Legal Issues Relating to Water Use

Issues Paper No 1

Murray-Darling Basin Commission Project MP2004:

Agriculture and Natural Resource Management in the Murray-Darling Basin: A Policy History and Analysis

Institute for Rural Futures
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Preface

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Preface

Government policy for agriculture and natural resource management (NRM) has a profound influence on the ways in which natural resources are utilised. There is broad acknowledgment that agriculture will have to be practiced differently from now on, in order to reverse the trend towards environmental degradation in many parts of the Basin. There is a need for new policy directions, especially considering the urgent need to address dryland salinity and related issues.

This report is part of a project instigated by the Human Dimension Program of the Murray-Darling Basin Commission and was undertaken by the Institute of Rural Futures based at the University of New England in NSW.

The project initially produced an Overview Report which is a description of the broad trends in 20th century government policy which impacted on land use practice in the Basin. A Workshop was then held to debate and agree upon the four most significant areas where a shift in policy could, in the long term, encourage and facilitate sustainable farming practices. Each of these four areas is the subject of an issues discussion paper. These papers are designed to be a broad canvassing of ideas which will contribute to the debate about the direction NRM will take in the future. Authors were asked for suggestions to move the agenda forward, and the ideas contained in the papers are not necessarily endorsed by the Commission.

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Please note that these are a linked set of documents and are fully referenced in the bibliography at the end of each component report.

Acknowledgments

Each of the papers has been reviewed by one or more external reviewers, as well as by the members of the project Steering Committee. The papers have gained significantly from the helpful comments and suggestions provided by these reviewers and their assistance is gratefully acknowledged.
Summary

In a dry continent, water resources policy and law is one of the most important areas of natural resource management. Water law in Australia, and particularly in the States within which the Murray-Darling Basin lies, has experienced many changes since the mid-19th century. The last few decades of the 20th century have seen major reforms in water law, and water resources policy is likely to remain in a state of flux for some time to come. Policy debate has sometimes proceeded from perceptions of what the law is, and from expectations of what the law might offer. However, these perceptions may not accurately reflect the legal position itself.

Written for the general reader, this report offers an overview of the historical development of water law up to the present day in the four Basin States in which there are major irrigation developments — Queensland, New South Wales, South Australia and Victoria.

It is written in four parts. First, it outlines key principles of the common law relating to water resources, examines the reasons for the introduction of a regulatory regime, and describes key aspects of administrative arrangements that were in existence in the mid 1970s. The second part of the report describes the major changes to water management that took place from the late 1970s to 1995. Then, in the broader context of the COAG initiatives of 1994-95, the report considers reform to water legislation from 1995 to 2001. Among the features examined are water management planning, environmental flows and water trading. Lastly, shifting from a description of legal provisions to a discussion of policy, the report makes a number of recommendations for an improved legal framework for water resources. Legal provisions relating to compensation are also discussed briefly.

The report concludes that there have been significant improvements to made to water law, particularly as part of the Council of Australian Governments water reform process. These improvements include: the provision for ecologically sustainable management of water resources; the management of the whole of the terrestrial phase of the hydrological cycle; specified rights for both consumptive users and for ecosystems; and consumptive rights to be tradeable provided reasonable conditions were met.

The report also finds that there are several areas that require continued policy and legal development. A number of recommendations are made in this respect, including: legislating for more accountability by water agencies to ensure good management of environmental water provisions; the mandatory use of independent scientific reports in the making of water plans; open standing for groups representing the public interest; and increased public involvement in the remedy or restraint of offences against water legislation.
1 Introduction

Surface water is the Murray-Darling Basin’s critical resource. The overall quantity is limited. The vagaries of Australia’s weather mean that its availability varies from year to year. It is a resource to be used and managed with care if its long term sustainability is to be ensured.1

The Murray-Darling Basin covers most of inland south-eastern Australia. The major river system running through the Basin, the Murray-Darling, is Australia’s largest and one of the world’s major river systems. Its associated rivers and creeks are extremely variable in nature and many only carry water at times of flood. Large areas of floodplains have recently been recognised as an important part of the resources of the Basin. In addition to the surface waters, the groundwater resources of the Basin form an important water resource.

