
2. Water trading

2.1. Introduction

Trade is the key mechanism through which water resources are able to be reallocated among competing users and uses. Through trade, markets create incentives for participants to use water more efficiently, responding to price signals which are transparent and responsive to fluctuations in demand.

In an efficient water market, trade should reallocate water to its highest valued uses, so that, at the margin, the returns from all uses of water are equalised. However to date, water markets have not always been competitive or characterised by other features necessary for effective market function.

In Australia, trading has been most active where the markets are more mature - such as the southern Murray-Darling Basin (MDB) - and during periods when water is scarce. To date, key features of water markets, particularly in the southern MDB include:

- temporary transfers account for the vast majority of trade;
- market participants are mostly water users;
- most trade has occurred within regions/catchments/systems rather than between them;
- the volume of water traded across jurisdictional boundaries has increased since formalised interstate trade was introduced in the southern Murray-Darling Basin though still remains small;
- previously unused water has been activated by trade in some areas (ie, sleeper entitlements);
- water prices appear to be correlated across some markets, particularly those that are physically interconnected;
- markets remain thin in some areas which may reflect low demand for water and/or the availability of 'free' unallocated water from the government;
- the majority of trade occurs in regulated or supplemented systems relating in part to certainty in supply; and
- generally, trade has been restricted in areas where there are capacity constraints, or as a precautionary measure to preserve environmental values.

2.2. Australia's water markets

Australia's water resources are widely dispersed and the majority are outside the more populated regions of the country. The bulk of Australia's mean annual run-off, nearly 390,000 gigalitres (GL) or 390 million megalitres (ML) each year, is in the sparsely populated north. Only around one third of this occurs along the more heavily populated north-east and south-east coastal areas, and the inland Murray-Darling Basin.

Of the total water resources diverted for consumptive uses, some 18,000 GL or around two-thirds are in the Murray-Darling Basin (MDB). Most of the remainder is diverted in coastal areas of Queensland and New South Wales.

Water trading in Australia is dominated by trade in the MDB, and in particular, the southern interconnected reaches of the Basin encompassing parts of Victoria, New South Wales and South Australia.

2.2.1. The Murray-Darling Basin

The Murray-Darling Basin accounts for the majority of water use and trading activity in Australia. The MDB is one of Australia's largest drainage areas and incorporates Australia's three largest rivers - the Darling, Murray and Murrumbidgee Rivers.

Located in the south east of Australia, the MDB covers over one million square kilometres, extending over New South Wales, Victoria, South Australia, Queensland and the Australian Capital Territory (Murray Darling Basin Commission, 2005a) as summarised in Table 1 below.

Table 1: State shares of the Murray-Darling Basin

State	Total area of States	Area in Basin	Proportion of States/ACT in MDB	Proportion of area in MDB
	km ²	km ²	%	%
New South Wales	802,081	599,873	74.8	56.7
Victoria	229,049	130,474	60.0	12.3
Queensland	1,776,620	260,011	14.6	24.6
South Australia	984,395	68,744	7.0	6.49
Australian Capital Territory	2,367	2,367	100.0	0.2
Total^(a)	3,794,512	1,061,469	-	100.0

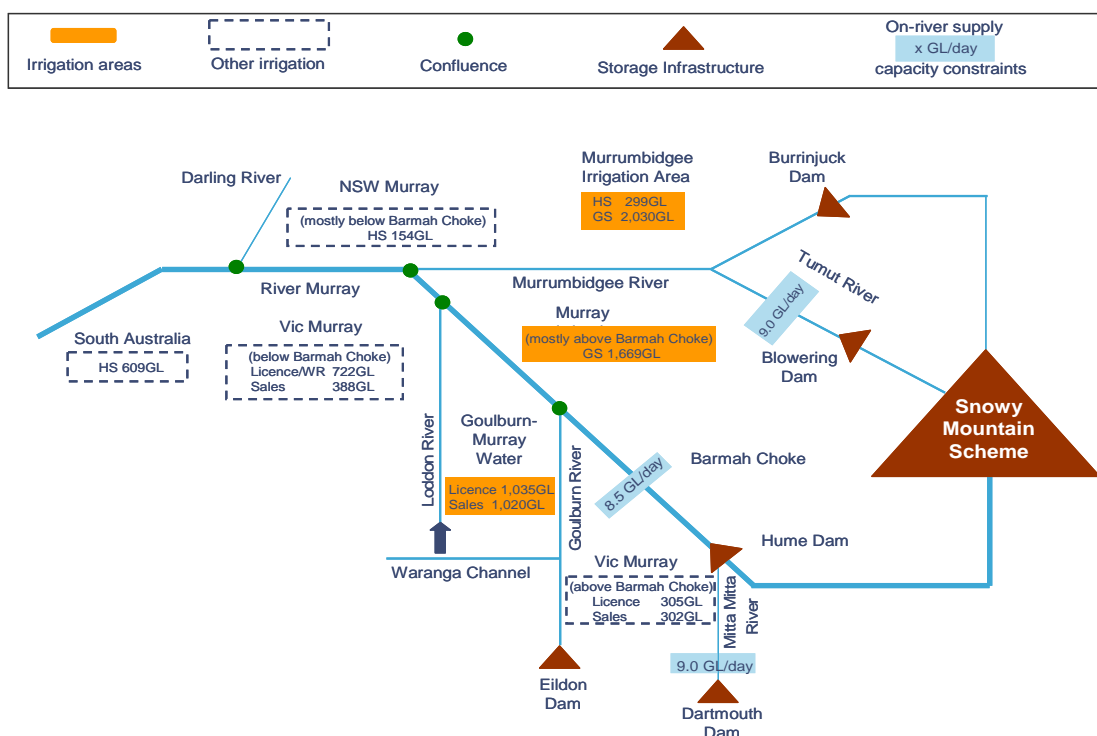
(a) Figures may not add up to 100 per cent due to rounding.
Source: Murray Darling Basin Commission, 2005a.

