.

The strategy outlines how cultural burns are used on the IPA properties as part of good land management. These are slow burns that help to reduce leaf litter, germinate seeds and allow smaller plants to grow without being dominated by the taller and denser plants. Cultural burns can help to reduce the risk of wildfires. Slow burns, as compared with uncontrolled hot wildfires, help to reduce the harm to wildlife and vegetation and result in less greenhouse gases. These burns are conducted in areas that water tankers can access and are managed by GMTOAC, Budj Bim Rangers and Gunditjmara in partnership with Country Fire Authority (CFA), DELWP and Glenelg Hopkins CMA. A great deal of consultation and checking of weather and fuel conditions takes place before burns are conducted.

The Weeyn Yarkeen Strategy outlines the principles and objectives of cultural burning at the properties and how they will be managed and implemented. Weeyn Yarkeen aims to reinvigorate cultural fire through Traditional Owner led practices across all types of Country and land tenure, enabling Traditional Owners to heal Country and fulfil their rights and obligations to care for Country.

In 2020, burns were conducted at the Kurtonitj and Tyrendarra IPAs targeting Phragmites with the hope of creating improved habitat for the Australasian Bittern, a nationally listed endangered bird. A sound recorder has been installed to monitor the Australasian Bittern at the Tyrendarra site, while vegetation regrowth will be monitored at both properties. Sounds recordings confirmed the presence of a Bittern in October 2021.

Cultural burns along Killara through the properties are also planned to assist in creating access for Gunditjmara community and staff. Burns will also help to control blackberries along the creek.

It will be important for us to document and evaluate the impacts of cultural burning to inform future management, in line with the Victorian Traditional Owners Cultural Fire Strategy action to “investigate the potential impact of cultural fire in restoring ecological functions and reducing fuel loads”.

GMTOAC, in partnership with Budj Bim Rangers, commenced development of a pre- and post-burn assessment in 2021 to support monitoring processes.

The November 2020 workshop at Portland identified aspirations to create a Gunditjmara Fire Team with its own equipment (such as slip-ons and PPE) between the two organisations to undertake cultural burns and give greater autonomy. Weeyn Yarkeen also works towards achieving this.

5.6.2. Wildfire management

Wildfire control is an important aspect of protecting life, as well as community, cultural and environmental assets. A bushfire management strategy, separate to the Weeyn Yarkeen Strategy, is in place across the properties.

The following excerpt from the previous fire management strategy outlines fire protection objectives including to:

- Protect human life and property assets (visitor facilities, fences, jetty and boat ramp etc.) from the consequences of wildfire
- Carry out cultural burning practices in a way that will enhance the biodiversity of the property
- Ensure water catchment values of the property are conserved and enhanced
- Ensure all cultural and archaeological sites are preserved
- Restore any areas adversely affected by fire
- Educate community members and land management staff on fire protection practices
- Liaise with partner agencies on all aspects of fire protection.

Discussions and planning regarding fire management are an opportunity for building greater capacity, cooperation and partnerships



Burn at Kurtonitj, camping area Killara [Darlot Creek].
Drone photography by Leigh Malseed (Traditional Owner & GMTOAC).

Principle 1 Cultural Burning is Right Fire, Right Time, Right Way and for the right (cultural) reasons

Principle 2 Burning is a cultural responsibility

Principle 3 Cultural fire is living knowledge

Principle 4 Monitoring, evaluation and research support cultural objectives and enable adaptive learning

Principle 5 Country is managed holistically

Principle 6 Cultural Fire is healing

with the CFA and DELWP firefighters as well as neighbouring landholders. This is also an opportunity to obtain community feedback and input and demonstrate responsible management of fire threats.

Budj Bim Rangers and GMTOAC staff undertake fire planning and training in partnership with the CFA, DELWP and Parks Victoria. The ongoing partnership with agencies allows valuable sharing of information about cultural burning and wildfire management.

5.6.3. Fuel reduction

When required, fuel reduction burns are carried out through the implementation of Fire Operations Plans developed in consultation with DELWP and the CFA.

5.6.4. Bushfire 2019/2020

From 20 December 2019 to 10 January 2020, two wildfires burned a total of 6,400 ha of Country within the Budj Bim Cultural Landscape, including 1,400 ha of the Allambie and Muldoons sections of the IPA, and around 5,000 ha of the Budj Bim National Park.

A large number of cultural sites (stone fish traps and stone house sites) were within the fire area. Fortunately, there did not appear to be any serious fire damage to these cultural features. Additional unrecorded fish traps and house sites were revealed by the fire.

Except in life-threatening situations, our fire management policies prohibit the use of heavy machinery such as dozers or graders that may inadvertently damage cultural sites while constructing mineral earth breaks etc. The ongoing relationships between GMTOAC and agencies such as CFA, DELWP and Parks Victoria came to the fore, as everyone worked hard during the firefighting effort to ensure that heavy machinery was not used on the lava

flow, in recognition and respect for the cultural importance of Country.

There was limited damage to infrastructure at the IPA, with the main loss being at Allambie – the woolshed was destroyed and around 2km fencing was damaged.

Neighbouring properties were also damaged, and the Budj Bim National Park was closed for several months to repair fencing and enable clean-up works. In the months after the fire was controlled, there were still some smouldering fires and tree falls to manage in the park, and there was some concern about the stability of the scoria walls of the crater. Native plants and weeds have regenerated following the fire.

Figure 4 below shows the area burned by these wildfires in relation to the Budj Bim Cultural Landscape.

LiDAR imagery – taken a few weeks after the fire – could be used to indicate the extent of fire damage to the canopy, while future imagery could show the health and recovery of these areas in comparison with unburned areas.

5.6.5. World Heritage key indicators for fire management

The following fire-related key indicators were documented in the World Heritage nomination:

- Increase in the area subject to cultural burning practices until a balanced fire management regime is achieved
- Decrease in frequency of wildfire
- Increase in recognition of the location and significance of cultural heritage features amongst fire management and control personnel.

These indicators help to inform the actions outlined below.

