



Australian Government



New water infrastructure in the Murray–Darling Basin

Guidance for water managers

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Acknowledgement of the Traditional Owners of the Murray–Darling Basin

The Murray–Darling Basin Authority pays respect to the Traditional Owners and their Nations of the Murray–Darling Basin. We acknowledge their deep cultural, social, environmental, spiritual and economic connection to their lands and waters.

The guidance and support received from the Murray Lower Darling Rivers Indigenous Nations, the Northern Basin Aboriginal Nations and our many Traditional Owner friends and colleagues is very much valued and appreciated.

Aboriginal people should be aware that this publication may contain images, names or quotations of deceased persons.

Key messages

- The Basin Plan and the Murray–Darling Basin Agreement do not prevent investment in new water infrastructure in the Murray–Darling Basin.
- The construction and operation of new infrastructure projects and any required changes to operational settings and management rules must be compatible with the Basin Plan and consistent with arrangements under the Murray–Darling Basin Agreement.
- Sustainable diversion limits prescribe how much water can be extracted for consumptive use. These limits are given effect through water resource plans and related arrangements.
- Water resource plans also include the rules that protect environmental water along with other water management arrangements, which the operation of water infrastructure must comply with.
- The Murray–Darling Basin Agreement includes obligations for Basin state governments and public authorities in relation to proposals which may significantly affect the water resources or the management of these resources in the Basin.
- These matters should be considered early in the design of proposed new or renewed infrastructure, in particular to manage any risks to maintaining compliance with sustainable diversion limits and risks to water availability and condition for other water users, including the environment.
- Proponents of new water infrastructure should consult with state water planners to ensure they identify the Basin Plan requirements relevant to their project and ensure consistency with the arrangements set out in the Agreement (where applicable).
- Basin states are responsible for approving and regulating the operation of water infrastructure, monitoring and reporting compliance with the rules set out in water resource plans, and ensuring the impacts of any works are considered in line with the Murray–Darling Basin Agreement.
- The MDBA will assist state water planners to determine if new water infrastructure or changes to existing infrastructure have implications for Basin Plan compliance, and to work with state water planners to progress any necessary amendments to water resource plans.
- The MDBA does not have a role in relation to land use, planning and environmental approvals.

Introduction

This Guide provides information on the elements of the *Basin Plan 2012* (Cth)(the Basin Plan) and the Murray–Darling Basin Agreement (MDB Agreement) that may intersect with proposals for new water infrastructure within the Murray–Darling Basin (the Basin).

This information is provided for guidance only and proponents of water infrastructure projects should seek advice specific to their own circumstances.

Water infrastructure is critical to a healthy and productive Murray–Darling Basin

New water infrastructure and technological innovations that improve water use practices will play a key role in ensuring secure water supplies and sustainable water management in the future.

Safe and secure water supplies underpin the prosperity and resilience of regional communities. Investment in water infrastructure, whether through new or renewal projects, are a means of future proofing supplies.

Water infrastructure also enables the water in river systems to be provided where and when it is needed for both consumptive and environmental use, and can help maintain water quality that is fit-for-purpose.

Water infrastructure is a term which can apply to a range of assets from dams, weirs, flood levees and embankments to fishways, regulators, pump stations, managed aquifer recharge ponds and injection wells and desalination plants.

The design, construction and operation of water infrastructure can have both positive and negative impacts to water users and the environment.

The Basin Plan does not prevent new water infrastructure, or changes to existing infrastructure

Water management within the Basin must be consistent with the Basin Plan to ensure there is no backward step towards unsustainable water management practice. The Basin Plan provides a framework for coordinating sustainable water management, including setting limits on the amount of water that can be taken for consumptive uses. These limits and other water management rules are set out in water resource plans.

These limits do not prevent investment in new or expanded infrastructure or prohibit changes to the way existing water infrastructure is operated.

Careful consideration must be given to the way in which those projects or changed arrangements will interact with Basin Plan settings, and the extent to which they may impact water resources, ecosystem health and water extraction by other water users within the Basin.

Water resource plans operationalise Basin Plan settings at the local catchment scale.

Basin state governments develop these plans and incorporate relevant state rules and arrangements.

Water infrastructure must be operated consistently with these rules and arrangements.

There are also arrangements in the MDB Agreement that need to be considered

The River Murray has been managed collaboratively since 1914 under joint government arrangements between the Commonwealth, Victorian, New South Wales, and South Australian

governments. The MDB Agreement includes obligations for Basin state governments and public authorities in relation to proposals which may significantly affect the water resources or the management of these resources in the Basin.

Roles and responsibilities

State or local governments approve construction and regulate the operation of water infrastructure under relevant state laws.

Basin state governments:

- Ensure compliance with water management rules in water resource plans, including the sustainable diversion limits
- Must inform the MDBA of proposals which may significantly affect the water resources or the management of these resources in the River Murray.

