

Indigenous water in the Murray-Darling Basin

Supporting the Independent Assessment of Economic and Social Conditions in the
Murray-Darling Basin

A Marsden Jacob Report

Prepared for Social and Economic Assessment Panel
Marsden Jacob Associates

This investigation has been commissioned by the Panel for the Independent Assessment of Social and Economic Conditions in the Murray-Darling Basin. The Panel has made this document available for public scrutiny as part of its commitment to transparency. The views in this report do not necessarily represent the views of the Panel. This is part of a series of literature reviews and research investigations that will help inform the Panel's eventual findings and recommendations.

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About Us

Marsden Jacob Associates are leading economics, public policy, markets and strategy advisors. We can help you shape the future wisely. We are a national practice of talented economists and policy advisors. We specialise in solving practical and real world problems relating to water, energy, environment, natural resources, agriculture, earth resources, public policy and transport. We work with a wide range of cross-disciplinary partner firms to deliver best project outcomes for our clients.

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Acronyms and abbreviations

ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
ACT	Australian Capital Territory
AWI	Aboriginal Water Initiative
CEWH	Commonwealth Environmental Water Holder
COAG	Council of Australian Governments
FPWEC	First Peoples' Water Engagement Council
GL	gigalitres
IWPG	Indigenous Water Policy Group
MDB	Murray-Darling Basin
MDBA	Murray-Darling Basin Authority
MDBMC	Murray-Darling Basin Ministerial Council
MLDRIN	Murray Lower Darling Rivers Indigenous Nations
NBAN	Northern Basin Aboriginal Nations
NRM	Natural Resource Management
NSW	New South Wales
NWC	National Water Commission
NWI	National Water Initiative
QLD	Queensland
SA	South Australia
SDL	Sustainable Diversion Limits

TO	Traditional Owner(s)
Vic	Victoria
WRP	Water Resource Plans

Glossary

Environmental water	
Common water right	Property rights in water based in common law.
Consumptive water	The amount of a water resource that can be made available for consumptive use in a particular water resource plan area under the rules of the water resource plan for that water resource plan area.
Unbundling	The separation of a bundled right into its individual elements. At its most basic level, unbundling separate water rights from a land property title, allowing the trade of the water rights independently of land.

1. Introduction

At the request of the Minister for Water, The Hon David Littleproud, MDBA has convened an Independent Panel ('the Panel') to assess economic and social conditions in the Murray-Darling Basin ('the Basin'). The Panel's independent assessment is a critical opportunity to shape understanding of current economic and social conditions in the Basin, longer-term approaches for monitoring these conditions, and future Basin policy.

Marsden Jacob is supporting the Panel by delivering three discussion papers on Basin water consumption key trends and drivers. Our three discussion papers cover consumption trends and drivers in agriculture, by Indigenous groups, and by urban water users in the northern and southern Basins.

The Panel has asked that our reports are concise, focus on trends and drivers since around 2000, and cover how water reform, weather and climate, technology, and prices have impacted on consumption. We were asked to identify how trends and drivers may play out for water consumption by each group in the future, and how this may differ across Basin regions.

1.1 This discussion paper

This Marsden Jacob discussion paper focuses on Indigenous water in the Basin. In agreement with the Panel, we have concentrated on five key questions (Table 1). The evidence base we use in this discussion paper draws on academic journals, reviews and performance reporting of national water reform, including from the Productivity Commission, Basin

State Governments, Commonwealth government agencies and our own experience and networks gained from working with Indigenous groups, Governments and Basin communities in water policy, economics, and governance evaluation and reform over the last two decades. In preparing this short report, we have consulted and shared a draft of this report with representatives from the Murray Lower Darling Indigenous Nations and Indigenous water specialists.

Table 1: Key questions posed by the Panel

#
1. What is the history of Basin water reform in the context of Indigenous water consumption and availability?
2. How have Indigenous values, groups and nations been impacted by Basin water reform and regulatory changes?
3. What is the relationship and value between Indigenous peoples and water, including cultural and economic aspirations?
4. What is the current representation of Indigenous peoples' water requirements in water entitlements and planning frameworks?
5. What reform options enable suitable arrangements for Indigenous communities to access sufficient consumptive water?

1.2 Acknowledgement of names

There are different preferences for naming inherited identities of original peoples living in the Murray-Darling Basin and their connections to Country. For example, some prefer 'Ancestral ownership', others 'Sovereign' or 'Traditional ownership'. Also, some prefer the term 'Aboriginal' while others prefer 'Indigenous'. Others again prefer 'First Nations peoples'.

The *Water Act (2007)* (Commonwealth) and the Basin Plan (2012) use the term 'Indigenous' to refer to matters that relate to Aboriginal people. We use the term Indigenous throughout this document to refer to matters that relate to the broad demographic group. We acknowledge and accept as correct that this term may not be the preferred term for all readers.

