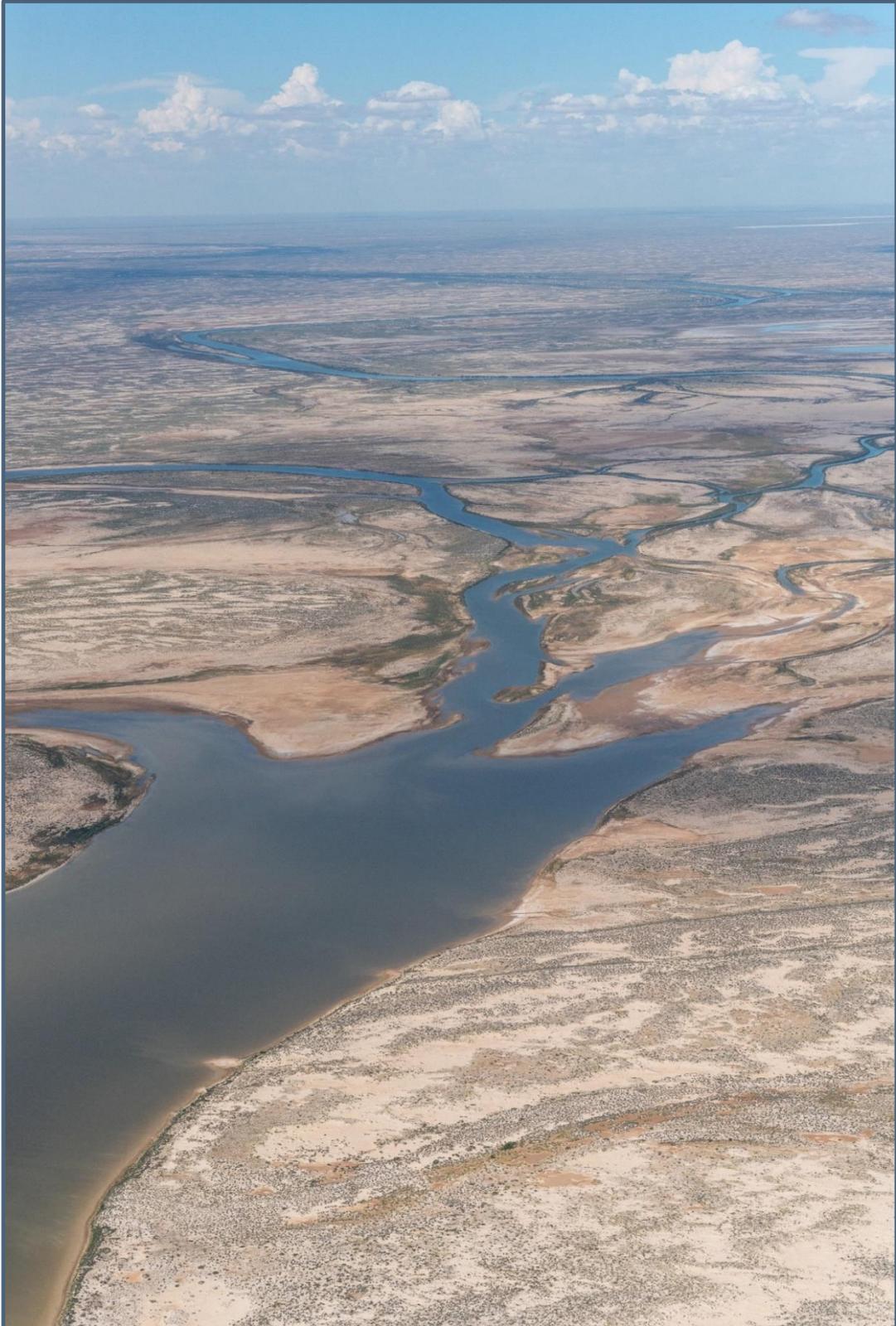


Draft Lake Eyre Basin Strategic Plan



An initiative of Lake Eyre Basin governments and community



Australian Government

Department of Climate Change, Energy,
the Environment and Water



Queensland Government

Department of Regional Development, Manufacturing and Water



Department of
Environment, Parks and Water Security



Government
of South Australia

Department for
Environment and Water



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Industry &
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Draft Lake Eyre Basin Strategic Plan

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Cover image: Surrounding area between Marree Man and Lake Eyre (DCCEEW, 2022)

Acknowledgement of Country

We acknowledge the Traditional Custodians of Australia and their continuing connection to land and sea, waters, environment and community. We pay our respects to the Traditional Custodians of the lands we live and work on, their culture, and their Elders past and present.