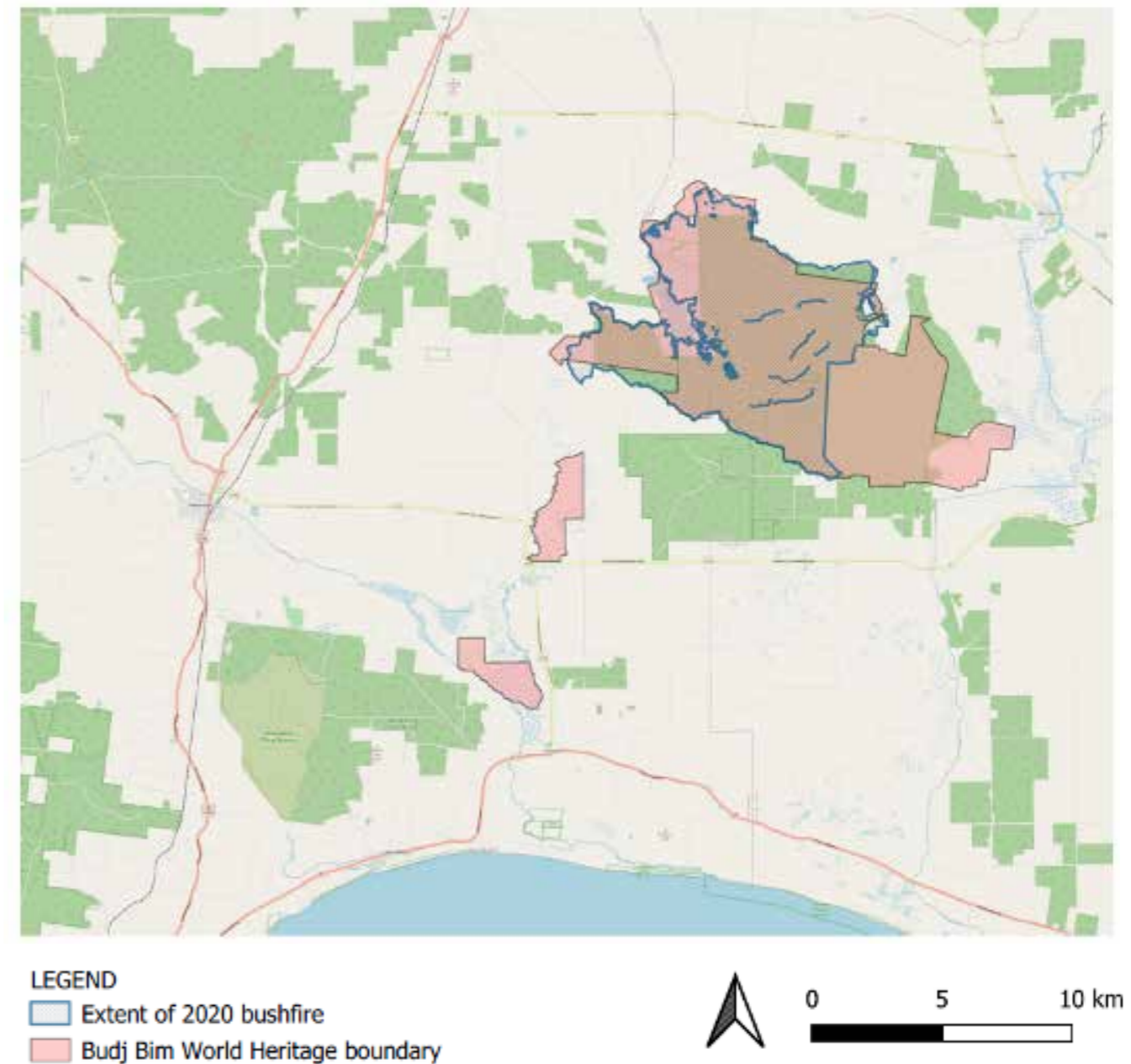


Figure 4: Area burned by 2020 bushfire in relation to World Heritage area

5.6.6. Fire actions

ACTION 32

Develop a monitoring process to assist in measuring the extent to which cultural burns are helping to restore ecological function, and establish social and cultural monitoring (e.g., photo-points and Fulcrum mapping)

World Heritage Unit in partnership with support agencies | 30 Dec 2023

ACTION 33

Continue to update and implement bushfire management strategies and Weeyn Yarkeen Strategy for the IPA, as required

World Heritage Unit in partnership with support agencies | Ongoing

ACTION 34

Continue partnerships with relevant fire agencies and other personnel to increase awareness of the location and significance of cultural heritage for fire management and protection

[WH] World Heritage Unit | Ongoing

5.7. TOURISM AND VISITOR MANAGEMENT

Tourism provides important opportunities for Gunditjmarra – it enables employment and economic development as well as the opportunity to selectively share elements of culture with the broader community. Our plans for sustainable, community-led tourism are outlined in the 2014 Budj Bim (Tourism) Master Plan. This document includes the underlying principles and business case, vision, planning, management and implementation of sustainable tourism activities.

Within the Budj Bim IPA, projects are outlined in the master plan for Tae Rak and Kurtonitj visitor experience areas. In the first two stages of plan implementation, a new Cultural Seasons Calendar display has been installed at Kurtonitj, a traditional aquaculture centre has been constructed at Tae Rak, and a track upgrade and new crossing have been installed near the Kerrup-Jmara weir.

The human activities of tourism are considered a low potential threat to the values and attributes of the properties. Our cultural heritage management planning, environmental assessments and planning permits undertaken for tourism development projects also ensure there will be no adverse impacts to the cultural and natural values (of outstanding universal value

and otherwise) of the IPA. However, any potential impacts identified will be monitored and mitigated through our management processes, as outlined below.

GMTOAC has developed a tourism partnership company to deliver sustainable tourism on the IPA. This will include the development of a monitoring system to record visitor numbers and experiences to ensure the ongoing sustainability of the tourism operations. Visitor impacts in sensitive areas will be managed through restricting access and protective structures such as boardwalks.

5.7.1. World Heritage key indicators for tourism management

The following tourism-related key indicators were documented in the World Heritage nomination:

- Maintain sustainable carrying capacities for each Visitor Experience Area.

