

The Spectre of the Baron

Manfred von Richthofen, otherwise known as the Red Baron, was the greatest fighter pilot of World War 1, credited with shooting down eighty enemy aircraft at a time when twenty was considered extraordinary. Towards the end of his career, the German command realised Richthofen was of more value to them for propaganda purposes on the ground than he was actually flying, and they unsuccessfully attempted to ground him. Even after his death, the spectre of the Red Baron haunted enemy pilots. The spectre of another baron – this time controlling water rather than the air – is haunting many involved in current debates about water policy reform in Australia. The extent to which fears about the rise of a new baron – in this instance a water baron – are realistic or not requires careful consideration.

Since the Governments of Australia reached agreement on the need for reform of water management in Australia in 1994, there has been a steady stream of policy decisions implemented to convert the principles of that agreement into reality. Of all the issues incorporated into that agreement, perhaps the slowest to be implemented has been the decision *“that State Government members of the Council, would implement comprehensive systems of water allocations or entitlements backed by a separation of water property rights from land title and clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality;”*¹ Related to the above, subsequent clauses of the agreement dealt with water trading, and stated *“Where it is not already the case, that trading arrangements in water allocations or entitlements be instituted...”* and *“where cross-border trading is possible, that the trading arrangements be consistent and facilitate cross-border sales where this is socially, physically and ecologically sustainable.”*

The target date for implementation of these arrangements was 1998, which needless to say was not met.

¹ NCC (1998) Compendium of National Competition Policy Agreements. 2nd Edition, 1998.

In fact these same issues were a major part of the agenda of the recent Council of Australian Governments meeting, highlighting just how complex and difficult water trading has been to progress.

To many not directly involved in the issue, the concept of an individual farmer having secure ownership of a volume of water is nonsensical, given the vagaries of water availability in Australia. The reality is that the concept under consideration is not ownership of a defined volume of water, but instead ownership of an entitlement to extract a defined proportion of the available water resource. The difference between these two concepts is significant.

A water entitlement is analogous to an investor owning shares in a public company, and being entitled to a defined proportion of the dividend stream of that company. Just as the owner of shares in a public company cannot specify with any certainty the amount of dividend those shares will generate in any year, so the owner of a water entitlement cannot specify with absolute certainty the volume of water that an entitlement will provide access to each year.

The proposal that farmers should have secure rights over their water entitlements, and that these entitlements be tradable via a water market has met a variety of differing responses. Some environmental groups have suggested that ‘ownership’ of a natural resource such as water is not appropriate, as it is a common resource owned by all. There is, however, broad recognition amongst environmental groups that farmers do need more secure entitlements to water in order for them to have confidence to invest in technologies that can greatly improve water use efficiency.

While farmers generally have long sought more secure water entitlements, some farmers and irrigators have reacted negatively to trading, raising concerns that the eventual outcome will be a progressive accumulation of water entitlements by large financial institutions and speculators, leading to the emergence of “water barons”. The fear is that an unfettered water market would result in a small number of large corporations controlling water, and charging farmers high prices for the use of that water. Whether or not this fear of barons emerging in a freely trading water market is justified requires a clear understanding of the nature and limits of water trading and markets.

Current Trade in Water

In many respects, trading in water entitlements is not a new concept. In Australia water entitlement trading was first made legislatively possible in South Australia in 1983.² The ability to temporarily trade water entitlements has also existed under NSW legislation since 1983, and permanent trading has been possible since 1989. In Victoria, permanent water trading was enabled by legislation introduced in 1989 which separated title to water from title to land.

Comprehensive data concerning water trading is not readily available, partly due to the range of different formal and informal systems that are used to conduct trades. In NSW there is also considerable trade occurring within the water licences held by large irrigation corporations such as Murray Irrigation and Murrumbidgee Irrigation and in Victoria by Goulburn-Murray Water, which is not at all evident from available Government statistics.

By far the largest amount of trade that has occurred has been ‘temporary trades’ – that is where a water entitlement holder retains ownership of the underlying entitlement, but agrees to allow another person the use of some or all of the water that would have been received in a particular season or over a short period of time.

