

Public Submission to

ACCC inquiry into water markets in the Murray-Darling Basin

By

Kilter Rural

Date Submitted: 26 February 2020

Kilter Rural Approval of Submission

To the best of my knowledge and belief, this submission, as it appears, is true and accurate. Nothing has come to my attention that causes me to believe that providing this public submission may involve conduct by any person that is false, misleading or deceptive or that may mislead or deceive. Similarly, I confirm that I will bring to the attention of the Chair of the ACCC any matters which arise or otherwise come to my knowledge, during the period between signing this public submission and the conclusion of the Inquiry, which may render this submission as false, misleading or deceptive



Cullen Gunn
Chief Executive Officer & Director

Introduction

Kilter Rural ('Kilter') welcomes the opportunity to provide a submission to the ACCC Murray-Darling Basin water markets inquiry.

Founded in 2004, Kilter Pty Ltd (trading as Kilter Rural) is an innovative, forward-thinking Australian based provider of rural asset investment and management services. Collectively, the Kilter Executive Team has over fifty years' experience in direct farmland and water management.

Kilter was formed in response to institutional demand for investment in sustainable management of farmlands, water and ecosystems. In 2006 Kilter attracted its first \$50m commitment to invest through its proprietary operational model in the renewal of rural landscapes. By November 2019 funds under management have grown to over \$500m in land, water and ecosystem assets.

Kilter is based in Bendigo in Victoria with a staff of 40 spread across farmland, investment and administrative activities.

Kilter is engaged as investment manager by investment funds that own farmland in Victoria and own water entitlement in the Goulburn, Murray and Murrumbidgee river systems. Kilter regularly participates in water markets to acquire water to support these farming operations and is Goulburn-Murray Water's largest water-using customer.

Kilter also actively participates in water markets as the manager of water investments. In this capacity it acquires water entitlements and generates investment returns through the development and distribution of water products to a client base of irrigation farmers. These products include water entitlement leases, forward contracts for water allocation, water carryover solutions and spot sales of water allocation. In so doing it supports the wider irrigated agriculture sector in the southern Murray-Darling Basin.

Issue 1 – Market Trends and Drivers

The high water allocation prices currently being experienced in the southern Murray-Darling Basin ('sMDB') water market are due to strong supply and demand forces acting upon the market. These include:

- The increasing impacts of climate change causing a declining trend in winter-spring rainfall, streamflows and consequently inflows into sMDB storages
- The implementation of the Murray Darling Basin Plan (Basin Plan) which has reduced the volume of water entitlement on issue which is available for consumptive use by over 25%
- The significant increase in plantings of high water-use perennial horticulture crops, particularly in the Lower Murray and Riverland Regions, causing material increase in the level of fixed annual demand for water allocation, and
- The capacity of growers of perennial horticulture crops to outbid growers of annual crops due to their higher profit margins. In addition owners of these crops are prepared to pay high prices for water in order to protect the capital invested in establishing their crops.

The economic drivers of the water allocation market are also impacting water entitlement markets causing strong increases in the prices observed for most classes of water entitlement. Those classes of water entitlement which have been particularly impacted include those which:

- Reliably receive higher allocations of water each year (such as NSW & SA High Security & Vic Higher Reliability); and
- Are located in the irrigation zones where the greatest increase in perennial horticulture development has been observed (such as zones 7, 11 & 12).

The changing profile of water demand, influenced by the expansion in perennial horticulture, is also causing challenges in the management of physical water delivery in the Lower Murray. This is due to:

- Water demand for perennial horticulture crops being concentrated over the summer and early autumn months and can spike at short notice in response to increases in temperature. There now appears to be serious River Manager concerns about the ability to physically deliver water against Lower Murray user demand in peak periods;
- The Lower Murray region being located a considerable distance from Murray system storages. This creates issues both in terms of conveyancing losses and timing of water delivery.