2. Basin reforms in the context of Indigenous water demand

Water reform has long attempted to allocate a finite volume of water in the Murray-Darling Basin across a range of competing users. Despite many centuries of environmental and water management, Indigenous peoples' involvement and voice in water planning and management remains limited.

Murray-Darling Basin water reforms over the last 25 years have aimed to address challenges largely created by State and Commonwealth governments' focus on expanding irrigated agriculture and available water use up until the 1980s. Prior to the common water right, states and territories across Australia during the 1800s allocated water for consumptive purposes through a statutory framework. This was controlled by the respective Crowns and allowed for the management of water for irrigation and other consumptive uses [1].

The importance of recognising Indigenous values of water has been neglected since European settlement. The involvement of Indigenous people in water planning and management has been historically limited [2, 3].

Indigenous groups throughout Australia have an enduring cultural, social, spiritual and customary connection to the water that flows throughout Australia's river systems[4]. River systems provide food and fibre, spiritual locations for traditional teachings and ceremonial significance. In some cases, river systems distinguished the lands between Indigenous people and nations.

Translating these values into traditional policy instruments that governments and resource managers can then utilise is challenging and ongoing, and there remains the need for a holistic approach to recognising cultural values [5].

Historically, the primary legal framework for recognising Indigenous land and water rights in Australia is native title. Established through *Mabo v Queensland 1992*, the *Native Title Act 1993* (Commonwealth) recognises and protects the land and water of Australia's Indigenous peoples, however, restricts water usage for economic development. Prior to this, no Basin jurisdiction recognised Indigenous peoples' legal (and potentially inalienable) right to land and water resources. Only the Northern Territory provided legislation for Indigenous land rights via the *Aboriginal Land Rights (Northern Territory) Act 1976* (Commonwealth).

The 2004 National Water Initiative (NWI), which is discussed further later in this paper, provided for the first instance where Indigenous water rights were formally recognised in national water reform. State and territory governments across Australia agreed to recognise that Indigenous needs for water should be incorporated into water planning and management practices.

Fifteen years on, only select states and territories are making progress towards incorporating the perspectives and practices of Indigenous peoples into water planning across the Murray-Darling Basin. This has led to an increase in the level of awareness and participation in Indigenous water programs by government and non-government organisations, however the volume of water held by Indigenous peoples remains relatively non-existent.

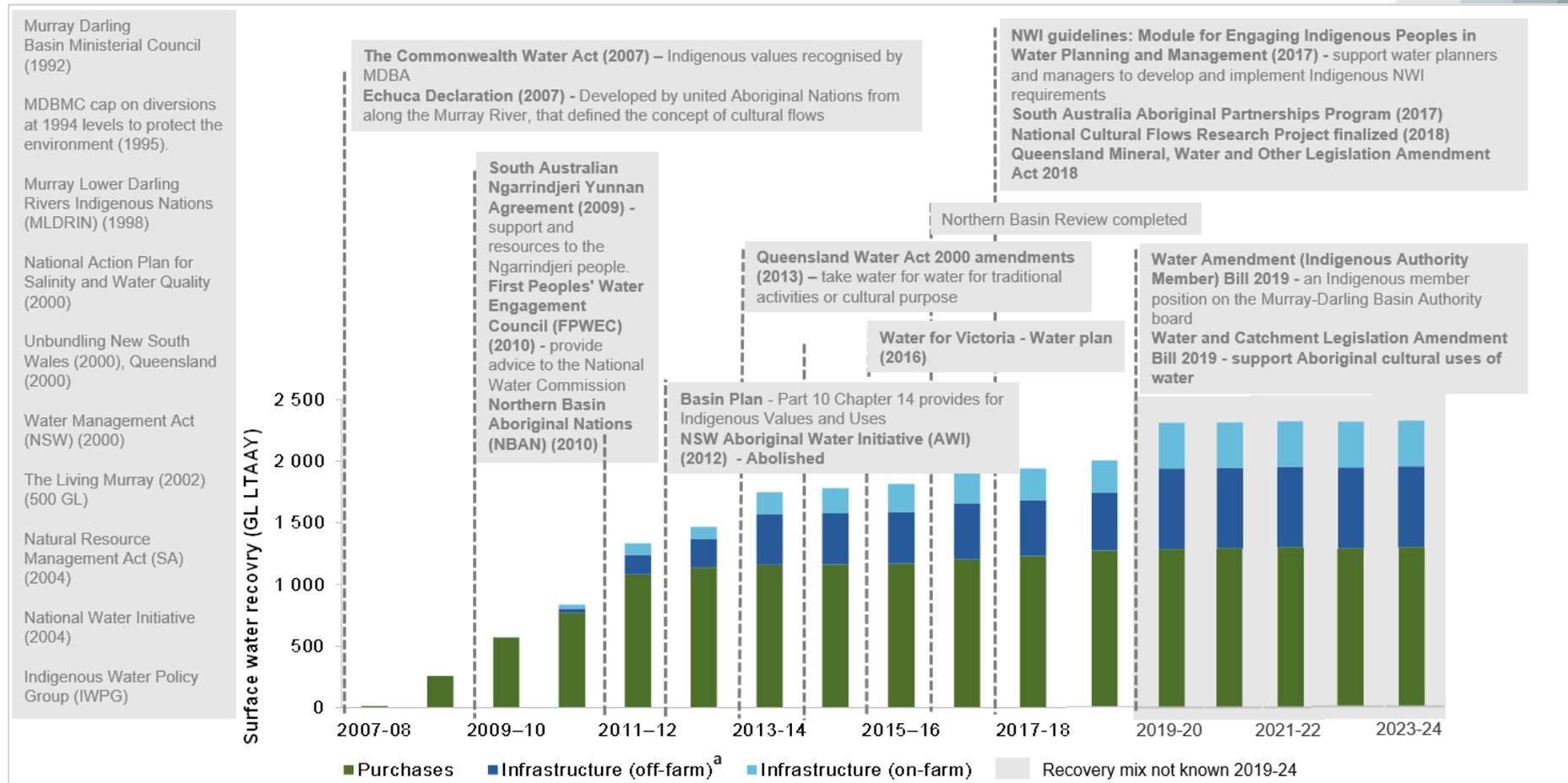
2.1 Indigenous recognition within key Basin reforms since 1994

