

# WENTWORTH GROUP

OF CONCERNED SCIENTISTS

## Significance of Murray-Darling Basin

The Murray Darling Basin (MDB) is Australia's largest and most iconic river system and one of the biggest basins in the world by geographic extent. It covers over a million square kilometres in south-eastern Australia. An area larger than the combined size of France and Germany. It is Australia's most complex environmental asset and Australia's food bowl. The Basin is the traditional country of around 40 Indigenous nations. Healthy rivers, lakes and wetlands in the Basin are essential now and for future generations.

### Physical

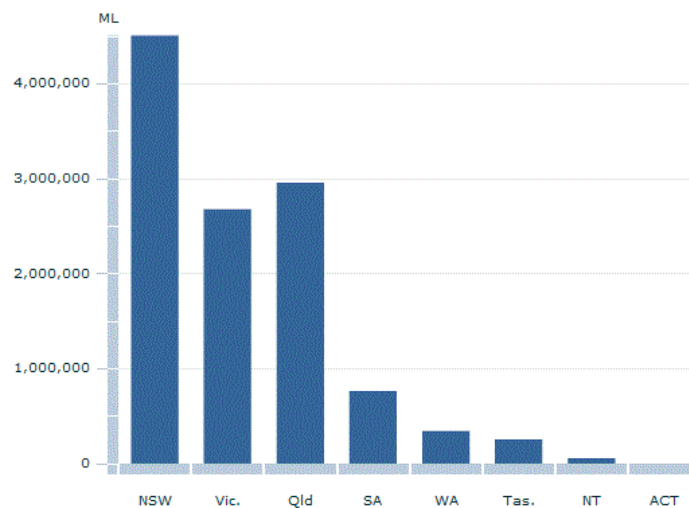
- Includes Australia's longest rivers: the Darling, the Murray and the Murrumbidgee
- Contains 70% of Australia's irrigated land area<sup>1</sup>.
- Habitat for 57 threatened species<sup>2</sup>.
- 6% of the Basin area (62,000 km<sup>2</sup>) is rivers, lakes, floodplains and wetlands<sup>3</sup>. 16 wetlands are Ramsar listed including the Coorong, recognised for its critical habitat for migratory birds.
- Supports critical habitat for 120 water bird species, 85 mammal species, 53 native frogs and 46 native fish species<sup>4</sup>.
- River flows are amongst the most variable in the world.
- More water flows through the Amazon in one day than through the MDB in one year.
- 2 million tonnes of salt need to be flushed out to sea annually to maintain water quality<sup>5</sup>.

### Social

- The MDB covers five state and territory government jurisdictions.
- Almost 4 million people rely on water from the catchments.
- 2.6 million Australian's call the MDB home.
- It is home to around 40 Indigenous nations.
- ~50% of SA water supply comes from the Murray<sup>6</sup>.

### Economic

- Agricultural production was valued at \$24 billion in 2018<sup>7</sup>.
- The gross value of irrigated agriculture from the basin in 2016-17 was \$7.2 billion<sup>8</sup> contributed from 9,200 irrigating businesses<sup>9</sup>.
- Tourism expenditure totals \$8 billion<sup>10</sup>, sustained in-part by the health of our rivers and associated ecosystems.
- The cost of dredging to keep the Murray Mouth open is around \$6 million per year<sup>11</sup>.
- NSW, VIC and QLD use the vast majority of MDBA water.
- In 2016/17 cotton was the largest agricultural sector user of water consuming 28% of all water used on Australia's farms<sup>12</sup>.



Total Agricultural water use (ML) on Australian farms by State and Territory<sup>13</sup>

### Our recommendations:

1. Guarantee recovery of the full 3,200 GL of water as a minimum step to ensuring that water recovered achieves measurable improvements to the health of the MDB;
2. Ensure application of best available science is central in all decision-making;
3. Use compliance and regulatory powers under water laws to their full extent to deter and prosecute any illegal water use;
4. Prepare for the future with less water in a changing climate by undertaking impact assessments and developing adaptation policies;
5. Rebuild trust through the public release of all advice, modelling and decision-making processes including expenditure of public funds;
6. Deliver a structural adjustment package that supports transformation of regional communities impacted by water reforms.