Effects of Climate Change on Inflows

Australia is the driest habitable continent on earth¹, with highly variable rainfall that is influenced by phenomena such as El Niño, La Niña, and the Indian Ocean Dipole. The Bureau of Meteorology ('BoM') reports there has been a shift towards drier conditions across southwestern and southeastern Australia during April to October² (see Figure 1). Rainfall in these cooler autumn to spring months is critical to achieving soil saturation and run-off in order to generate inflows into storages.

This drying trend in the sMDB is reducing runoff resulting in lower storage inflows. This impact is demonstrated in Figure 2 which plots inflows to the River Murray system since 1982. Over the last 30 years average inflows have declined by 17% compared to the long-term average, with the decline accelerating to over 35% over the past 20 years. Reduced inflows into storages results in less water available to be allocated against water entitlements and reduces the supply of water allocation for consumptive use.

¹ *Deserts*, Geoscience Australia, viewed 12 November 2019, <https://www.ga.gov.au/scientific-topics/national-location-information/landforms/deserts>,

² State of the Climate 2018, CSIRO & Bureau of Meteorology, Page 6

Figure 1: April to October Rainfall Deciles from 1999 to 2018 (Source: Bureau of Meteorology)

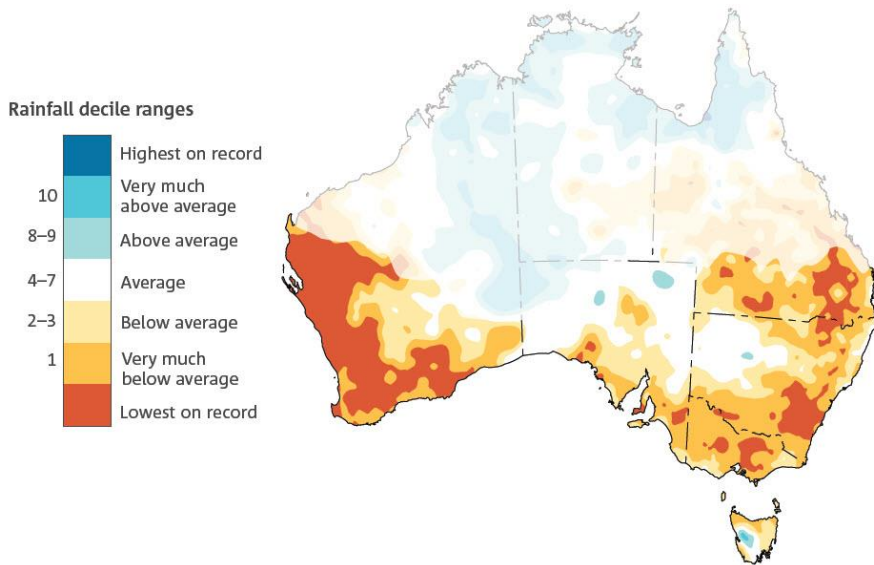
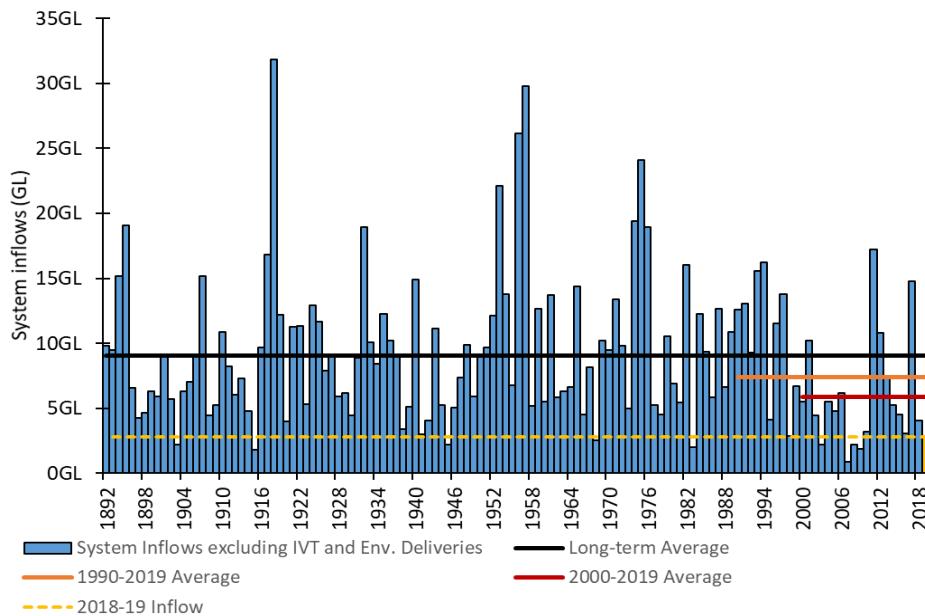


