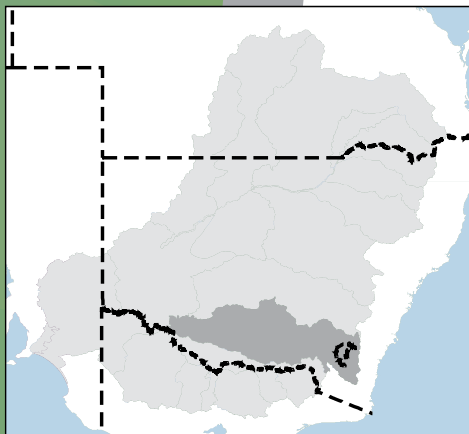




Australian Government



Murrumbidgee River at Balranald, New South Wales



Summary of **MURRUMBIDGEE REGION**

From the *Guide to the proposed Basin Plan*

This publication summarises proposals outlined in the *Guide to the proposed Basin Plan* as they relate to the Murrumbidgee region.

THE REGION

The Murrumbidgee River runs south-east through the alpine regions of Kosciuszko National Park to Monaro High Plains. It then flows north through the Australian Capital Territory before heading west through the south west slopes and over the low-lying plains of the western Riverina.

WATER USE AND ENVIRONMENTAL HEALTH

The Authority has compiled the current limits for all forms of water extraction in the Murray–Darling Basin. For surface water these current diversion limits include watercourse diversions for town and community water supplies, irrigation and industries, floodplain harvesting, and interception activities such as farm dams and forestry plantations. For groundwater they include all water diverted from the aquifers of the area. Current diversions are limited by existing transitional and interim water resource plans where these are in place. These are existing plans, prepared by Basin states, and recognised under the *Water Act 2007 (Cwlth)*. Where there are no existing plans, or plans do not apply to certain types of water extraction, the current diversion limit reflects the current level of use.

The surface water long-term average current diversion limit for the Basin as a whole has been estimated at around 13,700 GL/y and at 2,613 GL/y for the Murrumbidgee region. The Basin wide groundwater long-term average current diversion limit is 1,786 GL/y.

Murrumbidgee region surface water current diversion limit (GL/y)		
Interceptions	Watercourse diversions	Total
513	2,100	2,613

The primary use of water in the region is irrigated agriculture. Most irrigation occurs in the Murrumbidgee, Coleambally and Lowbidgee irrigation areas. Some dryland farms draw water from the irrigation district or from reticulated water supplies, while others use groundwater or tank water to provide for stock and domestic needs.



Wheat crop under irrigation near Hay, New South Wales

Other users of water resources in the region include gas suppliers, pipe manufacturers, wineries and food-processing plants.

There are a number of factors indicating very poor ecological condition in the Murrumbidgee region. For example: vegetation condition is moderate given moderate remnant cover in the catchment but poor cover along watercourses; native fish populations are extremely poor as just over half the expected species are present but exotic fish make up more than 87% of biomass, while macroinvertebrate diversity is moderate.

The hydrological condition for the Murrumbidgee is poor to moderate while stream condition is rated poor to very poor with few reaches in good condition. The major water quality issues in the Murrumbidgee are high turbidity and moderate nutrient levels. The region experiences frequent blue-green algal blooms during spring and summer.

Additional water quality problems arise due to sewage treatment return flows, however salinity levels are low.

ASSESSING ENVIRONMENTAL WATER NEEDS

Many of the environmental assets and functions of the Murray–Darling Basin have been degraded by the over-extraction of water from the Basin's rivers. The Act and Basin Plan seek to address the over-extraction of water to restore and maintain the Basin's key environmental assets and key ecosystem functions.

To determine sustainable diversion limit (SDL) proposals it is necessary to work out how much water is needed to sustain the health of the Basin's river systems, wetlands and floodplains. To do this, the Authority has undertaken an assessment of the environmental water requirements of key environmental assets and key ecosystem functions across the Murray–Darling Basin. In the most part, the assets assessed are large flood-dependent wetland and floodplain systems that support populations of waterbirds and fish, and large forests and woodlands. The assessment of key ecosystem functions gave particular attention to the environmental water requirements of rivers, and system wide processes such as connectivity between rivers and floodplains.