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1 Vision

Healthy and valued river systems sustaining unique, resilient and diverse communities and landscapes

This vision will be realised through focusing on four goals:

- Goal 1.** Healthy river systems supporting resilient landscapes
- Goal 2.** Celebrated Aboriginal culture and knowledge
- Goal 3.** An informed, engaged and resilient community
- Goal 4.** A diverse and adaptable economy

2 About the Lake Eyre Basin and its management

The Lake Eyre Basin (the basin) spans parts of Queensland, South Australia and the Northern Territory, and a relatively small area of north-western New South Wales.

For the past twenty years managing the basin's environment and natural resources has been supported by the Lake Eyre Basin Intergovernmental Agreement (the agreement). The agreement was established between the Australian, Queensland and South Australian governments in 2000, with the Northern Territory subsequently signing the agreement in 2004. The purpose of the agreement is to:

'provide for the development or adoption, and implementation of policies and strategies concerning water and related natural resources in the Lake Eyre Basin Agreement Area to avoid or eliminate so far as reasonably practicable adverse cross-border impacts.'

The agreement established the Lake Eyre Basin Ministerial Forum, chaired by the Commonwealth Minister for Water and includes water ministers from Queensland, South Australia and the Northern Territory. A Community Advisory Committee and Scientific Advisory Panel has also been established to advise the Ministerial Forum.¹

¹ See Clause 2.1 of the *Lake Eyre Basin Intergovernmental Agreement*.

3 A strategic plan for the Lake Eyre Basin

The latest review of the agreement² recommended the development of a strategic plan for the basin, to be informed by scientific and community views.

The Lake Eyre Basin Strategic Plan (the strategic plan) describes governments' and the Lake Eyre Basin community's shared goals and objectives, as they work towards the vision of 'Healthy and valued river systems sustaining unique, resilient and diverse communities and landscapes' while encouraging a more adaptable and diverse economy. The strategic plan is intended to inform, support and encourage action and investment by basin governments, communities, industries, research groups and natural resource management organisations.

The strategy has a lifespan of 10 years, with an independent, mid-term progress review scheduled for the end of year five, and final review at year 10. The outcome of the mid-term review and final review will be made public.

The strategic plan is being developed in accordance with the purpose, objectives and principles set out in the agreement. The collaborative process of developing the draft strategic plan included consultations with representatives of the Australian Government and the governments of Queensland, South Australia, New South Wales (observer) and the Northern Territory (through the Senior Officers Group), together with basin communities and industries (through the Community Advisory Committee), and scientific experts (through the Scientific Advisory Panel).

The scope of the strategic plan covers natural, economic, cultural and community dimensions. These defining features are subject to a complex array of internal and external influences, pressures, drivers and trends. The strategic plan will assist basin governments, researchers, communities and the private sector to better understand and respond to current and emerging issues in the basin and in ways which contribute to its vision, goals and objectives.

Developing and strengthening relationships across governments, First Nations, communities, industries, research groups and natural resource management (NRM) organisations will be key to realising the plan's goals. This will include exploring opportunities to build on and coordinate with existing programs, activities and investments spanning the public and private sector.

Implementation of the strategic plan will be enabled by the development of the following documents:

- Five-year implementation plans that set out priority actions and specific activities, including new and existing activities undertaken at state and territory level. These plans will be informed by a risk-based understanding of issues of cross-jurisdictional concern, and should seek to leverage investment and action by basin governments, First Nations, communities, industries and regional NRM organisations.

² Noetic Solutions (2018) The Second Review of the Lake Eyre Basin Intergovernmental Agreement. Commissioned on behalf of the Lake Eyre Basin Ministerial Forum.

- An updated Lake Eyre Basin monitoring, evaluation, reporting and improvement (MERI) framework, which will enable monitoring and evaluation of basin condition and trends, as well as Implementation plan activities, and reporting of findings. This will support adaptive management and improvement, including the mid-term review of the strategic plan. The MERI framework will be developed by the Lake Eyre Basin Monitoring and Evaluation Steering Committee (expected completion July 2023).

Figure 1 illustrates how the strategic plan, implementation plans and the MERI framework each contribute to the strategic plan’s Vision, goals and objectives and, as far as possible, to avoiding or eliminating cross-border impacts.

It should be noted that, although the agreement does not cover the Great Artesian Basin (GAB), the GAB underlies much of the basin. This strategic plan therefore has some overlap with the Great Artesian Basin Strategic Management Plan, particularly in relation to groundwater-dependent ecosystems (such as mound springs) and GAB recharge areas.