In NSW during the period from 1989 to 1997,³ it was reported that annual trades of water on NSW inland regulated rivers varied between 200,000 and 700,000 ML, of which permanent trades accounted for between 10,000 and 50,000 ML per annum. These figures exclude trading within bulk licences (such as those held by Murray or Murrumbidgee Irrigation). A later report⁴ found total water trades in 1997-98 in regulated systems in NSW were approximately 863,000 ML. This figure included “within licence” trades, which amounted to about one third of total trades. Overall, the volume of water traded amounted to approximately 11% of available water in the relevant water sources. In NSW, trading on unregulated rivers was commenced in mid 1998, and temporary and permanent inter-valley and inter-state trades have also been trialled. There does not appear to be recent data about the extent of this trade.

In Victoria, approximately 4,000 GL of surface water is used annually for irrigation.⁵ Estimates of the total annual volume traded are not readily available, however in recent years in northern Victoria trade has exceeded 200,000 ML per annum, of which about 90% is temporary trade. Permanent trades are estimated to be approximately 25,000 ML per year in northern Victoria, or around 1% of total entitlements. In early years, much of the trade was by owners of unutilised sleeper and underutilised dozer licences, although the extent to which this is still the case is unclear.

² Bjornlund (2002) The Socio-economic structure of irrigation communities – water markets and the structural adjustment process. Rural Society 12(2).

³ DLWC (1998) Water Sharing – the way forward. Enhancing and extending water trading in NSW. www.dsnr.nsw.gov.au.

⁴ Marsden Jacob Associates (1999) Water Trading Development and Monitoring. Report prepared for NSW Government. www.dsnr.nsw.gov.au

⁵Parliament of Victoria (2001) Inquiry into the allocation of water resources. Environment and Natural Resources Committee, Victorian Parliament.

In South Australia, statistics concerning the total volumes of water traded are available at a source-by-source level over the last three years, although trading has been occurring for much longer. Based on a small sample of data, it appears that about one third of the volume of trades are in permanent water, and the bulk are temporary trades. For example, there were 600 licence transfers, amounting to 84,000 ML amongst users of Murray River water during 2002-03, of which 69,000 ML were temporary trades.

Water entitlement trading is possible under water legislation in force in Western Australia, Queensland and Tasmania. The amount of trade occurring is unknown, but the market appears to be less developed than in NSW and Victoria.

The overall amount of irrigation water applied annually in Australia is 18,000 GL⁶, with about 10,000 GL of this used in the Murray-Darling basin. Based on the limited information available, it appears that the volume of water traded annually may be approximately 1,000 GL, which is between 5 and 10% of available entitlements. Anecdotal information suggests that in excess of 80% of this volume is trade in temporary water.

The predominance of temporary trading is explained by a number of factors. Firstly, a temporary trade of the water available to the owner of a sleeper or dozer licence allows income to be generated, without necessarily committing to irrigation development or the risks associated with crop production. Secondly, allocation uncertainty makes the volume of water associated with a permanent trade difficult to estimate, however within a season the volume of water allocated is known with more certainty, and therefore trading of un-used volumes means the purchaser has more certainty about the volume of water available.

In NSW, the predominance of annual crops such as cotton and rice (probably a result of the lower reliability of water supplies in NSW) means that individual farmers can make decisions season-by-season about whether water availability and commodity prices mean that a crop or the sale of water will generate better financial returns.

A fourth factor which is difficult to quantify but undoubtedly important is the lack of security of water entitlements, especially in NSW. Entitlements are currently of fifteen years duration, with water management plans which determine the average amount of consumptive water available reviewed every ten years. This means at best farmers know the average volume of water they will receive for ten years, and there is no guaranteed renewal of licences. This degree of uncertainty makes permanent trades risky.

A further factor thought to favour temporary trading is that the entire cost of a temporary trade can be offset for tax purposes against annual income by the purchaser, whereas a permanent trade is treated as a capital acquisition, and not tax deductible.

⁶NLWRA (2001) National Land and Water Resources Audit. www.nlwra.gov.au

An irrigation farmer may sow a larger area to crop than would normally be possible given available irrigation water allocations. If the season has low rainfall and insufficient water is available, purchasing temporary water enables the crop to be finished without the financial commitment associated with purchasing extra water on a permanent basis.