Basin reforms have allowed for the growth of Indigenous partnerships and establishment of associations in the development of water plans and management practices. Figure 1 summarises some of the key reforms against the Basin water recovery timeline. Appendix 1 includes more summary detail on these reforms. Indigenous water reforms are not directly linked to recovery. The aim of the figure is to give the Panel a quick reference of how the timing of Indigenous water reforms map against recovery timelines and volumes, using the same framework as in our literature review for the Panel.

In the last 15 years, only select states and territories have fully committed to the directions of the NWI and advanced their recognition of Indigenous water needs, and only recently has this translated into Indigenous representation in water plans.

Prior to the advent of the NWI, specific Indigenous demand in water and contributions to water policy and planning were not prioritised at a national level [6, 7]. We discuss this further in Chapter 4.

Figure 1: (Basin) Indigenous water reform timeline 2001-24



Source: Marsden Jacob, adapted from [8]

3. Indigenous peoples and water demand

An important prerequisite to meeting Indigenous water needs is a greater awareness of Indigenous concepts and values, the nature and extent of Indigenous interests in water, and their holistic relationship to land and water.

Indigenous peoples' relationship with water encompasses many things including economic, spiritual, customary, educational, social and ecological values.

Part of the challenge of recognising and implementing Indigenous values into water management is that these practices come in many forms through stories, dreaming tracks, songlines, performance, rituals, artwork, cartography and environmental symbolism [9].

Traditional institutional systems of state-based land and water management are generally inadequate when it comes to conveying the values and meanings of Indigenous water demand. A more holistic approach is required, considering all possible values interacting together to provide a whole-of-life management system.

3.1 Indigenous water values

The Venn diagram on the right illustrates the interconnected structure of Indigenous values attributed to water through five key themes of economic, spiritual, cultural, social and environmental. We discuss these values more below.



3.1.1 Economic

Across the Basin, water is primarily used as an input for industry and farming enterprises through irrigation and stock supply allocations. Indigenous people use water to achieve economic objectives. These objectives are often unique to a specific Indigenous nation or river system. Water is used for production and trade in harvested products and where possible in water markets, employment for local communities, the spiritual and cultural economy provided by the aquatic environment and financial support for commercial enterprises [10].

Obtaining income from Indigenous water is often difficult. Many Indigenous water allocations prohibit the use of water for monetary benefit. The Productivity Commission's recent *National Water Reform Report* highlighted that although water for economic purposes is available through the conventional licensing frameworks, there are barriers to participation such as delivery costs that restrict participation without the necessary support [11].

3.1.2 Cultural and spiritual

Recognition of the value that water provides to Indigenous peoples is important for the continuation of customary and spiritual traditions. There is also a difference between environmental and cultural flows in terms of Indigenous values.

Environmental flows are generally planned, and managed in accordance with science-based modelling and institutional policy [12]. Cultural flows require outcomes that align with the spiritual and cultural connection of Indigenous people.

Many spiritual and cultural connections depend on water, such as the maintenance of cultural and sacred sites through specific water regimes, facilitating the exchange of generational knowledge and ensuring the ongoing spiritual connection with the flora and fauna. The National Cultural Flows Research Project provides an example of cultural and spiritual value in water [2].

