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Submission to the

# **Standing Committee on Regional Australia**

*Inquiry into the impact of the  
Murray Darling Basin Plan  
in regional Australia*

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(Member of the South Australian Parliament  
for the seat of Chaffey)

## Introduction

Reform in water resource management in the Murray-Darling Basin is one of the most important challenges facing Australia, and the current process is an historic opportunity that cannot be missed. Reform must deliver a lasting and balanced outcome for all users of the water resource.

This submission argues that solutions (and examples) exist which will deliver this outcome by recovering sufficient water for the Basin's environmental assets without compromising irrigated agriculture production, thereby mitigating major economic and social impacts on regional communities.

## About the electorate of Chaffey

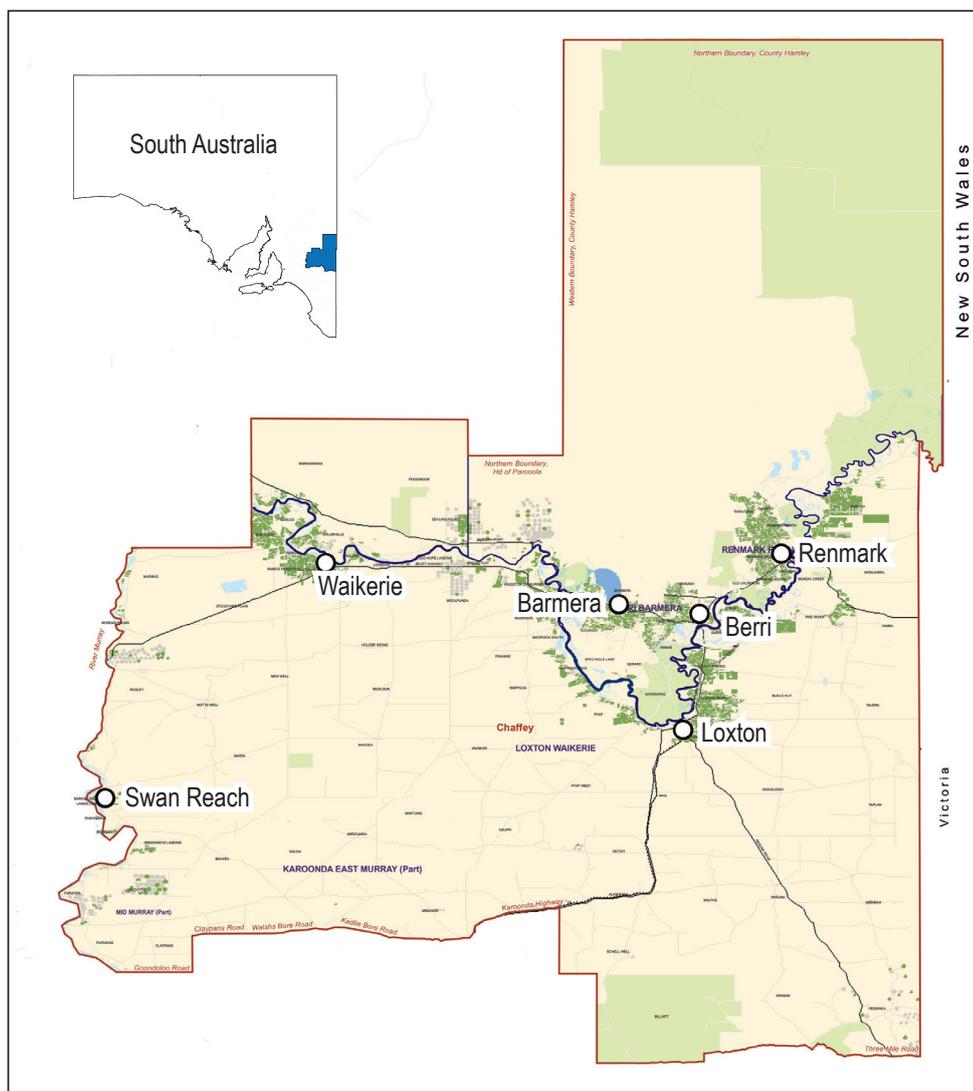
The South Australian state electorate of Chaffey has a population of approximately 40,000 people and includes more than 2500 irrigators, who comprise the vast majority of irrigation water entitlement holders in South Australia.

The region's economy is heavily reliant on irrigated agriculture. South Australia's Riverland region is almost wholly within the electorate. In addition to being Australia's largest wine grape production region, the Riverland provides a climate highly suitable for a range of irrigated agricultural industries including citrus, stonefruit, almonds, olives and vegetables. The majority of these involve permanent plantings and perennial horticulture.