A final factor thought significant in the preponderance of temporary trade is the regulatory framework associated with trading in both temporary and permanent water. Permanent trades have a much more detailed regulatory approvals process than temporary trades, although neither is simple.

Indeed, far from being an unfettered and unregulated market, there is a complex and often different set of rules governing water trade within areas, and within States, let alone for trading between States. Just to provide some ideas of the complexity of rules involved, Victoria limits permanent trade out of a water authority district to a maximum of 2% per year, and some water authorities limit temporary trades to a maximum of 30% of a sellers diversion licence volume. Transfers can only be made where supply of the water to the buyer is feasible (subject to the management plan for the stream supplying the buyer) and channel capacity must be sufficient so other users are not disadvantaged. Victoria also limits trade to those holding a site-use licence on land, and different ‘conversion’ rules apply to trades upstream or downstream. South Australia appears to have less complicated trading rules, including the ability to own a water entitlement without owning land. In NSW the situation is variable, and trading is often subject to rules established by any relevant irrigation corporations.

The predominance of temporary trading means that the potential economic gains associated with the movement of water to those uses which generate largest economic returns will be limited. Nevertheless, even the limited amount of trading that has occurred thus far is estimated to have generated significant positive returns. A NSW Government commissioned report⁷ estimated that the value of trade in water in the 1996-7 season was between \$60 and \$100 million, and that temporary trades added \$30 million to the NSW Gross State Product, and permanent trades (while only around 10% of trades) added approximately \$35 million. The Victorian Government has estimated that water trading has allowed agricultural production to increase by \$50 million per year⁸ above what would otherwise be the case.

The Impact of Water Trading on Farmers

Water trading has now been occurring for sufficient time for some trends to emerge in the farming communities most closely associated with irrigation, and which provide an indication of likely future developments. Several major studies have been carried out of the impact of water trading on irrigation communities by academics based at the University of South Australia.⁹

⁷ Marsden Jacob Associates (1999) op. cit.

⁸ Parliament of Victoria (2001) op. cit.

⁹ Bjornlund & McKay (1999) Do permanent water markets facilitate farm adjustment and structural change within irrigation communities? Rural Society 9(3). 555-571

These studies involved surveys of both buyers and sellers of permanent water entitlements, and provided characteristics of both populations before and after a three year period during which active trading was occurring.

Four hundred irrigators in two separate populations were examined – one along the River Murray in South Australia, and the second within the Goulburn-Murray Irrigation District (GMID) in Victoria. Over that period, 5.4% of all water allocated to irrigation in the South Australian area was permanently traded, and 1.5% of the water in the GMID. The aggregate GMID trade figure somewhat masks sub-districts within that area where trade rates were higher, approaching 5%. A summary of the results of the survey is shown in Table 1, below.

Table 1: Characteristics of buyers and sellers of water entitlements at the start and finish of a three year period of water trading.

Measure	Sellers		Buyers	
	Before	After	Before	After
Goulburn-Murray Irrigation District				
Mean allocation (ML)	199.2	126.2	226.8	294.2
Mean area (ha)	83.7	70.6	96.1	115.7
Allocation/ha	2.4	1.8	2.4	2.5
South Australia – Murray River				
Mean allocation (ML)	152.5	74.5	222.9	355.2
Mean area (ha)	13.9	11.9	30.9	46.6
Allocation/ha	11.0	6.7	7.2	7.6

Not surprisingly, in both areas included in the study, the average farm size of the sellers tended to be smaller than the average farm size of the buyers, a difference that was significantly greater by the end of the period than it was at the start. Similarly, the average size of the water entitlement owned by buyers had increased significantly by the end of the period, and the seller’s average entitlement size had reduced. The extent of the changes that occurred was greater in South Australia than in Victoria.

In South Australia, where the main irrigation activities are increasingly plantation horticulture and viticulture, the tendency was that a smaller number of buyers consolidated larger volumes of water via purchases from a large number of sellers. Generally, however, the authors noted that sellers were disposing of marginal portions of their entitlement or unused sleeper allocations, rather than exiting irrigation.