ACTION 35

Develop a monitoring system to record visitor numbers and experiences and conduct an annual review of tourism sustainability

[WH] Budj Bim Cultural Landscape Tourism Ongoing

5.8. TRADITIONAL FISHING, HUNTING, GATHERING AND COLLECTING

It is important for Gunditjmarra to be able to undertake traditional fishing, hunting, gathering and collection on the IPA as part of our cultural practices and traditions. The use of natural resources will follow the principles of ecological sustainability.

5.9. EUROPEAN HERITAGE

There are a number of European heritage sites on the property which include dry-stone walls, European house remnants, and the Bessiebelle Sheepwash and Yards complex located on the Lake Gorrie property (recorded on the Victorian Heritage Register). GMTOAC works collaboratively with Heritage Victoria to ensure protection and maintenance of the Bessiebelle Sheepwash.

ACTION 36

Continue to undertake general maintenance of some European heritage sites with advice from Heritage Victoria and as funding allows

BB Rangers | Ongoing

Aaron Morgan - World Heritage Ranger GMTOAC

5.10. ACCESS

Providing safe access for Gunditjmara to enjoy time on Country and manage Country is extremely important. Well maintained access tracks are also crucial for providing tours and for emergency access such as during fire response. Tracks, gates and signage are regularly inspected and issues such as trees across tracks or wet weather closures are reported to the Budj Bim Rangers for priority action. Provision of safe access for swimming at the Kurtonitj Traditional Owner campground is also being planned.

5.10.1. Public access

Public access on the Budj Bim IPA is limited to one public road through the Allambie property, however members of the public still occasionally access the properties, particularly through the Budj Bim Trail. Gunditjmara are concerned about public access, particularly for peaceful enjoyment of Country, fire management and risk management aspects.

Uncontrolled public access could potentially cause the following issues:

- Interruption of cultural activities
- Occupational Health & Safety issues (accidents, fire, storms, evacuations, confrontations with trespassers on site etc.)
- Legal issues
- Undermining of the commercial tourism venture and visitor management
- Compromising of privacy, intellectual property and cultural access to property
- Damage to cultural heritage sites
- Damage to flora and fauna (e.g., disturbing during breeding seasons, poaching etc.)
- Biosecurity issues, introduction of weeds and pathogens or stock diseases
- Damage to tracks and inadvertent creation of new ones
- Damage to other infrastructure.

An access feasibility study was undertaken for the Allambie and Kurtonitj properties in 2011. This study covered issues such as new track construction, signage and visitor management, and access-related fire management issues. GMTOAC has existing access management plans that cover all properties. These cover Occupational Health & Safety, risk management, emergency management, legal obligations, and other organisational and community policies. Such plans help to facilitate safe Gunditjmara access to and enjoyment of country and for public accessing visitor areas.

ACTION 37

Update and review access plans as required

Risk Management Officer | Ongoing

5.11. GRAZING MANAGEMENT

For the past few decades, beef cattle have been run on selected zones of the IPA that have already been substantially modified by grazing over the past century, and where grazing will not negatively impact cultural heritage and natural values. The cattle are owned by Winda-Mara Aboriginal Corporation and managed by the Budj Bim Rangers.

The areas grazed are outlined in Figure 5.

Our main rationale for grazing is for fire fuel load reduction and weed control, both of which assist us to protect the cultural heritage and natural values in line with our cultural and legal obligations. The Allambie and Lake Gorrie properties are classified as Farming Zone in the Moyne Shire. The three properties are also subject to Bushfire Management Overlays which require the management of vegetation and fuel loads.

Managing the cattle also gives the Budj Bim Rangers practical agricultural skills that are highly transferable to other jobs in the region. We encourage the Budj Bim Rangers to look at other employment opportunities and provide a range of work activities to enhance their employability.

The health and welfare of the herd are regularly checked and managed by the Ranger team. Animal welfare is managed in line with Livestock Production Assurance (LPA) requirements, such as compliance with the Australian Animal Welfare Standards and Guidelines, and completion of relevant LPA training modules. The supervisor of the ranger team has also completed all other required training under the LPA program and ensures the operation's compliance with standards. Rangers have undertaken training in pasture and soil management and livestock marketing from Agriculture Victoria. Other training opportunities in animal management and biosecurity will be explored with Agriculture Victoria, as needed.

Stock numbers are regularly adjusted to match available grass and the season. Destocking occurs when the season is dry, and paddocks such as those at Lake Gorrie are destocked during wet periods to avoid damaging soil and groundcover. Grazing is not undertaken during droughts or when the paddocks are recovering from wildfire. Grazing is managed to ensure that appropriate groundcover is maintained and considers the needs of native grazing animals. Feral animal

control programs underway at the properties also help to limit impacts on groundcover in grazing paddocks and adjacent areas.

Hay is also cut on a small section (36 ha) of the Allambie property on an as-needed basis to assist in further hazard reduction. This hay is then used to provide supplementary feeding. No other brought-in supplementary feeding is used at the IPAs, which helps prevent importing new weeds.

While the Commonwealth's draft IPA Sustainable Grazing Guidelines recommend agistment, we believe that owning the herd and having the ability to buy or sell stock to adapt the herd size to the season and grass availability gives us a much greater level of control to meet the grazing objectives for these areas. Agistment could also pose biosecurity, access and other risks.

While the grazing does not impact on cultural heritage values, we recognise the need to demonstrate that grazing practices are ecologically sustainable and are the most effective and sustainable methods to meet our fire fuel load reduction and weed control objectives.

In 2022 we propose to have an external expert undertake a feasibility study for the grazing enterprise to inform our decision-making processes. The feasibility study would focus on determining the level of compatibility of our objectives for biodiversity, fire fuel load reduction and weed biomass reduction in grazing areas.

Figure 5: Areas grazed, by property and total

Property	Area grazed (ha)	Area of property (ha)	% of property grazed	% of total IPA area grazed
Allambie	319.75	501	63.8%	11.5%
Lake Gorrie	227.15	597	38.0%	8.1%
Mission*	30.58	51.2	59.7%	n/a
Percentage of total area grazed				19.6%

* While we periodically graze areas of the Lake Condah Mission, the property is not part of the Budj Bim IPA. However, it is included here as the property falls within the World Heritage boundary.

