



Murray Irrigation

Inquiry into the status of water trading in New South Wales

**Legislative Council
Select Committee**

Established 29 March 2022

Submission

1 JULY 2022

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Executive Summary

Introduction

Murray Irrigation welcomes the focus on water trading in NSW. Murray Irrigation is well placed to comment as we have been at the forefront of water trading in NSW and are located squarely in the largest water market in Australia – the southern connected Murray-Darling Basin.

Water markets have generated a range of benefits for the irrigated agriculture sector and our region since the reforms of the late 1980s and early 1990s. The resulting adjustment in the irrigation industry, has generated some concerns around the water market.

We recognise that trading can benefit the community by allowing water to move to higher value uses, creating incentives for water to be used more efficiently and helping irrigators to better manage drought and other risks. It has also allowed the movement of water from one sector to another with the transfer of water from irrigated agriculture to environmental purposes.

We have seen the prioritising of water trade over the protection of the river environment and possibly third-party impacts through increased conveyance losses and regional viability. Adjustment has been unplanned and ad hoc, for example areas of downstream agricultural development that has not factored in the environmental, social, and economic impacts of delivering the extra water required for greenfield sites, including the impacts on upstream communities.

Trade has encouraged investment and development. There are downsides and risks to the water market. For example, the greater distance travelled from the water storage dam also generally requires more conveyance water to be able to deliver that end user. The growth in the volume of this transfer water which needs to be set aside early in the irrigation season subsequently reduces the volume available for allocation to general security water entitlement user. This type of third-party impact should be explicitly assessed not assumed away.

Active Government oversight and stewardship is required

Effective water market governance requires a higher level of **coordination**. Coordination needs to span the water sector, jurisdictions and locations. Coordination can ensure that water trading and market tools remain effective within a water resource management framework.

Activity and outcomes of water markets should be **monitored and evaluated** on a 'whole of system' scale, not just transaction by transaction. Regular monitoring, evaluation and subsequent management of changes in trading patterns and levels of market development can ensure that institutional arrangements remain fit for purpose. Integrity in the market and water management more widely is critical to the oversight of markets.

Issues are known – who will resolve them is not clear

Water trading has facilitated the expansion of permanent plantings downstream of the traditional irrigation areas and provided a much-needed source of water for high value plantings in severe droughts. That has generated benefits in terms of the value of production. There is a suite of issues that are well described and accepted as challenges by water managers. Some examples include:

- Increased unintended unseasonal flows and river-bank erosion caused by movements of regulated surface water.
- An increased risk of delivery shortfalls as developments mature.
- An increased risk of a regional economic crisis should a millennium-drought sequence occur which will mean there is simply not enough water in the consumptive pool to supply those permanent plantings.

The reducing channel capacity in the Barmah Choke, and increased frequency and peaks in demand at more concentrated downstream locations highlight the need for longer-term monitoring of water trade and its interactions with system constraints.

Planning by system operators should ensure that water is able to be delivered to all users, taking into account trades that have occurred, and operational considerations that are necessary to limit third party impacts.

We support the former “no trade downstream” rule at the Barmah Choke (instead of the current no “net” trade downstream) and the concept of live and real time water trade against this trade rule and to demonstrate compliance against this rule. There is community concern about the transparency and effectiveness of the current ‘no net trade’ rule and this has considerable impact on the social licence of the water market.

There is a need for longer-term monitoring of the cumulative effects of increasing trade volumes within system constraints in the face of changing land use and greater climatic variability and associated policy responses.

Studies have been commissioned, however industry participants are uncertain who is responsible for monitoring the interaction of water trade with the broader tasks of long-term water resource management and system operation.

We believe there are issues that the NSW Government should address such as:

- a. Flow Shares: We recommend that agencies consider the adoption of a “flow share” concept on extraction from rivers similar to how Irrigation Infrastructure Operators manage peak demand periods in channels. We believe the absence of this policy on both sides of the river of the lower Murray is a contributor to environmental damage to the Barmah Choke and has led to unchecked development in the wrong operational zones of the river.
- b. Exchange Rates: If there is ongoing environmental damage or water loss impact from high flows caused by water trade, exchange rates in addition to current trade rules should be used between different zones of the river.

We note the importance of improving river operations efficiency as any water saved means additional water ultimately made available in the consumptive pool. We urge NSW government to continue to invest and focus in this area of river management as there appears to be consistently larger volumes of conveyance water set aside to “run the river”. This may follow the example of the Computer Aided River Management system for the Murrumbidgee River (CARM) supply measure project.

ACCC recommendations and water market reforms

The ACCC has outlined the rules which are designed to promote ‘fair trading’ or a ‘level playing field’ for traders, and to help ensure there is sufficient information available for traders to make their decisions.

