DEALING IN THE PROPERTY OF WATER IN QUEENSLAND: REGULATING AN EMERGING WATER MARKET AND COMPARISONS WITH THE REGIMES IN NEW SOUTH WALES, VICTORIA AND SOUTH AUSTRALIA

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The market in water must operate within the National Strategy[2] and be regulated by government. The process of reform creates a statutory structure that integrates economic, social and environmental outcomes by establishing interrelated market, regulatory and planning mechanisms. A market is one of a number of instruments for managing water resources in a sustainable fashion and it is inevitable that freedom of choice is limited by the requirements for sustainability. The legal structure for the market requires four fundamental principles; simplicity; transparency; stability; and predictability. [3] The challenge is for the legal statutory framework to deliver these.

An efficient, well functioning water market can reveal the value of water to existing and potential users. Water trade creates incentives for users to seek improved technical productivity, innovate and improve water use efficiency. This leads to more productive and efficient use of water resources over time.[4]

The water market in Australia is not a homogenous, but disparate and constrained within States, catchments and even to zones within those catchments. As these markets emerge participants seek transparency and certainty from the arrangements that comprise access rights, operational rights and trading rights which together create a framework within which commercially sustainable decisions can be made. "It is only when all these elements coalesce that the commercial value of the asset to be marketed can be determined."[5]

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[2] Council of Australian Governments (COAG), National Strategy for Ecologically Sustainable Development, 1992
[3] Fisher D E, *Markets, water rights and sustainable development*, Lawbook Co., (2006) 23 EPLJ 100
[4] National Water Commission, 2005 NCP Assessment follow-up assessment of water reform progress, p 1.2, 2006
[5] Fisher D E, *Markets, water rights and sustainable development*, supra at 108

Introduction[6]

Land and water share important ecological roles. While both are natural resources with significant economic and environmental value, water is a fundamentally different resource to land in several important ways:

- it is a mobile 'common pool' resource which cannot be easily or practically contained within fixed boundaries;
- existing infrastructure, or the lack thereof, may constrain the delivery and thus constrain water trading;
- it is variable in nature - the size of the water resource will vary according to climatic variables, land use practices in the catchment areas, and the nature and extent of the water use of others; and
- water is more divisible - the water resource can be broken up more easily than land, across both time and space.

Property rights in water

The law in relation to water resources in Australia reflects the evolution of law over centuries. Under English common law (in turn derived from Roman law), water was recognised as *publici juris*—a public *right*, but not public *property*.[7] The 'Riparian Doctrine' evolved to give common law rights to owners of land bordering a water body to use the water if the use did not interfere with its use by other riparian landholders.

Legislation enacted throughout Australia at the end of the 19th Century limited this doctrine, stating that the rights to use water were granted by the Crown, in the form of statutory licences and permits to take water. These were merely entitlements under statute, for a limited purpose (such as irrigation), rather than property rights in the river or the water.

These statutory rights to water provided limited security and were not divisible or transferable, in contrast to the near absolute ownership of land which was possible. Accordingly, the ability to transfer water from one use and user to another was heavily constrained until recent years. In general, access to water use entitlements in relation to irrigation, stock and domestic use were tied specifically to ownership of the land, while rights to use water for urban, commercial and industrial purposes were controlled by regulated utility planning processes.

[6] This paper is based on, and updates, my article "The Law, the rules and mechanisms to consider when dealing in the property right of water: Comparing the regulation of an emerging water market in Queensland with New South Wales, Victoria and South Australia" (2007) 14 *Australian Property Law Journal* 259. I would like to acknowledge the assistance of Mr. Eden Bird, BA (*Qld*), in the preparation of both that article and the present paper.

[7] See D E Fisher, "Rights of property in water: confusion or clarity" (2004) 21 *Environment and Planning Law Journal* 200 at 201-4. Professor Fisher uses the synonymous Latin construction *ius publicium*.

Dr Jennifer McKay of the University of South Australia notes that this system led to allocation on a state-by-state basis without regard to the many rivers crossing state boundaries, with the result that water was *"massively over-allocated"*.[8]

The resulting National Strategy (the National Water Initiative), the product of a 1994 Council of Australian Governments (**CoAG**) meeting, sought to introduce perpetual water access entitlements, in contrast to the previous regime of ad-hoc and variable licences. These entitlements were to have a similar status to freehold land, and like land, could be traded and encumbered. A simple way to describe this is 'unbundling'. That is, the water right (a licence) is separated from, or unbundled from the land title, and given its own title.

The Initiative seeks to ensure the best use of water by the introduction of market principles; to this end, the creation of trading rules, registration systems, and reporting and accounting mechanisms are central pillars of the regulatory environment. In these regards, the legislative objectives in relation to water resemble those in relation to land titles. A further dimension is reflected in the administrative environmental concerns involved in water allocations—both in terms of conserving an increasingly scarce resource which is vital to the existence of cities and towns across Australia, and ensuring the health of the ecosystems associated with rivers and catchment areas. Clearly, then, the legislative scheme must draw on legal principles associated with property, commercial and competition law, but also take local government, planning and environment law into account.

To sustain a viable market an important consideration is the requirement for security for entitlement holders, balanced against modification or attenuation via regulation to support sustainability of water to the environment. Additionally, the Queensland titling and registration system is intended to provide certainty and security of the "property right". An owner has the choice of the leasing of, or reconfiguration or resubdivision, of the "property right" of water.

While the theory behind the Initiative suggests water trading can and ought to occur on an interstate basis, in practical terms, trading is currently occurring mostly within catchment areas.

Water markets

The trading in water involves two separate markets. The first is that of bulk water collectors and distributors (**bulk providers**): State/Territory and local governments and their instrumentalities and statutory bodies. For the purposes of this paper this is termed the **bulk market**.