It will consider the costs and benefits of grazing practices and suitable alternatives and assist us in developing a grazing management plan with appropriate targets, monitoring and reviewing processes.

Grazing will need to be reviewed when projects such as Lake Gorrie restoration commence and after any new vegetation surveys are conducted.

Community discussions will be held about the future of the grazing enterprise following the completion of the study.

ACTION 38

Undertake a feasibility study to determine if grazing remains a feasible option on the IPA

IPA Manager | 30 June 2023

5.12. WANDERING STOCK POLICY

The Wandering Stock policy was revised in 2021 for the GMTOAC-owned properties. This policy covers such issues as maintenance of fences and gates and communication with neighbouring landholders and council.

5.13. BIOSECURITY

Budj Bim Rangers have completed a biosecurity training module and have good awareness and understanding of the need for best practices to reduce spread of weeds, pests and pathogens at the IPA. Clauses are also written into external contracts to ensure that biosecurity practices, particularly for machinery and equipment, are addressed. Further planning, documentation and training of new staff would help to manage biosecurity risks.

5.14. PLANNING ISSUES

It is extremely important to protect the IPA from development impacts occurring in the region. Types of development that may impact on Killara or Tae Rak catchment area may include, for example:

- Changes to irrigation developments or water licences upstream (bores/surface water)
- New eel or fishing licences for the catchment
- Stone and mineral extraction, rock rolling
- Changes to commercial plantations that may affect water runoff and chemical use (e.g., new plantations, harvest, replanting)
- Changes to high intensity agricultural or industrial enterprises that could cause water quality issues downstream (e.g., chemicals, nutrients etc.)
- Other land use changes that may impact on water runoff
- Changes in fire management within catchment
- Changes in camping regulations on waterways and Crown land.

Developments that could impact on cultural heritage values, the visual landscape, and flora and fauna values may include, for example:

- Energy infrastructure
- New communication lines or pipelines
- Plantations and other changes in land use
- Mining
- Quarrying
- Toxic waste facilities
- Subdivisions or building developments
- Roads
- Communication towers
- Developments in the adjacent national park and crown land.

Developments, whether proposed on or near the IPA properties, will be subject to assessment under EPBC Act processes if there is potential for them to impact on World Heritage and other values. There are also a range of other acts under which such developments might also be assessed for their impact on cultural and natural values.

GMTOAC has worked with the Victorian Government, Glenelg Shire Council and Moyne Shire Council over the past two years to review planning overlays for the Budj Bim Cultural Landscape. The work has now produced a final draft of recommendations on appropriate 'special use zoning' locations. This will be progressed in 2022 with a view to implementing the draft recommendations (and any required amendments) into the planning schemes, following final approvals.

Broader planning issues may also need to be addressed beyond the World Heritage boundary. In some cases, it may be about encouraging best practices. For example, GMTOAC would like to work with the Glenelg Hopkins CMA to encourage farmers upstream of Lake Condah to exclude cattle from the creek.

Budj Bim Council and the IPA Advisory Committee will be good forums to raise issues and pursue future changes to planning zones.

5.15. CLIMATE CHANGE IMPACTS

Climate change has the potential to affect a range of cultural and ecological values across the Budj Bim Landscape. The actions in this plan aim to increase the resilience of the IPA to the impacts of climate change and identify appropriate adaptation measures, if required.

One of the key indicators for World Heritage is to increase research on climate change impacts and appropriate adaptation measures.

Modelling of several climate scenarios was undertaken for the weir project in 2006, but no other specific climate change projects have been undertaken at the properties.

Studies will be required to understand the effects on fire, flora and fauna, including pest species. Climate change may also result in changes in surrounding land use that could impact on the IPA.

Sammy Walsh-Bannam – Invasive Species Project Officer GMTOAC



GMTOAC will work with an external provider to develop a climate action plan for the IPA to determine future measures to help the Budj Bim Cultural Landscape to adapt to a changing climate. The project will engage with GMTOAC and members to incorporate Gunditjmarra knowledge. It will consult with key stakeholders, review information and previous learnings on potential impacts of climate change in the region and undertake a climate change vulnerability assessment.

Alyssa Dunstan and Ben Church – Budj Bim Rangers WMAC

GMTOAC may also consider future opportunities for carbon mitigation/sequestration at the IPA.

ACTION 39

Develop a climate action plan for the IPA

[WH] World Heritage Unit | 30 June 2023



5.16. RESEARCH ACTIVITIES AT THE PROPERTIES

A substantial amount of research has been carried out across the properties over several decades. This has assisted the understanding of Country and its management needs. It is important to Gunditjmarra that research is driven by cultural and community interests and addresses priority gaps in knowledge.

GMTOAC may be interested in partnering with research organisations where the research supports and develops our management of Country. This IPA plan will provide a framework for identifying and prioritising areas for research on the IPAs and developing proposals for the consideration of partners.

Research priorities, protocols and principles are being drawn up by GMTOAC and will be completed by the end of 2022.

ACTION 40

Finalise the research principles and protocols document by end 2022

Research & Policy Officer

ACTION 41

Develop research proposals for priority projects i.e., cultural heritage, hydrological and other relevant research to enhance the function and protection of the Budj Bim Cultural Landscape

Research & Policy Officer | Ongoing

5.17. MAPPING

Mapping of program activities undertaken will be important to demonstrate the successful implementation of the IPA plan and for highlighting priorities and planning future management activities. Layers created from these activities can be combined with other public datasets showing natural resource values (e.g., EVCs, flora and fauna sightings, hydrology) to illustrate the broader context of the work. New layers are also becoming available, such as detailed LiDaR photography, that will be invaluable for planning projects. The Glenelg Shire online mapping portal is also used to generate property and other maps.

Rangers use a program called Fulcrum to map their activities and synchronise with CIMS. GMTOAC is further developing the mapping system. There is also scope to incorporate mapping layers from previous and future research projects at the properties, as appropriate.