Surface water is the most critical resource of the Basin. A distinction is often made between consumptive and non-consumptive uses of this resource. The former term refers to water which is either wholly or partially processed, contaminated or transformed and taken out of the hydrological process for a period. Irrigated agriculture consumes the largest amount of water in the Murray-Darling Basin – between 1988 and 1993 about 96% of diversions from surface water were for irrigation.2 Across all of Australia, New South Wales (48%), Victoria (25%) and Queensland (16%) account for 90% of irrigated agriculture.3

The most important example of non-consumptive use is for the general support of ecosystems through conservation of biodiversity, habitat protection and maintaining environmental values. Non-consumptive uses include use of water bodies for amenity and recreation.

As parties to the Murray-Darling Basin Agreement, six governments participate in the planning and management of land, water and environmental resources of the region. They are the Commonwealth, New South Wales, Victorian, South Australian, Queensland and to a limited extent, the ACT governments.4 Legislation that actually governs the resources is mainly the concern of State Governments because of arrangements under section 100 of the Commonwealth Constitution.

The Agreement contains specific obligations of the parties and rules according to which the Basin must be managed. The Murray-Darling Ministerial Council (MDBMC) exercises general oversight and makes decisions relating to major policy issues while responsibility for the operational management of the scheme lies with the Murray-Darling Basin Commission (MDBC). The present Agreement dates from 1992 but its genesis is found in the River Murray Waters Agreement signed by the Commonwealth, New South Wales, South Australia and Victoria in 1915.

The scope of this paper is limited to a consideration of legal issues relating to the allocation of water to, or the provision of access for, consumptive and ecological use5. Its first section adopts an historical approach, while later sections provide a more contemporary analysis of law reform in the period 1980 to 1995, then from the period 1996 to the present. Lastly the paper makes recommendations for further reforms.
2 Common Law and the First 100 Years of Water Legislation

In the early days of the Australian colony, and prior to the legislative change in the 1880s which brought in administrative grants giving access to water by the state, water law was based on English common law. No description of Australia's water law is complete without an explanation of the common law and the principal features of water law in the first 100 years under legislation.

2.1 The Common Law

The common law had two different schemes to allow access to water. The first scheme related to surface water flowing in a river and the second to all other types of water. For surface water in a river, 'riparian' rights were restricted to those who occupied land immediately next to rivers. These rights had certain limitations. Riparian owners and occupiers could use the water for all ordinary and domestic purposes provided the quality of the water in the river was not substantially affected. Provided upstream riparian users were using water only for ordinary or domestic purposes, lower riparian users had no legal remedy, even if the others' use exhausted the supply of water. If water was taken other than for ordinary and domestic purposes (for example, manufacturing or irrigation for commercial gain) use needed to be reasonable. Water was to be returned to the watercourse substantially undiminished in quantity and quality.

The other scheme for access to water under the common law applied to all other categories of surface or ground water that flowed in an undefined manner over or under land, or was collected artificially on the land. In contrast to the limitations placed on riparian rights, in these instances of surface and ground waters the owner of the land had an unrestricted right of access to the water. This was based on policy considerations in 19th century England, as well as the legal doctrine that owners of land would have unrestricted discretion over the soil, subsoil and resources in the subsoil.

Three other points should be noted about the common law relating to water resources. First it was derived from European notions of rivers. A ‘watercourse’ or river was judicially defined as water that flowed in a defined channel. It needed to flow within banks, which were the sloping margins at both sides. The European concept of a river differed from Australian rivers – where sometimes rivers had no banks, or were only a series of shallow depressions, and often intermittent.

Secondly, in 19th century England, water was in plentiful supply and its quality was not a major concern. Many of the decisions by courts related to flood protection. Because the common law restricted access to rivers to riparian occupiers of land (and only for certain purposes), it only indirectly restricted consumptive use of water and therefore indirectly protected the waters of rivers. However the riparian doctrine relied on downstream users challenging upstream use. If the upstream use was not challenged within a certain period of time, it acquired the status of a ‘prescriptive’ right. This was the reason why some weirs and millstreams came to be beyond challenge by downstream riparians. Many people did take and use large amounts of river water, simply because their use was not disputed within time.