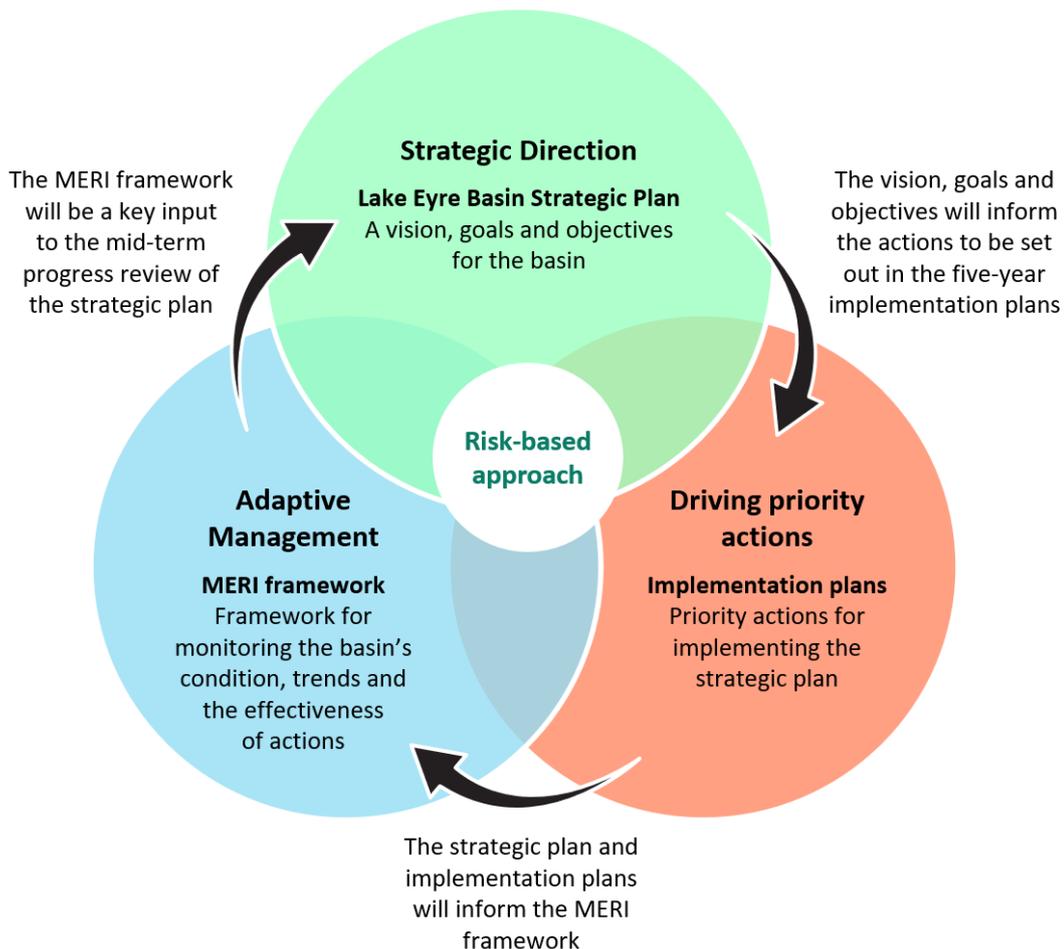


Figure 1. The relationship between the strategic plan, implementation plans and the MERI framework

4 Why is the basin important?

An internationally significant river system

The Lake Eyre Basin covers almost one-sixth of Australia – approximately 1.2 million km². It is among the world's largest arid river systems, terminating at what becomes – on the rare occasions when is filled by flood waters – the largest lake in Australia and one of the largest terminal lakes in the world (Kati Thanda-Lake Eyre).

It is also one of the most hydrologically variable and unpredictable river systems in the world in terms of flow regimes. Much of the basin experiences a typical boom-bust ecology of large dryland rivers and floodplains. This includes spectacular floods over vast and complex floodplains, followed by dry periods when rivers shrink to discrete waterholes that provide refuges for many aquatic species.

Millions of fish and waterbirds colonise the floodplains during floods. The river system supports many endemic aquatic species, such as the Cooper Creek catfish, which is now classed as Endangered on the IUCN Red list of Threatened Species.³

The broader river system is comprised of large river systems in their own right, particularly the Cooper Creek and Diamantina River systems. The waterways support riparian vegetation including river red gums (*Eucalyptus camaldulensis*) and coolibah trees (*E. coolabah*). The mostly flat, arid landscape is also punctuated by wetlands, waterholes and ephemeral lakes. This includes the Coongie Lakes Ramsar site – a freshwater wetland system on the Cooper Creek floodplain in South Australia.