A cartographer is assisting with mapping layers in CIMS and production of maps for publications.

ACTION 42

Generate list of maps needed for reporting and consider further developing in-house mapping capability, supported by the cartographer

IPA Manager | 30 June 2023



ADDITIONAL RESOURCES REQUIRED FOR PLAN IMPLEMENTATION

Implementation of this plan is dependent on the availability of funding. Some of the actions listed in the appendix below will require further funding beyond our existing resources. This could include, for example, flora and fauna surveys, cultural heritage surveying, kooyang and fish monitoring projects, as well as implementation of some of the hydrological study recommendations. GMTOAC will apply for funding for such projects through relevant bodies.

ACTION 43

Apply for funding for projects not already covered by existing resources for the life of this plan

IPA Manager | Ongoing

APPENDIX 1: SUMMARY OF IPA ACTIONS

The following is a list of the actions that will be undertaken during the life of this IPA plan. WH denotes actions that are related to World Heritage key indicators.

Action 1:	GMTOAC will engage and seek endorsement from GMTOAC members to rename the properties using traditional names [IPA Manager] [30 December 2022]
Action 2:	Develop the World Heritage Strategic Management Framework, and incorporate this IPA plan of management into the Budj Bim World Heritage Action Plan [World Heritage Executive Officer] [30 September 2022]
Action 3:	Pursue alignment of National Heritage and World Heritage areas [World Heritage Executive Officer] [30 December 2022]
Action 4:	Pursue dedication of additional IPA properties with Commonwealth [IPA Manager] [30 December 2022]
Action 5:	Produce audio-visual updates for GMTOAC members and community about the IPAs [IPA Manager] [annually].
Action 6:	Hold an annual workshop to support Gunditjmara engagement in the management of the IPA [IPA Manager] [annually]
Action 7:	Communicate IPA plan achievements to Gunditjmara in community meetings, GMTOAC annual reports and other community publications including the use of CIMS to share information relevant to this plan and its activity e.g., feral animal management, cultural burning, cultural heritage etc. [IPA Manager & Media and Communications Officer] [ongoing]
Action 8:	Engage with Gunditjmara to identify and monitor culturally significant native flora and fauna species and develop management actions to enhance these species [IPA Manager] [ongoing]
Action 9:	Develop opportunities to share information about management of the Budj Bim Cultural Landscape with the regional community [Media and Communications Officer] [ongoing]
Action 10:	Engage with neighbouring landholders on an annual basis, or as required, to build and maintain relationships and manage cross-boundary issues [IPA Manager and Budj Bim Rangers] [ongoing]
Action 11:	Map and document condition of the aquaculture system (channels, weirs, dams and ponds) at the Tae Rak and Kurtonitj complexes [WH] [GMTOAC working group] [30 December 2022]
Action 12:	Monitor aquaculture systems annually to ensure there is no decline in the condition and function of the aquaculture features [WH] [GMTOAC working group] [30 December 2022]
Action 13:	Annually map and document vegetation that may be affecting channel features and other cultural heritage sites and incorporate into vegetation management programs [WH] [Research Officer and World Heritage Executive Officer] [annually]
Action 14:	Continue to map and document previously unrecorded cultural heritage sites uncovered by fire or LiDAR photography [WH] [GMTOAC working group] [30 December 2022]
Action 15:	Add information on cultural heritage site condition gained through IPA plan actions to ACHRIS [WH] [GMTOAC working group] [30 December 2022]
Action 16:	Identify key waterway, wetland and groundwater sites to monitor for water quality and flows [WH] [AWO] [30 December 2022]

Action 17:	Obtain advice to inform and develop flow and water quality monitoring to support the health of key aquatic species at IPA waterways. Develop appropriate benchmarks and monitoring schedule [WH] [AWO] [30 June 2023]
Action 18:	Obtain water quality monitoring equipment and source appropriate training for GMTOAC staff to undertake monitoring, as needed [AWO] [ongoing]
Action 19:	Set up Fulcrum/CIMS to receive water monitoring records. Share and discuss water records as appropriate with relevant agencies [WH] [AWO] [30 June 2022]
Action 20:	Continue to work with Traditional Owners to identify cultural values of waterways and wetlands to help prioritise management actions [AWO] [ongoing]
Action 21:	Prioritise projects to follow up on the recommendations for future works from hydrology reports completed in 2020 for Tae Rak, Kurtonitj and Lake Gorrie and the operational rules for Tae Rak [AWO and consultants] [2022/2023]
Action 22:	Continue willow removal along Killara and replace with appropriate native species [GM LM crew in partnership with CMA] [ongoing]
Action 23:	Undertake botanical surveys to map, describe and monitor habitats and botanical species compositions and health across the IPA properties (as a follow-up to the 2007 Botanical Management Plan) [WH] [IPA Manager] [30 June 2024]
Action 24:	Develop a revegetation plan [IPA Manager] [30 June 2023]
Action 25:	Finalise weed plan [WH] [IPA Manager] [30 June 2023]
Action 26:	Continue to implement control programs to manage priority pest plants/weeds [WH] [Budj Bim Rangers] [ongoing]
Action 27:	Develop biosecurity plan to prevent introduction and spread of weeds and pathogens at the IPA properties [WH] [Budj Bim Rangers and IPA Manager] [30 June 2023]
Action 28:	Continue to map weed infestations, control works, revegetation and flora survey sites on Fulcrum/CIMS [WH] [Budj Bim Rangers & Land Management Crew GMTOAC] [ongoing]
Action 29:	Conduct wide-scale fauna surveys across the properties. Select key species to focus on and establish population numbers for future benchmarking [WH] [IPA Manager and World Heritage Unit] [30 June 2023]
Action 30:	Develop and implement long term kooyang and fish monitoring program [WH] [AWO] [30 June 2024]
Action 31:	Continue to monitor and control pest animals and measure impacts [WH] [IPA Manager and World Heritage Unit] [ongoing]
Action 32:	Develop a monitoring process to assist in measuring the extent to which cultural burns are helping to restore ecological function, and establish social and cultural monitoring (e.g., photo-points and Fulcrum mapping) [World Heritage Unit in partnership with support agencies] [30 Dec 2023]
Action 33:	Continue to update and implement bushfire management strategies and Weeyn Yarkeen Strategy for the IPA, as required [World Heritage Unit in partnership with support agencies] [ongoing]
Action 34:	Continue partnerships with relevant fire agencies and other personnel to increase awareness of the location and significance of cultural heritage for fire management and protection [WH] [World Heritage Unit] [ongoing]