In Queensland the major bulk providers are SunWater and SEQWater, both government-owned corporations. SunWater owns and operates a regional network of water supply infrastructure which supports irrigated agriculture, mining, power generation, industrial and

[8] "Overcoming legal obstacles associated with property rights and registration to implement successful water resources planning regimes" (4th Australasian Water Law and Policy Conference, Sydney, October 2002) <http:// business.unisa.edu.au/commerce/waterpolicylaw/ documents/IRRpaper.pdf >.

urban development. SunWater supplies approximately 40% of the water used commercially in Queensland through 27 water supply schemes. SunWater owns and operates major infrastructure, including 26 major dams, 85 weirs and barrages, 72 major pumping stations and more than 2500 kilometres of pipelines and open channels. SunWater is a major supplier through the water supply schemes to irrigators, while SEQWater,[9] which owns the Wivenhoe, Somerset and North Pine dams, is the major provider of untreated water to industry and local governments.

The second market is what will be termed the **private market**, consisting of persons with either a right to pump a water entitlement from available sources (rivers, creeks and aquifers), or an entitlement from the water providers (dams and irrigation systems). There are a number of types of water entitlements.

This private market trades in water entitlements, including water allocations in Queensland, stemming from the unbundling of water rights from the land. This new proprietary right, placed in the hands of existing landholders with a prior licence, is now able to be bought, sold and leased by individuals other than landholders. In Queensland water allocations specifying entitlements are separated from site-use licenses and from contracts with suppliers for delivery.

For the market to operate governments must recognise private interests and private rights; yet regulate those interests and rights by government intervention. They must create a framework for a structure to control those interests and rights,[10] yet leave sufficient *laissez-faire* in the hands of members of the community to encourage them to participate in it.

Equally pricing must be market-based: [11]

> *Water should be treated as a commodity [which] has been grossly under priced: it is not even recovering the infrastructure costs of provision, let alone addressing the issue of a scarcity [...] Pricing water service has several purposes, it rations demand, signals the value of a new water supply, and resources are directed to where they are most valuable. Prices should signal the cost of the next unit of a resource and should include a full environmental cost (for example, the pollution effects of a desalination plant).*

The stated objective for the interconnectivity and trading of water in the South East Queensland is for full cost recovery of supply.[12]

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[9] The trading name of the South East Queensland Water Corporation Ltd, a public company owned by the Queensland Government (20%), Brisbane City Council (45%), and eleven other Local Governments in south east Queensland (35%). SEQWater took over the business of the South East Queensland Water Board in 2000.

[10] Fisher, supra n 3.

[11] E Morton, "Pricing Water More Effectively, Governing Water in South East Queensland" (Report on a Seminar hosted by the Brisbane Institute, 18 October 2005).

[12] Water Amendment Bill 2006 (Qld), Explanatory Notes, 10.

The legislative regime—Queensland

In Queensland, the *Water Act 2000* is the legislation implementing the water reform framework.

The purpose under s 10(1) of the *Water Act 2000* (Qld) ("*Water Act*") is to wed sustainable management and efficient use of water by establishing a system for the planning, allocation and use of water. Sustainable management[13] relates that the economic development of Queensland shall accord with the principles of ecologically sustainable development.[14]

The Act at present is designed to manage three types of water resources (supplemented, unsupplemented and overland flow), but provision is in the Act to add a fourth, groundwater. [15]

Existing water entitlements were converted to a new tradable right called a water allocation. These rights are separate from the legal rights in terms of the land from which the water is to be drawn.

The Act states that a person must not without authorisation take, supply or interfere with water. An authorisation may be a water allocation, a water licence, a water permit or a resource operations licence.

A **water licence** authorises the holder to take water and interfere with the flow of water; and a **water permit** authorises the taking of water for an activity. These rights resemble the old forms of water entitlements.

By contrast, a **water allocation** creates a more permanent right, fixing a nominal volume, a location from which the water may be taken, and the purpose(s) for which it may be taken. Water allocations are of indefinite tenure[16], tradeable, volumetric, fully separated from land and from use permits, and liable for compensation if they are changed during the life of a plan. In the meantime, Interim Water Allocations have been issued, which are also volumetric and, in some schemes, are tradeable, but attach to land (except for those held by a supply authority).

The nominal volume is the number used to calculate the allocation share of the water available. A **resource operations licence** authorises the operation of water infrastructure and the management of water as a bulk provider.

Converting the old forms of rights into a new title is essentially a four step process:

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[13] *Water Act 2000* (Qld) s 10(2)(c)(ii).
[14] *Water Act 2000* (Qld) s 11.
[15] *Water Act* 2000 (Qld) refers to ground water as underground water. Underground water means artesian or sub artesian water (Schedule 4 definitions).
[16] Compensation is payable in only one set of circumstances, if a change reduces the value of the allocation, and the change is made within 10 years after the water resource plan is approved-*Water Act 2000* (Qld) s 986

1. Analysis of catchment area, to determine how much water may be sustainably taken;
2. Creation of a water resource plan, involving expert environmental management advice, and stakeholder and public consultation;
3. Creation of a resource operations plan, to implement the water resource plan;
4. Issuing of water allocations, permits etc to water users.

Buyers and lessees of water allocations and buyers of interim water allocations require a land and water management plan approved by the Department of Natural Resources Mines and Water before irrigating land using water taken under the allocation. An exception exists when a water allocation is purchased with land as a 'going concern' provided the seller does not already need to operate under a land and water management plan.[17]

A distinction is drawn between a right to a share of a water resource, a right to extract the water, a right to use it and a right to engage in operations by which these rights become effective in practice. Exercise of these rights is governed by a series of rules in the resource operations plan. The water sharing rules are specific for each supply system or a zone within a catchment. As an example in the Fitzroy Basin Resource Operation Plan the water sharing rules give the allocation a priority grouping. "Protection of water users' interests is through specifying a water allocation security objective which relates to how often a user may expect to receive all of the resource allocated. The term is defined as 'an objective that may be expressed as a performance indicator and is stated in a water resource plan for the protection of the probability of being able to obtain water in accordance with a water allocation'."[18] In the Fitzroy Basin Resource Operations Plan the priority grouping for supplemented water allocation supplied in the Dawson Valley Water Supply Scheme is high priority, medium A, and medium.[19] The high priority indicates a 100% expectation, and medium an 80% expectation.