Figure 2: River Murray System Inflows (excluding IVT transfers, Menindee inflows and releases from Snowy Mountain Scheme) (Source: Murray Darling Basin Authority)



Reduction in Supply of Consumptive Water Entitlement

The volume of water entitlement on issue in the sMDB is capped. To issue more entitlement would require the construction of additional storages (i.e. new dams), which is considered unlikely. Although an increase in price may bring more sellers to the market, unlike virtually any other asset or commodity, it does not and cannot stimulate the generation of any additional supply.

The volume of water entitlement available for consumptive use has been reduced by over 25% as a result of the implementation of the Basin Plan environmental water recovery targets. In addition the Basin Plan targets the recovery of a further 450GL by July 2024.

Ultimately it is expected that full implementation of the Basin Plan will result in a permanent reduction in the volume of water entitlement available to support consumptive use of more than 30%.

Changes in Demand

The separation of land and water titles in 2007 and the development of water markets in the sMDB has been vital in assisting irrigators to manage water needs and manage risks within and across seasons. It has also facilitated the migration of water resources to higher economic value uses.

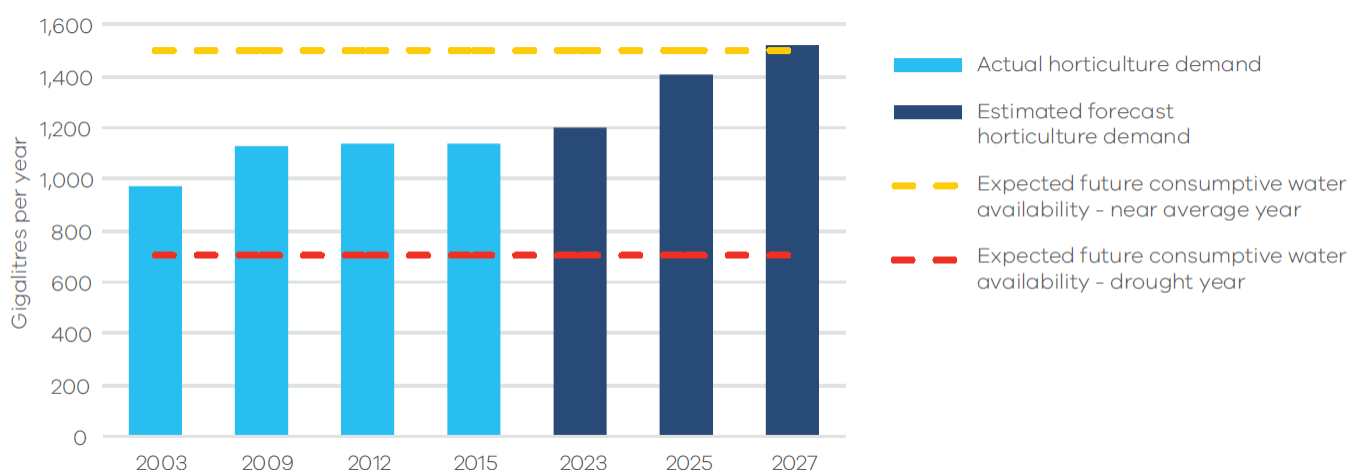
In the Lower Murray region over recent years there has been a significant increase in the area planted to high value permanent horticulture crops, including almonds, walnuts, hazelnuts, olives, citrus and grapes. Almond plantings in Australia have increased more twelve-fold from around 3,500 Ha in 2000³ to over 47,500 Ha in 2018. Of these plantings 97% are located along the lower River Murray system in either the Sunraysia (Vic), Riverland (SA) and Riverina (NSW) regions⁴.