Thirdly, the common law was concerned with the ability to take and use river water — it was not about property in the water itself. These rights to water were attached to the land and could not be bought or sold.
apart from the land. Under common law no one 'owned' or had any property in the water itself while it was in the state of flow. Only after water was abstracted, was it capable of being owned.10

2.2 Water legislation

The immediate concerns of the early colonists were water supply and sewerage disposal. Early water legislation in Australia focused on municipal, domestic and stock water supply, and drainage.11 This changed when drought conditions in the 1870s and early 1880s in Victoria made the public conscious of the need for dams. Private investment in dams was risky and so, public money was required. When it was recognised that common law principles were not suitable to fulfil the colonies' needs for secure water supplies for town use, mining, pastoral and agricultural pursuits, legislation was introduced to allow control of water resources by the state.

The change was based on findings of the Victorian Royal Commission on Water Supply in 1884, headed by Alfred Deakin. The Commission studied water management in several countries and the Irrigation Act 1886 (Vic) enacted nearly all of its recommendations. The Act allowed the State of Victoria a supervening right to the use, flow and control and certain water. The English law of riparian right to surface waters was substantially replaced by a system of administrative grants giving access to water with limited recognition of riparian rights in statute. Because Deakin noted that land in the western states of America was plentiful but almost worthless without water, Victorian legislation tied grants of water to specific allotments of land.

The 1886 Act and the later Water Act 1905 gave effect to the policy of moving away from small, local water supply trusts and provided the State with the power to establish large public works to store and distribute water. In 1905 several legislative measures were taken to further strengthen State control.12 The most significant was that the property of beds and banks of water courses forming the boundaries of Crown grants were expressly stated not to have passed with any grant of land. This legislatively enshrined an earlier administrative practice to reserve stream beds and banks of major watercourses when making Crown grants.

As a result of the findings by the Lyne Royal Commission (1885-1889), New South Wales adopted similar legislation in 1896 to vest the right to use and control the water in all rivers and lakes in the Crown. There were some doubts about whether the approach succeeded in abolishing all riparian rights. With some variations, other states including Queensland followed the model of state control provided by New South Wales and Victoria.13

However legislation in South Australia limited state control over the taking and use of water only to a portion of the River Murray and such other watercourses and parts of the state which were proclaimed by the Governor in Council. Subsequent proclamation extended state control to the whole of the River Murray but throughout the remainder of South Australia, common law riparian rights still prevailed.14

2.3 State control after federation

When Australia became a federation in 1901, inland rivers had already been used for decades as highways for getting produce to markets. They were also very important to the States for irrigation. To reflect the States’ concerns, the Constitution was silent on the issue of water resources therefore according to common law principles about sovereign legislative power, this power remained with the States.15

The only explicit reference to water resources is found in s 100 which reads:

*The Commonwealth shall not, by any law or regulation of trade or commerce, abridge the*
right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation.

Thus the Commonwealth’s powers over water resources came from its power to legislate for defence, trade and commerce, and external matters. Few other provisions of the Commonwealth Constitution had direct impact on internal water resources.

In practice, the Commonwealth assumed an important role in the management of the internal waters of Australia through policy formulation and the provision of financial assistance for schemes related to water resources. The pattern was one of co-operative federalism with Federal government support of State action.

2.4 Administrative arrangements

As a broad generalisation, major urban supply and mining needs were granted water by specific Acts of State Parliament, whilst grants of water for irrigation took place under the administrative system established by general water legislation. The administrative system categorised water depending on its source: water from regulated sources was differentiated from water from unregulated sources. A regulated stream was one in which natural flow was augmented by releases from storages (dams or weirs) to meet water supply needs. Unregulated streams (or sections of streams) were those where supply was mainly dependent on natural flows and climatic conditions, either because no storages had been built upstream, or because releases from any storages would not be able to reach that particular section.

Water allocation arrangements were, and remain, complicated. This section of the paper sets out key features of the administrative framework as they developed in the 20th century. For consistency across States, when particular features are described, the position is that existing in the 1970s. Key features of the system were:

- statutory riparian rights for certain uses;
- water rights in irrigation schemes;
- licences and permits.

The term ‘water entitlements’ was occasionally used when referring to these features. This term became popular in discussion over Transferable Water Entitlements in the early 1980s. But apart from in New South Wales in 1986, this was generally not defined.

2.4.1 Statutory riparian rights

In all States, water was permitted by legislation to be diverted, without a licence, for stock and domestic needs and small garden irrigation, provided users had riparian access. Works could also be constructed for such usage without a licence.