In 2003-04, an estimated 8,780 GL of water was diverted from the MDB (MDBC, 2005b).² This was the third lowest level on record since 1983-84. The volume of water diverted in New South Wales and Victoria cumulatively accounted for around 85 per cent of total diversions from the Basin (or 4,118 GL and 3,207 GL respectively) during that year. Almost 95 per cent of total water diverted was for irrigation.

Diversions in the MDB are restricted by the 'cap' that has been placed on the volume of water that may be diverted from rivers for consumptive use. The cap was introduced following an audit on water use in 1995 which found if the volume of water diverted from the MDB increased further, river health problems would be exacerbated, reducing the reliability of water supply for existing irrigators. The cap in New South Wales and Victoria is defined as that "volume of water that would have been diverted under 1993-94 levels of development."³

The majority of water used in MDB is located in southern regions of the Basin. This interconnected region incorporates a complex interaction of multiple supply sources, on river channels and off-river irrigation districts. A summary schematic of the system, and some of its major components, is provided at Figure 1.

Figure 1: Schematic diagram of the Southern Murray-Darling Basin



Source: Adapted from Heaney et.al., 2005.

² Latest available data from the Murray Darling Basin Commission Audit Reports.

³ The cap for Queensland and the Australian Capital Territory are yet to be finalised.

2.3. Water allocation and use

In 2003-04, almost 8,537GL was allocated for use in the Basin.⁴ Around 80 percent of water in the MDB was allocated for use in New South Wales and Victoria (50 per cent and 30.8 per cent, respectively).

In the MDB, water users are generally issued with volumetric water access entitlements with differing levels of reliability. Water access entitlements specify the volume that may be diverted each year and the corresponding level of reliability associated with that entitlement. While arrangements do vary between States, water access entitlements generally can be categorised as either:

- high reliability – the full volume of entitlements expected to be available every year, except during drought;
- general reliability entitlements - subject to allocations announced annually with reliability varying between States/systems; and
- volumetric entitlements on unregulated streams.

Reflecting differences in the reliability of water resources, the volume of water allocated to different entitlement holders in each State varies significantly. For example in 2003-04, New South Wales general reliability water access entitlement holders received around 50 per cent of the total volume of water specified on entitlements. In comparison, water access entitlement holders in Victoria received almost 100 per cent of their announced allocation.

Since Cap accounting commenced in 1997-98, the volume of water used Basin-wide has been consistently lower than that available for use. For instance, in 2003-04, although an estimated 10,630GL of water was authorised for use in the MDB, only 83 per cent of this was used. Further, the proportion of water use by State varies. In Victoria and New South Wales, 93 per cent and 77 per cent of the total volume of water available for use respectively was used during the year.

⁴ The total volume allocated for use differs to total water diverted as water is also available off-allocation and from water harvesting.

2.4. Water trading

In 2003-04, the volume of intra-valley permanent and temporary entitlement transfers totalled 1,079 GL, representing 12.6 per cent of the total volume of water allocated for consumptive use in the MDB during that year (MDBC, 2005b). Around 90 per cent of the volume of water traded in the Basin over 2003-04 was temporary transfers.

In 2004-05, the volume of permanent interstate trade in the MDB accounted for around two percent of total interstate trade between South Australia, Victoria and New South Wales.⁵ The balance, approximately 98 per cent were temporary transfers.

Anecdotal evidence suggests that a substantial proportion of permanent trades of water relate to land sales. This occurs where an irrigator sells a parcel of land inclusive of a water access entitlement. This is likely to reflect a situation where farming enterprises are sold as a 'going concern,' inclusive of a water access entitlement as well as most probably other farm plant and equipment.