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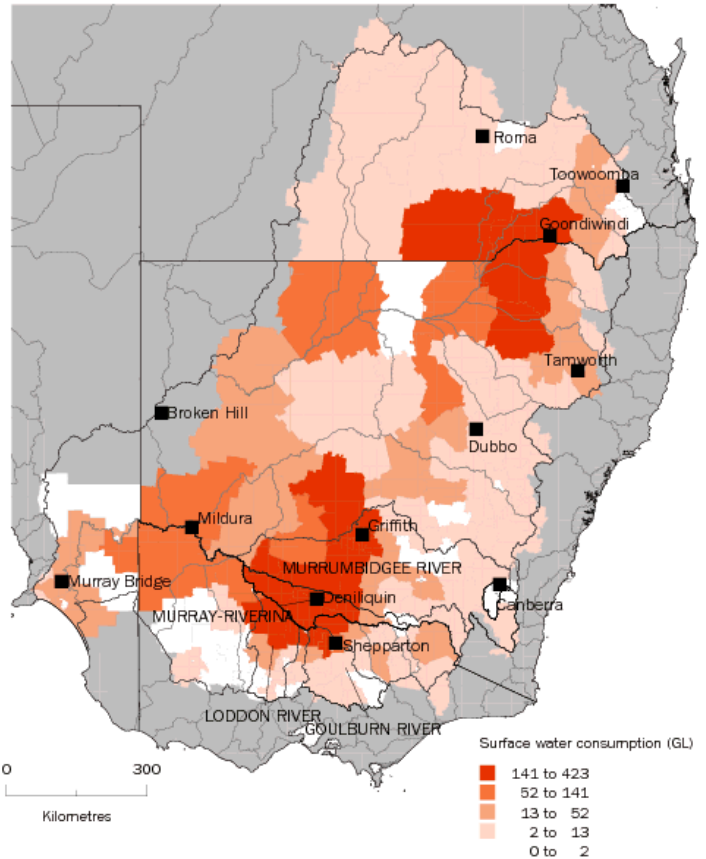
## Environmental damage in the MDB

In 1991, the 1,000 km blue-green toxic algae bloom in the Darling River caused the NSW government to declare a state of emergency. Since then extensive blooms have occurred in 2009, 2010, 2016 and 2019<sup>14</sup>. The 1991 outbreak was an early trigger leading COAG in 1994 to a national water reform agenda and governments committed to significant water reforms to address the over allocation of water in the Murray-Darling Basin River system.

The Millennium Drought of 2000s underscored that over-allocation of water for consumptive use would lead to irreversible damage to the Basin environment including:

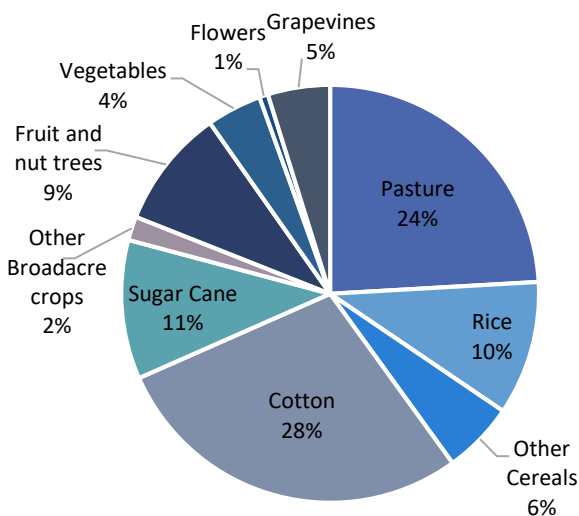
- Degradation of aquatic ecosystems, collapse of wetlands and habitat loss;
- Loss of native fish populations and other flora and fauna including black box communities;
- Recurrence of algal blooms, mass fish deaths, high levels of salinity and general poor water quality;
- Communities running out of water as the river stops flowing more often and for longer than it used to. The Darling River at Burke has stopped flowing ten times in the last ten years.

The passing of the Commonwealth Water Act in 2007 aimed to reprioritise water use between agriculture and the environment. The Act led to the allocation of \$13 billion of Commonwealth funds to water reforms – the largest in the history of Australia’s water and agricultural reforms.



Source: ABS data available on request, ABS Agricultural Census 2005-06, Geoscience Australia 2004

*Agricultural surface water consumption in river basins, by Statistical Local Area—Murray-Darling Basin—2005-06*



*Water Use (%) on Australian Farms, 2016-17<sup>15</sup>*

## Government Action

### How did the Commonwealth Government get involved?

During Federation in 1901 the states secured the constitutional right to manage water. As water extraction pressures mounted in the Basin, it became clear that a basin-wide approach was required to manage shared water resources. This resulted in the Commonwealth Government becoming involved in water.