The MDBA:

- Operates the River Murray on behalf of the New South Wales, Victorian and South Australian governments, including responsibilities to oversee and manage the [water infrastructure in the River Murray system](#).
- Monitors and reports on compliance with sustainable diversion limits and water resource plans.
- Assess water resource plans and amendments, as part of the accreditation of these plans under the *Water Act 2007* (Cth) (the Water Act).
- Does not have a role in relation to land use, planning or environmental approvals.

The MDBA can assist state water planners to determine if new water infrastructure or changes to existing infrastructure have implications for Basin Plan compliance.

The MDBA will also work with state water planners to progress any amendments to water resource plans needed to recognise the operation of new infrastructure in changes to state-based management rules, as per the [MDBA Water Resource Plan Assessment Framework](#).

The MDBA will work with the proposing government to understand the anticipated effects and may stipulate conditions on the operation of works. These processes are set out in the MDB Agreement.

Funding new infrastructure

This Guide does not provide advice on funding or delivery mechanisms for new water infrastructure. Infrastructure developers should contact relevant state and local government departments in their area for information on infrastructure funding and approval processes.

Currently, the Commonwealth Government has several programs to support investment in new water infrastructure in the Basin, including:

The National Water Grid is an initiative to develop region-specific water storage and distribution networks aim to grow agricultural output, increase water security and build drought resilience. [The National Water Grid Authority](#) is working in partnership with Australia's states and territories to

identify and prioritise nationally important regional water infrastructure projects. See the [National Water Infrastructure Investment Policy Framework](#) for more information.

Off-farm Efficiency Program designed to recover water for the environment in the Basin through off-farm water infrastructure upgrades. The program includes funds for state government led projects and direct grants. Information on the program is available on the [Department of Agriculture, Water and the Environment website](#).

Considerations for infrastructure design and operation

The type of water infrastructure, how it will operate, and its location will determine how it intersects with Basin Plan requirements and MBD Agreement arrangements

Water infrastructure can cover a wide range of assets. The type of infrastructure project and how it is designed and operated needs to be carefully considered, to mitigate any adverse impacts on environmental assets and functions, and ensure the environmental, social, cultural and economic objectives of the Basin Plan are not compromised. Under the MDB Agreement, consideration also needs to be given to whether a project will affect the flow, use, control or quality of water in the upper River Murray and South Australian River Murray.

The impacts, risks and benefits of proposed water infrastructure should be considered early in the design of a project, so they can be appropriately assessed, avoided, mitigated or managed

The operation of water infrastructure will have ongoing impacts, both positive and negative, on the surrounding environment and other water users.

Understanding how infrastructure can be designed, built and operated while mitigating impacts to flow regimes and third-party impacts will be more effective than managing such impacts retrospectively, and may identify opportunities to provide multiple benefits.

Early consideration of impacts of infrastructure design and operation can also provide additional benefits alongside the economic benefits of a water infrastructure project

Infrastructure must be designed and operated to mitigate adverse impacts, but can also provide social, cultural and ecological benefits alongside the economic outcomes of water use.

For example, canals and pipelines can offer flexibility in water level and flow management, allowing for lower flows in the river in summer and autumn to mimic more natural conditions and enable riverbanks to dry out and vegetation re-establish.

Healthy flows can also provide recreational, social and cultural benefits downstream. Considering how to operate infrastructure to mitigate some of the impacts to flow regimes and to maintain downstream connectivity can help to support these potential benefits.

Basin Plan requirements

Water management in the Basin needs to be consistent with the Basin Plan, which means adhering to requirements in accredited state water resource plans

Basin state governments have developed water resource plans that implement elements of the Basin Plan at the local or catchment level.

The Water Act requires that these plans are complied with, and that States, operating authorities and infrastructure operators act consistently with them.¹

These plans embed state rules and arrangements, as well as incorporating new arrangements to strengthen water management and manage current and future risks.

The development of new infrastructure or changes to existing infrastructure must consider how to adhere to Basin Plan requirements, either through design and/or operation of the infrastructure

Any new infrastructure must enable water resources to be managed consistently with the Basin Plan and the sustainable diversion limits, environmental objectives and outcomes, and other water management requirements as set out in the respective water resource plan.

The requirements that proposals for new water infrastructure developments would need to address include, but are not limited to, whether:

- additional storage capacity would affect compliance with sustainable diversion limits
- infrastructure which relates to interception activities (such as the collection of catchment runoff or capture of overland flow) would affect compliance with sustainable diversion limits
- infrastructure is designed so that the watering requirements for local priority environmental assets and important ecosystem functions are not compromised
- infrastructure operation will inhibit an ability to provide for environmental watering consistent with the Basin Plan environmental watering plan and basin-wide environmental watering strategy
- infrastructure operation would result in a net reduction in the protection of planned environmental water
- infrastructure adheres to the state-based rules that protect First Nations values and uses
- infrastructure impacts connectivity between surface water systems, and between surface and groundwater
- infrastructure impacts how local and basin-wide water quality targets can be achieved, including surface water and groundwater targets where applicable
- critical human water needs can be met during extreme events
- infrastructure creates risks to the condition or availability of water, including risks to environmental, cultural, social and economic uses of water, and the potential risks arising from climatic changes.