2.4.1. Intrastate trade

Intra-valley trade

On a State basis, the largest volume of intra-valley trade occurred in New South Wales, Victoria and South Australia, respectively (see Table 2).

Table 2: Intra-valley transfers in the Murray-Darling Basin (by type and State, 2003-04, megalitres)^(a)

	Permanent	Temporary	Total
New South Wales	20,077	604,059	624,136
Victoria	52,212	275,446	327,658
South Australia	23,818	87,522	111,340
Queensland	-	15,585	15,585
Total Basin ^(a)	96,107	982,612	1,078,719

(a) Individual State trades may not add up to the total due to rounding.

Note: No trade occurred in the Australian Capital Territory.

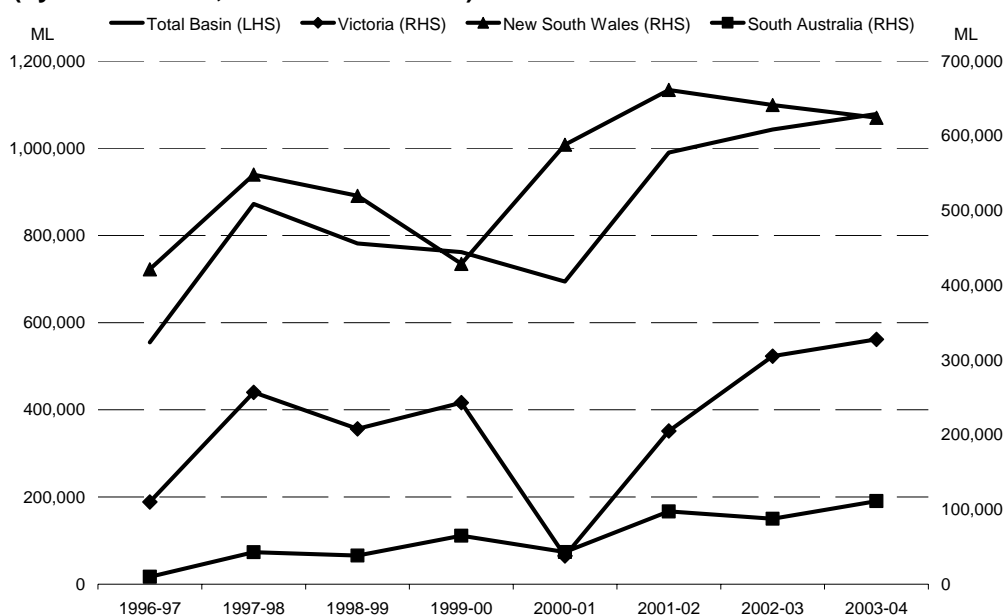
Source: MDBC 2005.

Within the MDB, trade has been concentrated in systems where industries are located that rely on water as an input to production, such as irrigated agriculture. In New South Wales, around 65 per cent of the total volume of intra-valley transfers was sold in the Murray and Lachlan systems. Similarly, in Victoria, 80.7 per cent of transfers were in the Goulburn Broken Loddon and Kiewa Ovens Murray systems (MDBC 2005).

⁵ Data sourced from South Australia's water registry.

Furthermore, the volume of intra-valley trade has increased in the MDB over the past decade. Over the eight years to 2003-04, the volume of intra-valley trade almost doubled in absolute terms. In average annual terms, the total volume of transfers increased by 8.7 per cent per annum over the period. Permanent and temporary transfers increased by 7.9 per cent and 8.8 per cent respectively (see Figure 2). At this rate the water market, measured by volumes transferred, would double in size every nine years or so.

Figure 2: Intra-valley water transfers in the Murray-Darling Basin, (by volume sold, 1996-97 to 2003-04)



Note: Total Basin includes Queensland and ACT.
Source: MDBC, Water Audit Monitoring Report (various).

In 2003-04, permanent sales of water were fewer (by volume) than temporary sales. In part, this may reflect the inherent uncertainties in the market and the risk associated with longer-term trade, though it may also signal the existence of greater barriers to permanent trade.

More probable still is that this characteristic simply reflects the natural tendency of many markets to show a higher proportion of temporary asset transactions over permanent sales. The volume of Australia's residential housing stock which is bought and sold each year, for instance, is a relatively small proportion of the overall supply housing assets, and a fraction too of the volume of housing transactions in the temporary (rental) market (see Box 1).

Permanent water sales represent a larger share of the total volume of water sold in South Australia than in New South Wales and Victoria. In 2003-04, permanent transfers accounted for 21.4 per cent of water entitlements sold in South Australia, by volume. In comparison, permanent transfers represented 15.9 per cent and 3.2 per cent respectively, of the total volume of entitlements sold in New South Wales and Victoria.

Box 1: Trade in other asset markets

Markets may be operating effectively with very different levels of trading activity observed. Trade is influenced by a variety of factors. Some of these factors may shift over time, while others reflect more the underlying characteristics of that asset.

