



Inquiry into the management and use of environmental water

Submission to the
Standing Committee on Energy and the Environment

April 2018

Gabrielle Coupland, Chair
Southern Riverina Irrigators
PO Box 1254, Deniliquin NSW 2710
E: admin@southernriverinairrigators.com.au
W: southernriverinairrigators.com.au
T: 0407 262 780

Southern Riverina Irrigators

SRI is a peak organisation providing advocacy for our membership comprised of five landholder associations representing irrigators operating within the footprint of Murray Irrigation Limited in the southern Riverina of NSW.

Formed in the 1960s, SRI now represents over 1,600 water users committed to producing food and fibre through environmentally and economically sustainable practices.

Our key principles are:

- We recognise the property rights of water entitlements
- Water reform must deliver against the “triple bottom line”.

Key industries

Our region is highly productive utilising water sourced from the NSW Murray above the Barmah Choke. Industries have developed to suit the highly variable water product that is predominant in the region. Despite seasonal variabilities, we continue to produce high quality crops sustainably and efficiently contributing significantly to the gross value of irrigated agricultural production.

Industry	2015-16 (\$M) (23% water allocation)	Average 2010-2016 (\$M)
Rice	\$26.5	\$105.3
Cereals	\$72	\$60.8
Other broadacre (inc cotton)	\$10	\$10
Dairy	\$112	\$99
Livestock	\$58	\$56

Source: ABS Gross Value of Irrigated Agricultural Production 2015-16, NSW Murray

Commitment to environment

Our irrigators operate in the environmentally significant Edward-Wakool Rivers region of the NSW Murray Valley. The area is home to the three largest River Red-Gum Forests in Australia – the Barmah-Millewa, Koondrook-Perricoota and the Werai. It is also home to a large number of identified wetlands, most of which are located on private properties.

Our members have a long history of proactively working with Governments to identify and implement environmental solutions beginning in the early 1990s with the development of the Barmah-Millewa environmental allocation and installation of regulators within the forest. From 1995 to 2010 the region successfully invested in the Land and Water Management Program taking a holistic approach to addressing issues such as rising water tables and soil salinity. Since the turn of the century the private property wetlands watering program has been successfully implemented across the district to improve environmental resilience, support bird breeding events and build native frog numbers including the endangered Southern Bell Frog. This program has now been expanded to include watering of ephemeral creeks and streams across the district. Most recently the Ricegrowers Association in conjunction with Birdlife Australia are working to protect the endangered Australasian Bittern.

Irrigators are committed to ensuring their farms and our region are sustainable into the future. We want to leave our land in better ecological condition for the next generations.

Key Recommendations

- 1. Environmental water must be prioritised for use in the region from whence it came or traded back into the consumptive pool when not required for environmental purposes.**

The Basin Plan identified local and shared water recovery targets in order to achieve the Basin-wide Sustainable Diversion Limit (SDL). In the NSW Murray and Lower Darling the local target is 262GL. Additional recovery is to contribute to the shared reduction target for downstream environmental demands.

At face value, this methodology implies that over the long-term, local environmental assets like the Barmah-Millewa Forest, the Edward-Wakool Rivers System, the Werai Forest and the Koondrook-Perricoota Forest need 262GL (plus Victorian contribution) to protect and restore their ecological health.

SRI believes that reporting on environmental water use must clearly indicate the volume of water used for local targets so the community can have faith that water that was recovered for local outcomes is actually being used locally and not continuously transferred downstream.

Further, where the local target is not required in any given year, due to either a natural wet event or the need for a drying cycle, environmental water managers should be obliged to trade that volume back into the local consumptive pool to promote use and provide benefit to the region from whence the volume came.

- 2. The use of environmental water must be measured to the same standards as consumptive water users and/or the method of measuring use and loss factors must be publicly available and reported against.**

SRI members have had their water use metered in some manner since the Murray irrigation districts were developed from the 1930s. Over the years, system accountability has been refined such that system losses are calculated, water use is measured, and operation of the irrigation network is reported publicly via the annual compliance report and through the ACCC and the Bureau of Meteorology.

On the other hand, the Commonwealth Environmental Water Office (CEWO), who are now the largest water holder in the Basin, do not have to deliver their water through an approved or compliant meter, do not have to report losses and do not have to report how much water reached the end of system.

Recently the MDBA and WaterNSW have been trialling return flows through the system (a method to enable environmental water to be quarantined throughout the system rather than re-regulated as with other types of water)¹. What is not clear or easily accessible is the calculations or assumptions made for use and losses along the way. If 100GL is delivered into the Barmah-Millewa forest, how much of any return flow is assumed to be environmental or operational water (operational water includes volume to meet downstream demand). Nor is it clear who wears the risk if the assumptions are wrong.