An independent Principal Adviser has been appointed to develop a phased, practical, and cost-effective plan for water market reform having regard to the ACCC’s findings and recommendations. We also are encouraged that the work to assess potential costs and benefits has begun.

We are broadly supportive of the concept of introducing regulatory safeguards to water traders such as an intermediaries’ code.

We do not agree with the concept of a single centralised transaction platform. An important component to competitive trade is customers and brokers leveraging some principles of market competition.

Market information

Overall trade information remains inadequately or insufficiently provided. For example, there is a lack of transparent price data and trade rule changes on a central information platform.

We support the concept of open and transparent data. We believe these values should be reflected amongst other exchange users and to follow a Code of Conduct in terms of transparency and sharing of data back to the Central Information Platform. Governments should financially support enable impacted entities to enable their transition to an updated platform.

Socio-economic impacts

Maintenance of a critical and viable mass of users in established irrigation areas. Maintain a sustainable scale and diverse range of irrigated agricultural production in the national interest. The impacts of water trading on the Murray Valley economy is one of the many challenges facing the region during the last decade which has seen rapid change and adjustment by our members.

In 2020 a major review of the socio-economic status of the Murray Darling Basin found that towns throughout the region were suffering:

*'acute social and economic conditions included areas in northern Victoria and southern NSW, and remote areas across the northern Basin. The Panel is concerned about what we heard in places such as Balranald, Bourke, Cohuna, Barooga (Cobram), Wakool, Finley, Deniliquin, Coonamble, Dirranbandi, Menindee, Walgett and Warren.'*¹

As also noted in the report Murray Irrigation shares concerns with many of the social and economic impacts that result from rapid change. The speed of change is caused by the pace of water recovery and exacerbated by trading.

A looming threat is the delivery of the Sustainable Diversion Limit Adjustment Mechanism (SDLAM) projects. The NSW Government is responsible for developing and implementing its projects by 30 June 2024; failure to implement projects by this date may mean further water recovery and exacerbate impacts to communities, facilitated by subsequent water trading.

In addition, to delivering the SDLAM program in full there needs to be a shift across water reform from "getting the balance right" to "maximising outcomes from our limited resources". Fresh thinking is needed which would also increase the range of benefits being delivered from water.

Partnerships are needed

The MDBA has recognised that much of the past funding to support communities to adapt to water reform could have been better targeted, particularly for those smaller communities that have had more water recovered through direct buybacks or that did not receive significant on-farm irrigation upgrades.²

Real partnership requires real effort on both sides. Often regions must pitch ideas to a range of different programs and waste enormous amounts of social capital and effort on dead ends. We would like to partner with government to focus on strategically achieving practical environmental outcomes. Regional communities are ready to implement efficient and effective complementary measures to achieve environmental watering outcomes.

In the Murray Irrigation Area of Operations there are enormous opportunities for dual-purpose projects of this type. The company has a proven history of implementing and successfully achieving very large, integrated environmental programs and these would represent a new and positive turning point for our local communities. We have developed a Regional Recovery Prospectus 2021-2026 which can be used to discuss partnerships for sustainable regional futures (Attachment One).

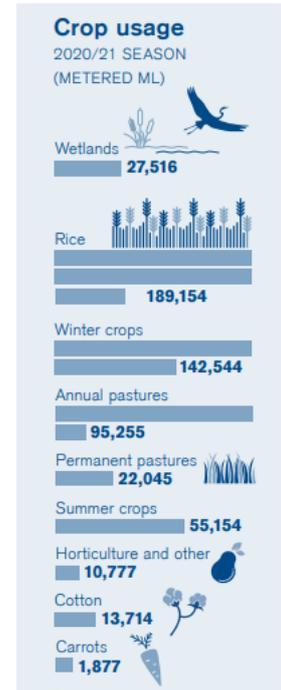
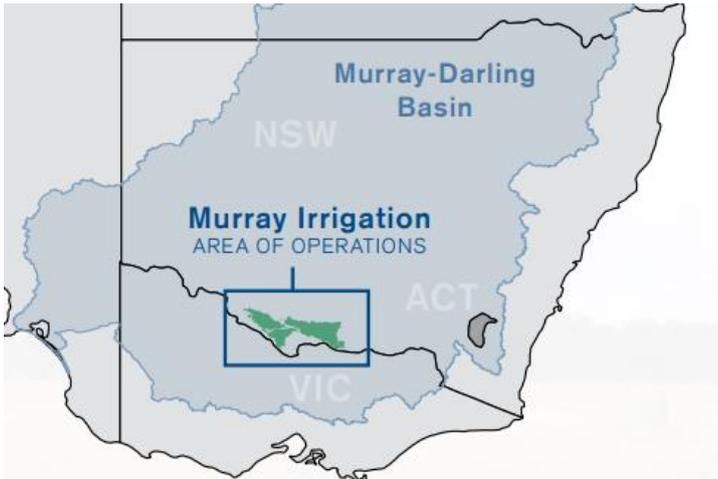
¹ Sefton Report (2020)

² MDBA 2020 Basin Plan Evaluation.