Relevant statutes to the Commonwealth management of water include:

- Section 100 of the Constitution limits the Commonwealth's ability to regulate water. "The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation."
- The external affairs power in Section 51 (xxix) of the Constitution empowers the Commonwealth Government to implement international treaties, some of which relate to water management: the Ramsar Convention on Wetlands, migratory bird treaties, Convention on Biological Diversity and others.
- The Water Act 2007 (Cth) and the subsequent Basin Plan 2012 were agreements between the basin states and the federal government. These are not a takeover of water by the Commonwealth Government. There is a mix of ownership and responsibility in delivering the Plan.

### Water Act (2007)

The Water Act passed during the Millennium drought and was underpinned by the \$10 billion National Plan for Water Security. An additional \$3 billion was committed in 2012 to total \$13 billion. The Act:

- Is an environmental statute with a focus to restore over allocated water resources to restore health to the environment and prevent further damage.
- Recognised that environmental degradation had occurred due to water being "overallocated or overused" and that water doesn't respect state boundaries.
- Regulates both surface water and groundwater. Established a body to manage water acquired by the Commonwealth for the environment and centralised water accounting in the Bureau of Meteorology.
- States that the MDBA and the Federal Water Minister "must act on the basis of the best available scientific knowledge and socio-economic analysis". The Act states that a Minister cannot give a direction to any aspect of the Basin Plan that is of a factual or scientific nature [S44.5(a)].
- Applies principles of ecologically sustainable development and the precautionary principle, meaning that when scientific evidence or understanding is incomplete actions shall be taken to avoid or minimise threats of serious or irreversible environmental damage. In the context of uncertainty, caution should be taken.

### The Guide to the proposed Basin Plan (2010)

The Guide to the proposed Basin Plan was released in 2010 to inform the development of the Basin Plan. There are stark differences in the evidence presented in the Guide and the final agreed Basin Plan. The Guide:

- Had a strong focus on best available science, and protecting the environment, in line with the Water Act.
- Identified that 3,000 GL – 7,600 GL of water would be required to restore Basin ecosystems, with the lower value representing a high level of uncertainty in meeting environmental outcomes.
- Contained climate change scenario plans and considered climate change projections.
- Established the environmental sustainable level of water that could be taken from the river system in two steps, firstly the determination of the environmental requirements and secondly to account for the socio-economic impacts.

### Our recommendations:

1. Guarantee recovery of the full 3,200 GL of water as a minimum step to ensuring that water recovered achieves measurable improvements to the health of the MDB;
2. Ensure application of best available science is central in all decision-making;
3. Use compliance and regulatory powers under water laws to their full extent to deter and prosecute any illegal water use;
4. Prepare for the future with less water in a changing climate by undertaking impact assessments and developing adaptation policies;
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- Received extreme opposition from small sections of some Basin communities, which led to the widely reported burning of the Guide in October 2010. Other parts of the Basin community supported the plan, e.g. floodplain graziers.

### The Basin Plan (2012)

The Basin Plan requires 2,750 GL of water, as a long-term annual average, to be returned to the environment. The Commonwealth government is recovering this volume of water through a combination of buying tradeable water entitlements from willing sellers and through water efficiency programs. The Basin Plan:

- Provided a weakening of science and the environmental protections present in the Guide.
- Set a target for water recovery lower than the Guide (Guide 3,000 – 7,600; Basin Plan 2,750 GL). without providing scientific justification for this reduction.
- Ignored climate change projections. “MDBA has made a policy choice not to directly address the projected impacts of future climate change on water availability in the determination of Sustainable Diversion Limits for the proposed Basin Plan”<sup>16</sup>
- Chose not to address the allocation of more of the available water to agriculture as opposed to the environment in dry years.
- Provides for detailed implementation through the state ‘Water Resource Sharing Plans’. These are due to be finalised in 2019 but do not have to be fully implemented until 2024.
- Did not identify water to maintain the cultural values of Indigenous nations.



### Murray-Darling Basin Authority (MDBA)

The MDBA was established as an independent expertise-based statutory agency through the Water Act. MDBA is responsible for planning the Basin's water resources, with all planning decisions made in the interest of the Basin as a whole. The MDBA:

- Use state supplied information such as monitoring and evaluation data and hydrological model outputs.
- Is responsible for modelling of the River Murray.
- Has responsibility to assess state compliance with the Basin Plan.
- Has limited powers to override basin states decision making with regards to implementing the Basin Plan.
- Develops basin-wide environmental watering strategy and annual watering priorities as a component of the Basin Plan.
- Developed the Water Quality and Salinity Management Plan.