Together, these assessments included specific analysis of flows at 106 hydrologic indicator sites across the Basin (88 sites to assess the water needs for the Basin's key ecosystem functions and 18 to assess the water needs for key environmental assets), as well as analysis of end of system flows in each region.

The environmental water requirements at a Basin scale have been estimated between 22,100 GL/y and 26,700 GL/y (an increase between 3,000GL/y to 7,600GL/y from the 19,100 GL/y currently available for the environment).

In the Murrumbidgee region, 258 key environmental assets have been identified. Of the 106 hydrological indicator sites across the Basin the Murrumbidgee region contains five hydrological indicator sites for key ecosystem functions and two hydrologic indicator sites for key environmental assets. These are listed below:

- Lower Murrumbidgee River Floodplain
- Mid-Murrumbidgee River Wetlands

The environmental water requirements for the Murrumbidgee region have been estimated between 1,478 GL/y and 2,417 GL/y (an increase between 483 GL/y and 1,422 GL/y from the 995 GL/y currently available for the environment).

Further information on assessing the environmental water requirements of the Basin is available at www.mdba.gov.au/basin_plan/water-assessment-report.

SUSTAINABLE DIVERSION LIMIT PROPOSALS AT THE BASIN AND REGIONAL SCALE

The Authority is required to establish new long-term average SDLs for surface water and groundwater. SDLs represent the long-term average amount of water which can be used for consumptive purposes after meeting the environmental water needs that have been identified.

In the Guide, the Authority presents the SDLs as a range of scenarios for discussion at this stage, rather than choosing a particular value in this range. This range takes into account all the available evidence, the quality of that evidence, and the inherent uncertainty of modelling.

The Authority has determined that 3% of the current diversion limit (around 410 GL/y for the Basin as a whole and around 78 GL/y for the Murrumbidgee region) is an appropriate allowance to account for

the effect of climate change on surface water SDL proposals. The SDL proposals for groundwater do not include a climate change component.

The SDL proposals would require a reduction in the current long-term average surface water diversion limit at the Basin scale from 13,700 GL per year to between 10,700 GL and 9,700 GL per year (reduction between 3,000 GL and 4,000 GL per year or 22% to 29%).

For the Murrumbidgee region this would equate to a reduction in the current long-term average surface water diversion limit from 2,613 GL/y to between 1,935 GL and 1,704 GL per year (reduction between 678 GL and 910 GL per year or 26% to 35%).

The SDL proposals would also require a reduction in the current long-term average groundwater diversion limit at the Basin scale by an aggregate of 186 GL or an average reduction of 10% across the Basin. The reductions in current diversion limits are required in only 11 of the 78 groundwater SDL areas. No reductions are proposed for the remaining 67 groundwater SDL areas where the current diversions are assessed as sustainable.

SDL proposals for the surface water and groundwater SDL areas of the Murrumbidgee region are set out on page 5.

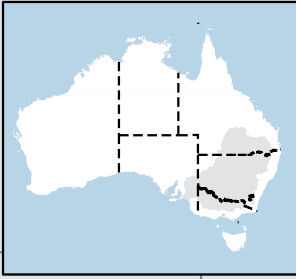
SUPPORTING COMMUNITIES







The Murray–Darling Basin Authority acknowledges that implementing SDLs may have significant social and economic implications for individual entitlement holders and communities across the Basin.

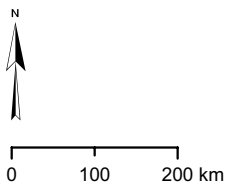
However the Australian Government has committed to recovering sufficient water access entitlements to fully offset the impact of SDLs across the Basin, including the Murrumbidgee region. This will be achieved through a combination of purchasing entitlements in the market and investments in more efficient irrigation infrastructure.

Consequently, should these targets be met, there are likely to be no reductions in individual water entitlement holder allocations.

For further information about these activities go to www.environment.gov.au/water.