Action 35:	Develop a monitoring system to record visitor numbers and experiences and conduct an annual review of tourism sustainability [WH] [Budj Bim Cultural Landscape Tourism] [ongoing]
Action 36:	Continue to undertake general maintenance of some European heritage sites with advice from Heritage Victoria and as funding allows [BB Rangers] [ongoing]
Action 37:	Update and review access plans as required [Risk Management Officer] [ongoing]
Action 38:	Undertake a feasibility study to determine if grazing remains a feasible option on the IPA [IPA Manager] [30 June 2023]
Action 39:	Develop a climate action plan for the IPA [WH] [World Heritage Unit] [30 June 2023]
Action 40:	Finalise the research principles and protocols document by end 2022 [Research & Policy Officer]
Action 41:	Develop research proposals for priority projects i.e., cultural heritage, hydrological and other relevant research to enhance the function and protection of the Budj Bim Cultural Landscape [Research & Policy Officer] [ongoing]
Action 42:	Generate list of maps needed for reporting and consider further developing in-house mapping capability, supported by the cartographer [IPA Manager] [30 June 2023]
Action 43:	Apply for funding for projects not already covered by existing resources for the life of this plan [IPA Manager ongoing]

APPENDIX 2: MONITORING, REPORTING, EVALUATION AND IMPROVEMENT PROGRAM

The Monitoring, Reporting, Evaluation and Improvement (MERI) program has two key goals:

1. To measure our progress in implementing the actions of this plan of management
2. To reflect on how well the plan is progressing our aspirations for Country.

Regular reporting on plan progress and achievements also provides accountability and structured feedback to Gunditjmarra, partners and other stakeholders.

The MERI plan spreadsheet (attached as separate file) is based on the program logic shown in Appendix 3.

The first sheet of the MERI spreadsheet addresses the first point above: how successful were we at implementing the actions of the plan of management? It shows the list of actions and their completion status, using the MERI template.

It also cross-references these actions to the long term and medium term outcomes sought in the program logic and the World Heritage indicators. It can then be used as a report template to rate progress using the dropdown lists (adapted from the template provided). Supporting evidence can then be listed.

The second sheet addresses the second point above: how effective is the management in mitigating threats and protecting values? Here we have listed the World Heritage indicators, cross-referenced with the actions that relate to each. Responsible roles are listed for each item. We have listed the measures that will be used to measure changes in the indicator, based on outcomes from the plan actions. Data can then be collected and listed here. Performance and trends will be self-assessed, presented and discussed with IPA Advisory Group and WH Steering Group as needed. The plan of management will be reviewed at both the mid-term and end of plan. Our adaptive management approach will incorporate advice and feedback from the IPA Advisory Committee and World Heritage Steering Committee.

VISION: NGOOTYOONG GUNDITJ NGOOTYOONG MARA (HEALTHY COUNTRY HEALTHY PEOPLE)			
LONG TERM OUTCOMES 10-20 YEAR: The Budj Bim Cultural Landscape is protected as a dynamic living place and its significance is respected			
MEDIUM TERM OUTCOMES	The continued function of aquaculture features is maintained, and cultural heritage is protected and recorded across the Budj Bim Cultural Landscape	The Budj Bim Cultural Landscape is resilient to the impacts of climate change, ensuring our waterways and wetlands are healthy	Plants and animals of the Budj Bim Cultural Landscape are healthy and vibrant - supporting reproduction, supply and harvest of our culturally significant species
ACTIONS	<p>Action 11: Map and document condition of the aquaculture system (channels, weirs, dams and ponds) at the Tae Rak and Kurtonitj complexes</p> <p>Action 12: Monitor aquaculture systems annually to ensure there is no decline in the condition and function of the aquaculture features</p> <p>Action 13: Annually map and document vegetation that may be affecting channel features and other cultural heritage sites and incorporate into vegetation management programs</p> <p>Action 14: Continue to map and document previously unrecorded cultural heritage sites uncovered by fire or LiDAR photography</p> <p>Action 15: Add information on cultural heritage site condition gained through IPA plan actions to ACHRIS</p> <p>Action 36: Continue to undertake general maintenance of some European heritage sites with advice from Heritage Victoria and as funding allows</p>	<p>Action 16: Identify key waterway, wetland and groundwater sites to monitor for water quality and flows</p> <p>Action 17: Obtain advice to inform and develop flow and water quality monitoring to support the health of key aquatic species at IPA waterways. Develop appropriate benchmarks and monitoring schedule</p> <p>Action 18: Obtain water quality monitoring equipment and source appropriate training for GMTOAC staff to undertake monitoring, as needed</p> <p>Action 19: Set up Fulcrum/CIMS to receive water monitoring records. Share and discuss water records as appropriate with relevant agencies</p> <p>Action 20: Continue to work with Traditional Owners to identify cultural values of waterways and wetlands to help prioritise management actions</p> <p>Action 21: Prioritise projects to follow up on the recommendations for future works from hydrology reports completed in 2020 for Tae Rak, Kurtonitj and Lake Gorrie and the operational rules for Tae Rak</p> <p>Action 22: Continue willow removal along Killara and replace with appropriate native species</p> <p>Action 30: Develop and implement long term kooyang and fish monitoring program</p> <p>Action 39: Develop a climate action plan for the IPA</p>	<p>Action 8: Engage with Gunditjmarra to identify and monitor culturally significant native flora and fauna species and develop management actions to enhance these species</p> <p>Action 23: Undertake botanical surveys to map, describe and monitor habitats and botanical species compositions and health across the IPA properties (as a follow-up to the 2007 Botanical Management Plan)</p> <p>Action 24: Develop a revegetation plan</p> <p>Action 25: Finalise weed plan</p> <p>Action 26: Continue to implement control programs to manage priority pest plants/weeds</p> <p>Action 27: Develop biosecurity plan to prevent introduction and spread of weeds and pathogens at the IPA properties</p> <p>Action 28: Continue to map weed infestations, control works, revegetation and flora survey sites on Fulcrum/CIMS</p> <p>Action 29: Conduct wide-scale fauna surveys across the properties. Select key species to focus on and establish population numbers for future benchmarking</p> <p>Action 31: Continue to monitor and control pest animals and measure impacts</p> <p>Action 32: Develop a monitoring process to assist in measuring the extent to which cultural burns are helping to restore ecological function, and establish social and cultural monitoring (e.g., photo-points and Fulcrum mapping)</p> <p>Action 33: Continue to update and implement bushfire management strategies and Weeyn Yarkeen Strategy for the IPA, as required</p> <p>Action 34: Continue partnerships with relevant fire agencies and other personnel to increase awareness of the location and significance of cultural heritage for fire management and protection</p> <p>Action 38: Undertake a feasibility study to determine if grazing remains a feasible option on the IPA</p>
FOUNDATION	<ul style="list-style-type: none"> *Gunditjmarra are self-determining about their land, identity, and heritage *Gunditjmarra enjoy, live and care for Country *Gunditjmarra access Country for cultural practices, healing, learning and connection *Facilities are maintained for Gunditjmarra to access and spend time on Country *Gunditjmarra are able to safely share their knowledge, practices and learning with others through partnerships and sustainable governance models *Programs delivered support the values of the Budj Bim Cultural Landscape *Appropriate levels of funding and resources are provided to support Gunditjmarra rights and interests in managing the Budj Bim Cultural Landscape 		