The markets for residential property and for equity shares in listed companies are two markets which are generally thought of as efficient markets. There are few restrictions on who may trade or for what purpose, and a large number of intermediaries and trading alternatives. However, observing the trading performance of these markets demonstrates some quite substantial differences.

Australia's primary equity capital market, administered by the Australian Stock Exchange, has a market capitalisation of around \$A1 trillion. Annual turnover in company shares is, on average, around 90 per cent. For every \$100 in issued share capital, around \$90 is traded each year.

Within the ASX, individual companies trade with varying levels of liquidity. Turnover for blue chip stocks such as BHP and Telstra has averaged 93 per cent and 92 per cent, respectively, over the period 2000 to 2005. Some mining stocks, such as Lihir Gold (172 per cent average turnover, 2000-2005), have seen share turnover significantly above this level, while other stocks with relatively closely-held share registers exhibit lower levels of turnover. Share turnover in Ramsay Health Care, for instance, has averaged 40 per cent over this same period, reflecting the significant proportion of issued capital held by the Directors of this company.

Asset turnover in the residential property market is markedly different. According to the Reserve Bank of Australia, average housing stock turnover in Australia has trended at around 5-6 per cent over the period since 1995, measured as the proportion of housing stock being transacted each year. Turnover was highest in 2002, when just more than seven per cent of the total value of housing stock changed hands. Market performance differs between asset type (units tending to transact more frequently than detached dwellings) and between locations (inner metropolitan properties tending to be sold more often than outer suburban or regional metropolitan properties).

This illustration serves to emphasise that a market's performance cannot be gauged simply by the volume of transactions observed. The greater frequency of trade in equity capital markets does not, of itself, imply that this market is any more (or less) efficient or effective than the property market, which has substantially lesser asset turnover.

Inter-valley trade

Inter-valley trade has occurred to a lesser extent than intra-valley trade in the Basin. Notably, inter-valley trade has resulted in a net inflow/outflow of water from certain systems. For example, inter-valley trade resulted in:

- a net inflow into the Murray and net outflow from the Murrumbidgee systems in New South Wales;
- a net inflow into the Kiewa Ovens Murray and a net outflow from the Goulburn Broken Loddon systems in Victoria; and
- a net outflow from the Lower Murray Swamps in South Australia (MDBC, 2005b).

2.4.2. Interstate Trade - MDBC Interstate Trading Pilot Project

On 1 January 1998, the (MDBC) commenced a Pilot Interstate Water Trading Project (the "Pilot Project") to facilitate permanent interstate transfers in parts of the southern MDB.

The Pilot Project facilitated interstate trade by establishing a set of formalised processes which, up until recently, included the application of an 'exchange rate' to account for differences in the specification and characteristics of water access entitlements in New South Wales, Victoria and South Australia.

The latest formal evaluation of the Pilot Project reports that from the commencement of the trial until 31 December 2003, the volume of trade that had been finalised was 22,805 ML (Table 3).⁶

Table 3: Volume of interstate trade in the Pilot Project (Trades finalised as at 31 December 2003)

Origin	Destination			Total ML
	NSW Pilot ML	SA Pilot ML	Vic Pilot ML	
NSW		7,310	345	7,655
SA	100		2,074	2,174
Vic	3,040	9,936		12,976
Total	3,140	17,246	2,419	22,805

Source: Tim Cummins & Associates and Watson, 2005.

The Pilot Project has been characterised by a large number of smaller trades. For example, 106 of the 132 reported trades as at 31 December 2005 were less than 100 ML in size. The largest individual interstate trade was 1,597 ML.

⁶ Tim Cummins & Associates (2005) notes that 162 trades totalling 22,904 ML had been traded as at 31 December 2006. 99ML of which was being processed as at 31 December. Hence, only 22,805 ML is reported in Table 2 (above) as 'finalised' trade.

2.5. Trading arrangements in Australia's water markets

In Australia, formalised water trading is relatively novel, although informally, water has been traded for decades. The extent and rate at which such markets have developed and trading has occurred in recent years partially reflects the effectiveness and efficiency of the existing frameworks in each State and Territory which support trade.

There are some differences in the approaches that States and Territories have adopted to meet the requirements of the 1994 COAG strategic framework for reform and the subsequent NWI, although there are also commonalities in approaches to market design.

Complex frameworks have been introduced to facilitate water trading in some States, particularly those responsible for managing water in the MDB. In comparison, current administrative frameworks and planning processes that support trade in the Northern Territory and the Australian Capital Territory are not as extensive, partly reflecting an apparent lack of demand for trade.

Frameworks that facilitate the development of water markets and trade are evolving in a manner broadly consistent with the principles of NWI. Many of these frameworks have been substantially modified over the past few years, and reforms continue to be fine-tuned in some jurisdictions.