2.4.2 Allocation in irrigation schemes: water rights

In this paper the term irrigation scheme is used to describe Irrigation Districts, Irrigation Areas, Trusts and other similar schemes. Many of the schemes were owned by the State but a few were privately owned. Each farm in public irrigation schemes had water allocated to it in the form of a water right. State irrigation authorities had a policy of creating a stable minimum water requirement on which planning of water deliveries and construction of storages could rely. As a result of this policy, water rights were usually only sufficient to meet minimum requirements for crops in a ‘normal’ season. Irrigators paid for water whether they used it or not. The rate of charge, calculated on the amount of land they held which was suitable for irrigation, differed in each scheme. The levy of compulsory water charges encouraged consumption of water and provided little incentive to irrigators to be efficient in their use of water.

Victoria adopted the water right system in 1909 and it evolved to take into
consideration different farm sizes and a variety of crops. Subsequent amendments to the system meant that, by the 1970s, four different types of water rights were found in that State. What made the system even more complicated was that the actual amount of water guaranteed under each water right varied according to the type of crop which was planted in the scheme. Water rights were a common feature in Victorian irrigation and the model was generally followed in other States including Queensland with varying degrees of importance and different aspects of complexity.

Consider the extent water rights were important in some States but not others. For example, in the 1970s, about three quarters of water supplied for irrigation was through water rights in Victoria. In comparison, only about one quarter to one eighth of water supplied for irrigation in New South Wales took place through water rights. The balance of water supplied was often supplied through ‘sales’ water - an expression used in Victoria. Supply of water through ‘sales’ water, as the next few paragraphs discuss, was far less reliable than water supplied through water rights. As a result, water for irrigation in New South Wales was subject to more flexible legal arrangements compared with Victoria. Additionally, in practice, the volumes of water made available for irrigation fluctuated from year to year.

2.4.3 Allocation in irrigation schemes: sales water

‘Sales’ water, a term used predominantly in Victoria, was made available (and usually quantified) as a proportion of the water rights held by individual irrigators, rather than by volume. Its availability depended on the amount of water in storage. Because the supply of water rights was given priority, ‘sales’ water would only be supplied in any particular year after ensuring that there was enough water in storage to deliver water rights in the following year. Therefore the amount of water supplied as sales was variable and irrigators were charged at a volumetric rate.

For historical reasons, New South Wales’s water was mostly supplied under annual sales agreements. In many irrigation schemes fully developed by the State, the charge for water rights was fixed in perpetuity for each farm from the time it was first made available. Water authorities thus constrained, preferred to supply additional water through annual sales agreements. In the 1970s Davis commented on the supply of water in New South Wales compared with Victoria thus:

[1] In NSW, the minimum amount of water an irrigator can expect to receive in wet years and dry years will be determined more by reservoir design policy and government distribution policy than by the formal guarantee in the form of water rights.

2.4.4 Licences

The licensing system mainly operated outside irrigation schemes. On regulated sections of streams, riparian landholders were required to obtain a licence before pumping from streams for uses apart from domestic and stock use. They installed their own works for doing so. Non-riparian landholders could also apply for licences. Licences were issued for specified annual volume, pump size, and other conditions such as the re-use of irrigation water. Variation in the term of licences occurred across States. For example, in Queensland licences were generally issued for three years for irrigation and 10 years for stock use. In Victoria, licences on regulated streams were issued for 15 years and on unregulated streams for one year. In New South Wales, most licences had five year terms, but ten year licences were granted for town water supply. Generally a licence
was granted for a short initial period. Upon the expiry of the first period, there was an expectation that the licence would be renewed if works were constructed. Water agencies had power to amend or cancel licences but this power was not exercised. In practice, water licences in all States were routinely renewed and were regarded by their holders almost as rights in perpetuity.

Licences in unregulated streams were granted on similar conditions except that, instead of a specified annual volume, water use was conditional on area of land irrigated and minimum height of the river at which pumping was allowed. Generally licences allowed diversion at any time of the year. Extractions were small because of unreliability of flows. Again licence periods differed from State to State. The terminology also differed. In all States there were no charges for water itself taken from unregulated streams but by the 1970s there were sometimes low charges for management services.

2.5 The 1880s to the mid-1970s: An assessment

The States introduced the control of certain elements of water resources in order to promote consumptive use of water. The tie between land and water use was seen as the key to sound public policy. Irrigation needs played a significant role in shaping that policy. Initially both public intervention and private enterprise played a part in the development of water resources, but eventually large sums of public money were spent on infrastructure, such as dams and channels for water supply.