VISION: NGOOTYOONG GUNDITJ NGOOTYOONG MARA (HEALTHY COUNTRY HEALTHY PEOPLE)				
LONG TERM OUTCOMES 10-20 YEAR: The Budj Bim Cultural Landscape is a place of learning where Gunditjmarra connections are strengthened				
MEDIUM TERM OUTCOMES	Gunditjmarra have access to and enjoyment of Country, where knowledge is continued and protected through sharing and practice	A sustainable, community-led tourism model provides important benefits and opportunities for Gunditjmarra	Work closely with partners on a range of projects and activities that benefit management and protection of the Budj Bim Cultural Landscape	Continue research that is important to Gunditjmarra, driven by cultural and community interests and addresses priority gaps in knowledge
ACTIONS	<p>Action 1: GMTOAC will engage and seek endorsement from GMTOAC members to rename the properties using traditional names</p> <p>Action 4: Pursue dedication of additional IPA properties with Commonwealth</p> <p>Action 5: Produce audio-visual updates for GMTOAC members and community about the IPAs</p> <p>Action 6: Hold an annual workshop to support Gunditjmarra engagement in the management of the IPA</p> <p>Action 7: Communicate IPA plan achievements to Gunditjmarra in community meetings, GMTOAC annual reports and other community publications including the use of CIMS to share information relevant to this plan and its activity e.g., feral animal management, cultural burning, cultural heritage etc.</p> <p>Action 37: Update and review access plans as required.</p>	<p>Action 35: Develop a monitoring system to record visitor numbers and experiences and conduct an annual review of tourism sustainability</p>	<p>Action 2: Develop the World Heritage Strategic Management Framework, and incorporate this IPA plan of management into the Budj Bim World Heritage Action Plan</p> <p>Action 3: Pursue alignment of National Heritage and World Heritage areas</p> <p>Action 9: Develop opportunities to share information about management of the Budj Bim Cultural Landscape with the regional community</p> <p>Action 10: Engage with neighbouring landholders on an annual basis, or as required, to build and maintain relationships and manage cross-boundary issues</p> <p>Action 42: Generate list of maps needed for reporting and consider further developing in-house mapping capability, supported by the cartographer</p> <p>Action 43: Apply for funding for projects not already covered by existing resources for the life of this plan</p>	<p>Action 40: Finalise the research principles and protocols document by end 2022</p> <p>Action 41: Develop research proposals for priority projects i.e., cultural heritage, hydrological and other relevant research to enhance the function and protection of the Budj Bim Cultural Landscape</p>
FOUNDATION	<ul style="list-style-type: none"> *Gunditjmarra are self-determining about their land, identity, and heritage *Gunditjmarra enjoy, live and care for Country *Gunditjmarra access Country for cultural practices, healing, learning and connection *Facilities are maintained for Gunditjmarra to access and spend time on Country *Gunditjmarra are able to safely share their knowledge, practices and learning with others through partnerships and sustainable governance models *Programs delivered support the values of the Budj Bim Cultural Landscape *Appropriate levels of funding and resources are provided to support Gunditjmarra rights and interests in managing the Budj Bim Cultural Landscape 			