At the bulk level, SunWater now holds interim resource operations licences (defining relevant infrastructure, operating and water sharing rules, and reporting requirements) and interim water allocations (entitlements to water after allocations to customers and to cover distribution losses) – both of which will no longer be interim after finalisation of resource operations plans.

In some schemes, SunWater holds interim water allocations that have not yet been allocated, and which can be sold to new or existing customers. Significantly, for supplemented users, the relationship between the owner of the water allocation and the headworks or system operator is governed by contracts.

A variety of licences currently exist in relation to unregulated (known in Queensland as unsupplemented) rivers and streams.

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[17] Queensland Government, Department of Natural Resources, Mines and Water, *Water trading - An overview of Queensland water markets* (January 2006).
[18] P Tan*, Legislating for Adequate Public Participation in Allocating Water in Australia* (2006) 30(1) *Water International* 12, 15.
[19] Fitzroy Basin Resource Operations Plan, Attachment 4.1 F-Dawson Valley Water Supply Scheme Water sharing rules, 123.

Irrigation licences, which are currently mostly area-based, are to be converted under resource operations plans processes to volumetric water allocations.

Water harvesting licences that currently allow holders to harvest water based on flow conditions are also to be converted to volumetric limits. Licences are also required for stock and domestic use of water that is taken other than by riparian right. Again, for all unsupplemented users, works approval are separated from entitlement to water. Various types of groundwater licences (which attach to land and usually specify a volume for high users) are required in respect of sub-artesian and artesian sources that have been 'declared'. Entitlements to take overland flows will be required in declared areas.

Statutory bodies—Queensland

In 2006, an Amendment Act created the Queensland Water Commission, which took over responsibility for water policy and planning in the South-East Queensland Regional Plan Area, and has authority to enforce a system operating plan on all the local governments within its jurisdiction.[20] Significantly, under this scheme, local councils are able to treat their allocations of water as tradeable assets.

It is worth noting that, under the amalgamation of local councils effected by the *Local Government Reform Implementation Act 2007*, the water allocations of those councils were presumably also consolidated (the legislation does not specifically refer to this, however the Explanatory Memorandum notes that the Department of Natural Resources and Water was amongst those consulted). In theory, the ability to distribute the larger pool of allocations around the larger local government areas gives the new governments a higher degree of flexibility and efficiency; this may be expected to lead to larger surpluses which can then be traded. However, the combined allocations are subject to compulsory transfer to the Water Grid Manager, as described below.

In July 2006 the Water Infrastructure Project Board was established by what is now the *State Development and Public Works Organisation (Water Infrastructure Project Board) Regulation 2006*. The Board is responsible for developing and implementing four drought contingency projects: the Southern Regional Water Pipeline, the Western Corridor Recycled Water Scheme, the Tugun Desalination Plant, and Regional Water Inter-Connectors.

In August 2006 the gazettal of the *Water Amendment Regulation (No 6) of 2006* committed the state and local governments to a *Water Plan* with timeframes for delivery of projects to deliver water to the South East corner of Queensland from September 2006 until 2011 viz:

- The Western Corridor Recycled Water Scheme, and use generally of recycled water by industrial and commercial consumers;
- Retrofitting 150,000 residential homes with water-saving devices under the 'SEQ Home WaterWise Service' retrofit program;

[20] *Water Amendment Act 2006*, s 9, inserting chapter 2A into the *Water Act*.

- Accessing groundwater and aquifers in Bribie Island and in and around Brisbane[21];
- The Tugun Desalination Plant, to be constructed by November 2008;
- The Southern Regional Water Pipeline and the Northern and Eastern Pipeline Inter-connector (the 'Water Grid');
- Raising Mt Crosby Weir and Hinze Dam and new dams on the Logan River (Wyaralong) and Mary River (Traveston Crossing)[22]. A study into power station water use efficiency, and new business and industry consumer water use efficiency requirements; and
- The SEQ Regional Water Leakage and Pressure Management Project.

There was no reference in the *Water Plan* of water efficiencies of buying/trading water from rural areas.

Recent reforms—Queensland

In May 2007, the Queensland Water Commission released a final report to the Government on institutional structures, entitled *Our Water—Urban Water Supply Arrangements in South East Queensland*. The Queensland Government has adopted a number of the recommendations of the report in the *South East Queensland Water (Restructuring) Act 2007* (***Restructuring Act***), passed last November.

In particular, centralisation appears to be a common thread: ownership of water sources such as dams, weirs and aquifers is being consolidated into a State-owned Bulk Water Supply Authority; a second bulk Manufactured Water Authority will control the SEQ Desalination Plant and the Western Corridor Recycled Water Project; the Bulk Water Transport Authority will own the infrastructure for that water; and contracts between the bulk authorities and water retailers will be overseen by a single authority known as the SEQ Water Grid Manager.[23] These will all be independent statutory authorities, governed by separate boards, with some scope for ministerial direction (akin to a government-owned corporation).[24] The non-bulk assets such as sewerage pipes and reservoirs will be centralized under a Distribution Entity, which will be owned collectively by the local governments of south-east Queensland, and local government owned water retailers are also to be established—the deadline for both of these reforms is 1 July 2010. By notice in the Queensland Government Gazette No 106 of 30 April 2008 nine local governments transferred certain assets, liabilities, personnel and instruments to the Queensland Bulk Water Supply Authority.