Many permanent horticulture crops are high water users. For example, almonds use 13 to 14ML/Ha at mature full nut-producing capacity, with the majority of water demand concentrated over Summer and early Autumn. They require significant capital investment to develop, have an economic life of 20 to 30 years and at current nut prices generate a higher gross margin per megalitre of water used than virtually any annual cropping alternative.

However it is the fixed nature of water demand generated by perennial horticulture that is having the most pronounced impact on water market dynamics. Regardless of water availability and prices, these crops have a fixed annual water requirement. Further, the establishment of permanent crops such as almonds is capital intensive tracking at more than \$50K/Ha before first harvest. Accordingly, in times of water scarcity the owners of these assets are highly incentivised water buyers.

With recent horticulture developments yet to reach tree maturity and additional new developments approved but not yet commenced, the demand for water to service these crops is forecast to continue rising over the next decade. Analysis released by the Victorian Department of Environment, Land, Water and Planning (Vic DELWP) projects that by 2027 these crops will consume all the available water in the Lower Murray, even in years of near average supply⁵(see Figure 3 below).

Figure 3: Horticulture demand and consumptive water availability - downstream of Barmah Choke in Victoria, NSW and South Australia (Source: Vic DELWP)



As demonstrated in Figure 4, the impact of this changing demand dynamic on water allocation prices is more apparent in times of water scarcity. This chart plots Murray median yearly price against the annual combined annual sMDB supply of water allocation. For example both FY2016 and FY2019 reached similar levels of water allocation supply however the average annual water allocation price in FY2019 was more than double that for

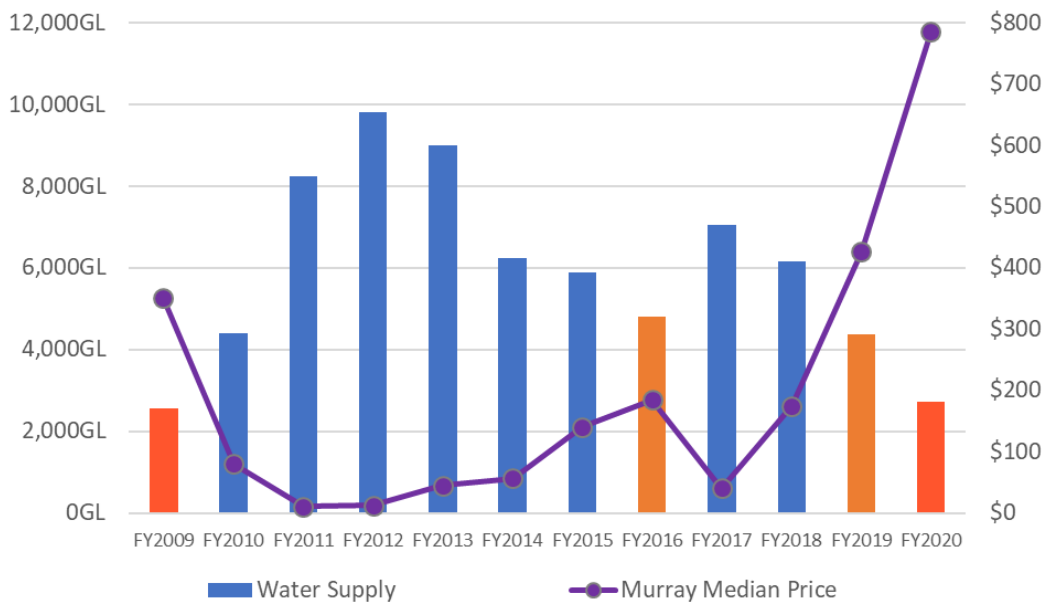
³ Almond Insights 2016-17, Almond Board of Australia

⁴ Almond Insights 2018-19, Almond Board of Australia

⁵ Understanding future water availability in Northern Victoria 2018 (The State of Victoria Department of Environment, Land, Water and Planning).