Administrative grants for access to water evolved to suit different types of water supply systems. At first, water supply systems were usually based on a weir and a weir pool near the point of consumption. Simple arrangements established by early legislation reflected the management practices for these simple systems. Aspirations for greater density of agricultural settlement in the Basin resulted in large dams. These took several years to fill completely and were more expensive to build, but provided a more reliable supply. These dams were more complex to operate and legislation was amended to cope with changed management practice. As rural areas were settled, water supply was managed by local bodies that were often set up under special legislation. As development took place, more legislation was enacted which, in some States, was spread over many Acts. Although legislation in the period between 1950 to the mid 1970s retained many of the features of the earlier statutes, it became increasingly complex because the Acts overlapped, and were often unclear, imprecise and inconsistent. Across the States, this was the first main weakness in the body of legislation relating to water resource management.

The legislation was dependent on administrative discretion, but did not prescribe either mandatory or discretionary deliberative criteria that may have helped to ensure that administrative discretion was exercised consistently. In hindsight, this was the second main weakness in the legal regime. To use an analogy, water users in irrigation schemes were treated as members of an arguably privileged club. The club was run by a manager (often State water agencies) but club rules were not well written or in most cases were not reduced to writing because operating water storages was considered too complex to be written into law. Instead, the operating manager was given the power to make complex judgements as to what water could be released. This differed from year to year depending on climatic conditions.

Little was in place in the legal regime to stop the club membership from growing. When the club membership grew, the demand for water inevitably outstripped supply. The security of each user became uncertain, in the sense that it was subject not only to total water available for use, but also to the use patterns of others. If other users were profligate in previous
In time, the overall approach represented by the body of legislation became fragmented — the fourth weakness. Groundwater was subject to other legislation and its management was not integrated with surface water. In addition, water which did not flow in rivers but in floodplains, or in upper catchments before it reached the river was not subject to legislation.

The fifth weakness of the legislation of this era, and the most significant in the present day context, was the lack of consideration of the environmental impact of the consumptive use of water. This issue will be considered next.

years, then the total available for sharing was smaller. The privileges of club members were uncertain and could not be enforced. In addition, club membership had many classes, all of which had uncertain rights when there was over-commitment of resources. For example, as discussed in section 2.4, four different types of water rights (and ‘sales’ water) had developed in Victoria by the 1970s.

The third weakness was that the legal and management regime itself was based on common law concepts like the watercourse, that were ill-suited for Australian conditions. Legislation mostly changed the common law ability to take and use river water, but the legislation was still based on the same European concepts of rivers.
3 Reforms to Water Law: From the Late 1970s to 1995

By the late 1970s it became evident that water was over-allocated in several States and this prompted reforms, particularly in New South Wales and Victoria. This chapter reviews a number of the more important reforms, including volumetric allocation schemes, embargoes and temporary and permanent trade of water entitlements.

3.1 Introduction

In the first 100 years of water legislation, management of rivers concentrated on consumptive demand. This resulted in a preoccupation with building dams and other irrigation infrastructure, apportionment of water between individual competing interests, the orderly extraction of water and the use of rivers as supply channels. There was scant understanding of the fragility of the ecosystems that were dependent on water. A comprehensive study of the country’s water resources in 1983 confirmed that there were serious issues to be dealt with.26

Environmental issues included salinisation of land and a deterioration of water quality. The management of rivers as supply channels changed their natural flow patterns and thereby adversely affected aquatic ecosystems. Economic issues also had to be dealt with. These included aging infrastructure for water supply which needed costly repairs or replacement, a questioning of the value of further dam building, and the vexed issue of subsidising water for irrigation.

Additionally, by the late 1970s to the early 1980s, it became evident in several States that water was significantly over-allocated. This meant that if all users requested delivery of the volumes indicated in their licences, the demand would exceed the water in storage. The right to take water under a licence or other means, often referred to simply as ‘allocation’, differed from actual use.

Amongst other reasons, over-allocation occurred because water agencies approved allocations on the assumption (based on then existing practice) that irrigators consistently failed to use their allocations.27

By the mid-1980s, reviews in several states had led policy makers to realise that major organisational and legislative changes were needed. This part of the paper describes the law reform in the period from the late 1970s to 1995. Because much of the law reform in this period occurred in New South Wales and Victoria, discussion concentrates on these two states.