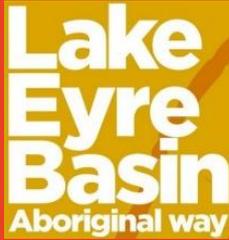
Springs are another important hydrological feature of the basin. The Lake Eyre Basin overlies and connects to a large area of the GAB, which is one of the largest and deepest groundwater resources in the world. Mound and other types of springs are natural outlets from the GAB and other underground aquifers, forming groundwater-dependent ecosystems that support a range of plant and animal species of high conservation and socio-cultural significance.⁴

The Lake Eyre Basin is one of the least altered of the world's great river systems. Unlike the neighbouring Murray-Darling Basin, which is approximately the same size, the rivers of the Lake Eyre Basin are largely unmodified (their flow regimes are unregulated), with no significant water storages or other impediments such as weirs and relatively very little water extracted for agriculture. Water allocations for consumptive uses are comparatively low, and the ecosystems of the basin remain in relatively good condition.⁵

³ Arthington, A., Sternberg, D., Cockayne, B. & Schmarr, D. (2019). *Neosiluroides cooperensis*. The IUCN Red List of Threatened Species 2019: e.T122900149A123382031

⁴ Rossini, R A (2020). Current state and reassessment of threatened species status of invertebrates endemic to Great Artesian Basin springs. *Proceedings of The Royal Society of Queensland* 126: 225-248

⁵ Lake Eyre Basin Ministerial Forum (2017) Lake Eyre Basin: State of the Basin Condition Assessment 2016 Report, Department of Agriculture and Water Resources, Canberra. CC BY 3.0.



The *Lake Eyre Basin Aboriginal Way* poster map was released in 2018. It provides an overview of the presence and significance of Aboriginal people in the basin, including song-lines and trade routes. It was developed to inspire people to recognise and further explore Aboriginal culture and history in the basin, and to provide them with guidance to help do this respectfully. It provides just a taste of the complexity and intimate connection Aboriginal people have with the basin's rivers and landscapes.

The map was developed through the collaboration of the Lake Eyre Basin Governments, the Lake Eyre Basin Community Advisory Committee with extensive involvement of many Aboriginal people and organisations.

Aboriginal cultural connections

Aboriginal people have been living continuously in the basin for tens of thousands of years. The basin's Aboriginal culture is rich, diverse and vibrant, and has been mapped in the *Lake Eyre Basin Aboriginal Way*. Throughout the basin, Aboriginal life, culture and identity are closely linked to water and the river systems. There are many cultural sites, story and song-lines, and trade routes, and much of the basin is owned by Aboriginal people or is under Native Title claim.

Diverse communities

The basin is currently home to approximately sixty thousand people. Almost half of the basin's population lives in Alice Springs (Mparntwe) on the basin's western edge. The population is otherwise dispersed across the basin, in towns, mining developments, homesteads and Aboriginal communities. Many Aboriginal people live on Country as their ancestors have done for millennia.⁶

In addition to the incredibly rich Aboriginal history, significant events in European settlement have also occurred in the basin. These include the early expeditions of Eyre (1839-40), Sturt (1844) and Burke and Wills (1860-61), and the founding of Qantas (1920). Several sites within the basin are on the National Heritage List.

The basin's economy

The basin forms part of the arid and semi-arid rangelands, where most land is leased for pastoralism. The vast majority (more than 80%) of the basin area is used for grazing cattle and sheep.

Although accounting for a smaller area of the basin, there are many mining and petroleum developments. Most oil and gas extraction occur in the Cooper basin (northeast South Australia and southwest Queensland). There are also oil and gas fields in the Northern Territory, and major exploration and mining activities occur southeast of Mount Isa; an area that includes one of the world's largest silver and lead mines (Cannington mine). Extraction of coal, copper, gold, rock phosphate, gypsum, uranium and opals also occur in the basin.

The other key industry in the basin is tourism. In a typical year, the number of visitors to the basin may exceed the number of residents by more than 30 times. Alice Springs is a major tourist centre, and the basin's tourist destinations include its national parks, outback towns and heritage sites. These include the MacDonnell Ranges in the Northern Territory and the Flinders Ranges in South Australia. Kati Thanda–Lake Eyre is also a major attraction with over 24,000 tourists reportedly visiting it after flooding in 2011.⁷

⁶ *Lake Eyre Basin Aboriginal Way* map.

⁷ Government of South Australia (2014) 2014 Regional Snapshot – How many people visit regional South Australia?

5 Threats in the basin

The following threats in the basin have been identified in the most recent review of the condition of watercourses and catchments of the basin^{8,9}, as requiring a coordinated and cross-jurisdictional approach.

Hydrologic alteration

Basin communities continue to place a high value on the largely unregulated nature of the basin's rivers and floodplains. Several human activities could significantly alter the basin's hydrology and environmental flow regimes and threaten associated values:

An increase in the existing low levels of irrigation has the potential to reduce the extent, duration and benefits of floodplain inundation across the basin. Pumping could threaten waterholes, which hold refuge value for aquatic species, as well as the socio-cultural benefits for communities.

On the flat floodplain landscapes of the basin, physical infrastructure (weirs, roads, fences, pipelines, bore sites, bridges and culverts) have the potential to affect surface water flow. Including the frequency, extent and duration of flooding in wetland and floodplain ecosystems. This can subsequently affect vegetation growth and the transfer of biomass (e.g. fish), energy and nutrients back into river systems. Weirs and causeways can also directly block fish passage and affect longitudinal and lateral connectivity between channel, floodplain and wetland habitats. Most infrastructure development has occurred in the Cooper Creek catchment in Queensland, although the magnitude of such infrastructure development remains relatively low.