The cultural significance of the watering place for the Murrawarri Research Partners was chosen specifically due to the presence of Mundaguddah, the name that the Murrawarri give to the Rainbow Serpent. Murrawarri hydrological knowledge is connected to the Mundaguddah, and derives a spiritual dimension from this connection. The Mundaguddah travels across Murrawarri Country through the subterranean channels, thereby linking together a series of significant water places through Murrawarri Country and throughout the Murray Darling system.

In particular, the presence and movement of the Mundaguddah relies on sufficient quantities of water present at three key places: at an important waterhole in the Culgoa River, the Gerrara Springs and Gooraman Swamp. Each of these places has associated cultural practices, obligations and established cultural prohibitions linked to water availability, and Research Partners noted that all three water sites have been varyingly impacted by upstream development.

Source: Cultural Flow Field Studies Final Report - Story by Murrawarri research partners

3.1.3 Environmental

The continued connection to land and water by Indigenous people is sustained by reconnecting generations to country through story telling. The education provided through stories includes land and water creation, animal and place significance, herbal remedies, and how the land and its ecology must be managed for the long-term survival of water dependent values.

The Murray-Darling Basin provides wetlands, rivers, billabongs, springs, lakes and aquatic environments that Indigenous people use for educational and ecological activities. Across these landscapes, there are important differences between traditional environmental management and Indigenous management guided by ecological and cultural values.

For example, some flora and fauna species may be managed differently to achieve traditional and Indigenous objectives. This is especially the case for vegetation species with Indigenous uses or spiritual significance, but which are relatively common in the landscape. Similarly, the timing of environmental water releases may promote the spawning of certain aquatic species that are inconsistent with Indigenous educational and ecological values.

3.1.4 Social

Of the 46 Indigenous nations across the Murray-Darling Basin, the network of interconnected rivers and streams are a place for cultural and spiritual gathering. The aquatic environments of the Basin provide areas for social and recreational activities such as swimming and fishing. They provide gathering and storytelling places for the reconnecting of people to Country and encouraging social well-being. They are also powerful in providing opportunities for the exchange of knowledge of economic, spiritual, cultural, social and environmental values that further contribute to maintaining a connection to Country.

4. Basin reform impacts on Indigenous people

Recent Basin water reforms have provided some Indigenous people with opportunities to contribute to water planning and management processes. Through access to water and allocation of rights, Indigenous people and communities in the Basin can increasingly participate in the water trading market for economic development, and for cultural and environmental objectives [8].

In this chapter, we provide an overview of what Basin reform has meant for the values and outcomes of Indigenous people. In summary and under current Basin water planning and management frameworks, Indigenous people can influence and participate by:

- advising Basin States in the development and consultation of water plans and management mechanisms;
- obtaining water in select states for cultural water use and in limited scenarios, for economic development; and
- providing advice to the MDBA on the adequacy of a Water Resource Plans (WRP) prior to approval by the Commonwealth water minister.

4.1 National Water Initiative

The first instance of cooperative national water policy in Australia was the National Water Initiative [13]. It committed all Australian Governments to, among other things, prepare water resource plans that required:

- inclusion of Indigenous representation in water planning wherever possible; and
- water plans to incorporate Indigenous social, spiritual and customary objectives and strategies for achieving these objectives

wherever they can be developed [13].

Since 2004 and in most Basin States, the NWI has improved the recognition of Indigenous values and interests. Most Basin States have established water planning and management mechanism through engagement with Indigenous peoples and new water resource plans show greater involvement from Indigenous communities.

- **New South Wales** introduced the *NSW Water Management Act 2000*, which provided a cultural access licence that enables Indigenous people to access the water for personal, domestic, cultural and spiritual purpose across all water sources where a water sharing plan is active. However, these licences are conditional on the ability of the cultural purpose to be clearly defined, limited to 10 megalitres, and cannot be used for economic benefit.
- **Victoria** in 2016 released *Water for Victoria* which provided for the Aboriginal Water Program. The program enables Traditional Owners and Indigenous Victorians an 'active and meaningful' role in the planning and management of the state's water through funding for officers, projects and support for economic development. More recently, in August 2019 Victoria provided for Indigenous values to be recognised in law through the *Water and Catchment Legislation Amendment Bill 2019*. The legislation will support Indigenous cultural uses of water and underpin opportunities to use water for economic development for Traditional Owners and Indigenous Victorians. It will also support the self-determination of Traditional Owners by providing opportunities that best meet their water management needs.
- **South Australia** is participating in the Aboriginal Partnerships Program that works with Traditional Owners in the South Australian MDB region through the establishment of working groups such as the First Peoples NRM Working Group and the Ngarrindjeri Regional Authority, Ngopamuldi Aboriginal Corporation and the Natural Resources Working Group.
- **Queensland** has included Indigenous water reserves in several resource plans (Condamine Balonne, Moonie and Border Rivers) which signalled the intent to provide future water access for Indigenous communities. This is a result of the *Mineral, Water and Other Legislation Amendment Bill 2017* (Queensland) that was introduced into Parliament to amend the *Water Act 2000* (Qld) [11].
- **Australian Capital Territory** is currently in the process of developing a Water Resource Plan for the ACT. It is required to have consultation with the Traditional Owners to identify the objectives and outcomes of Indigenous peoples in relation to water related values and uses of a water resource plan area [14].