3.2 Schemes for volumetric allocation

Initially, water licences in all States were defined in terms of irrigated land area. No restrictions were placed on the amount of water used. Volumetric allocation schemes were introduced around 1977 in New South Wales.28 When an area was declared to be subject to volumetric allocation, there were only two necessary steps required under legislation. The water agency would:

- assess the total quantity of water likely to be available from the water source in each year; and
- determine in respect of each licence or water right holder, the maximum quantity of water to be taken.29 This was commonly referred to as the base allocation. (But the actual amount of water allowed to be taken in any one
In practice another step was taken and it was likely that it was done in conjunction with the two steps outlined above. In converting entitlements from area based criteria to those based on volume, the water agency needed to affix different quantities of water per hectare according to the type of irrigation that was authorised. In taking this step, consumptive users were consulted, bi-partisan support was received for the conversion, and few complaints were received.

However new licences could be granted and, if this was done, then it would reduce the amount of water available to already existing licence holders.

The schemes apportioned water within an ‘irrigation season’, usually a 12 month period which varied from location to location, and from State to State. The actual amount of water available each water year in volumetric allocation schemes (referred to as announced allocations) was dependent on announcements by district managers in consultation with landholders. The amount of water available for diversions meant estimating the amount of inflows from tributaries and the volume of water in storage. After losses to the system were estimated and a decision made on the volume to be held in reserve for the next year, the amount available for consumptive use was calculated.

Announcements were made at the commencement of each water year, based on the worst-case inflow scenario and expressed as a percentage of base allocation. Depending on weather forecasts, the announcement was generally set conservatively at the beginning of the water year. Resources and water usage were monitored throughout the year and the announced allocation levels were usually raised as the year progressed. Because of climatic conditions, announcements could vary greatly throughout a State.

In New South Wales announced allocations were relevant only for general security licences. High security licences in New South Wales had all of their allocated water delivered each year and were not subject to announced allocations.

Besides their volumetric allocations, irrigators might also be supplied with off-allocation water. An off-allocation period was declared when rainfall resulted in river flows considered surplus to water requirements. This generally occurred where dam capacity was reached during high rainfall events. Water thus diverted was not debited from the volumetric allocations. In some catchments, significant amounts of off-allocation water were pumped by irrigators and stored in farm dams. This practice resulted in a reduction of small and medium-sized floods.

### 3.3 Embargoes

Volumetric allocation schemes were used in conjunction with administrative and, later, statutory embargoes on new licences. In catchments that were particularly over-allocated, administrative embargoes were introduced. This meant that applications for new licences were accepted but not processed. An administrative embargo was introduced in the Namoi catchment in New South Wales in 1976, where as early as 1966, water users had expressed concern about over-allocation. Amendments to legislation in New South Wales in 1982 confirmed the freezing of new licence applications. Both volumetric allocation schemes and embargoes resulted in very strong competition for water resources particularly in the northern New South Wales rivers. This resulted in a number of cases being fought over fairly technical matters regarding the provisions of the *Water Act 1912* (NSW).
3.4 Shortage powers

Both volumetric allocations and embargoes could not effectively deal with over allocation that had already occurred. As a result, the New South Wales Water Resources Commission was formally empowered in 1977 to suspend extraction rights during periods of ‘water shortage’. An order of priority for imposition of restrictions was set out with highest priority for domestic and town supplies. The levels of priority, from the lowest (the first to be affected by cut-backs) to highest were:

- permits for purposes other than domestic and town supply;
- authorities and licences, whether group or individual, for irrigation;
- water for stock supply and other uses of water other than for irrigation and domestic/town/village supply; and
- water for domestic/town/village supply.

Irrigation water had low priority. It appears these ‘shortage’ powers were to be used only in times of emergency, and cut-backs would be temporary although this was never expressly stated.

3.5 New water legislation

In 1984, an audit of water agencies in New South Wales, comprising the Water Resources Commission and 16 other public bodies involved in the administration of water-related issues, led to new legislation. The Water Administration Act 1986 (NSW) and Water Supply Authorities Act 1987 (NSW) jointly restructured administration of rural water services. The Water Administration Act, 1986 (NSW) was significant in three other respects:

- the legislation stated the objects of water administration;
- it also tied ‘environmental considerations’ to allocation and management of water; and
- it ‘vested’ all elements of the terrestrial cycle of water resources in the State. Previously, as in other jurisdictions, the vesting provision related only to waters in rivers that passed through two or more properties, lakes etc. The new provision vested in the State the right to the use, and flow, and to the control of water occurring naturally on the surface of the ground and sub-surface or groundwater.