Groundwater (particularly artesian water) has a long history of use throughout the basin, especially for stock and domestic purposes. Over time, extraction of artesian water, particularly through free-flowing bores, has reduced pressure in the GAB and rendered many natural artesian springs inactive.¹⁰ In South Australia community concerns exist around the impact of extractive industries on groundwater levels for the GAB and other smaller aquifers.

Land and water degradation

Levels of vegetation clearing and landscape modification are now low throughout the basin. In South Australia, for example, pastoral leaseholders are required to manage land in ways that prevent further land degradation and, where possible, to improve the condition of natural resources. If managed poorly, grazing can lead to soil erosion and increased levels of sediments and nutrients entering waterways. This in turn can impact riverine water quality, habitats and ecological functions. The high levels of turbidity and nutrients observed in waterways across the basin are unlikely to be a completely natural feature.

Tourism and recreation

Many tourism and recreational activities in the basin also tend to concentrate around waterholes, and stressors to riverine ecosystems include trampling and removal of native vegetation, soil compaction, pollution (including nutrients and litter), the dispersal of invasive species, and

⁸ Department of Regional Development, Manufacturing and Water (2021). Lake Eyre Basin Environmental Risk Assessment 2021,30-70

⁹ Lake Eyre Basin Ministerial Forum (2017) Lake Eyre Basin: State of the Basin Condition Assessment 2016 Report, Department of Agriculture and Water Resources, Canberra. CC BY 3.0.

¹⁰ Brake, L (2020). Development, management and rehabilitation of water bores in the Great Artesian Basin, 1878–2020. *Proceedings of The Royal Society of Queensland* 126: 153-175

overfishing and illegal netting by recreational fishers. Also of concern are damage to the land surface and vegetation by four-wheel-drive vehicles and cutting of timber and removal of trees for firewood.

Mining and petroleum

Accidents or unintended consequences of mineral and petroleum exploration and production have the potential to impact surface and groundwater hydrology, water quality and ecosystems.

Oil and gas exploration may also pose a risk to both surface water and groundwater, including through over-extraction of water, contamination, and changes to flow paths. Exploration for oil and gas continues to be active in many parts of the basin and is expanding into areas such as the Channel Country bioregion.

To better understand the potential impacts of coal seam gas, large coal mining and shale and tight gas developments on water and the environment, bioregional assessments have been undertaken in selected regions of central and eastern Australia. There have been two separate programs:

- 1. Geological and Bioregional Assessment Program (shale and tight gas).** This program includes an assessment of the Cooper region (primarily located in the Cooper Creek catchment), and it was found that potential impacts could occur in 27% of its area. These impacts could be mitigated through ongoing compliance with existing regulatory and management controls.¹¹
- 2. Bioregional Assessment Program (coal and coal seam gas).** The assessment of the Lake Eyre Basin bioregion, which included the Galilee, Cooper, Pedirka and Arckaringa subregions, was led by CSIRO and Geoscience Australia. It identified where potential impacts might occur. For example, in the Cooper subregion, it identified that a proposed coal seam gas project may increase surface water flows into Strzelecki Creek, but there would be minimal effect on local groundwater levels and springs are unlikely to be impacted.¹²

Invasive species

Three types of invasive species threaten the ecological integrity and agricultural productivity in the basin:

- 1. Aquatic animals.** An exotic fish species of significant concern is gambusia (*Gambusia holbrooki*). Native to the eastern USA, it is spreading throughout the basin and presents a particular threat to the native fish present in artesian springs. Some translocated aquatic species (i.e., species that are native to Australia but not to the basin) are also threats. These include the sleepy cod (*Oxyeleotris lineolate* native to northern Australia's tropical fresh waters), which has spread into many ephemeral streams and waterholes of the Cooper Creek catchment, and could threaten the endangered Cooper Creek catfish. Redclaw crayfish (*Cherax quadricarinatus* native to parts of northern Australia), is present in the Diamantina and Cooper catchments and has been spreading downstream. The redclaw crayfish is likely to be competing with the native blueclaw yabby (*Cherax destructor*).¹¹
- 2. Terrestrial animals.** Large feral mammals such as camels, horses, donkeys and pigs put additional grazing pressure on the basin and affect riparian vegetation by trampling and disturbing the soil surface. Stock and feral animals have a direct impact on spring vegetation

¹¹ Holland KL et al. (2021) Impact assessment for the Cooper GBA region. Geological and Bioregional Assessment Program: Stage 3 synthesis. Department of Agriculture, Water and the Environment, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia.