Also evident was the activity of larger, corporate farming entities – especially those involved in the wine industry. Just 11.6% of buyers purchased 72% of all the water traded. These were apparently actively accumulating water entitlements for new farm developments.

Despite the accumulation of larger parcels of water entitlements that was occurring in South Australia, 44% of all the buyers there ended the period with less than 15 hectares of irrigated land, a size considered commercially non-viable in that area. This group only purchased 7.5% of all the water traded, indicating that they were purchasing small volumes of water to maximise the lifestyle advantages of their property. For example, farmers in this group would

most likely depend predominantly on off-farm income and be operating a small horticultural enterprise in their spare time. In effect, the ability to trade water appears to be enabling a ‘polarisation’ of the irrigation farm population into either larger, commercially viable farms, or smaller lifestyle entities where the owner has access to significant non-farm income.

The situation in Victoria in the GMID was somewhat different. It appeared that 50% of the water traded was sold by non-commercial “lifestyle” farmers, who were not reliant on on-farm income. Over 15% of sellers disposed of their entire allocation.

As the authors noted, *“This 50% of the water would, without water trade, have been locked into small non-commercial or lifestyle farms. Water trade in this way has assisted the structural adjustment within the community by facilitating the concentration of productive land and water into larger, more profitable units while allowing smaller proportions of predominantly unsuitable farming land as well as excess farm improvements to be converted to lifestyle driven purposes.”*

At the same time, however, 35.5% of the buyers in the GMID had less than 50 hectares of irrigation at the end of the period, (a size considered non-commercial in that region) and accounted for 18% of the water purchased. Again, these were probably lifestyle farmers purchasing small volumes of water, suited to a lifestyle enterprise.

The conclusions reached from the study by the authors are interesting, although not surprising. “Water markets showed clear promise in facilitating the ongoing process of farm adjustment and structural change within the irrigation industry. Water has moved to more efficient and higher value producing properties. Water has consolidated into farming units of more viable sizes without showing evidence of a corporate takeover of the industry.” The authors did note that trade has polarised irrigation communities into two broad groups – one being large family enterprises depending on a non-family workforce, and the other being a group of smaller properties depending on off-farm income. In South Australia there was some evidence of corporate entities buying large quantities of water for large-scale viticulture developments. However, given the total volume of water changing hands over the three year period was just 5% of the total available, this represents a marginal change rather than a wholesale takeover. In the GMID region there was also some evidence of marginally viable farms selling water to meet short-term cashflow requirements, which could mean they were selling any hope they had of becoming more viable in the future. However, again given that total transfers were around 1.5% of total allocations, this change has been marginal. The overall outcome of the three year trading period seems positive, the authors concluding that *“water trade so far has improved rural amenities and preserved cultural diversity”*.

The Water Baron: Myth or Reality?

There is no doubt that, given the right set of circumstances, an unfettered water market could lead to the emergence of water barons who have sufficient market power to enable them to extract unfair profits from the holding and sale of water entitlements. However, in Australia a number of factors mitigate against this happening.

Firstly, as has been noted in a number of similar situations internationally, once a resource such as water or land has been broadly dispersed amongst a large number of users, accumulating a controlling share of the market (essentially unscrambling the egg) is a difficult task. The fact that less than 5% of existing entitlements were traded within the two areas in question over a three year period highlights the propensity of individuals to hold on to their entitlements to productive resources such as land and water irrespective of market opportunities.

A second major limitation to water trading in Australia at present are the highly complex and often very limiting laws that apply at local, district, valley and State levels to control trade in water. These are often quite complicated, subject to multiple approval processes, and susceptible to considerable variation as events and circumstances dictate. While these have clearly been established by water authorities and State Governments intent on adopting a precautionary approach, it seems a strong argument exists to simplify and standardise these. For example, it is difficult to understand why an irrigator pumping water from one side of the Murray River should operate under a different set of rules to his neighbour pumping from the other side of the river, and why they should not be able to trade their water entitlements back and forth, should they wish

Given the history of trade in water entitlements over the past two decades, at this stage of the development of water markets there appears to be considerably more arguments to support the freeing up and standardising of trading rules to facilitate water markets, than there are to support calls for increased restrictions. The “blue” baron is much more a spectre than reality under present arrangements.

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