¹ <http://www.environment.nsw.gov.au/research-and-publications/publications-search/flow-management-in-the-southern-connected-basin>

These assumptions must be made public and be reported against annually as is a requirement of all irrigation infrastructure operators to ensure the community can have faith that the water held is being used efficiently and responsibly with no adverse risk to third parties.

3. Environmental watering activities must be conducted in partnership with local landholders, communities and infrastructure operators.

By working closely with landholders and community groups, environmental water managers can both maximise outcomes and monitoring capabilities.

Local communities want to have strong and sustainable environmental assets. We investigate this further in the next section of the submission.

Terms of Reference

1. Maximising the use of environmental water for the protection and restoration of environmental assets.

The key to successfully utilising environmental water is to ensure that addressing environmental concerns in one region does not come at the expense of environmental assets in another region.

There are risks associated with providing flows down the River channel without active management that considers conditions and potential unintended consequences along the system.

For example, in 2013 environmental water flows were believed to have contributed to significant bank slumping along sections of the Goulburn River². Further, the impact of running the river at consistent levels through the Barmah Choke has led to changes to the River Operating Plan recognising the reduced capacity of the River due to siltation. These changes have seen the river operating constraint for releases from Yarrowonga Weir reduced from 10,400ML/day in 2010/11³ to 10,000ML/day in 2017/18⁴ (outside forest watering activities). It is generally accepted that the Choke itself – a stretch of narrowing of the River upstream of Picnic Point – used to run at a maximum capacity of 8,400ML/day but can now only accommodate 8,000ML/day due to silting. There is local concern that the Choke is at risk of collapse due to the consistent high river levels and lack of any active maintenance of the river channel.

In this water year, the Commonwealth Environmental Water Office (CEWO) is seeking to deliver 450GL plus South Australian held entitlement and tributary return flows into South Australia for the end of system. The key issue is the impact on upstream assets if conditions are not suitable for en-route environmental watering activities. When Menindee Lakes falls under management of the NSW operators and flows are not contributing to the River Murray regulated system, the entirety of

² <http://www.abc.net.au/news/rural/2013-12-16/nrn-envt-flow-damage/5158348>

³ https://www.mdba.gov.au/sites/default/files/pubs/River-Murray-System-Annual-Operating-Plan-2010-11-Public-Summary_0.pdf page 10

⁴ <https://www.mdba.gov.au/sites/default/files/pubs/D17%2025912%20%20River%20Murray%20system%20Annual%20Operating%20Plan%202017%20%20%202018.pdf> page 5

the 450GL as well as operational and consumptive demand must be delivered from Hume Dam and through the Barmah Choke. This puts increased pressure on the Choke and its structural integrity.

Environmental water managers must focus on a holistic approach when using the volumes available. In developing the Basin Plan, the MDBA considered the needs of key environmental assets and hydrological indicator sites throughout the Basin. **The health of an upstream region must not be compromised in an effort to address issues at the end of the system.**

2. Consider innovative approaches for the use of environmental water.

Members of SRI have been involved in innovative and holistic environmental management practices for the last 20 plus years. Individuals have worked with the NSW Office of Environment and Heritage through the private property wetlands watering program⁵ and to coordinate watering events down ephemeral creeks and streams in our district including the Tuppal Creek, Jimaringle, Gwynnes and Cockrans creek among others.

Key to the success of these programs is the involvement of those directly impacted by the flows – the landholders who live and breath the area daily. The other success factor is the utilisation of existing infrastructure to target flows where it is needed without flooding productive farming land.

The Murray is a healthy working river system. That is, it has been changed by human intervention and is now highly regulated.

“We must also accept that human settlement over the past 200 years has altered the landscapes and placed constraints in the system, which make it physically impossible to return to a natural, pristine environment. So, this Plan is not about returning the rivers to their natural state. It’s about finding the optimal balance between the environment, economies and communities.” Craig Knowles, MDBA Chair, 2012⁶ (emphasis added).

In order to use environmental water in a way that maximises outcomes, environmental water managers must seek to utilise whatever tools are at their disposal, including current, upgraded or new infrastructure.

The Sustainable Diversion Limit Adjustment Mechanism seeks to do exactly that. By implementing infrastructure solutions or rule changes that maximise what can be achieved with volume already held, State Governments have proposed a package of innovative approaches to the use of environmental water.

Further opportunity exists, at a smaller scale, to work with existing infrastructure operators and landholders to deliver strategic and targeted flows to build resilient refuges without risk to productive land.