1 Introduction

1.1 Murray Irrigation Limited (MIL)

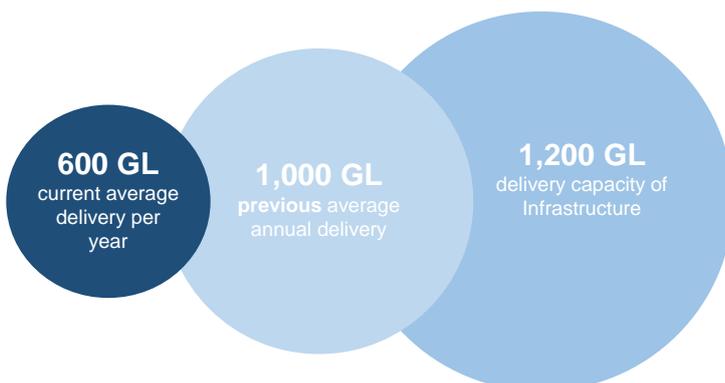
Located in Southern NSW, Murray Irrigation Limited (MIL) operates Australia’s most efficient open channel water distribution system, delivering irrigation water to over 2,100 family-owned businesses. We are a private, constitutionally not-for-profit company and we also deliver water for the environment and operational use downstream.



Since transferring from a government owned entity to Murray Irrigation in 1995, government water policy reform and reduced rainfall have had a profound impact on the viability of our company. Water delivery has reduced from an average annual delivery of over 1,000 GL around 1995 to an average of around 600 GL. Utilisation of our infrastructure base that remains at a value of around \$1 billion has dropped from around 80% to 50% (Figure 1).

We have had to improve our efficiency to remain viable. The adoption of technology in water management is growing. Our Murray Irrigation channel network is controlled, monitored, and measured by a highly sophisticated SCADA control system.

Figure 1. Change in water deliveries over time



1.2 The southern connected Murray-Darling Basin (scMDB)

There is no single water market in NSW, but rather many discrete markets for trading of water entitlements and allocations each defined by water systems or administrative boundaries. These markets can vary greatly in the quantum of entitlements and volume of water allocations available for trade.

Murray Irrigation is located in the Southern Connected Basin system that supplies water to five irrigation districts. The Murray, Murrumbidgee, and Lower-Darling water users can trade with one another, to Victorian systems that are tributaries to the Murray River, and with South Australian Murray water users, subject to various constraints. There are some trade limitations that effectively break the scMDB into two parts i.e.:

- The “Connected Murray”, which consists of South Australia, Sunraysia, Murray Irrigation, and Goulburn-Murray Irrigation District (Victoria), including the Goulburn and some minor Victorian tributaries, and acts effectively as one system, despite ‘choke’ constraints.
- The Murrumbidgee system, which is connected to the Murray, with recognised in-season capacity constraints.

A comparison of the current volume and value of water entitlements by valley illustrates the predominance of the inland Murray and Murrumbidgee systems in terms of licenced volume and market value.

1.3 Water trading

The available water in most water sources of NSW is fully committed. One of the key components of the water reforms in the 1980s and 1990 was the separation of the water licence from the land. When the water market was first established in NSW in the early 1980s, the level of trading was initially low. Over the past 20 years the water market has attracted more participants and activity. The NSW water market has grown rapidly; in 2019-20 during drought, the annual turnover was estimated at \$7 billion.

Water trading in NSW is governed by the Water Management Act as well as the access licence dealing principles and rules established by a water sharing plan. NSW water users can buy or sell their water rights on a temporary or permanent basis and sell all or part of an entitlement:

- Temporary transfer or water allocation assignment – transfer of current year allocation from one access licence to another.
- Permanent or entitlement/share assignment - transfer of water rights.

As the available water in almost all water sources of NSW is fully committed, for many businesses, trading water entitlements or allocations via the market is the primary way to allow businesses to expand or contract and for new players to acquire water entitlements.

The increase in demand for water across the MDB has seen an increase in the value of entitlements. For example, the performance (capital value) of a group of major water entitlements across the scMDB has been tracked as an Entitlement Index by Aither (see Figure 2).

It should be noted that the reduction in water availability from the Basin Plan and water acquired through government water policy reform should be acknowledged as a contributing factor to trade prices and subsequent trade behaviour. The expectations of further reductions in water availability through implementation of Basin Plan efficiency measures. The Water Efficiency program is delivered by the Commonwealth Government and seeks to recover an additional 450 GL of water from across the entire Murray-Darling Basin for the environment through changing water use practices. This water recovery is in addition to the 2,680 GL required to reach the Sustainable Diversion Limit.