The NWI facilitated unbundling of land and water across the Basin. Unbundling has complicated the ability for Indigenous peoples to convey their values and connection to water in a way that translates to current Basin water management

practices [15]. Indigenous peoples have a strong cultural and spiritual connection to land and water and a holistic approach is required to understand the relationship between Indigenous values and water.

4.2 Basin Plan

Socio-economic impacts

The Basin Plan centres around providing a share of the total available water to the environment. Environmental water is recovered through water infrastructure investments and direct purchase from willing sellers. As of 31 March 2019, a total of 2,100 gigalitres has been recovered for the environment¹. Water recovery has reduced the volume of water available for consumptive use by communities throughout the Basin and has led to reported socio-economic impacts.

Many aspects of social and economic conditions of Basin communities are well documented. Conditions for Indigenous communities are less well documented, or not documented. MDBA, State Governments and ABS publish comprehensive profiles of other Basin communities which cover statistics and information on how communities are changing over time in measures like population, age, employment, agricultural production and water availability. Limited information is available for Indigenous groups specifically.

There are currently no evaluations or profiles that we are aware of that have looked at the economic impact of water reforms, including cultural and economic water entitlement purchases, in the Basin on Indigenous groups. Part of the issue is that traditional economic studies that have been relied on for Basin water reform decisions are constructed in ways that do not account for unique relationship between Indigenous people, their communities and the connection to Country.

This relationship was anecdotally acknowledged during consultations for the [Northern Basin Review](#), with one participant noting “the health of the river is directly linked to their cultural and physical health. This causal relationship is demonstrated by evidence showing that when there is at least some water in the rivers the number of Aboriginal people admitted to local hospitals decreases.”

¹ [Department of Agriculture: Surface water recovery required under the Basin Plan including the Sustainable Diversion Limit Adjustment Mechanism](#)

Cultural Flows

The Murray–Darling Basin Authority is supporting the establishment of dedicated cultural flows. Collaborative partnerships between the MDBA, First Nations and Basin governments are exploring ways of integrating cultural flows as a part of water management in the Basin.

The Basin Plan acknowledges that ‘cultural flows will benefit Indigenous people in improving socio-economic health, wellbeing and empowerment to be able to care for their country and undertake’ and provides a definition of cultural flows as described in the 2007 Echuca Declaration below [16].

“Cultural Flows” are water entitlements that are legally and beneficially owned by the Nations of a sufficient and adequate quantity and quality to improve the spiritual cultural natural environmental social and economic conditions of those Nations. These are our inherent rights.” [16]

Sustainable Diversion Limits (SDL)

The Basin Plan limits how much water can be used for consumptive purposes through the Sustainable Diversion Limits mechanism. The impacts on Indigenous water demand as a result of the implementation of the SDLs is not well documented [17]. However, any reduction in the availability of water further increases the difficulty for Indigenous values to be properly incorporated into planning or allocation processes.

Water Resource Plans (WRP)

Water Sharing Plans are a requirement of the Basin Plan to guarantee that the water planning and use across the Basin is consistent with the Basin Plan’s requirements. The requirements set out in Chapter 10, Part 14, Section 10.52-10.55 will monitor how Basin States involve Traditional Owners in identifying Indigenous objectives and outcomes and potentially lead to greater Indigenous involvement (Table 2).

Table 2: Chapter 10, Part 14, Section 10.52-10.55 WRP requirements

Section	WRP Provision	WRP Requirements
10.52	Objectives and outcomes based on Aboriginal values and uses	<ol style="list-style-type: none"> 1. Identify the objectives and outcomes desired by Aboriginal people that relate to the management and use of water resources in a WRP area. 2. Obtain information about desired Aboriginal objectives and outcomes through appropriate consultation with relevant Aboriginal organisations. 3. Provide a fair-minded representation of information and knowledge gained through the consultation process.
10.53	Consultation and preparation of water resource plan	<p>Ensure that the views of Aboriginal organisations on certain matters are taken into account in the development of the WRP. The MDBA's assessment of the provision would focus on Traditional Owners' (TOs') views in relation to:</p> <ul style="list-style-type: none"> • Native title rights and claims, and Indigenous Land Use Agreements • Registered Aboriginal heritage relating to the water resources in the WRP area • Inclusion of Aboriginal representation in the preparation and implementation of the WRP • Aboriginal social, cultural, spiritual and customary objectives, and strategies for achieving these objectives • Encouragement of active and informed participation of Aboriginal people, and • Risks to Aboriginal values and uses arising from the use and management of the water resources of the WRP area.
10.54	Cultural flows	In addition to the matters listed in section 10.53 above, this section requires that the WRP be prepared with specific regard to the views of Aboriginal people on cultural flows.
10.55	Retention of current protection	This section requires a WRP to maintain the same level of protection of Aboriginal values and uses as provided for in existing transitional or interim WRP

Source: MDBA Guidelines for Water Resource Plans**

Basin Plan Commitments Package

In 2018, the Commonwealth Government [committed to a package of initiatives](#) to support the implementation of the Basin Plan. Focus area three is aimed at improving outcomes for Indigenous people.