On 30 April 2008, the Hon. Craig Wallace MP, the Queensland Minister for Natural Resources and Water, introduced the *Water Supply (Safety and Reliability) Bill 2008* into

[21] The aquifer under North Stradbroke Island is included

[22] Environmental groups have concern that the Mary River contains the only remaining major spawning ground of the 180 million year old Queensland lungfish, a species of international importance. The Burnett River was the only other major spawning ground for the lungfish however its major lungfish spawning areas were destroyed by Walla Weir and the controversial Paradise Dam.

[23] Established under the *South East Queensland Water (Restructuring) Act 2007* s 6.

[24] *South East Queensland Water (Restructuring) Act* parts 2, 7 and 8.

Parliament. The Bill is lengthy (417 pages) and deals primarily with the quality of water. It may be seen as a response to community concerns about the standard of recycled water intended for drinking. If the Bill passes, a new *Water Supply Act* will be created, incorporating aspects of the present *Water Act*. The Bill's purposes are stated as:

> ***3 Purpose of Act and its achievement***
>
> *(1) The purpose of this Act is to provide for the safety and reliability of water supply.*
> *(2) The purpose is achieved primarily by—*
> *(a) providing for—*
> *(i) a regulatory framework for providing water and sewerage services in the State, including functions and powers of service providers; and*
> *(ii) a regulatory framework for providing recycled water and drinking water quality, primarily for protecting public health; and*
> *(iii) the regulation of referable dams; and*
> *(iv) flood mitigation responsibilities; and*
> *(b) protecting the interests of customers of service providers.*

The Act will formally adopt certain national guidelines which are already being followed, and will establish an Office of the Water Supply Regulator (**the Regulator**) in the Department of Natural Resources and Water. The Regulator will have responsibility for, amongst other things, regulating compliance with drinking water standards set by Queensland Health. The Bill amends the *Public Health Act 2005* and the *Plumbing and Drainage Act 2002* in relation to greywater treatment facilities.[25]

The Bill also amends the *Water Act* and the *Restructuring Act* to create the regulatory framework for the scheme which the latter Act creates. In particular, provisions governing the operation of the water grid and the water market are inserted. Water services which contribute to security of supply may be 'declared' under the legislation, such services may then be supplied only to the Water Grid Manager, and authorities to take declared water may be transferred to the Water Grid Manager. The responsible Minister may create rules for the trading of water in the Queensland market, and imposing contracts between the Water Grid Manager and market participants.[26]

Ownership framework—Queensland

I consider the right by water allocation to take water under the legislation to be a form of 'property right'. All property rights confer three key features: a *management* power, an ability to receive *income* or benefits, and an entitlement to *sell* or alienate the interest. A water allocation separated from the land title meets these criteria, and I consider that describing it as a property interest is accordingly appropriate. However, as Professor Douglas Fisher of the Queensland University of Technology aptly notes, the Queensland legislation does not specify that a water licence or allocation is personal property vested in

[25] Chapter 10, Parts 1 and 2.
[26] Chapter 10, Parts 3 and 4.

the licensee, as is the case in the South Australian legislation.[27] Notwithstanding this, no other state's legislation makes such a stipulation, yet it has been held in the Supreme Court of Victoria that water licences meet the criteria of 'property' for purposes such as stamp duty.[28]

It is clear that water rights do not confer any interest in the land from which the water is drawn, and rights such as the exclusive use, and quiet enjoyment, of the water drawn applies only once the water is brought onto the licensee's own property. In the words of the Queensland Land Court in *Shooter v The Commissioner of Irrigation and Water Supply*[29]:

> *The licence gives no ... right to the water in the water course or stream but only a right to the licensee to water his land from a water course or stream owned by the Crown.*

Any given water right is definable in terms of volume, quality, and reliability. The right gives exclusivity of use, and an ability to divide into numerous parcels or to reassign interest to another party; they may be secured to raise capital; and they exist within an organised marketplace which facilitates transactions, including by way of providing information to buyers and sellers. As a counterweight to this, the chief executive under the *Water Act* may at any time amend a water resource plan, a water use plan or a resource operations plan.[30] The chief executive's obligation is to amend the plans if the environmental flow objectives or the water allocations plan objectives are no longer appropriate or are not being met or if the plan is not adequately addressing the risk to land, the natural ecosystems, and the water supply itself.

Certainty is created by the Torrens title-based type of system for water rights, which is crucial to facilitate trading and investment, which is based on a register.

A water allocation has effect when it is recorded in the register.[31] The register identifies the holder of the right but more importantly the substance of the right. It contains details such as the location and the nominal volume which can be drawn, the purpose for which water may be taken, the priority group to which the allocation belongs, and the flow conditions and volumetric limit. This limit is the maximum volume of water in megalitres (ML) that may be taken in accordance with the rules in a resource operations plan or a water sharing rule in such a plan.[32] A megalitre is roughly the amount of water needed to fill an Olympic swimming pool.

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[27] "Markets, water rights and sustainable development" (2006) 23 *Environment and Planning Law Journal* 100, 105; see *Water Resources Act 1997* (SA) s 29(5).
[28] *Australian Rice Holdings Pty Ltd v Commissioner of State Revenue* [2001] VSC 486 at [27]-[28] (appeal allowed in [2004] VSCA 17, however the reasoning of Harper J at first instance was not specifically displaced); see also in *2 Day FM Australia Pty Ltd v Commissioner of Stamp Duties* (1989) 89 ATC 4840 (NSWSC) and *Banks v Transport Regulation Board (Vic)* (1968) 119 CLR 222.
[29] (1972) QCLLRE 11 at 19.
[30] *Water Act* ss 55(1), 68(1), 105(1).
[31] *Water Act* ss 121(9), 122(7).
[32] *Water Act* s 127.

Any interest or dealing that may be registered for land under the *Land Title Act 1994* (Qld) may be registered for a water allocation in the register.[33] The register may be accessed for the purposes of searching and copying.[34] A water allocation is a defeasible instrument despite its registration, as the Supreme Court may make an order if the water allocation or dealing with it came about in consequence of a false or misleading representation or declaration.[35] This is in contrast to the indefeasible position of land titles under the legislation, where the interests of the registered proprietor are paramount and protected against all prior interests and estates existing in respect of the land.