Under the NWI, State and Territory Governments agreed to develop markets and trading arrangements to:

- facilitate the operation of efficient water markets and opportunities for trading, within and between States and Territories, where water systems are physically shared or hydrologic connections and water supply considerations will permit water trading;
- minimise transaction costs on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions;
- enable the appropriate mix of water products to develop;
- recognise and protect the needs of the environment; and
- provide appropriate protection of third party interests.

There are however, some remaining differences in the frameworks developed in each jurisdiction. These differences relate to:

- water access entitlement and allocation specification;
- trading rules; and
- water access entitlement registries.

Appendix A provides a more detailed commentary on water trading arrangements in each State and Territory, and the Murray Darling Basin Commission's (MDBC) Interstate Trading Pilot Project.

2.5.1. Entitlement specification

Ensuring water entitlements are correctly and completely specified is a key element for the effective function of water markets. Signatories to the NWI have mostly introduced the appropriate legislative and policy frameworks to ensure water access entitlement and allocation frameworks reflect the key principles outlined NWI, including that:

- water access entitlements are separate from land;
- a water access entitlements will:
 - specify the essential characteristics of the water product;
 - be exclusive;
 - able to be traded;
 - able to be subdivided or amalgamated;
 - be mortgageable;
 - be enforceable and enforced; and
 - be recorded in a publicly-accessible reliable water register; and
- the allocation of water to a water access entitlement is to be consistent with a water plan.

Reflecting the principles of the NWI, water access entitlements in most States and Territories are defined as a share of a consumptive pool of a specified water resource. A water allocation is the volume of water made available under a water access entitlement.

States and Territories have adopted differing terminologies in their legislative and policy frameworks that describe this framework. For instance, in most States a water access entitlement is termed a 'licence', whereas in Queensland it is called an 'allocation'. In some States reliability is referred to as *security*, as in high security entitlements, while in others, such entitlements are referred to as *high priority* entitlements.

For clarity, throughout this report we have sought to use only the terms 'water access entitlement' and 'water allocation', consistent with the NWI definitions, unless referring specifically to a particular State's own arrangements and terminology.

Although there are similarities between the water access entitlement and allocation frameworks in each jurisdiction, no doubt reflecting States and Territories' obligations to comply with the NWI, there are notable differences in the specific approaches adopted by each jurisdiction. These may adversely impact on the efficiency of interstate trade, although product diversity may also be a desirable characteristic.

Some States have signalled their intention to, or have, unbundled the 'delivery capacity' from the 'resource share' component of water access entitlements. However, in at least one State, there is still no separation between the water access entitlement and water allocation. In other jurisdictions, links between water access entitlements and land ownership also remain.

States and Territories have developed unique types of entitlement 'products'. For example in New South Wales, 'high' and 'general' reliability water access entitlements are available on regulated rivers. High reliability water access entitlements have prior claim to the volume of water available in a particular year over general reliability water access entitlements. In comparison in South Australia, all water access entitlements are high reliability. These differences in product specification must be considered in designing entitlement frameworks and frameworks to facilitate interstate trade.

2.5.2. Trading rules

Rules that govern trade in water access entitlements and allocations vary between States and Territories. Most rules are broadly consistent with intent of Schedule G of the NWI, *Principles for Trading Rules*, which require that:

- water access entitlements may be traded either permanently, through lease arrangements or through other trading options;
- all trades should be recorded on a water register;

- restrictions on extraction, diversion or use of water resulting from a trade can only be used to manage:
 - environmental impacts;
 - hydrological, water quality and hydro-geological impacts;
 - delivery constraints;
 - impacts on geographical features (such as river and aquifer integrity); and
 - features on major indigenous, cultural heritage or spiritual significance;
- trade may be refused on the basis that it is inconsistent with the relevant water plan;
- trades must not generally result in the sustainable yield being exceeded; and
- where necessary, water authorities will facilitate trade by specifying trading zones and providing related information such as exchange rates to be applied on trades.

In some instances, however, rather broad trading rules have been applied and which may have the effect of constraining otherwise beneficial trading opportunities.

Trade is generally only permitted where government has completed the appropriate water planning and management processes for an area. For example, in Queensland, trading is permitted in areas where Water Resource Plans and Resource Operations Plans have been completed. Likewise in New South Wales, a Water Sharing Plan must be declared before trade may occur. These planning processes essentially allow for the initialisation of consumptive entitlements, and set the overall dimensions for the market.

The extent to which explicit approval is required from government to trade depends on the perceived impact (eg, whether the transfer has the potential to adversely impact on environmental outcomes). Most commonly, approvals involve assessing the trade against a set of criteria determined as part of water resource management planning processes. In some States more detailed approval processes may be required, such as in South Australia, where permanent trades may require hydro-geological assessments.