The commitments provide broad support for Indigenous communities including staffing for First Nation groups, allocation of water, economic support and mandatory reporting by the MDBA on Indigenous outcomes. Under commitment 3ci, the Australian Government will provide \$40 million over 4 years to support investment by Basin Indigenous communities in cultural and economic water entitlement and associated planning activities. Details on this program have not been released yet.

Environmental watering outcomes

As the largest holder of water in the Basin, the CEWH provides beneficial outcomes to Indigenous peoples through targeted cultural flows. The CEWH engages with Indigenous communities and stakeholders through local engagement officers to incorporate their knowledge, views and solutions into the planning and delivery of water to achieve both cultural and environmental outcomes. The CEWH is also part of the [National Cultural Flows Project](#).

CEWH engagement provides an avenue for Indigenous values to be recognised in water planning frameworks. The 2017-18 [CEWH annual report](#) noted several outcomes associated with the inclusion of Indigenous values including enhancing refuges for wetland birds of cultural significance, restoration and maintenance of vegetation of environmental and social significance, re-establishing traditional harvest activities and supporting the education of significant cultural sites, including artefacts, burial sites and occupation sites.

In collaborating with the MDBA, the Murray Lower Darling Rivers Indigenous Nations and Northern Basin Aboriginal Nations developed an [Aboriginal Waterways Assessment Program](#) that helps to incorporate Traditional Owners' needs and preferences in water planning and management. The program translated a Māori Cultural Health Index tool to suit the preferences and needs of Traditional Owners in the Basin, the tool is currently being deployed in select Basin States.

Along with commitments and project support provided through the recent *Water for Victoria* strategy, the Victorian Environmental Water Holder collaborated with the Murray Lower Darling Rivers Indigenous Nations in 2016 to inform

water planning and management. A series of Aboriginal Waterway Assessments were funded throughout the Basin area in Victoria and provided important insights into Indigenous water management and associated values.

Water for economic purposes

In general, there is little evidence that Basin reform has provided Indigenous people with access to water for economic purposes. The benefits provided through economic development for Indigenous communities across the Basin are well documented [10, 18-20] and can support employment, management of cultural and social sites, education programs, economic development and environmental programs among others. The \$40 million funding as part of the commitments package noted above provides opportunity for water purchases, however this program is not yet fully operational.

Indigenous people currently have access via conventional pathways to water that can be used for economic purposes. The conventional pathway in most Basin States for acquiring water generally involves the trade of temporary or permanent water entitlements through an intermediary such as a water broker or exchange. The water intermediary will facilitate the conveyancing involved in purchasing a water entitlement or allocation and ensure that the relevant trading rules and frameworks are followed.

When purchasing water, there a range of factors that need to be considered for the water entitlement to satisfy its intended use. For example, this might include, but is not limited to, the reliability of its allocations (high or low), costs of purchasing, including conveyancing and trade application cost, access to infrastructure or pumping requirements, trade restrictions due to location, management and delivery costs and carryover rules. In ensuring that the water entitlement is fit for purpose (that is, either for cultural and spiritual or economic development purposes), there exists a variety of barriers for Indigenous peoples to overcome.

Much of the Basin has experienced hot, dry weather conditions since 2017 that have resulted in reduced or declining water availability due to the associated reduction in water held in storages. These factors cause the price of reliable water to increase to levels that may be out of reach for Indigenous communities.

Over recent years, broad reform across the Basin have aimed to increase the transparency and reliability of water market information. On 7 August 2019 the Government announced that it would direct the Australian Competition and Consumer

Commission (ACCC) to conduct an inquiry into markets for tradeable water rights in the Murray-Darling Basin. The ACCC will be asked to recommend options to enhance markets for tradeable water rights, including options to enhance their operations, transparency, regulation, competitiveness and efficiency. In particular, the ACCC is considering whether water markets are affecting the entry and exit trends of different water market participants, including Indigenous communities, and why some market participants are better able to enter, access or exit water markets than others [21].

Research is also currently under way via [Melbourne University and Murray Lower Darling Rivers](#) Indigenous Nations, looking into how water can support Indigenous economic development. New South Wales, Queensland, South Australia and Victoria have introduced or are introducing mechanisms to provide greater access to water for Indigenous economic development (Table 3).