Figure 2. Value of water entitlements – Entitlement index in the scMDB 2008-09 to 2020-21



Source: Aither (2021) Water Markets Report.

Underlying drivers of the increasing market value of water include increases in the volume of water used to irrigate cotton and almonds in southern NSW and northern Victoria. Increasing profitability, whether via technological productivity increases or higher commodity prices is likely to drive water demand upwards.

For many people, trading water entitlements or allocations via the market is the primary way to allow businesses to expand or contract and for new players to acquire water entitlements.

While water trading can have mixed effects on regional economies as production moves to different locations, this must be considered against the counterfactual of no water trading and also noting the effects of other influences, such as depressed prices for a particular commodity may have on a region.

The water market – and the associated increase in the value of water – has led to the improved efficiencies and diversity of commodities now being grown across the Basin. This has had far more of an impact on efficiency than any other Government policy or water reform.

While supporting water trading after almost 30 years of operation Murray Irrigation believe that improvement to ensure fit-for-purpose governance, operational and informational arrangements are central to sustaining water markets.

1.3.1 Murray Irrigation's Water Exchange

We operate one of Australia's largest water exchanges trading an average of 101,304 ML annually with an average gross market value of \$11.8 million. This exchange has operated since 1999 and has been of considerable value for our customers to be able to trade water to other customers within our area of operations.

2 Issues – water management and the market

Murray Irrigation acknowledge that water management in NSW is complex. It involves water planning and environmental laws, application of statutory rules and plans governing sharing water, trading in water entitlements and water allocations, the operation of large public infrastructure and rivers to deliver water for multiple purposes including meeting property rights. In addition, there is a wide range of decision-making, monitoring and enforcement agencies, particularly in the southern NSW where water resources are closely shared between NSW, Victoria and South Australia.

These benefits reflect the net proceeds from selling water, lower water prices and increased use of water in relatively more productive activities. Water trade also aids in the management of water supply risks. The capacity for irrigators, firms, towns or industries to manage weather and other shocks is enhanced by the flexibility that markets offer in providing short-term access to water

2.1.1 Water Trading – Governance

Under the National Water Initiative (NWI), all jurisdictions agreed to a common set of objectives, outcomes and actions to facilitate the development of efficient water markets in Australia.

The ACCC has recently recommended a comprehensive package of reforms that aims ‘to restore confidence in water markets across the Basin, and to improve their operation and efficiency’ (p. 2). The recommendations centre around four themes:

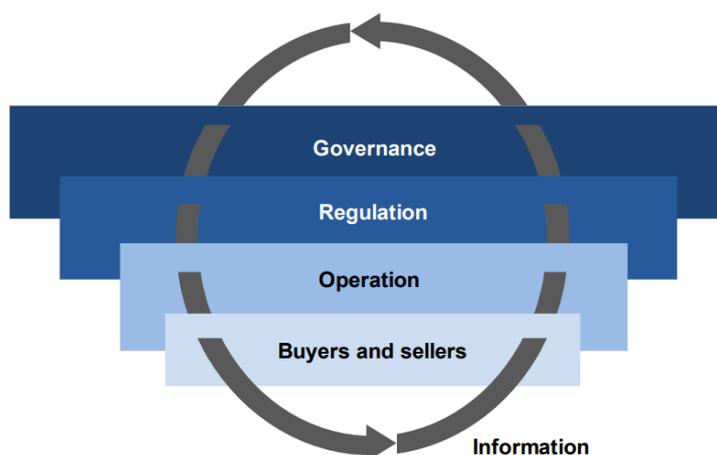
- governance of the Basin water markets
- market integrity and conduct
- trade processing and water market information
- market architecture.

An independent Principal Adviser has been appointed to develop a phased, practical, and cost-effective plan for water market reform having regard to the ACCC’s findings and recommendations. The Principal Adviser has been tasked to help restore confidence in water markets and develop an implementation plan (‘roadmap’) for water market reform that is practical, cost-effective and supported by Basin states.

2.2 Overview of requirements for water markets

A well-functioning water market required interconnected layers of governance, regulatory and operational structures needed for water markets.

Figure 3 Framework of market structures



Source: Adapted from ACCC (2019).

We would argue that governance is the critical failing in many cases where the market is seen as problematic. The decision makers who shape the rules and processes for trade of water products; and the processes by which decisions are taken and the accountability mechanisms for those decisions has at times failed.

These issues have involved a failure to

- 1) recognise and protect the needs of the environment,
- 2) provide appropriate protection of third-party interests, and/or
- 3) not enable a fair or robust processes.