Irrigation in Chaffey is among the most efficient in the Murray-Darling Basin, the result of millions of dollars of private and public investment over the past 40 years. Irrigation water is delivered by pressurised underground pipes. Water use is accurately metered at the point of extraction from the river system and at the farm gate. On-farm irrigation mostly comprises efficient drip or pivot systems.

Irrigation and the River Murray are integral to the region's social fabric and its history. Chaffey itself is named for the Chaffey brothers who founded Australia's first dedicated large irrigation settlement at Renmark in the 1890s.

Chaffey is home to two RAMSAR-listed wetlands in addition to hundreds of other wetlands, floodplains, creeks, lakes and lagoons which are part of the Murray-Darling system.



## Water reform in the Murray-Darling Basin

I support a healthy Murray-Darling river system supported by increased environmental flows. In the first instance, increased environmental flows should be obtained through water efficiency savings.

It is my position, and that of the South Australian State Opposition, that until such time as all avenues of water savings – without compromising irrigated agriculture production – have been realised and exhausted, sustainable diversion limits (SDLs) cannot and should not be set.

The Murray-Darling Basin Authority must determine the net, rather than gross, water requirements for the Basin's environmental assets.

The Guide to the proposed Basin Plan is fundamentally flawed by its terms of reference. The draft Basin Plan will need to consider a much wider range of requirements than those defined by the Water Act (2007), including a comprehensive and accurate analysis of social and economic impacts at regional and national levels. This analysis, combined with the environmental findings, should deliver a balanced outcome for the Murray-Darling Basin.

## Comments on the Committee's terms of reference

*The direct and indirect impact of the proposed Basin Plan on regional communities, including agricultural industries, local business activity and community wellbeing*

An SDL of 433-492 gigalitres for the SA Murray region (as proposed in the *Guide to the proposed Basin Plan*) will have an almost catastrophic negative impact on agriculture, business and communities of Chaffey.

This has most effectively been demonstrated during the 'millennium drought', when South Australia received almost record low River Murray inflows. With irrigators on low water allocations, agricultural output from the region has been substantially reduced and the flow on effects have been literally devastating.

Many local businesses – either directly associated with irrigated agriculture (such as fruit packing houses), indirectly associated with irrigated agriculture (such as freight companies) or not at all associated with irrigated agriculture (local retail etc) – have closed. Investment in the region has declined, unemployment has risen and the demand on scarce social services has increased. Tourism has also declined due to perceptions in markets of a dry river environment, although its contribution to the local economy has been vital.

In addition, the low inflows have seen a great deal of money go out of the Riverland region in order to lease water from interstate to support long established permanent plantings. In many cases irrigators have not been able to cope and have exited their industry. The amount of irrigated farm land in the Riverland has been reduced by approximately 4000 hectares.

The region has suffered a massive blow to its confidence and this has been exacerbated by the release of the *Guide to the proposed Basin Plan*, which would effectively entrench the economic and social decline discussed above if the proposed SDL of 433-492 GL is imposed on the Riverland and South Australia.

In terms of the social and economic impact of the proposed Basin Plan it is essential that the Riverland's irrigation efficiency be taken into account. This level of irrigation efficiency means that almost no water savings can be made through infrastructure upgrades. The 26-35% cut to current irrigation water diversions proposed in the Guide would effectively cut agricultural output, business activity, employment and eventually the region's population by well in excess of 26-35%.

A major concern with the *Guide* in the Riverland and South Australia has been the complete lack of recognition for the irrigation efficiency and historic compliance with caps on water use in the region and the State.

*Options for water-saving measures or water return on a region-by-region basis with consideration given to an analysis of actual usage versus licence entitlement over the preceding 15 years*

There is little opportunity to save water via infrastructure efficiency upgrades in the Riverland and South Australia for increased Murray-Darling environmental flows.

However South Australia and the Riverland in particular should serve as an example of the region-wide infrastructure and on-farm efficiency upgrades which must be undertaken across the rest of the Basin in order to recover the minimum 3000 GL per year (and quite probably more) for additional environmental flows called for in the Guide without compromising irrigated agricultural production and the sustainability of regional economies and communities.

In addition to over-allocation of the Murray-Darling system, a great deal of diverted water is inefficiently utilised. Water which could be utilised for environmental flows is essentially being wasted by outdated and highly inefficient infrastructure and inefficient on-farm practices. These include, but are not limited to:

- open channel infrastructure which in some cases is more than 100 years;
- flood irrigation practices; and
- floodplain harvesting.

As an example, water delivered to farms via open channel systems typically lose at least 25% (in some cases the figure is closer to 50%) of the water through evaporation and leakage. There is a strong case for open channel systems to be modernised and replaced with pressurised pipes, which experience in the Riverland and South Australia shows lose less than 3%, for a potential saving of thousands of gigalitres without any compromise of actual farm production.