FY2016. Similarly, the available supply level in FY2020 is close, but not as low, as during peak drought in FY2009. However again, the year to date average allocation price for FY2020 is more than double the average annual water allocation price for FY2009.

Figure 4: sMDB Water Allocation Supply and Annual Median Price (Source: State Water Registers and Kilter Rural Analysis)



Issue 2 – Market Transparency and Information

It is Kilter Rural’s view that the fundamental structures are in place to support the operation of efficient sMDB water markets to meet the needs of water users. However, opportunities exist to implement changes that would result in significant improvements in market efficiency particularly associated with the availability and transparency of market information.

Existing Market Information

There is a vast volume of information pertaining to the operations of the sMDB water market. There are also multiple stakeholders across multiple water states and trading zones managing various aspects of this information. With this complex data ownership structure, it is understandable that there are numerous areas where data management could be improved.

Key issues identified in relation to current systems include:

- Allocation trade data does not capture the timing of when the price was negotiated. This is most obvious when considering the prices received from spot sales compared with allocation forward sales (where the price is agreed at one date for transfer and settlement at a future date)
- Trade data, such as trade consideration, relies on unverified self-reporting, without any auditing, monitoring or enforceable penalties, which undermines the reliability of this data
- Significant volumes of trade in both water allocation and water entitlement occurs within irrigation schemes which are not reported
- The fragmentation of the raw data across water States and operators, with different formats and at times statistical methodologies, hinders effective market-wide comparative analysis
- The trade forms are inconsistent across the water States with significant variances in processing times
- Key data variables such as current storage volumes appear to be inconsistent across agency platforms.

Central Trading Exchange

Many of the data issues raised would be best resolved through the implementation of a centralised trading platform, or water exchange. The benefits of centralising trades through the one platform would include:

1. More efficient, consistent and timely processing of trades
2. The capacity to implement consistent data capture and reporting
3. Improved confidence in water market data and reports
4. The capacity to implement processes that both improve transaction efficiency and reduce counterparty risk
5. Reduced potential for water market distortions
6. Facilitate streamlined implementation of improvement initiatives
7. Simplify monitoring and auditing of trading activities by market participants.

Operator Management Transparency

How storage, river and environmental water operators manage their delivery obligations can impact the market significantly. This is particularly the case in relation to the operation of inter-valley trade ('IVT') rules which in turn can materially impact market prices. Changes in differential water allocation pricing between trading zones that arise as a result of water operator activities can have significant economic consequences. Currently there is limited transparency relating to forecast delivery activities and resultant impact on IVT. It is acknowledged that conditions and variables can change and not all operational plans end up being implemented as originally intended. However, the amount and timeliness of information currently provided regarding environmental and inter-zone liability deliveries could be improved so that all market participants can have the same opportunity to understand the IVT outlook.

Issue 3 - Regulation and Institutional settings

The currently regulatory landscape has supported effective water markets in the sMDB for over a decade. However it is in times of more extreme conditions, such as the current period of water scarcity, that frameworks are tested and issues come to light. Such periods naturally provide an opportunity to identify areas for fine tuning. The following table sets out comments in response to the matters raised in the ACCC issues paper.