⁵ <http://www.environment.nsw.gov.au/topics/water/water-for-the-environment/about-water-for-the-environment/environmental-water-advisory-groups/water-for-wetlands-on-private-property>

⁶ Delivering a healthy working Basin, MDBA, April 2012, Foreword.

3. Monitoring and evaluating outcomes of the use of environmental water.

SRI conforms to the principle *“if it can’t be measured, it can’t be managed.”*

SRI members have been metered in some form since the Murray Irrigation scheme was constructed in the 1930s. Since 2012 Murray Irrigation have been systematically upgrading farm outlets through their federally funded Private Irrigation Infrastructure Operators Program (PIIOP) project. This means 95 percent of the water delivered on farm by the Company goes through either a FlumeGate™ or SlipMeter™ both verified by the Manly Hydraulics Laboratory to have an accuracy of +/- 2.5%⁷.

Where environmental water is delivered via the Murray Irrigation network – either to a private property wetland or through one of the Company’s accredited escapes, it is accurately measured in the same or similar manner to a farmer’s water use and we have confidence in the system. However, the same cannot be said for water use elsewhere such as overbank flow events or delivery to the end of system.

This year the CEWO is targeting over 450GL to be delivered throughout the River system. That means operators will release 450GL from Hume Dam for the environment; however, there is no accountability as to exactly how much of that is destined to make it “through to the Coorong”⁸.

Further, due to the complexity of environmental water management, accountability of environmental water delivery is hard to follow.

South Australia is the only State to have almost guaranteed inflow through the delivery of South Australian entitlement and dilution flows in accordance with the Murray Darling Agreement. The volume is to meet the consumptive and operational needs of the River Murray from the SA border to the sea.

More recently they have been given the ability to “defer” entitlement flow and have it stored (with no detriment to other States). Even more recently, it appears that the practice of the SA Government has been to “defer” their consumptive and operational water while accepting large volumes of environmental flow which, it could be argued, helps to underpin their operational requirements.

In December 2015, the then Commonwealth Environmental Water Holder, David Papps, wrote to the South Australian Government requesting they not defer their entitlement flows to help increase barrage flows. In the letter, Mr Papps said the decision to defer entitlement undermined the effective use of Commonwealth environmental water.⁹

⁷ <https://www.rubiconwater.com/>

⁸ <http://environment.gov.au/water/cewo/catchment/lower-murray-darling/water-use>

⁹ <https://www.theaustralian.com.au/national-affairs/states-clash-over-murrays-environmental-releases/news-story/8dca9f60afd9322c0f74e9bfe1497a63>

Currently the SA Government has 232GL deferred entitlement accumulated meanwhile the CEWO has delivered over 640GL to the SA border since July 2017¹⁰ with no visibility as to how much actually enters the Lower Lakes or Coorong. For water to flow into the Coorong, it must pass through the Barrages. Since 1 July 2017 the average number of Barrage gates open to the sea has been 13¹¹ out of around 300. This is less than the average since the passage of the Basin Plan (22 November 2012) of 23.

South Australia must be made accountable for the environmental water that flows over their border. If a volume is deferred, they must be able to prove that extractions in that month were actually at least the same volume lower than historic average use.

There is a lack of accountability for environmental flows and loss factors that would not be acceptable for consumptive users. While we accept losses through the system provide an environmental benefit, the lack of transparency and accountability can create ill-informed expectations that all of the flow released from one part of the Basin will make it all the way to the end of the system.

4. Options for improving community engagement and awareness of the way environmental water is managed.

As mentioned previously, SRI members are actively engaged in environmental programs throughout this significant region. They would welcome further opportunity to partner with environmental water managers to develop delivery programs based on experience and local knowledge.

A barrier to delivering effective projects on the ground is access to adequate resources to manage and monitor events. For example, the NSW OEH private property wetland watering project is limited by access to volume (currently only NSW held environmental water is made available to this project) as well as people to actively manage the site-specific delivery. By working in partnership, the CEWO and OEH could make more volume available and through working with environmental scientists a program could be developed to enable landholders to monitor and report outcomes.

There are more and more examples of modern technology being used to develop applications for citizen science to form part of a long-term monitoring program. By combining local knowledge and technology the community can be encouraged to take ownership of monitoring the outcomes of environmental water delivery.

Conclusion

SRI is committed to sustainable and efficient farming practices that leave our land and environment in better condition for the next generation. We look forward to a future where our land owners can work with environmental water managers to maximise local outcomes for a triple bottom line.

¹⁰ Data calculated from review of SA River Murray flow reports:

<https://www.waterconnect.sa.gov.au/River-Murray/SitePages/River%20Murray%20Flow%20Reports.aspx>

¹¹ <https://riverdata.mdba.gov.au/flow-sea-through-lower-lakes-barrages>