Table 3: Progress by Basin States

Jurisdiction	Summary
New South Wales	NSW has introduced the Aboriginal Community Development Licence which has provisions for economic development. The licences can be 500 megalitres in volume with limited trading function ability and predominantly available in coastal areas, groundwater areas with sharing plans and some unregulated rivers during high flow events.
Queensland	QLD will establish a process before 2021 to enable Indigenous people to access unallocated water reserves under the Condamine and Balonne, Moonie and Border River Water Plans for any purpose. Allocation will be restricted to the Stanthorpe Water Management Area of the Border Rivers and Moonie plan area. Engagement with Indigenous people will determine how and when the water will be used. As a result of the 2018 Basin Plan Commitments package – Queensland have allocated almost 11 GL of water from the Warrego-Paroo Water Resource Plan for Indigenous purposes.
South Australia	South Australia noted in their submission to the 2018 Productivity Commission National Water Report that they are investigating methods of allocating water to Indigenous peoples for economic development purposes and facilitating participation in water markets.
Victoria	As part of <i>Water for Victoria</i> , the government is investing \$5 million to develop a roadmap for access to water for economic purposes [22].
ACT	ACT has no stated plans to provide access to water for economic development.

5. What reform options enable suitable arrangements for Indigenous communities to access sufficient consumptive water?

The ongoing debate about the appropriate allocation of water for Indigenous peoples highlights the lack of understanding of Indigenous values in the context of water demand, and the prima facie legitimacy of these values.

Recognition of Indigenous peoples' rights and values in relation to the cultural and economic benefits provided by the Basin river system will enable government and river managers the opportunity to adequately support the endeavours of Indigenous peoples and their communities [23].

As noted by Jackson and Moggridge [24], Indigenous peoples' ability to change the management and planning of water on a national scale is still no different to that reported by the National Water Commission's *Fourth Assessment of the National Water Initiative* 2011. Basin States have 'generally failed to incorporate effective strategies for achieving Indigenous objectives in water planning arrangements' [25].

However, there are reform options in play that do have the potential to enable suitable arrangements for Indigenous communities to access sufficient consumptive water. To support sufficient access to consumptive water for Indigenous groups, these reforms will need to be properly implemented at the Commonwealth and / or State level.

The reform options we discuss below are adapted from the Cultural Flows Project pathways. These were developed in close consultation with MLDRIN, NBAN and the North Australian Indigenous Land and Sea Management Alliance. From our

analysis of the evidence base used in this discussion paper, they represent the overarching requirements needed to progress Indigenous water consumptive requirements.

Table 4: Indigenous water reform options

National Indigenous water reforms to water planning and environmental water governance that provide for statutory water rights.

Legislating a legal basis for Indigenous water rights is a key reform needed to achieve clear, secure and enduring Indigenous water requirements [6, 17, 26-29]. Delivering water rights to Indigenous people and enabling them to participate in the water economy can promote intergenerational wealth in Indigenous communities [29].

In consultation within Indigenous rural and urban communities and First Nations representatives, reform should:

- Provide water allocations and licences to Indigenous communities in perpetuity that can be used for any purpose including economic development and trading. This will provide economic certainty that other water holders in agriculture and industry experience.
- Provide support for the management and trading of water entitlements and allocation to improve the opportunities for economic development from water rights.
- Provide a mechanism for the trading of Indigenous water rights across Indigenous communities. This will ensure that customary and cultural traditions involving water can be continued without competing with traditional consumptive users.
- Require the MDBA and State water managers to monitor and document the use of Indigenous water values, knowledge and interests to better inform future policy and understand the economic impact of water reforms, including cultural and economic water entitlement purchases, in the Basin on Indigenous groups

Statutory inclusion of Indigenous values in environmental and water law to ensure holistic management.

The opportunity to establish a holistic management approach to environment and water can provide Indigenous communities with a mechanism that recognises the cultural value of water and its intrinsic link to the environment.

It is important that the water rights provided through reform are efficiently and effectively managed and deliver Indigenous outcomes. For example, this includes ensuring that the reliability and quality of the water resources is suitable for human consumption, facilitate fish breeding cycles or used in customary traditions [27]. The evidence base reviewed by Marsden Jacob for

this report has continually recognised that water has significance beyond traditional consumption; it is also a part of a holistic relationship with the environment [30].

In consultation within Indigenous rural and urban communities and First Nations representatives, reform should:

- Acknowledge and include defined Indigenous values into environmental and water law in ways that provide Indigenous communities with a level of certainty that their values are being recognised.
- Provide mechanisms for recognising Indigenous values in water quality guidelines and planning that responds to cultural needs.
- Require the MDBA and State water managers to monitor and evaluate the protection of culturally and spiritually significant regions against performance benchmarks agreed through consultation with Indigenous peoples.

Fundamental changes to environmental and water governance to include Indigenous values.

Changing environment and water management regimes in ways that prioritise Indigenous values through realigned governance structures is an important reform that has only recently been recognised [31, 32].