For the purpose of registering dealings, interest and encumbrances, the *Water Act* makes the treatment of a water allocation in the water allocation register equivalent to a lot in the *Land Title Act*. Common lodgement forms are used, with minor changes having been made to the existing Land Registry forms to accommodate dealings in water allocations. It is possible to lodge a single form to effect a combined land title and a water allocation dealing.

Trading in water—Queensland

In Queensland, three types of water trading are possible: [36]

- Permanent trading of water allocations and interim water allocations.
- Leases of water allocations.
- Seasonal water assignments of water available under a water allocation, interim water allocations and water licences.

Trading is likely to remain relatively constrained pending the finalisation of water resource plans and resource operations plan, in all 23, committed under the National Productivity Commission policy in 2009.

The amount of water being traded is still relatively small. While in 2002-3, seasonal assignments in water supply schemes traded on a temporary basis by SunWater and its customers amounted to some 253,000 ML (twice the previous year's volume), this volume has not since been matched, and in 2006-7, only 163,000 ML was traded.[37] The number of trades occurring have fluctuated between a high of 2462 in 2002-3, to as low as 1495 in 2005-6 (increasing to 2202 in 2006-7).[38]

Dealings in water allocations are those provided for under the *Land Title Act* with some exceptions (eg, an easement cannot be taken over a water allocation). There are two types of dealing: those that require the consent of the resource manager—subdivision, amalgamation, and reconfiguration; and those that do not—transfers and leases.

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[33] *Water Act* s 150(1).
[34] *Water Act* s 153.
[35] *Water Act* s 139.
[36] Queensland Government, Department of Natural Resources and Mines, *Water Trading: an Overview* (June 2003).
[37] *SunWater Annual Report 2006-2007*, <http://www.sunwater.com.au/pdf/about/SunWater_Annual_Report_06-07.pdf>, 19.
[38] Ibid.

There are no restrictions on the transfer of the allocation, though the transferee will be restricted by the terms of the allocation as to how it can be used. Leases are likewise restricted by the allocation's terms, and must be made over the whole allocation, not a part. With the resource manager's consent, a single water allocation may be split into two or more allocations with the same owner; likewise, two or more allocations with the same owner may be amalgamated into a single water allocation. Consent is also required to reconfigure the volume, location, purpose, priority, extraction rate, and flow conditions of the allocation. Where an allocation is subdivided, the subdivided parts may then be separately traded on a permanent or temporary basis (ie, by way of sale and lease respectively).

The resource operation plan details water allocation change rules. If a user seeks a change of a type not contemplated in the plan, the proposed change to the allocation is subject to a public application and review process. Under no circumstances may the reconfiguration or change increase the share of available water allocated to the holder under the allocation.

Resource operations licences and water licences (including interim water allocations) are transferable in certain circumstances; however water permits are not transferable. These instruments are not recorded in a public register but copies must be kept to enable the public at large to inspect them.

A trading trial involving the trading of interim water allocations was undertaken in the Mareeba-Dimbulah scheme and extended to parts of the Nogoa-McKenzie and Mary River schemes. Permanent trading in water allocations has been possible in the Burnett Basin and the Fitzroy Basin following the completion of resource operations' plans. The transactions are still relatively few in number.

More contemporary statistics or trends are available from the monthly newsletter of Herron Todd White Valuers – "The Month in Review". They report the trading of water entitlements as "sales" regularly from their Emerald, Rockhampton and Goondiwindi offices. Herron Todd White comment that whilst there is a well-defined market for supplemented water entitlements in the Nogoa-McKenzie, Dawson and Fitzroy Rivers, which are supply scheme areas, there is no defined market for unsupplemented water.[39]

According to Shaun Hendy,[40] until recently, to enter the irrigation industry in Queensland it was possible to buy an undeveloped property, apply for a license to harvest water and develop the required infrastructure to commence operations. Now, with resources almost fully developed or in some cases overdeveloped, the only options available to enter the

[39] Herron Todd White, *The month in review*, August 2007: "despite the lack of moisture, it appears that irrigation properties do sell. The recent sale of "Campbells" for $5,000,000, 25 km east of Millmerran is a case in point. Consisting of 937 ha, the property was serviced by a combination of Groundwater Entitlement (200 ML), an identified 601 ML per annum under the draft ROP via a combination of water harvesting and Leslie Dam Allocation plus an overland flow component... The underlying land value reflected in the order of $3800/ha with the water "As Developed" equating to $1444/ML which we believe to be generally in line with the market", p 28

[40] AAPI, Grad Dip Ag Ec, Senior Rural Valuer, Herron Todd White Valuers, Goondiwindi, Qld.

industry or expand revolve around buying an established irrigation holding, fully developed or otherwise. This has made entry harder and increased demand for established holdings.

> *With the desire at the individual farm-gate level to expand, more emphasis is going to be placed on water use efficiency as only two other options exist; (a) buying water property rights on the open market when available; or (b) buying an established existing irrigation property.*[41]

The value of water in individual valleys has increased as demand for the available resource has increased. As an example, during the early 1990s, value for allocation water sold by the Queensland government in the Border Rivers system achieved and exceeded $300 per megalitre. Water in NSW in the Gwydir River system was achieving similar rates. The value for the Gwydir River water is now in the $2,500 to $2,800 per megalitre range and values for Queensland properties indicate a strong underlying value of water around $1,500 to $2,200 per megalitre even though transferability is not always yet possible. The area developed in these regions is now much greater and the availability of unutilised water is low.[42]

Therefore, as all catchment resource operation plans are completed, the largely unregulated trading market has the ability to expand rapidly.

Given the infancy of permanent trading in Queensland, water trading mechanisms are still developing. Trading is taking place, however, through private trades and by intermediaries such as solicitors, accountants, estate agents, brokers and a private web-based water exchange. Information on prices, quality and locations has been limited but is improving.