Table 1 Opportunities for Improvement in Regulatory Settings

Issue	Comment
Do regulatory settings provide an effective framework of property rights for water entitlement?	Yes. The current system is working effectively to provide certainty of title.
Do regulatory and policy differences between states, Basin catchments and trading zones impact competition, efficiency and access to water markets?	As discussed above, the operation of storage, river and environmental water resources have the capacity to significantly impact water markets. The fragmented distribution of information in relation to these operations can lead to information asymmetry in the market and a reduction in market efficiency.
Do trading rules provide for efficient and equitable water market activity?	In general yes. However implementation of some aspects of the rules can mean that there is some inequity in market access between market participants. This can particularly pertain to areas such as inter valley trade.
Are regulatory functions, settings and actions clear and understood?	Most but not all. Those that could be clearer include: <ul style="list-style-type: none"> - IVT delivery management, particularly in relation to the Barmah Choke IVT. - The ongoing tagged status of water entitlement which was tagged before 22 October 2010. - Progress of the implementation of the Basin Plan recovery target for the additional 450 GL and the application of the socio-economic neutrality test.
Are carryover mechanisms impacting allocation and entitlement market outcomes?	Carryover is a vital risk management tool for irrigators and helps smooth allocation pricing from one water year to the next, particularly in drier years, by making additional supply available. Changes to carryover would reduce irrigator risk management and likely significantly impact value of low reliability water entitlements.
Are current approaches and frameworks for metering and monitoring of water use effective and appropriate?	Seems reasonably effective in the sMDB (not so sure about the nMDB). Robust and credible metering is vital to the integrity of the water market. Given the size of the water market, there should be more compliance monitoring and auditing with significant enforceable penalties for misbehaviour to provide incentive to all irrigators to remain compliant.
Is regulation of water exchanges, water brokers or other market intermediaries appropriate?	There is a low barrier to entry for water brokers to enter the market. There has been little regulatory support for the

	Australian Water Brokers Association (AWBA) to help it enforce compliance with agreed good policy and practice amongst its members.
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Carryover

Carryover is a vital component to the efficient operation of the water market warranting separate consideration. The carryover mechanism allows unused water to be carried over from the end of one water year into the next year. It is a logical and practical function which provides multiple benefits:

1. Carryover is a risk management tool which allows irrigators to manage a portion of their future water supply risk. Irrigators can actively plan to cover a portion of their next water year requirements with unused or acquired water in the year before in order to limit exposure to future price uncertainty
2. Carryover ensures that remaining water allocation is not inclined to be wasted or used sub-optimally at the end of the water year. Without carryover water allocation could be effectively ‘dumped’ under a ‘use it or lose it’ scenario. This could lead to inefficient water use and environmental degradation due to over saturation leading to issues such as salinity issues
3. Carryover brings additional supply to the market at the opening of the water year. This serves to smooth the water allocation price as it reduces the reliance of the market price on the early allocation determinations, particularly when conditions are dry and early allocation determinations are low.

If the carryover mechanism becomes more limited in its application, or removed from the water market entirely, the financial and risk management value of water entitlement classes such as Victorian Low Reliability and NSW General Security will be significantly adversely impacted. As Victorian Low Reliability entitlement very rarely receives annual allocations and is used solely as a low-risk carryover solution, its value would be significantly impacted.

Issue 4 – Market participant practices and behaviours

Irrigators benefit from the roles played in the water market by both investors and water brokers:

- Investors provide a source of much needed capital into the agricultural sector
- Investors have been responsible for the development and distribution of the range of water products that are now available to irrigators. These products, such as leases, forward sales and carryover solutions provide irrigators with a range of alternative water sources; and
- Water brokers connect irrigators with trading opportunities.

The Role of Investors in Helping Irrigators Manage Risk

In 2016 the ANZ Bank estimated that A\$1.1 trillion of additional investment would be required in Australian agriculture by 2050 to generate growth and support turnover of ageing farmers^{6,7}. A key challenge cited in the report is the high levels of existing debt, and the difficulty in accessing external investment.

The entrance of investors into the water market has provided a new source of capital investment into Australian agriculture. Investors have introduced, and make available, water products which provide irrigators with more options to manage their water supply risks. Prior to the availability of these products irrigators had two choices in satisfying their water requirements. Either purchase sufficient water entitlement or subject themselves to the spot market for water allocation.

⁶ *Greener Pastures: The Global Soft Commodity Opportunity for Australia and New Zealand*, ANZ Insight, Issue 3, Oct 2012.

⁷ *Australian Agriculture: Funding Our Future*, ANZ Infocus, November 2016

Reliance upon only these two mechanisms for managing water supply risk exposes irrigators to significant challenges:

- (i) Firstly, owning water entitlement is a capital-intensive strategy. Most farms operate within tight capital constraints. Deployment of capital into the purchase of water entitlement therefore reduces the farmers capacity to invest in other parts of their business. By accessing water lease products irrigators are able to free up capital resources to fund the growth of their business
- (ii) The alternative was to secure water requirements in the spot market for water allocation. Water allocation prices are inherently volatile being driven by seasonal conditions and resulting water supply. Taking this approach introduces significant earnings volatility and resultant business risk.