The Standing Committee on Regional Australia and the Murray Darling Basin Authority must undertake a proper and thorough audit of the Basin to explore where the greatest savings can be achieved without compromising irrigated agriculture production, and with a view to minimising the costs to taxpayers and irrigators.

This audit must identify efficiency savings, cost their implementation and determine, where possible, if there are likely to be any consequential negative impacts. Sufficient water for the environment, as required by the Water Act (2007), could be achieved through such savings.

It is also essential to note that a Basin-wide program of irrigation infrastructure upgrade programs would inject billions of much-needed dollars into regional economies initially, and constitute a massive investment in the long-term sustainability of regional industries and communities as well as Australia's food security.

All efficiency measures that do not compromise irrigated agricultural production must be realised before any water user is asked to relinquish any part of their entitlement. All irrigation regions in the Basin should be required to maximise their levels of efficiency (as measured – and accurately metered – at the point of extraction from the system). It is inequitable to enforce SDLs until there is a level playing field across the Basin.

Corollary to this principle is the essential requirement that no new water licences should be issued within the Basin (a principle which should be enshrined in legislation). Any Basin state which issues another water licence should be condemned by every Australian for doing so.

The Committee and the Authority must also undertake a thorough investigation of alternative sources of water supply for users currently drawing on the Murray-Darling system water resource. These include, but are not limited to:

- seawater desalination;
- stormwater harvesting; and
- water recycling.

For example, a significant user of water from the Murray-Darling system is the city of Adelaide, which diverts a rolling average of 650 GL over five years. The city's seawater desalination plant currently being built at Port Stanvac will have the capacity to deliver 100 GL/year. Instead of supplementing water extracted from the Murray-Darling, this resource should be used to reduce Adelaide's 'take' of Murray-Darling water.

Stormwater harvesting and water recycling are proven technologies which must also be considered as alternative water supplies for communities which currently rely on Murray-Darling water.

The Committee and the Authority must also thoroughly explore the provision of increased water storage in the Basin with a view to improving water security. No new major storage infrastructure has been constructed in the Basin for decades, but increased storage is fundamental to managing environmental flows and improving water security in times of low inflows.

The Committee and the Authority must undertake an investigation into the efficiency of environmental watering programs. There are considerable savings to be made – for example, South Australian experience shows that drying of permanent wetlands has improved biodiversity while resulting in significant water savings.

### *The role of governments, the agricultural industry and the research sector in developing and delivering infrastructure and technologies aimed at supporting water efficiency within the Murray-Darling Basin*

The experience of the Riverland and South Australia over the past 40 years demonstrates the water efficiency which can be achieved through mutual investment in infrastructure and research.

A key factor in the Riverland becoming the world-class horticultural region it is today was the work undertaken at the Loxton Research Centre. Established in the 1960s, the centre not only focused on breeding, developing and trialling new horticultural crop varieties but also investigated efficient irrigation technologies being used in Israel. These technologies were trialled and adapted to local conditions, and contributed substantially to improving water efficiency on Riverland farms.

The centre, funded by the South Australian Government but also working in close consultation with horticultural industries and growers, developed groundbreaking soil survey technology, salinity management systems and irrigation benchmarking that improved the performance of growers in terms of water efficiency and crop yields, and improved environmental outcomes as well.

The major factor in the Riverland's irrigation efficiency has been the substantial investment by irrigators and government (State and Federal) in the 'rehabilitation' of the region's irrigation districts. Prior to 1969, the Riverland's irrigation infrastructure was much like that of other regions across the Basin – open channel systems which wasted substantial amounts of water. From 1969, the process of replacing these channels with underground pressurised pipes began. The process was completed by the late 1990s with the rehabilitation of the Federally-owned Loxton Irrigation District.

The result of these efforts has been the most water efficient and productive irrigation region in the Murray-Darling Basin. This is noted in the Guide, which shows the average gross value of irrigated agricultural production of the SA Murray region is the highest in the Basin at \$9176 per hectare, compared to the Basin average of \$3295/ha.

## **Recommendations**

1. An audit of all potential water efficiency savings (to identify and cost options to return water to the environment without compromising food production within the Basin) must be undertaken before any SDLs are implemented. These water savings must be socialised across the whole Basin to allow efficient and already-upgraded regions to benefit from these savings as well.
2. Regional irrigation water efficiencies and historic compliance with caps on extractions from the Murray-Darling system must be recognised and rewarded.
3. The terms of reference of the draft Basin Plan must be expanded to give equal priority to the economic and social impacts of its recommendations.

## Contact details

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