The following section outlines two examples of required Government oversight to then formulate appropriate regulatory and operational policies:

- River Murray Capacity
- The Murrumbidgee inter-valley trade (IVT).

2.3 River Murray capacity – environmental impacts and delivery shortfall risks

The Barmah Choke is a narrow section of the Murray River that runs through the Barmah–Millewa Forest. It restricts the flow of the Murray River to around 9,200 megalitres (ML) per day. River managers consider the limitations of using the Choke to deliver water downstream. If deliveries are tight the use of River above 9,200 ML per day in summer can result in overbank losses and unseasonal flooding of the Barmah–Millewa Forest.

The Choke has led to a restriction in water trade from areas upstream to downstream of the Barmah Choke, which limits the delivery of irrigation water during periods of peak demand.

The restriction means that trade downstream of the Choke may only occur when there is sufficient matching trade capacity available in the opposite direction, which is called ‘back trade’. This means sellers upstream of the Choke can sell water to buyers downstream of the Choke, but only if the same or greater volume of water has been transferred from downstream to upstream of the Choke first.

Increased volumes of trade, particularly in peak periods, can lead to negative impacts on the environment, including erosion and unseasonal high flows during the delivery of water traded downstream. Unseasonal flooding of the red gum forests around the Barmah Choke has been a prominent example in the past.³

Case Study 1 – Environmental Damage of Barmah Choke

Barmah Choke is a natural constraint on River Murray channel capacity. The Barmah Choke limits the rate at which water can be transferred within channel from the upper system storages to downstream demands.

In the mid-1990s, a step change occurred in the maximum regulated flow downstream of Yarrawonga, from approximately 11,000 – 11,700 ML/d to 10,500 – 10,700 ML/d. This was due to a decision by river operators to lower river levels in the Choke to reduce overbank flows in summer and the environmental damage caused by prolonged waterlogging of the Barmah-Millewa Forest. This flooding is generally considered to be undesirable if it occurs between mid-December and the end of April (MDBC, 2006).

Estimated Barmah Choke capacity, as defined by flow downstream of Yarrawonga

Years	Best estimate (ML/d)
1985-1989	11,500
1990-1994	11,000
1995-2015	10,500
2016-2017	10,000
2018-2019	9,300

³ Productivity Commission (2021) Water Trading and Markets, pg. 9.

Streamology determined that the most likely source of the sand restricting the Choke is gold mining and other land use changes from the late 1800s to early 1990s along the Upper Murray River, Kiewa River and Ovens River.

The MDBA has acknowledged the problem of the changing nature of the river channel it is important to physically inspect the Barmah Choke and channel capacity each year and to manage flows accordingly (MDBA 2015). The picture below from 2015 highlights the exacerbation of bank erosion from the consistently high channel capacity flows in 2014/15.



Bank erosion at Poverty Point⁴

The Barmah-Millewa Forest is affected by altering the frequency and pattern of forest flooding. Flooding is now less frequent in winter and spring and more frequent, unseasonally, in summer and autumn. These small unseasonal floods are more frequent and may increase if trade is not managed into the future.

The Edward-Wakool system is comprised of rivers, creeks and irrigation infrastructure managed by WaterNSW and Murray Irrigation. Murray Irrigation infrastructure can be used by the MDBA to reduce delivery pressure on the choke if there is spare capacity available.

Source: Draw from Hydrology and Risk Consulting.⁵

Delivery shortfalls

The current risk of a system or delivery shortfall downstream of the Choke will increase because of reducing channel capacity at the Barmah Choke and in downstream tributaries.

Increasing horticulture development in the Murray Valley and the resultant increased water requirements of horticulture developments as recent plantings mature, and the requirement to deliver environmental entitlements to achieve outcomes under the Basin Plan may place pressure on water managers to ignore environmental impacts of water deliveries.⁶

Figure 4 highlight the movement of irrigation cropping from grapes to nuts below the Choke. This data is dated and does not account for growth in water use as crops mature.