States and Territories impose generic rules on trade and specific rules that relate to the characteristics of each particular system, based on the outcomes of the relevant water management and planning processes. Rules often include restrictions on trade:

- between unregulated and regulated streams;
- where there are delivery capacity constraints in the system;
- downstream, where trade may exacerbate congestion at in-river choke points;
- upstream, outside of certain trading zones, to account for the impact of tributary inflows and the fewer physical supply sources able to contribute to meeting demand at upstream locations;
- between management areas for administrative, environmental and hydrological reasons; and
- that may adversely impact on the environment, for example, in areas of high salinity.

The extent to which non-landholders are permitted to trade also differs between States and Territories. In Western Australia only a person who owns, occupies or has access to that land where there is water can hold a water access entitlement and trade water. In contrast, non-landholders are permitted to hold a Queensland water access entitlement and trade that entitlement.

Generally, all States and Territories recognise riparian rights to water for stock and domestic use. Riparian rights such as these are generally not tradeable.

Fees are levied by governments to recover administrative and other costs incurred in assessing and processing trades. Fees for permanent transfers are usually greater than for temporary transfers, reflecting the additional processes required. Fees levied by governments range from around \$50 to \$500 per application. Entitlement registry fees are also generally levied on each trade.

A major difference between trading rules between jurisdictions are those that relate to trade within and external to irrigation districts. Irrigation companies, cooperatives and trusts impose trading rules on users' water 'entitlements' within these schemes. These rules reflect the specific characteristics of the district, type of infrastructure provided and the form of body corporate.

Rules that govern trade within and external to irrigation districts differ to those for statutory water entitlement holders that are located in-river. In irrigation districts, transfers:

- may not be permitted where the volume of water traded out of the district exceeds a stated limit (eg, four per cent per district);
- that result in water permanently leaving the district may attract an exit fee;
- of a temporary nature may attract an annual fee payable to the irrigation company, corporation or trust from which the 'entitlement' is traded (ie, under a 'retail tagging' arrangement);
- may be permitted only for a minimum term; and
- may require the approval of the company, corporation or trust subject to the availability of capacity within delivery channels to accommodate the transfer.

2.5.3. Entitlement registries and accounting frameworks

States and Territories, under paragraph 59 of the NWI, are obliged to have compatible, publicly-accessible and reliable water registers of all water access entitlements and trades, on a whole of basin or catchment basis. Schedule F to the Agreement provides the guidelines for the development of water registries.

Schedule F states that Parties to the Agreement will develop water registries that:

- contain records of all water access entitlements in that jurisdiction, and trades of those entitlements including their location;
- are of sufficient standard to achieve the characteristics of secure water access entitlements contained in the NWI;
- include protocols for the protection of third party interests;
- are publicly accessible, preferably over the internet; and
- enable resource managers to monitor and accumulate trade and water use volumes accrued under water entitlements in a separate water accounting system.

Although the NWI requires these outcomes to be achieved by the end of 2006, the States and Territories are at different stages of meeting their obligations under the Agreement. For example, not all registries currently record third party interests in a water access entitlement, nor are they accessible over the internet.

In some irrigation schemes, irrigator's water 'entitlements' do not have statutory basis, rather the irrigator holds shares in an infrastructure company which in turn is the holder of the statutory water access entitlement. This occurs in some schemes in New South Wales and South Australia. Only the irrigation company's 'bulk' entitlement is recorded on the register in this instance.

Distinct to the information and operational requirements for entitlement registries are water accounting frameworks. These maintain the balance of each entitlement holders' water allocation account, and are the mechanism through which changes to this allocation volume – including from temporary trade increases in announced allocations, or usage – are tracked and recorded.

The capability of current water accounting systems to accurately reflect recent water use and allocation transfers across jurisdictions is varied. However, this type of information is required by water managers to effectively manage water systems, and for the market generally to function effectively. Therefore, achieving a robust water accounting framework is of paramount importance to support the development of water trading markets in Australia.

Table 4 (below) provides a summary of the trading frameworks in each State and Territory. Further details on trading arrangements in each jurisdiction are provided at Appendix A.

**Table 4: Comparison of water trading frameworks, States and Territories
(Excludes arrangements in irrigation districts)**