-  Murrumbidgee region
-  Basin Plan regions
-  capital city
-  main town
-  main rivers
-  state border



SUSTAINABLE DIVERSION LIMITS PROPOSALS

MURRUMBIDGEE REGION

SURFACE WATER

There are two surface water SDL areas within the Murrumbidgee region.

1) Murrumbidgee NSW

Current diversion limit 2,562 GL/y
 SDL proposal from 1897 GL/y to 1670 GL/y
 Reduction from 665 GL/y (26%) to 892 GL/y (35%)

2) Australian Capital Territory

Current diversion limit 51 GL/y
 SDL proposal from 38 GL/y to 34 GL/y
 Reduction from 13 GL/y (26%) to 18 GL/y (34%)

GROUNDWATER

There are eleven groundwater SDL areas wholly or partly contained within the Murrumbidgee region.

1) Billabong Creek Alluvium

Current diversion limit 2 GL/y
 SDL proposal 2 GL/y
 Reduction Nil – potential for unassigned water

2) Lachlan Fold Belt: Murrumbidgee

Current diversion limit 30.9 GL/y
 SDL proposal 30.9 GL/y
 Reduction Nil

3) Lake George Alluvium

Current diversion limit 1.1 GL/y
 SDL proposal 0.75 GL/y
 Reduction 0.35 GL/y, or 32%

4) Lower Lachlan Alluvium

Current diversion limit 108 GL/y
 SDL proposal 64.8 GL/y
 Reduction 43.2 GL/y, or 40%

5a) Lower Murray Alluvium: shallow Shepparton formation

Current diversion limit 40.0 GL/y
 SDL proposal 40.0 GL/y
 Reduction Nil

5b) Lower Murray Alluvium: deep Calivil and Renmark Group formations

Current diversion limit 83.7 GL/y
 SDL proposal 83.7 GL/y
 Reduction Nil

6) Lower Murrumbidgee Alluvium

Current diversion limit 280 GL/y
 SDL proposal 280 GL/y
 Reduction Nil

7) Mid-Murrumbidgee Alluvium

Current diversion limit 44 GL/y
 SDL proposal 44 GL/y
 Reduction Nil

8) Upper Murray Alluvium

Current diversion limit 11 GL/y
 SDL proposal 11 GL/y
 Reduction Nil

9) Western Porous Rock

Current diversion limit 29.3 GL/y
 SDL proposal 29.3 GL/y
 Reduction Nil – potential for unassigned water

10) Young Granite

Current diversion limit 4.3 GL/y
 SDL proposal 4.3 GL/y
 Reduction Nil

11) Australian Capital Territory

Current diversion limit 7.25 GL/y
 SDL proposal 4.4 GL/y
 Reduction 2.85 GL/y, or 39%



Yanco Creek on the Murrumbidgee River near Coleambally, New South Wales

FURTHER INFORMATION AND FEEDBACK

For further information on the *Guide to the proposed Basin Plan*, visit the MDBA website at:

www.mdba.gov.au

Our website also provides details about community information sessions and ways to provide feedback on the Guide.

You can also find out about upcoming events and information releases by subscribing to our engagement email and the monthly E-newsletter.

You may also phone us on 1800 230 067 (free call) or write to us at:

Murray–Darling Basin Authority
GPO Box 3001, Canberra ACT 2601.

PHOTOGRAPHER CREDITS

Arthur Mostead: page 1,2, back page

ABOUT MDBA

The Murray–Darling Basin Authority (MDBA) is the statutory agency that manages, in conjunction with the Basin states, the Murray–Darling Basin’s water resources in the national interest.

MDBA is responsible for preparing and overseeing a legally-enforceable management plan — the Basin Plan.

The Basin Plan will:

- optimise social, economic and environmental outcomes
- set and enforce environmentally sustainable limits on the quantities of water that may be taken from Basin water resources
- set Basin-wide environmental, water quality and salinity objectives
- develop efficient water trading regimes across the Basin
- set requirements for state water resource plans
- improve water security for all Basin users.

This document has been prepared by the Murray–Darling Basin Authority for public consultation purposes, using the best efforts to ensure that the material it presents is current and accurate. The opinions, comments and analysis (including those of third parties) expressed in this document are for consultation purposes only.