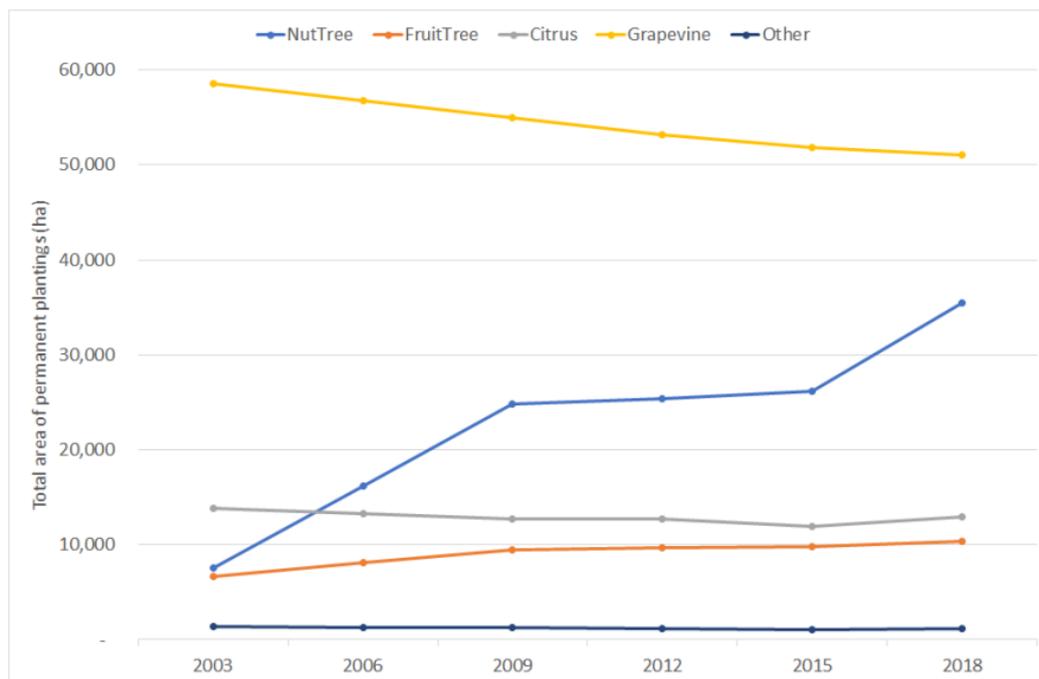
⁴ Hydrology and Risk Consulting (2021) Historical flows in the southern connected Murray-Darling Basin Final report May 2021, pg. 70. Photo credit Paul Childs OEH.

⁵ Ibid.

⁶ Independent Panel for Capacity Project Review (2019) Report to Murray Darling Basin Ministerial Council 17 December 2019, pg. 2.

We note that there are some offsetting effects such as nearby retired permanent plantings. However, the MDBA has noted in its evaluation that water transitioning to its highest value use, has resulted in distributional changes which have varying impacts on communities as well as adding pressure to river operations around deliverability.

Figure 4. Area of permanent plantings by crop type in SA, Victoria and NSW downstream of Barmah (2003-2018)



Murray Irrigation is concerned that the appropriate assessment of future risks (and corresponding actions) has not been carried out in an expedient manner. The understanding of underlying operation of the market is something that should be known by market participants.

Policy response is required

The water market cannot be run without explicit awareness of bio-physical constraints and canvassing responses.

Rather than waiting for failure as drought returns or rivers are unable to deliver, serious consideration should be given to ensuring a permanent plantation can adequately be supplied by a corresponding secure water entitlement that also is located in the system that can sustainably extract water during peak demand periods. In addition to current trade rules, the added losses from the transfer of water further downstream should be seasonally limited, or at very least accounted for within the water transferred. These losses should not be taken from the pool that would otherwise be available for the impacted consumptive user such as a General Security Water Entitlement holder.

2.4 Intervalley Trade (IVT) limit

Trade of licence holder allocation account water, via allocation assignment, from one catchment to another catchment (or state).

Case Study 2 – Murrumbidgee IVT

The Murrumbidgee IVT trade limit specifies that the Murrumbidgee IVT account balance be between 0 GL and -100 GL, meaning that there is to be no net allocation trade into the valley and that net trade out of the valley does not exceed 100 GL. These rules are intended to reflect hydrological constraints — water cannot be transferred upstream into the Murrumbidgee and large downstream transfers can result in high conveyance losses.

WaterNSW is responsible for the administration and management of the trade processes that facilitate inter-valley transfers (IVT) between the Murrumbidgee and Murray systems. When the WaterNSW website indicates that trade is open, trade applications can be lodged electronically (by email or fax) from 10am (NSW time) on that day. WaterNSW processes trade applications based on the order in which WaterNSW's systems identify those applications as having been received.

In 2017 irrigators have raised concerns to the Productivity Commission about the fairness and transparency of the Murrumbidgee IVT trade limit, suggesting that some market participants have a greater chance of getting a trade through than others.

From the WaterNSW website:

In July 2021, WaterNSW released the Murrumbidgee IVT issues and options paper, seeking your feedback on the receipt and processing of inter-valley trade applications. We received 21 submissions and we are continuing to review the feedback provided. We are pleased to advise that, based on your valued feedback, we are now considering options to improve transparency and predictability and will continue to provide updates as this work progresses.

As outlined in our submission to this review Murray Irrigation supports an “equity” approach that gives all willing participants an opportunity to enact a trade.

Source: Based on Productivity Commission 2017.