	New South Wales	Victoria	South Australia	Queensland	Tasmania	Northern Territory	Western Australia	Australian Capital Territory
Legislative framework								
Key Legislation	<ul style="list-style-type: none"> Water Management Act 2000 Water Act 1912 	<ul style="list-style-type: none"> Water Act 1989 Water Resource Management Act 2005 	Natural Resources Management Act 2004	Water Act 2000	Water Management Act 1999	Water Act 1992	Rights in Water and Irrigation Act 1914	Water Resources Act 1998 (under review)
Legislation / policy supports water trading:								
<ul style="list-style-type: none"> Intrastate/ territory Interstate / territory 	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ n/a	✓ ✓	✓ ✓	✓ ✓ (administrative arrangements have not be established to facilitate trade given a lack in demand)
Regulatory planning process to be completed prior to trade	Water Sharing Plan	Stream Flow Management Plan for unregulated rivers	Water Allocation Plan	Water Resource Plan and Resource Operations Plan	Water Management Plan	Water Allocation Plans	Water Management Plan	ACT's Water Management Plan
Trading permitted in regulated / supplemented schemes & unregulated / unsupplemented schemes	Generally regulated systems only	Regulated and unregulated systems (subject to restrictions)	Regulated and unregulated	Supplemented & unsupplemented systems	Regulated and unregulated	Regulated and unregulated	Regulated and unregulated	Rules are yet to be developed
Entitlement to water separate to land	✓	✓ (from 1 July 2007)	✓	✓	✓	✓	✓	✓

	New South Wales	Victoria	South Australia	Queensland	Tasmania	Northern Territory	Western Australia	Australian Capital Territory
Surface water access entitlement / allocation specification	<p>Water access licence: <u>Share component</u> Holder has a right to a specified share available within an area <u>Extraction component</u> Right to take water at specified times at specified rates of in specified circumstances, or any combination of the above. (no new licences now granted – except ‘zero share licence’ and ‘specific purpose licences’)</p>	<p><u>Water right</u>: An entitlement that provides an authority to use water for irrigation on a property within an irrigation district. <u>Diversion licence</u>: Entitlement that provides authority to take water from a river or stream and use it for irrigation or specified purpose. <u>Water allocation</u>: In relation to a water-right or regulated diversion licence is the amount of water allocated to the water entitlement.</p> <p>From 1/7/2007 <u>Water-use licence</u>: an authority to use water for irrigation on a property. <u>Water share</u>: share of water available for consumption. <u>Delivery share</u>: entitlement to have water delivered to a property.</p>	<p><u>Water licence</u>: Authorises use of water allocation endorsed on the licence <u>Water (holding) allocation</u>: A share of the volume for a licence allocation in a management area <u>Water (taking) allocation</u>: The quantity of water that the licensee is entitled to take and use from a specified water resource within a particular management area, subject to the conditions of the licence.</p>	<p><u>Water licence</u>: An authority to take water that is attached to the land <u>Water allocation</u>: An authority to take water, that is not attached to land, specified as a share of the available resource <u>Interim water allocation</u>: An authority to take supplemented water where a Resource Operations Plan has not been completed</p>	<p><u>Water extraction licence</u>: Specifies site and use conditions relating to allocation <u>Allocation</u>: Specified in volumetric terms as a daily limit that may be used</p>	<p><u>Water licence</u>: Required to take water from any waterway for uses other than stock and domestic purposes. <u>Water allocation</u>: Specified in volumetric terms in terms as the monthly or annual limit that may be used</p>	<p><u>Water licence</u>: required to extract water (except for domestic use and for watering cattle or other stock)</p>	<p><u>Water extraction licence</u>: specifies site and use conditions relating to allocation <u>Allocation</u>: specified in volumetric terms</p>

	New South Wales	Victoria	South Australia	Queensland	Tasmania	Northern Territory	Western Australia	Australian Capital Territory
Licence required to extract water for commercial purposes	<p>✓</p> <p>Licence required to extract water for 'commercial purposes'</p> <p>Not required for 'stock and domestic use' / uses under Native Title Legislation</p>	<p>✓</p> <p>Licence required for uses other than domestic and stock</p>	<p>✓</p> <p>Licence required to take water in 'prescribed resources'</p> <p>Not required for 'domestic and stock' use</p>	<p>✓</p> <p>Licence required for uses other than domestic and stock</p>	<p>✓</p> <p>Licence required for uses other than for some 'stock and domestic use'</p>	<p>✓</p> <p>Licence required for uses other than 'stock and domestic use'</p>	<p>✓</p> <p>Licence required for uses other than 'stock and domestic use'</p>	<p>✓</p> <p>Licence required for uses other than domestic, stock and irrigating a garden for domestic use</p>
'Delivery' right separate from resource share component in legislation	<p>✓</p>	<p>x</p> <p>✓ from July 2007</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>	<p>x</p>
Allocations metered	<p>All licences on regulated rivers</p>	<p>Mostly in regulated systems. Proposed to meter all significant groundwater and unregulated users</p>	<p>All water (taking) licences by June 2006.</p>	<p>Progressively introducing meters. All supplemented entitlements are metered.</p>	<p>Meters are progressively being introduced</p>	<p>✓</p>	<p>Meters are progressively being introduced</p>	<p>x</p>