If new infrastructure allows for increased water extraction, there are options to ensure total extraction remains within the sustainable diversion limits

The Basin Plan seeks to balance between consumptive and environmental water uses across the basin and in each valley, by setting sustainable diversion limits. These limits set the long-term average volume of water that can be extracted from a river system for non-environmental use and include licenced take, take under basic rights, and take through interception activities.

New water infrastructure or changes to existing infrastructure would need to adhere to these limits.

¹ See sections 58 and 59 of the Water Act.

The way water infrastructure may influence water take will differ in each case, and it will be important to carefully consider how to ensure any resulting changes in water extraction are consistent with the sustainable diversion limit rules set out in the relevant water resource plan.

To the extent that new water infrastructure results in additional water take, Basin states are responsible for ensuring the sustainable diversion limit for the catchment is not exceeded. There are many avenues for them to ensure this, with one of those being a mechanism in the Basin Plan that allows basin states to manage any 'growth in water use'.

Basin states can amend water resources plans to reflect the operation of new infrastructure

The Water Act recognises that water resource plans may need to change over time and establishes an amendment mechanism. If substantial changes to water resource plans are required, Basin states must seek accreditation of these changes by submitting the proposed amendments to the MDBA.

In a similar process to the accreditation of water resource plans, the MDBA would consider the changed arrangements, assessing whether they provide for water management consistent with the Basin Plan, then prepare a recommendation for the Minister, who would ultimately consider the amended arrangements and make an accreditation decision.

Basin states would need to consider whether Basin Plan requirements would be met under any new arrangements. For example, it may be necessary to prepare modelling of flow regime changes resulting from new infrastructure and the proposed operational rules to demonstrate these changes would maintain Basin Plan requirements.

MDB Agreement obligations

Basin governments must inform the MDBA of proposed new works in the River Murray System

The River Murray has been managed collaboratively since 1914 under joint government arrangements between the Commonwealth, Victorian, New South Wales, and South Australian governments, set out in the MDB Agreement. Under the Agreement, the MDBA's role is to manage the system's built assets, share the waters between the southern Basin states, and deliver water in the River Murray System to meet orders and requests.

Under the Agreement, Basin state governments and public authorities have an obligation to inform the MDBA of proposals which may significantly affect the flow, use, control or quality of any water in the upper River Murray and in the River Murray in South Australia.

Additionally, where a Basin state proposes to carry out work within the banks of the River Murray, and those works are not otherwise provided for by the Agreement, particulars of the proposal (including plans) must be provided to the MDBA.

In these scenarios the MDBA will work with the proposing government to understand anticipated effects, and has the ability to provide representations and, in certain cases, to stipulate conditions on the operation of works.

Proposals to supplement, improve, replace or repair existing works should also be considered carefully in line with Agreement requirements.

Other federal and state regulations

Water infrastructure development is primarily regulated through other state and commonwealth legislation, not by the Basin Plan

Proponents of new infrastructure proposals should ensure appropriate consultation and approvals are in place under local, state and federal laws. These matters should be discussed with the relevant approval authorities at local, state and federal levels.

State and territory governments may also have requirements for infrastructure development in relation to laws that protect various types of Indigenous heritage, including requirements to consult with Traditional owners and other Aboriginal people or organisations. The Convention on Biological Diversity's [Akwé: Kon Guidelines](#) provide a best practice guide to consultation with indigenous communities, however infrastructure proponents should seek advice from relevant approval authorities on the specific requirements for First Nations consultation.

The development of any new or expanded water infrastructure that may have a significant impact on a nationally protected matter requires approval under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). The EPBC Act regulates impacts to nationally protected matters, including listed threatened species and ecological communities, listed migratory species and Ramsar listed wetlands. Further information about the EPBC Act is available on the [Commonwealth Department of Agriculture, Water and the Environment website](#).

It may also be relevant for new water infrastructure to adhere to the principles for efficient and sustainable water management outlined in the National Water Initiative. For example, new projects may need to give effect to the principles of user-pays, facilitate the efficient functioning of water markets, and take a risk-based approach to manage future changes to water availability. More information about the National Water Initiative is available in the [National Water Initiative Policy Guidelines for Water Planning and Management](#). Infrastructure developers should contact the relevant state and local government departments or funding authority to find out whether the National Water Initiative principles apply to their proposed projects.

Where do I go to learn more?

Infrastructure proponents should contact the [state government agency responsible](#) for implementing water resource plans in the first instance. State water planners are best placed to help identify the Basin Plan requirements a proposed infrastructure project will need to consider, as well as other statutory requirements under state-based land use planning and development approval processes.

State water planners can contact the MDBA for assistance in determining any implications for water resource plan compliance, and for advice on proposed works that must be notified under the MDBA Agreement. Contact the MDBA at engagement@mdba.gov.au.

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