Roles and responsibilities of key parties should be clearly defined, and their activities should be coordinated. In many systems, including the MDB, overlapping, conflicting or fragmented governance roles have evolved over time.

2.5 Trading rules supporting market integrity and fair trading

The ACCC outlined the rules which are designed to promote ‘fair trading’ or a ‘level playing field’ for traders, and to help ensure there is sufficient information available for traders to make their decisions.

These trading rules apply to the Commonwealth, the Basin States, IIOs (such as Murray Irrigation) and individual market participants. The rules address broad aspects of market operation including improving transparency and access to information and maintaining market integrity and confidence.

As outlined above Murray Irrigation is a major holder of water entitlements on our ‘bulk licence’ on behalf of our customers. Within our area, water is more likely to trade within the network, but they can also trade externally.

Murray Irrigation has one of Australia’s largest water exchanges and supports an open and transparent market platform so that both the buyer and seller are aware of the current “live” market and have the ability to quickly understand market trends. This enables the buyer to be informed when purchasing water and the ability for the seller to sell water using the same information. We support the idea of sharing this information so that there is a central information point for all buyers or sellers to be able to access.

We continually make improvements to our water exchange to provide better service for our customers and to provide them with the tools to make an informed decision. Features of our exchange include automated invoicing, placement of “bids”, buyer trends, same day access of water to a buyers account within Murray Irrigation, auto-matching services when a buyer’s price matches a sellers “or bidders” price and the ability for the buyer to purchase any size parcels of water.

We note that the December advice regarding the ACCC report stated:

‘and while it produced strong and innovative solutions to multi-faceted and complex problems, it did not have the opportunity to really test the practicality of implementing these reforms with government or non-government parties, nor to account for resourcing constraints.’⁷

We are broadly supportive of introducing a mandatory code of conduct on water market intermediaries to improve the integrity of and trust in water market intermediaries. Our main concern is the potential administration burden (and subsequent additional cost to the water buyer or seller) that may be required to ensure all systems and audit evidence platforms are in place to enable enforcement of the code.

2.5.1 Information

The Principal Advisor has indicated that the collection and publication of trade data, such as reasons for trade and ‘strike-date’ information should be improved.⁸

We support the concept of open and transparent trade data. We believe these values should be reflected amongst other exchange users and to follow in terms of transparency and sharing of data. Further, there is generally no clear compliance and monitoring role assigned to state agencies to ensure price reporting by sellers is accurate.

Where additional investment and process are required by future legislation this should be funded by Governments.

Overall, we support appropriate investment in water market short-term improvements. However, these should be carefully weighed against the cost of increased regulation and implications on entitlement holders.

3 The effects of water trading on the economy, communities and the environment

The impacts of water trading on the Murray Valley economy is one of the many challenges facing the region during the last decade which has seen rapid change and adjustment by our members.

There have been some reform failures of implementation, and these have negatively impacted the owners of the General Security Water Entitlement.

The Basin Plan has been another major step in this reform journey, and we note that it is yet to be fully implemented and, to date, it has caused significant adjustment pressure and pain in our region.

⁷ December advice pg. 5.

⁸ The Principal Adviser is responsible for developing the water market reform roadmap in consultation with Basin states to outline a phased, practical, and cost-effective plan for water market reform having regard to the ACCC’s findings and recommendations.

In 2020 a major review of the socio-economic status of the Murray Darling Basin found that towns within the region were suffering:

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As also noted in the report Murray Irrigation shares concerns with many of the social and economic impacts that arise from the pace of change. The speed of change is caused by the pace of water recovery and trading.

The Murray-Darling Basin Plan expressly recognises that supply measures are a Sustainable Diversion Limit (SDL) adjustment mechanism that enable water recovery to be reduced where equivalent environmental outcomes could be achieved through use of works and alternate measures.

These include environmental infrastructure works, rule changes and constraint easing. They were included in the Basin Plan with the aim of reducing the socioeconomic impacts.

NSW is responsible for developing and implementing approved projects by 2024; failure to implement projects by this date may mean further water recovery.

Case Study 3 – Basin Plan & Sustainable Diversion Limit Adjustment Mechanism

Under the Basin Plan Sustainable Diversion Limits (SDLs) are set to protect the environment. In recognition of finding a balance between environmental outcomes and maintaining our production base in the southern Basin, the Plan allows for adjustments to surface water SDLs.

In 2017, the Basin states and the Australian Government agreed on a package of 36 SDLAM supply projects across the southern connected Murray-Darling Basin to offset 605 GL of water recovery.

The delivery and timelines of these projects in NSW is at risk. Some of these projects have been substantially revised including the Yanco Creek Offtake Project and the Menindee Lakes project. The impact of this risk of buybacks on food production in the long term is unclear.