	New South Wales	Victoria	South Australia	Queensland	Tasmania	Northern Territory	Western Australia	Australian Capital Territory
Types of entitlements that cannot be traded	<ul style="list-style-type: none"> Riparian rights (stock and domestic use) Rights to groundwater 	<ul style="list-style-type: none"> Riparian rights: (stock and domestic use) 'Sales' water: cannot be traded permanently, but can be traded temporarily 	<ul style="list-style-type: none"> Riparian rights (stock and domestic use) 	<ul style="list-style-type: none"> Riparian rights (stock and domestic use) Water licences generally cannot be traded without land 	<p>Rights to take water under Part 5 of the <i>Water Management Act</i>.</p> <ul style="list-style-type: none"> Riparian rights to take water for specified purposes Rights to take dispersed surface water Groundwater 	Groundwater trade confined to within-aquifer transactions	<ul style="list-style-type: none"> Licenses entitlements that have not been used (ie, sleeper entitlements) Entitlements not clearly specified by volume Riparian right allocations, normal stock & domestic supplies and environmental water provisions Return flows as part of allocation not available for trade 	Existing licence holders, taking water prior to 1 May 1998 may have non-tradeable allocations
Requirement to be a landholder to hold entitlement / allocation	x	✓	x (not required to own land, however it is the licence holder's responsibility to provide for the use of the water on the land)	x (anyone can own a water allocation, but interim water allocations and water licences must generally be owned by a landholder)	x (in practice, most are landholders)	✓ Licence assessed on potential use of the water usually related to land activities	✓ (however, local by-laws can be developed to allow non-landholders to own a licence)	✓

	New South Wales	Victoria	South Australia	Queensland	Tasmania	Northern Territory	Western Australia	Australian Capital Territory
Water trading								
Types of permanent trades	Transfer of Water Access Licence Assign share component Assign water allocation (sale does not affect future allocations)	Transfer of licence Transfer of water right	Trade of all or part of water entitlement issued under licence	Water allocations Interim water allocations	Trade of all or part of water entitlement issued under licence	Trade of all or part of water entitlement issued under licence	Trade of all or part of water entitlement issued under licence	Trade of all or part of entitlement to water issued under a licence
Types of temporary trades	Term transfer of water access licence (ownership does not change) Assign water allocation (sale does not affect future allocations)	Transfer of licence in unregulated systems Transfer of allocation in regulated systems	Lease all or part of water entitlement issued under licence	Lease of water allocations Seasonal water assignments (SWA)	"Limited period" transfers of all or part of licence or allocation Temporary transfer permitted without licence in emergency situations	Trade of all or part of water entitlement issued under licence	Trade of all or part of water entitlement issued under licence Temporary trades cannot be on-traded to a third party	Trade of all or part of water entitlement issued under licence
Minimum period for temporary transfer	6 months	No minimum period	1 year	6 months (no minimum period for leases)	No minimum period	No trades to date	Generally 1 year	n/a
Government approval for trade required	✓ Other than for ownership or term transfer of water access licence	✓	✓ Environmental approvals required	✓ Other than for the transfer of ownership of an entitlement.	✓ Ministerial approval required	✓	✓ Applications to transfer licences and allocations	✓ Environmental assessment

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Intrastate trading • permitted • occurred	✓ ✓	✓ ✓	✓ ✓	✓ (permanent & SWA) ✓ (permanent & SWA)	✓ limited	✓ ✓ Trade only permitted within Water Control Districts.	✓ ✓ Trade permitted within Water Resource Management Unit	x No framework developed to enable trade
Interstate trading • permitted • occurred	✓ ✓	✓ ✓	✓ ✓	✓ ✓ (interstate SWAs are permitted & have occurred)	n/a n/a	✓ x	✓ x	✓ x (Although trade permitted no administrative frameworks have been developed)
State / Territory administration fees	Convert category \$60 Assign share component \$250 Interstate transfer \$250 Assign water allocation \$25 + 1 per ML up to maximum of 75ML	Permanent transfer where right remains in same district \$275 Temporary transfer: eg \$65 (Goulburn-Murray Water)	Transfers that require a formal site assessment \$500 Where no site assessment is required, including transfers into holding allocations \$300 Convert from holding to taking licence where a site assessment is required \$300	Application to transfer interim water allocation \$246.10 Application to change a water allocation \$83.90 Registration of transfer or change \$108.30	Application for temporary transfer of water allocation by person who does not hold a licence around \$100. Transfer upstream between trading zones around \$200.	Fee policy yet to be developed. Currently, no specific fees on trade.	Application for approval of a transfer of a licence or water entitlement \$200 Application to register a security interest \$70	n/a No administrative arrangements have been developed

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Stamp duty payable on permanent transfer	Duty applies	No duty applied	Transfer < 5years duty not chargeable > 5years dutiable	Duty applies	No duty currently paid State Revenue Office yet to make a determination	Dutiable where transfer is accompanied by the transfer of a dutiable asset (eg, land). Not dutiable otherwise.	Not dutiable	n/a