¹² Australian Government (2018) Coal resource development and water resources in the Cooper subregion. Department of the Environment and Energy, Bureau of Meteorology, CSIRO and Geoscience Australia, Australia.

and can lead to the loss of native plant species, as well as pugging and elevated nutrient concentrations (principally nitrates and phosphates) in spring waters and sediments. In the Ramsar-listed Coongie Lakes, pigs pose a threat to waterbird breeding habitats, while rabbits have affected fringing vegetation. Cats and foxes are also widespread throughout the basin.

Cane toads are present in the upper Cooper catchment and some springs. The aquatic ecosystems of the basin may be in a toad expansion pathway. Cane toads affect native wildlife through competition and by poisoning those animals that consume them. Cane toads are prolific where water is readily available, but water is also the main limiting factor for their survival.

It has been suggested that the five most cost-effective strategies within the basin are the control of pigs, horses and donkeys, cane toads, camels, and rabbits, and that managing invasive animals for the protection of biodiversity in the basin could provide significant agricultural co-benefits.¹³

- 3. Weeds.** Over 240 invasive plants occur in the basin. Although few exotic aquatic species have been found, many other species can spread through riparian and floodplain habitats. The most widely distributed invasive plant species in the basin is buffel grass. Widely planted as pasture, it now competes with native grasses as an invasive weed and can alter drainage patterns and fire regimes. Buffel grass poses a particular threat around Alice Springs. Other weeds of potential risk to riparian and floodplain ecosystems, such as the Coongie Lakes Ramsar site, include mesquite, Mexican poppy, parkinsonia and prickly acacia.

Social change

Several socio-economic concerns continue to be raised by the basin community. A long-term trend is the diminishing and ageing population within the pastoral industry due to declining economic conditions during drought, especially in Queensland. Another key issue is the dislocation of Aboriginal communities and impacts on Aboriginal cultural and historical sites, including inhibited access for Aboriginal people, leading to disconnection from country. These factors are contributing to a loss of traditional and local knowledge and management capacity in the basin. The Aboriginal community is concerned that, without full and meaningful engagement in water planning processes that incorporates Aboriginal knowledge and values, there will be an ongoing risk to the sustainability of country from an Aboriginal perspective.

Much of the basin is characterised by high or relatively high socio-economic disadvantage¹⁴, with challenges including the remoteness of much of the basin, a lack of employment opportunities, and the reliance on resource-based industries.¹⁵

Climate change

Worldwide, climate change is projected to increase climate variability, increase temperature, and alter regional rainfall patterns.¹⁶ In the basin, many aspects of riverine ecosystems can be expected to be sensitive to climate change, especially in arid regions where runoff and discharge are more sensitive to changes in rainfall than elsewhere. Waterholes that act as refuges for aquatic species are

¹³ Finn J et al. (2015) Priority Threat Management of Invasive Animals to Protect Biodiversity in the Lake Eyre Basin, CSIRO, Brisbane.

¹⁴ Australian Bureau of Statistics Socio-Economic Indexes for Areas (SEIFA).

¹⁵ Herr A, Smith T and Brake L. (2009) Regional profile of the Lake Eyre Basin catchments. In Measham TG, Brake L (Eds.). People, communities and economies of the Lake Eyre Basin, DKCRC Research Report 45, Desert Knowledge Cooperative Research Centre, Alice Springs.

¹⁶ IPCC (2021) Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, Cambridge University Press.

likely to lose water volume and depth, leading to habitat loss, declining water quality and competition for dwindling food resources. Soil moisture is likely to decline, especially in the south and during winter, and this could well have an adverse impact on productivity in the pastoral sector.

Ecological effects of climate change in the basin will depend on the degree of exposure of riverine organisms, as well as on their capacity to adapt. 29 threatened native species in the basin are less likely to persist under the predicted impacts of climate change over the next 50 years and shifts in the distribution and extent of many aquatic species are anticipated. The terrestrial organisms most likely to be affected by climate change in the basin include plants, snails and reptiles. Shifts in the distribution of many invasive species are also expected in response to climate change. Increased winter temperatures and summer rainfall, for example, may make all riverine systems of the basin favourable to cane toads. In many cases, climate change can also be expected to act in synergy with the ecological effects of other pressures on riverine ecosystems.

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6 Goals and objectives

This strategic plan has four goals, which address the basin's river systems, Aboriginal culture, communities and economy. Each of the goals is underpinned by more specific objectives. The four goals express the major cross-jurisdictional opportunities for the Lake Eyre Basin to support the vision and, as far as possible, avoid or eliminate cross border impacts. Together, the goals and objectives establish clear priorities for monitoring the state of the basin and the outcomes of implementation plans.