The addition of an Indigenous representative on the Murray-Darling Basin Authority board is a key step towards realigning governance to include Indigenous representatives. The evidence Marsden Jacob reviewed for this report, and people we spoke with, identified a strong need for the different Indigenous values in water to be accounted for in water governance, as well as the impacts that water plans may have on social, cultural, spiritual, economic and environmental values [33] [34].

Importantly, traditional water governance must recognise that Indigenous peoples have established governance structures based on their own values systems. These governance structures are often not directly compatible with conventional Australian Commonwealth and State environment and water governance structures [30, 35].

In consultation within Indigenous rural and urban communities and First Nations representatives, reform should:

- Establish an Indigenous Cultural Water Holder that can provide oversight and governance across water planning and management and ensure that these activities support the interests, perspectives or participation of Indigenous peoples.
- Establish a framework for cultural agreements and treaty partnership between governments and Indigenous communities that brings together traditional and Indigenous governance frameworks.

Source 1: Adapted from the National Cultural Flows Project Pathways [2]

6. References

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Appendix 1 Basin Indigenous water reform timeline

Year	Water reform	Context for Indigenous water demand
1998	Murray Lower Darling Rivers Indigenous Nations (MLDRIN)	Formed during the Yorta Yorta Native Title Case, representing 24 Nations
2000	<i>Water Management Act 2000</i> New South Wales	Provides for Cultural Access Licenses and Aboriginal Community Development Licenses
2004	National Water Initiative (Council of Australian Governments [COAG] 2004)	Establishes the national water market and National Water Commission. (NWC). First time national water policy has provisions for Indigenous people.
2006	Indigenous Water Policy Group (IWPG)	Established by the North Australian Indigenous Land and Sea Management Alliance to address Indigenous rights, responsibilities and interests in water.
2007	<i>Water Act 2007</i> Commonwealth	Creation of the Murray-Darling Basin Authority which will have concern for the cultural, economic, social, Indigenous and other public interests.
	Echuca Declaration	Developed by united Aboriginal Nations from along the Murray River, that defined the concept of cultural flows.
2009	South Australian Ngarrindjeri Yunnan Agreement	Provide support and resources to the Ngarrindjeri for the maintenance and protection of cultural site and the natural resources of the land.
2010	First Peoples' Water Engagement Council (FPWEC)	Established to provide advice to the National Water Commission (NWC) on national Indigenous water issues, a priority envisaged under the National Water Initiative (NWI).
	Northern Basin Aboriginal Nations (NBAN)	Created representing 22 Aboriginal Nations
2012	Murray–Darling Basin Authority (MDBA) releases the Basin Plan	Part 10, Chapter 14 Indigenous Values and Uses

Year	Water reform	Context for Indigenous water demand
	NSW Aboriginal Water Initiative (AWI)	Aimed to improve Aboriginal involvement and representation in water planning and management within New South Wales
2013	Queensland Water Act 2000 amendments	Aboriginal party or Torres Strait Islander party may, in the area of the State for which the person is an Aboriginal or Torres Strait Islander party, take or interfere with water for traditional activities or cultural purposes.
2016	Water for Victoria - Water plan	The program recognises that Traditional Owners and Aboriginal Victorians need support and resources to partner with the water sector. Capacity is being built through funding of Aboriginal Water Officers and undertaking Aboriginal Waterway Assessments.
2017	NWI guidelines: Module for Engaging Indigenous Peoples in Water Planning and Management	To support water planners and managers develop and implement national water initiative consistent, inclusive water planning and management processes that support Indigenous social, spiritual and customary objectives.
	South Australia Aboriginal Partnerships Program	Aims to improve awareness and understanding of Aboriginal culture, increase the participation of Aboriginal people in managing natural resources and protect Aboriginal heritage.
2018	National Cultural Flows Research Project finalised	This project aimed to secure a future where Aboriginal water allocations are embedded within Australia's water planning and management regimes, to deliver cultural, spiritual and social benefits, as well as environmental and economic benefits, to communities in the Murray–Darling Basin and beyond.
2018	<i>Mineral, Water and Other Legislation Amendment Act 2018</i> Queensland	Water plans will provide recognition of the importance of water resources for Aboriginal peoples and Torres Strait Islander peoples.
2019	Murray-Darling Basin Authority board	The Water Amendment (Indigenous Authority Member) Bill 2019 established an Indigenous member position on the Murray-Darling Basin Authority board. This provides direct input by Indigenous peoples into the management of Basin resources.

Year	Water reform	Context for Indigenous water demand
	Water and Catchment Legislation Amendment Bill 2019	It will support Aboriginal cultural uses of water and underpins opportunities to use water for economic development for Traditional Owners and Indigenous Victorians.

Source: Adapted from Taylor KS et al (2016). Australian Indigenous Water Policy and the impacts of the ever-changing political cycle [27]