The role of investors in developing and deploying water products into the market has been central in helping many irrigation businesses better manage their water supply risks. These additional water products include:

- (i) Leasing of water entitlement – where irrigators can access all the features and benefits of owning water entitlement without capital spend. Leases generally take forms similar to a commercial real-estate lease.
- (ii) Allocation Forwards – where the vendor (investor) guarantees to deliver an agreed volume of water allocation to the buyer (irrigator) at a future agreed date at a price agreed at the time of contract negotiation. This product removes all uncertainty about receiving a fixed allocation volume at a known price. A premium to the spot market price at time of contract negotiation is typically disclosed and charged by the vendor in order to compensate for taking on the risk of guaranteeing supply.

Investors provide additional liquidity in the water market which can allow irrigators to better achieve full market value, particularly when they seek to sell water entitlement.

The growth of investor presence in the water market has caused some contention, but independent research indicates they are not unduly influencing the water market⁸.

The Role of Water Brokers

Given the large geographic area of the sMDB and the lack of any central, robust trading platform, water brokers play a vital role in the water market of helping connect and transact trading opportunities. Water brokers, through their developed client network, can bring parties together to transact who typically would not know each other or their trading objectives at that point in time. Also their role as an intermediary provides comfort to many that the transaction is being facilitated by someone regarded as independent who understands the water market.

However there are areas for improvement in how water brokers currently engage in the water market:

- More transparency regarding the risks associated with water brokers holding client funds as part of the transaction process. This relates to deposits, payments for allocation trades, etc. The use of trust accounts is quite common but there is a lack of consistency in how these trust accounts are managed and the level of protection provided to the client. This is becoming increasingly relevant due to the current large transaction considerations as a result of higher water prices;
- Better visibility of all broker trades to facilitate a more equitable access to opportunities; and
- A framework enabling enforceable compliance with agreed industry standards and practice requirements.

⁸ O'Donnell E., Loch A. (2016), *Investors and speculators aren't disrupting the water markets*, The Conversation, Viewed 15 November 2019, <https://theconversation.com/investors-and-speculators-arent-disrupting-the-water-markets-69492>

Issue 5 – Competition and market outcomes

The sMDB water market continues to allow water to move to its most efficient and profitable use in within the bounds of hydrological constraints. The water market is the framework which enables water trade to increase productivity, allow choice and flexibility in business decision-making and reduce risk for both buyers and sellers⁹.

Invariably some markets participants are better equipped to compete in the market compared to others. Key competitive advantages in the water market include:

1. Growing crops with higher profit margins;
2. Having better access to capital sources; and
3. Already owning sufficient water assets to cover a large portion of the enterprises annual water requirements.

The degree to which any irrigator is disadvantaged by their lack of competitive advantage will typically determine business sustainability. This can be evidenced by the recent reduction in dairy production in the Goulburn Valley, where dairy farmers have struggled to compete in buying water over recent times due to competition from high value production water users.

A key outcome of a functioning water market is to manage a framework where market price is regarded as fair value and that the water price is expected to rise and fall in line with drivers of supply and demand.

The operation of the water market was essential during the Millennium Drought and helped irrigators and industries to adapt to survive by allowing farmers to buy much needed water¹⁰. This ability to buy and sell water has enabled irrigators to better manage their farm operations through periods of water abundance and scarcity. This was demonstrated in National Water Council analysis that indicated sMDB production was \$4.3 billion higher over a 5-year period between 2006 to 2011 due to the effective operation of water markets¹¹.

⁹ *Water Markets and Trade*, Murray Darling Basin Authority, viewed 20/11/2019, <https://www.mdba.gov.au/managing-water/water-markets-and-trade>

¹⁰ National Water Commission (2011), *Water markets in Australia: a short history*, NWC, Canberra

¹¹ National Water Commission (2012), *Impacts of water trading in the southern Murray-Darling Basin between 2006-07 and 2010-11*, NWC, Canberra