FOOTNOTES

- 1 Based on information from Commonwealth of Australia (2017) Budj Bim Cultural Landscape: World Heritage Nomination (p XVIII)
- 2 as outlined in Parks Victoria (2015) Ngootyoong Gunditj, Ngootyoong Mara, South West Management Plan. See <https://www.parks.vic.gov.au/-/media/project/pv/main/parks/documents/management-plans/ngootyoong-gunditj-ngootyoong-mara-south-west-management-plan.pdf>
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- 4 Commonwealth of Australia (2017) Budj Bim Cultural Landscape: World Heritage Nomination [p.41].
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- 6 See <https://register.oric.gov.au/PrintCorporationSearch.aspx?corporationName=Gunditj%20Mirring&icn=> and <https://www.gunditjmirring.com/governance>
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- 8 GMTOAC (2022). Native Title across Gunditjmarra Country, Accessed 9 September 2022. <https://www.gunditjmirring.com/nativetitle>
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- 11 GMTOAC (2022). 2020/21 Annual Report. Accessed 10 July 2022 <https://www.gunditjmirring.com/governance> [p12]
- 12 Parks Victoria, DELWP and GMTOAC (2015) Ngootyoong Gunditj Ngootyoong Mara, South West Management Plan, May 2015 [see Sections 1.3 and 1.3.1] <https://www.parks.vic.gov.au/-/media/453f5f9e2ff34bbfb17426c3bf4f0219.pdf>
- 13 Budj Bim Cultural Landscape. About us. Accessed 10 July 2022. <https://www.budjbim.com.au/about-us/>
- 14 UNESCO (2019). Budj Bim Cultural Landscape. Accessed 10 July 2022. <https://whc.unesco.org/en/list/1577/>
- 15 Commonwealth of Australia (2017) Budj Bim Cultural Landscape: World Heritage Nomination [See table p.164].
- 16 UNESCO (2019). Budj Bim Cultural Landscape. Accessed 10 July 2022. <https://whc.unesco.org/en/list/1577/>
- 17 Australian Government (2010) Plan of Management Guidelines. [p.22]. Accessed 10 July 2022 <https://www.dccew.gov.au/environment/land/nrs/publications/plan-of-management-guidelines>
- 18 National Indigenous Australians Agency (undated). Tyrendarra IPA and Budj Bim Rangers. Accessed 10 July 2022. <https://www.niaa.gov.au/indigenous-affairs/environment/tyrendarra-ipa-and-budj-bim-rangers>
- 19 National Indigenous Australians Agency (undated). Kurtonitj IPA and Budj Bim Rangers Accessed 10 July 2022. <https://www.niaa.gov.au/indigenous-affairs/environment/kurtonitj-ipa-and-budj-bim-rangers>
- 20 National Indigenous Australians Agency (undated). Lake Condah IPA and Budj Bim Rangers Accessed 10 July 2022. <https://www.niaa.gov.au/indigenous-affairs/environment/lake-condah-ipa-and-budj-bim-rangers>
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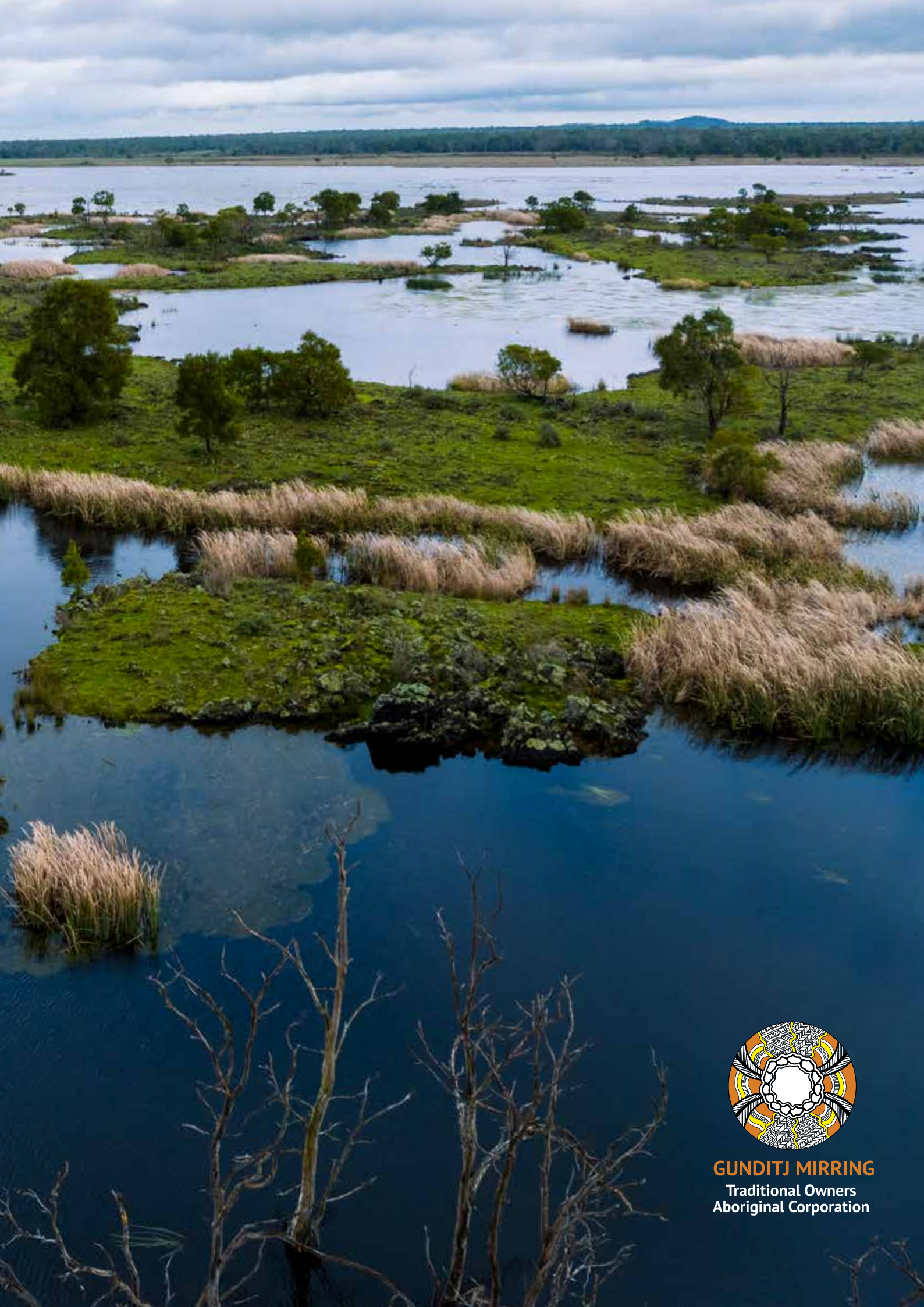
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- 63 See <https://www.integritysystems.com.au/on-farm-assurance/animal-welfare/>
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NOOTYOONG GUNDITJ, NOOTYOONG MARA

Healthy Country, Healthy People

Lashay Blurton – Budj Bim Ranger WMAC



GUNDITJ MIRRORING
Traditional Owners
Aboriginal Corporation