At this stage there is no restriction on who may operate as a water broker, and water brokers are currently not subject to any legal obligations other than the general body of law applying to commercial transactions such as the *Fair Trading Act 1989* (Qld) and the *Trade Practices Act 1974* (Cth). Considering the dynamics of the market, and the anticipated increase in trades to facilitate greater efficiency for water use in a competitive market, the legislators would be advised to consider a framework for supervision and licensing of the brokers.

Security interests

The title to a property right is crucial to the security and enforceability of the underlying property right. If the title does not provide an appropriate degree of certainty, the incentives for efficient trade and investment are undermined. Water will not command its maximum price unless the owner or investor is confident that the right or title to it is secure. Likewise, the incentives for investment will be lessened if there is significant likelihood of future expected returns being expropriated, for instance by the Government.

To address this issue, and allow banks and financiers to preserve their security over the water entitlements once unbundled from the land, the *Water Act* provides for a notice to be given to the Department of Natural Resources by persons with existing interests. This

[41] Ibid.
[42] Hendy, supra n 40

notice can be given after publication of the draft resources operations plan, but it must be received before the conversion to a water allocation occurs. If a notice is given and the interest holder acts to record their interest on the water allocations register within a maximum period of 60 business days after the water allocation is recorded on the register, the interest holder will maintain priority of its interest in accordance with priority rules set out in the *Water Act* .

An interest holder must take action to record a mortgage, for example, over the water allocation, as well as issuing the notice. This procedure gives financiers with an existing registered mortgage over land the opportunity to preserve the priority of the interest in a water allocation that was previously attached to the mortgaged land.

Additional protections are also afforded. For example, a mortgagee's existing interest does not expire with the expiry of the former water licence on conversion to a water allocation, and the lodging of a notice during the period of the draft resource operations plan causes an equivalent interest the mortgagee had in the former water entitlement or other authority to take water to run for a transitional period of 60 business days after the grant of the water allocation.

Legislative scheme—New South Wales, Victoria and South Australia

Regrettably there is not uniform legislation throughout Australia; one consequence of this is that the allocations to be traded are not homogenous commodities, uniform in nature. Tenure of the right varies from state to state. However, each of these other three Murray-Darling Basin (MDB) states' systems have the following in common with Queensland:

- Property rights analogous to water allocations, some with fixed duration and others indefinite;
- A register system for water titles, however these differ in the extent to which they embrace Torrens-type principles;
- The ability to use the title as security, and to record third parties' interests on the register, and;
- The ability to trade both bulk and individual water entitlements, but subject to different regulatory regimes.

The general features of the states' legislation reflects the National Water Initiative, however the implementation varies, and presents a clear obstacle to efficient interstate trading, which still accounts for only a small volume of water transfers.

Appendix A to this paper gives a breakdown of some of the key similarities and differences between the legislative regimes.[43]

[43] Refer to Appendix D., ACCC, *Water market rules issues paper*, April 2008, for a concise explanation of the legislative arrangements of the MDB states.

Legislative scheme—Federal

The *Water Act 2007* (Cth) relates substantially to centralising the management of the Murray-Darling Basin under Federal control. The Murray-Darling system connects waterways in New South Wales, Victoria, South Australia and Queensland. The Act creates a new Murray-Darling Basin Authority, which is an independent expert body reporting to the Minister for the Environment. The 2007 reforms were prompted by the critical state of inflows into the Murray River; the 2006 level was only 40% of the previous all-time low.

Emphasising the importance as a national initiative of this change, the then Minister remarked:

> *For the first time in the Basin's history, one Basin-wide institution will be responsible for planning the Basin's water resources* [in contrast to four State Governments with membership on the prior Commission] *requiring planning decisions to be made in the interests of the Basin as a whole and not along state lines.*

The primary responsibility of the Authority is the preparation of the Basin Plan, which sets caps on groundwater and surface water diversions from the Basin's resources. The Authority's processes are to be transparent, and there are compulsory public consultation processes. One aspect of this is the establishment of the Basin Community Committee, with a number of positions reserved for persons representing water users. The Murray-Darling Basin Commission was to continue in existence, but the then Prime Minister noted at a press conference that it *"will have very few functions in the future"*.

The reason for maintaining two bodies, rather than centralizing control in the Authority had to do with the Victorian Government's decision not to refer power to the Commonwealth for the legislation, except on terms which were not agreed to. The conflict was mostly over how a nationwide cap set by the Authority would affect Victoria. As of 26 March this year, the Victorian Premier has advised that his state will now participate in the Federal scheme, and the memorandum of understanding drafted at the subsequent CoAG meeting notes the governments' intention to integrate the Commission into the Authority, and foreshadows legislative amendments to reallocate the Commission's functions.[44]

The former Minister noted in his Second Reading Speech that the allocation of responsibility between the Commonwealth and the States for reductions in water availability established by the National Water Initiative will remain. These arrangements are codified by the Act. The Commonwealth also commits under the Act not to compulsorily acquire water entitlements (but only to purchase them on the open market).[45]

An overall cap will be created under the Basin Plan, as well as caps for various areas of the plan which will override State caps under section 40 of the Act. It appears that the Federal Water Minister will exercise a great degree of control over this and other aspects of the

[44] See "Murray-Darling Basin Reform - Memorandum of Understanding", Council of Australian Governments' Meeting, 26 March 2008, Attachment A to the Communique, <http://www.coag.gov.au/meetings/260308/docs/attachment_a.pdf>.
[45] Section 255.

Plan through her power under section 44 of the Act to reject a proposed plan and remit it to the Authority with comments for reconsideration.

However, under the CoAG Memorandum of Understanding (**the Understanding**), the participant States will be represented on a Ministerial Council to advise the Authority, chaired by the Commonwealth. If any of the State Ministers disagree with either the overall cap or other 'relevant parts' of the Plan, they are able to refer these matters to the Authority for reappraisal, presumably before the Plan is submitted to the Federal Minister.