### Commonwealth Environmental Water Holder

The CEWH was established under the Water Act in 2007, with responsibilities to manage Commonwealth water holdings to protect and restore environmental assets. The CEWH:

- Water holdings are subject to the rules and regulations set by the state issuing the entitlement. The Commonwealth does not own the water, rather it has acquired rights to the use of state-owned water.
- Determines when and how much water is to be delivered for environmental purposes based on climate, operational constraints and guided by the MDBA's Environmental Watering Strategy and annual priorities.
- Undertakes short-term and long-term monitoring of its watering activities and is responsible for reporting on how Commonwealth water use contributes to environmental objectives of the Basin Plan.

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## Why is there a South Australian Royal Commission?

While the Water Act provided a world best standard for how to resolve over extraction of water in the Murray Darling Basin, the implementation of the Act and associated plans have failed to deliver on intended outcomes. These failures are the focus of the South Australian Royal Commission established in February 2018. A range of mismanagement and implementation issues have plagued water reform, many of which were identified during the Royal Commission, including:

### Disregarding the environment

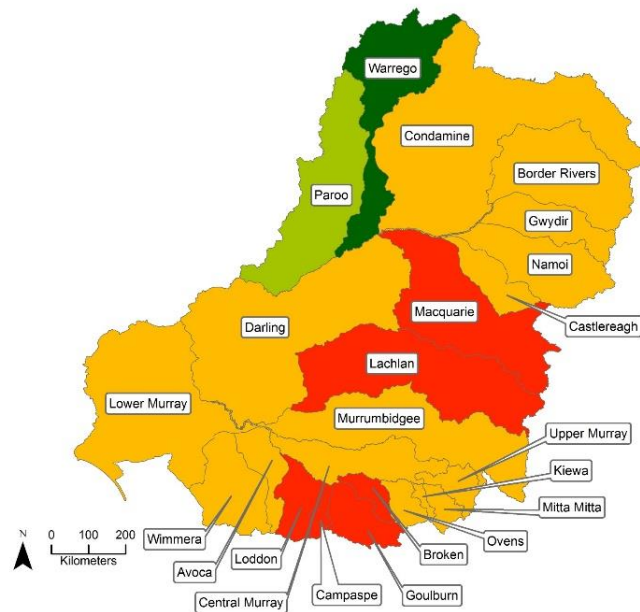
- State and federal bodies misinterpreting the Water Act as a compromise between the environment and social and economic outcomes. The Act has at its core addressing the over allocation of water from the river. There is no mention of 'triple bottom line' in the Act.
- The Ministerial Council agreed to tightening controls on the 450 GL 'up-water' to the extent that it is effectively impossible to deliver this additional water.

### Ignoring science

- Ignoring the science in favour of a politically acceptable solution with regard to:
  - Determining the level of water needed for the environment.
  - Failing to incorporate and plan for the impact of climate change.
  - Censoring and pressuring scientists to change their findings<sup>17</sup>.

### Failing compliance

- The MDBAs regulatory and compliance powers have not been exercised to the extent enabled by water laws.
- Secrecy around allegations of water theft.
- Floodplain harvesting resulting from illegal earth works not being identified and investigated.
- The 37 Sustainable Diversion Limits Supply measure projects will unlikely meet the necessary conditions for approval to achieve the desired environmental outcomes.



*Ecosystem health reported by the Sustainable Rivers Audit 2, showing valleys in good (dark green), moderate (light green), poor (yellow) and very poor (red) health (2008 - 2010).*

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## Not protecting water for the environment

- Failure to adequately relax constraints that would permit larger flow volumes to be delivered to water wetlands and floodplains.
- Stalling of progress on water recovery towards the target of 3,200 GL since 2012.
- Using more expensive and less reliable means than buybacks for securing environmental water.
- Not evaluating if infrastructure projects will deliver equivalent environmental outcomes with less water.
- Providing inadequate protection of environmental flows across state borders.

## Lack of transparency

- How the 450 GL efficiency measures projects will be assessed.
- Not releasing modelling outputs.
- The decisions regarding the volume of water to return to rivers.
- Independent audits and annual progress reviews.
- Expenditure of public funds.

## Closing valuable oversight programs

- The Sustainable Rivers Audit Basin-wide environmental monitoring program which provided periodic reports of overall basin health ceased in 2012.
- The Council of Australian Governments (COAG) Standing Council on Environment and Water, the peak body for coordinated government action on water reform, was disbanded in 2013.
- The National Water Commission, whose role was to audit progress of national and MDB water reforms was abolished in 2014.

## Lack of planning for Climate Change

- While the Guide considered climate change and began evaluating the impact of climate change on water, this work was removed from the Basin Plan.
- Using only long-term annual averages restricts the ability to plan for variable climates and the differences between drought and flood conditions.
- Lack of adaptation planning and coordinated responses to a changing climate.

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