Goal 1. Healthy river systems and unregulated flow regimes supporting resilient landscapes

The floodplain river systems of the basin are remarkable for their scale, highly variable and unpredictable flow regimes, and the ecological values and ecosystem services that they support. Consistent with the Lake Eyre Basin Intergovernmental Agreement, and in recognition that waterways are inextricably linked to the landscapes through which they flow, 'river systems' are defined to include associated catchments, floodplains, overflow channels, lakes, wetlands and sub-artesian waters dependent on surface flows.

Climate change is likely to have ramifications for river health in the basin, where runoff and riverine ecosystems are expected to be sensitive to changes in rainfall and altered flow regimes (e.g. more severe drying down of waterholes and extended periods of ecological bust). Acknowledging this and the many other threats facing the basin, this goal relates to keeping the river systems healthy and, in doing so, helping sustain the health and resilience of broader basin landscapes while supporting economic and social wellbeing across the basin.

Objectives

1. The integrity of the unregulated river systems, their variable flow regimes and boom-bust ecology are maintained by managing threatening processes through cross-jurisdictional and community effort

As discussed in section 4, there are several threats to the health of the basin's river systems and their integrity as unregulated waterways with boom-bust ecology. These include exotic pests and weeds, soil erosion and poorly designed physical infrastructure. The highly variable and unpredictable nature of the basin's rivers also makes them vulnerable to potential future water resource development. Effective management of these threatening processes, which affect both the hydrology and ecology of the river systems, requires coordinated, cross-jurisdictional and community effort, combined with appropriate policies and investment.

2. Knowledge and awareness of the basin's unique rivers and threatening processes (such as invasive species, development and climate change) is improved and promoted

Effectively safeguarding the basin's rivers requires knowledge of their hydrology, ecology and threatening processes. This knowledge can be improved and promoted through coordinated research and other initiatives. It should also be widely communicated to raise awareness of the uniqueness of the basin's rivers, as well as the range of threatening processes and how best to manage them.

3. Available water is managed to meet community needs and support resilient landscapes and river systems

While demand for water in the basin is low relative to many other parts of Australia, the basin's dry and variable climate means that water is highly valued both for human consumption, and for the full range of benefits that water brings communities, landscapes, river systems and industries. basin communities expect that water resources continue to be managed well, and that water quality and environmental flow regimes are protected, in pursuit of this objective.

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Goal 2. Celebrated Aboriginal culture and knowledge

The basin is home to many Aboriginal nations. It supports rich and diverse Aboriginal cultures, and Aboriginal people have managed the basin's environment since time immemorial. This goal is about celebrating Aboriginal culture and knowledge, for the benefit of both the basin's communities and the environment. Processes and protocols for obtaining permission and consent should be followed for initiatives that work towards this goal.

Objectives

1. Aboriginal knowledge, cultural and spiritual connections to land and water are integrated into planning, management and decision-making

Across the basin, Aboriginal people maintain strong connections to the basin's landscapes and river systems and knowledge of how to manage them. Aboriginal people also maintain a legitimate interest in planning and decision-making processes at a range of scales. Subject to the pre-permission and informed consent of Aboriginal people, considerable scope exists to tap into traditional knowledge in ways that benefit river and natural resource management, and to more effectively engage and involve Aboriginal people in these processes.

2. Aboriginal peoples' access for fishing, hunting, gathering and cultural purposes is ensured

The basin has countless places of significance for Aboriginal people, but many of these sites are now difficult or impossible for Aboriginal people to access. Ensuring that Aboriginal people can access these places is important for maintaining Aboriginal cultures and traditional practices (such as obtaining traditional Aboriginal foods).

3. Aboriginal people maintain their languages, songs, storylines and dreaming for future generations

There are many different Aboriginal language groups within the basin, and there are complex and intimate connections between Aboriginal people and the environment. These languages and connections, including songs, storylines and dreaming, must be maintained for the benefit of future generations. Initiatives to achieve this will require continuity to deliver enduring benefits.

4. Aboriginal peoples' cultural sites are protected and maintained, and connections to sites are enhanced

The basin's diversity of culturally significant sites includes springs, wells, caves, middens and grinding stones. These sites should be protected, maintained and, where appropriate, rehabilitated so that the connections between Aboriginal people and their cultural sites can be enhanced. Subject to the informed consent and participation of Aboriginal people, monitoring will be an important component of ongoing protection and maintenance, including monitoring the changing status of sites in relation to climate change.

5. Improved, two-way understanding of the cultural impacts of climate change

Climate change is one of the major threats facing the basin, including its Aboriginal cultural sites and values. In some instances, the impacts of climate change on regional climate, or significant sites such as waterholes, the emerging impacts of climate change may sit beyond generations of lived experience. Increased awareness by Aboriginal people of climate change trends and impacts will be important to informing adaptation and the maintenance of

traditional values and practices. Equally, Aboriginal knowledge of how to adapt to a variable climate, potentially drawing on many thousands of years of experience, can inform climate change adaptation more broadly in the basin. It is acknowledged that informed consent would be required to share such cultural knowledge as part of any proactive engagement on climate change.