The Understanding also creates a new concept of 'critical human water needs' for drinking and household needs, and provides that South Australia, in particular, will have the right to access stored water for these purposes if there is a shortfall.

Another role of the Authority is to determine the compliance of state water planning—such as the resource operations plans in Queensland—with the Basin Plan. However, the Act has a transitional provision whereby existing plans will be honoured for their operative duration. The Understanding does not displace this position, and the States water allocation plans will expire in either 2014 or 2017 in Queensland, New South Wales and South Australia, but not until 2019 in Victoria.[46] Significantly, the States' access to the funds of the $10 billion plan will be contingent upon their achievement of agreed water reform objectives.

The Authority will also report to the Ministerial Council on areas relating to the present work of the Commission—state water shares, River Murray operations, the Living Murray Initiative and natural resource management programs.

Expanded roles for other organizations under the Act, including the Bureau of Meteorology and the Australian Competition and Consumer Commission (**ACCC**) are also either explicitly preserved or left untouched in the Understanding. The ACCC is tasked with developing draft water market rules and water charge rules for consideration by the relevant Minister, and advising the new Authority on water trading rules. The Act also requires the ACCC to monitor compliance with, and enforce, the water market rules and water charge rules[47], to ensure market efficiency and remove barriers to trade.

It is worth noting that no Bill or draft legislation based on the Understanding has been produced to date, and the understanding is expressed as being *"agreed in principle for consultation with stakeholders"*. The next CoAG meeting will be held in Sydney on 3 July 2008.

In April 2008 the ACCC published the *Water market rules issues paper* and invited submissions to assist it in its review. In this paper the ACCC highlights the requirement for the four MDB states to implement statutory compatible registers, a task under the Initiative which those jurisdictions were to have fully implemented by 2006. Also highlighted were other barriers to trade caused by exit and termination fees and other rules and penalties implemented by irrigation supply authorities to discourage water leaving an area, the time

[46] *Water Act 2007* (Cth) s 241.
[47] Part 8 of the Act provides the ACCC with a suite of mechanisms to enforce water market rules and water charge rules

taken to transfer a water entitlement which requires state government and local authorities and on occasions the intermediary/broker to all interact, and ongoing fees for access to the operators water delivery network.

With a view to the CoAG meeting of 3 July 2008 the Chairman Graeme Samuel told the *Australian Financial Review*[48] recently that the ACCC was monitoring whether irrigation companies which impose large fees on farmers to sell their water rights, were erecting barriers to trade, and was critical of the 14 years of delay since the 1994 NWI to achieve putting a real value on water and facilitating open intrastate and interstate trade. One consequence of the Federal government's commitment to apply $3.1 billion to the buyback of water licences to restore the health of the stressed rivers has been some irrigation corporations - including Murray Irrigation Ltd the biggest of the companies providing water to farmers - to impose new fees on their irrigator shareholders who sell their licences and leave the district[49].

The constraints on the market are the barriers on trade inherent due to each state's individual water planning processes to balance sustainability against demand and supply, and the plethora of different trading rules resulting. Waterfind states "there are more than 3,000 water rules that govern the trade of water in Australia, making it one of the most difficult commodities to buy or sell. These rules often change quickly, making it even more complicated for repeat buyers and sellers."[50] The urban rural divide, and the political sensitivity about rural voters, is also a constraint.

Social and economic impact of water trading

A 2007 report prepared for Commonwealth bodies dealing with water examined the impact of water trading on rural communities, and conducted case studies in three areas in the Murray Valley.[51] The report notes that the principal advantage of water trading is the certainty and the flexibility which is created for industries relying on water, and the future planning which it facilitates. As a result, industries such as viticulture have expanded in the areas studied, the wine growers having purchased permanent entitlements to water to secure their supply on an ongoing basis. At the same time, existing industries such as dairy farming benefited from temporary trading in water allocations to manage risk during drought periods. In general, water trading permits agribusinesses to be run along more commercial lines, rather than being subject to the uncertainty of seasonal rainfall and the

[48] Australian Financial Review, *ACCC lashes states over water rights*, 15 May 2008

[49] Ibid

[50] Waterfind, <www.waterfind.com.au> A privately owned broker based in South Australia. Waterfind styles itself as a "stock exchange" for water, and is Australia's leading water broker. It provides to its registered customer base comprising government and instrumentality bulk water providers, independent water brokers, traders, and holders of water entitlements a Water Index online which is a national guide to water pricing and availability. The index updates average prices and volumes on a weekly or monthly basis, with a retrospective guide to the past twelve months, enabling water uses to chart the peaks and troughs in supply, demand and prices. The index is being developed for individual regions and/or catchments.

[51] Frontier Economics et al, *The Economic and Social Impacts of Water Trading: Case studies in the Victorian Murray Valley*, Report for the Rural Industries Research and Development Corporation, National Water Commission and Murray-Darling Basin Commission, September 2007.

inefficiency which this creates.[52] Indeed, the report concludes that *"without permanent trading, there would have been very little large-scale horticultural development in Victoria in the past 10 years"*.[53] Another benefit of the unbundling of water rights from land is that farmers who wish to leave their properties (eg, dairy farmers) are able to sell their land and water entitlements separately to different purchasers if they wish, facilitating the process.