The SDLAM program is inflexible and needs to be more adaptive and focussed on environmental outcomes. There is a significant risk any failure in implementation of the program will result in even more water taken from productive use and threaten the viability of major schemes such as Murray Irrigation. If this occurs the adjustment in the industry will have further significant socio-economic impacts and potential for comparatively poor environmental outcomes.

In addition to delivering an adaptive and flexible SDLAM program there needs to be a shift across water reform from “getting the balance right” to “maximising outcomes from our limited resources”.

The Basin Plan has resulted in a reduction in the volume of water used in our region to grow food. Further water buybacks could end irrigation in some parts of the Southern Basin with corresponding damage to communities and the ability of Australia to grow its own food.

The definition and management of environmental and productive water needs reassessment noting water is frequently dual-purpose with benefits to both environment and production. Fresh thinking is needed which would also increase the range of benefits being delivered by the same water.

⁹ Sefton Report (2020)

Accordingly, we believe Australian governments need to modify the SDLAM program and related commitments and focus on maximising environmental outcomes with the large parcels of water acquired to date. This will mean impacted communities will no longer be clouded by “the threat” of further water recovery, boost their investment confidence and move forward for proactive thinking on projects to maximise environmental outcomes on assets that are often near where they live.

Partnerships are needed

The MDBA has recognised that much of the past funding to support communities to adapt to water reform could have been better targeted, particularly for those smaller communities that have had more water recovered through direct buybacks or that did not receive on-farm irrigation upgrades.¹⁰

Real partnership requires real effort on both sides. Often regions must pitch ideas to a range of different programs and waste enormous amounts of social capital and individual effort on dead ends.

We would like to partner with government to focus on achieving environmental outcomes instead of recovering more water, this can be achieved by utilising water in intelligent ways for both consumptive and environmental benefits. Regional communities are ready to implement efficient and effective complementary measures with environmental water.

Case Study 4 – Targeted Environmental Watering

Murray Irrigation has a large number of environmental assets with around 2,000km of creeks and rivers within its footprint and, in addition, approximately 2,000 individual on-farm wetlands. Our supply network is placed high in the landscape and is very well placed to be able to deliver accurately measured, targeted volumes into these systems to achieve the greatest environmental outcomes.

There is an agreement in place with the NSW government to be able to deliver water recovered for environmental purposes into these environmental assets. This means water can be delivered to achieve a very significant environmental outcome with comparatively much smaller volumes of water.

Murray Irrigation works collaboratively with the NSW Department of Planning and Environment and the Commonwealth Environmental Water Holder (CEWH) on these projects and there is scope for a very significant increase in this concept. In the 2021/22 season we delivered 88,000ML of environmental water to local creeks and rivers. Over the last five years we have also worked with agencies to deliver 8,000ML of environmental water to 54 individual wetlands in the region.



Environmental water delivered into the Tuppal Creek by using Murray Irrigation's supply network.

¹⁰ MDBA 2020 Basin Plan Evaluation.

Optimising our system by placing consumptive water on-top of environmental water in natural systems is also another way of achieving environmental outcomes without the need to recover any more water. This also has the added benefit of reducing environmental and cultural damage to the Barmah Choke. Murray Irrigation is currently engaging with the MDBA on this initiative.

In the Murray Irrigation Area of Operations there are enormous opportunities for dual-purpose projects of this type to achieve environmental outcomes. The company has a proven history of implementing and successfully achieving very large, integrated environmental programs and these would represent a new and positive turning point for our local communities.

We have developed a Regional Recovery Prospectus 2021-2026 which can be used to discuss partnerships for sustainable regional futures (Attachment One).

References

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Productivity Commission (2020) National Water Reform.

Sefton, R, Peterson, D, Woods, R, Kassebaum, A, McKenzie, D, Simpson, B & Ramsay, M 2020, Final Report: Independent assessment of social and economic conditions in the Murray–Darling Basin, Panel for Independent Assessment of Social and Economic Conditions in the Murray–Darling Basin, Melbourne.

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Water market reform roadmap - <https://www.awe.gov.au/water/policy/markets/reform>

MDBA - 2020 Basin Plan Evaluation - <https://www.mdba.gov.au/node/6189/#section6>

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Terms of Reference

1. That a select committee be established to inquire into and report on the status of water trading in New South Wales, and in particular:
 - (a) the origins of the water trading market, its purpose, regulation, and abuse,
 - (b) market practices and effects, including playing the market, cornering the market, and fixing the market,
 - (c) the effectiveness of water registration and disclosure in New South Wales,
 - (d) the effects of water trading on the economy, communities, and the environment, and
 - (e) any other related matter.

2. That the committee report by 30 November 2022.

Attachment One: Murray Irrigation - Regional Recovery Prospectus 2021-2026

LINK FOUND [HERE](#)