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Goal 3. An informed, engaged and resilient community

The basin's community (i.e., everyone who lives and works in the basin) is diverse. As discussed in section 3, Alice Springs accounts for much of the basin's population, with the remaining population dispersed across the basin in smaller towns, mining developments, homesteads and Aboriginal communities. Information and engagement will be important in ensuring the community is resilient to socio-economic and environmental change (including climate change and variability), and to fostering a strong sense of community wellbeing, stewardship of the environment, and appreciation for Aboriginal connections to water and land.

Objectives

1. Communities with a strong sense of wellbeing throughout the basin

The socio-economic, demographic and environmental changes occurring throughout the basin will influence the wellbeing of people in all of its regional and rural communities (including Aboriginal communities). This objective is about fostering a strong sense of wellbeing, and ultimately building a more resilient and adaptive basin community.

2. Informed, engaged and empowered communities that understand, and are active stewards of, the basin's unique natural and cultural assets

This objective recognises the importance of building community knowledge and awareness of the basin's natural and cultural values, and of supporting basin communities to become more engaged in basin planning and management. It seeks to instil a stronger sense of stewardship for the basin and for future generations.

3. Aboriginal cultural and spiritual connections to water and land are recognised and respected

Goal 2 recognises the strong cultural and spiritual connections that Aboriginal people have to water and land, developed over many thousands of years, and the importance of celebrating these cultural connections. This Goal 3 objective builds on Goal 2 by seeking to improve awareness and understanding of these cultural and spiritual connections amongst non-Aboriginal members of basin communities.

Goal 4. A diverse and adaptable economy

The basin's economy relies largely on pastoralism, natural resource extraction, and tourism. Acknowledging there are many significant drivers and trends facing the basin's economy, including climate change, there is an opportunity to influence the outcomes of those drivers and trends in ways that foster a more adaptable, sustainable, inclusive and diverse basin economy.

Objectives

1. A basin economy that is adaptable to the effects of climate variability and change

Much of the basin's economy is dependent on its climate and natural environment, such as the large areas of the basin used for pastoralism. The economy is therefore already vulnerable to drought and other variability in the basin's climate, and increasingly vulnerable to the impacts of climate change. Adaptability to these changes will be important as the economy further develops.

2. Sustainable and inclusive development for a diversified economy

Many of the natural values and resources on which much of the basin's economy depends are either finite or are vulnerable to unsustainable management and use. Recognising these vulnerabilities, it is imperative that future capital investment and economic growth be consistent with the principles of ecologically sustainable use.¹⁷ This objective also envisages that future economic development in the basin should:

- be inclusive and deliver benefits across the community, providing greater opportunities for economic growth by sectors of the community that have traditionally had lower rates of participation such as women and Aboriginal people
- contribute to economic diversification, providing opportunities for small and medium sized enterprises, into what are currently smaller sectors of the economy such as tourism, health and education thereby providing for a more resilient economy.¹⁸

3. The basin is promoted as a unique, accessible and culturally rich tourism destination

The basin's unique values attract many visitors and sustain a growing tourism sector, all of which is playing an increasingly important role in the basin's economy. There is opportunity to further promote the basin as a unique tourist destination, including for its natural and Aboriginal cultural values, in ways that support growth in tourist numbers and tourism enterprises. In recognition of the second objective under this goal, promotion of tourism, whereby must not be to the detriment of the environmental and cultural values on which the industry depends.

¹⁷ Environment Protection and Biodiversity Conservation Act 1999, s.528.

¹⁸ United Nations Development Program - <https://www.adaptation-undp.org/economic-diversification>.

7 Realising the vision

Implementation of the strategic plan's vision, goals and objectives will guide the coordinated and cross-jurisdictional approach to manage the Lake Eyre Basin.

Achieving the goals and objectives will require public and private sector investment to maintain cooperation, coordination and consistency of approach between basin governments, communities, industries, research groups and NRM organisations. This will include developing and strengthening relationships to foster new opportunities to build on and coordinate with existing programs, activities and investments.

Under the cooperative and collaborative arrangements required to implement the strategic plan, and consistent with the principles of the Agreement, basin governments are individually and collectively responsible for:

- development and delivery of five-year implementation plans
- informing, consulting and involving basin communities and stakeholders
- monitoring, evaluating and reporting on progress in implementing the strategic plan through implementation plans, and on basin conditions and trends overall.

The first major step towards implementing the strategic plan will be to develop the five-year implementation plan, which will set out priority actions for basin jurisdictions and other delivery partners.

Monitoring, evaluation and reporting coordinated or undertaken by partner jurisdictions under the updated MERI framework will serve as a key input to the mid-term progress review of the strategic plan and its implementation.