At the same time, a number of negative impacts have been identified, relating in particular to the rapidity of the changes that have occurred. For example, communities have been opposed to water being traded out of a district, and the ostracism of farmers who sell their entitlements has been reported. Likewise, the rapid shifts in types of agriculture that are occurring will continue, with according social upheaval created by the sudden growth or contraction of a particular type of farming. These shifts naturally have flow-on effects in every part of the local economies in which they occur. While these impacts are not limited to the period following the introduction of water trading, and will continue indefinitely, the report aptly notes that such changes were occurring before water trading was introduced, and would have continued to occur, due to droughts and other factors impacting on rural economies, such as commodity prices.[54]

The urban rural divide will have to be bridged. The Initiative calls for urban water reform to "facilitate water trading between and within the urban and rural sectors"[55]. A report of May 2006 by Monash University and the CSIRO highlighted that the ongoing exclusion of rural-urban water trading would significantly affect national economic growth over the next quarter century, because cities would be forced to adopt more costly options for water supply[56]. Currently 67% of water use in Australia is for irrigated agriculture compared with 12% for urban suppliers. Overall then, a 50% increase in water for household and urban commercial activities could be achieved by a 9% reduction in agricultural water[57].

Conclusion

For water to be used at its highest and best use for economic growth and environmental sustainability it must be traded at prices which are market based. At a minimum the interconnectivity and trading of water in the bulk market should aim for full cost recovery of supply.

In the private market the price achieved for water as a property right should signal the value of a new water supply, where resources are directed to where they are most valuable.

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[52] Ibid, 49.
[53] Ibid, 47.
[54] Ibid, 49-50.
[55] Council of Australian Governments, *Intergovernmental Agreement on a National Water Initiative*, 2004, clause 90
[56] Young M, Proctor W, Ejaz Qureshi M, Wittwer G., *Without Water: the economics of supplying water to 5 million more Australians*, CSI and Monica Monash University May 2006
[57] Hampstead M, *Using agricultural water for urban growth in Australia-opportunities, issues*, 9th International River*symposium*, Brisbane, 5 October 2006

As Professor Quiggin, of the University of Queensland, has stated: *"prices should signal the cost of the next unit of a resource and should include a full environmental cost (for example, the pollution effects of a desalination plant)"*.[58]

When barriers to water trading are lowered, as water use has different environmental impacts according to where it is used, changes to the geographic pattern of water will result, and in the absence of institutional reforms, will impact on environmental outcomes. Equally important to achieving an economic price for water the reforms must ensure that environmental quality issues are considered in the development of water markets[59].

Therefore, whilst the water market in Australia is not homogenous, but disparate and constrained within States, regions, catchments and even to zones within those catchments, a truly national water market is unlikely to emerge.

[58] Quoted in E Morton, "Pricing Water More Effectively, Governing Water in South East Queensland" (Report on a Seminar hosted by the Brisbane Institute, 18 October 2005).
[59] Kemp A, *Policy implications of increased in to-state water trading in the presence of environmental externalities*, Australian Conference of Economists, 25-27 September 2006, p 5, 7

APPENDIX

Table 1 - Overview of States' water entitlement systems

		QLD	NSW	VIC	SA
Governing legislation		*Water Act 2000*	*Water Management Act 2000*	*Water (Resource Management) Act 2005*	*Water Resources Act 1997*
Measure	*Bulk water*	Same as for "individual use"	Volume	Volume	Volume
	Individual use	Entitlements being converted to volumes	Volume, except for unregulated streams	Depends on type of entitlement	Depends on type of entitlement
Duration	*Bulk water*	Same as for "individual use"	15 year licence for irrigation corporations/20 year licence for town water	Defined period	Indefinite
	Individual use	Water allocations are indefinite; the licences they replace were typically for 3-10 years	Generally 15-year terms	Defined Period	Indefinite
Security	*Bulk water*	Same as for "individual use"	Town and major utility supply reviewed every 5 years	Subject to modification by the Minister under certain circumstances	High security
	Individual use	May be amended during review of Water resource plans every 10 years; otherwise, compensation is payable if allocation changed	May be changed at the end of 10-year Water Sharing Plans; compensation may be payable for any other charges	May be changed without compensation if there is a water shortage	Generally high security, but conditions of access may be altered periodically according to Water Allocation Plans

Table 1 - Overview of States' water entitlement systems (continued)

		QLD	NSW	VIC	SA
Reliability of Supply	*Bulk water*	Same as for "individual use"	Same as for individual users, with an additional measure of high security water	Varies, but specified for each bulk water entitlement	Full allocation available except in extreme drought
	Individual use	Specified as part of Water Resource Plans	Depends on region, but typically quite low	Very high; typically 96-99%	High reliability with full allocation available almost every year; volumes may be reduced by the Minister in extreme drought
Restrictions on trade	*Bulk water*	Same as for "individual use"	May trade on a temporary basis only after commitment to individual members met	Obligations to deliver water rights must be met first	Trade subject to agreement of all trust members
	Individual use	Tradeable, but trades must not be inconsistent with Water Allocation Security Objectives	Fee trade within irrigation districts; trade between irrigation districts is subject to irrigation company rules	Trading zones mapped	Transferable subject to assignments
First priority water use		Not addressed in the Act	Environmental water	Stock and domestic rights	Environment
Licenses divisible?		Yes	Yes	Yes	Yes

Note: "Individual use" covers use of surface water and groundwater for purposes other than stock or domestic use.

Table 2 - Overview of States' registration systems

	QLD	NSW	VIC	SA
Nature of system	Electronic "modified" Torrens-based System	Similar to Land Title Register, which uses a Torrens System	Modified "old title" recording system, but approaching Torrens System	Closer to "old title" recording system
Centralised registry?	Yes	Yes	Yes	Yes
Who manages register?	Queensland Resource Registry, DMRM	Land and Property Information NSW	Dept. of Sustainability & Environment	Department of Land, Water and Biodiversity Conservation
Register publicly available?	Yes	Yes	Yes	Yes – license information available on request
Interaction with resource-management function	Titling managed by QRR and resource management by NR&M with linkages between them	Functions operate independently	Register managed by resource managers	Register managed by resource managers
Certificate of title?	Yes	Yes	Record Only	Yes*
Registration of third-party interests?	Yes	Yes	Yes	Yes

* Section 32 of the *Water Resources Act* 1997 (SA) allows for a copy of the licence to be issued.