But while the 1986 Act stated the objects of management it did not give much guidance as to how to manage objects that could be in conflict or in tension with others. In other words, the Act did not prioritise objects of management. Similarly while the Act referred to ‘environmental considerations’ there was little guidance as to what these considerations were. Also, it did not specifically allow water to be allocated for ecological use.

In the meantime, after a comprehensive review of water law which started in 1985, Victoria enacted the Water Act 1989 (Vic). This overhauled all legislation on water resources, administered both surface water and groundwater in one statute, and enacted a better defined structure of private rights to water. The 1989 Act had a long list of purposes which referred to:

- sustainable use of water resources for the benefit of present and future Victorians,
- provision of formal means of protecting and enhancing environmental qualities of waterways and their instream uses, and
- the protection of ‘all public and private rights to water existing before the Act.’

Like its New South Wales counterpart, it failed to give guidance as to how potential conflict between consumptive and non-consumptive purposes would be resolved.

3.6 Trading water

Perhaps the most significant of the reform measures in this period was to allow
trading of water. This was a radical step but the idea of transferring water was not altogether new. In Victoria during the drought years of 1939-44, a limited system of water transfers (called grouping) was allowed between land in common ownership.\textsuperscript{42}

Before reform most persons wanting more water had to buy additional land to gain additional water.\textsuperscript{43} Covert trade in water took place in Victoria, New South Wales and other States through ‘licence stacking’. The practice involved one person gaining ownership of two land holdings that had water licences attached. Then the licence was administratively transferred from one land parcel to the other. It was a costly method.

In New South Wales, the imposition of embargoes had made water a scarcer resource. Therefore short term ‘renting’, or temporary transfer, of water entitlements was permitted by legislation in 1983. Renting was limited to the period of a year and the rights reverted to the original owner at the end of year. It was gradually extended to a maximum of 5 years.\textsuperscript{44} Amendments in 1986 allowed permanent transfers\textsuperscript{45} within volumetric water allocation schemes.\textsuperscript{46} Transfers were subject to the approval of the Water Administration Ministerial Corporation which could take into account potential social, economic and such other matters as it thought fit. This requirement included environmental factors.\textsuperscript{47}

In Victoria, trading was allowed a little later. After a trial, temporary and permanent transfers were allowed in 1989 on terms to be later prescribed by regulations. Initially permanent transfers were viewed with misgivings by farmers and bureaucrats, and regulations were only made in 1991 to allow transfers within some irrigation schemes.\textsuperscript{48} In 1994, limitations were relaxed to allow permanent trading within more schemes, and to allow trading between, as well as outside, schemes. The regulations provided for maximum and minimum water rights to be attached to land.\textsuperscript{49}

As in New South Wales, water trading in Victoria occurred mostly in temporary transfers of water rights. All temporary transfers (those for one irrigation period only) were subject to by-laws made by the supplying authority.\textsuperscript{50} The by-laws generally provided for procedures and fees, set limits on transfer of sales water into or out of any part of the irrigation district, having regard to drainage and salinity criteria, and considered the need to protect the water rights of the other holdings in the district and possible environmental impact.\textsuperscript{51} Permanent \textit{interstate} transfers of water rights were first allowed in 1997.
By 1994, State and Federal governments agreed that concerted efforts needed to be taken to address the complex issues of water reform. Two particular issues were paramount: riverine ecosystems were badly degraded, pointing to a need to allocate water for ecosystem use. Because consumptive water use had increased, competition for water meant that the irrigation industry was concerned about security of its water supply. Policy documents developed with the oversight and leadership of the Council of Australian Governments provided a strategy for water reform and principles for provision of water for ecosystems. After this important preparatory work, new water legislation was enacted by several states. This section offers an overview of important aspects of the new legislation.

4.1 Introduction

Although there were a number of significant reforms to water legislation in the period from the late 1970s to the mid-1990s, these did not adequately address the two main problems of water use. These were the opposing demands of security for consumptive users, and the growing awareness that water needed to be allocated to ecosystem needs. In 1994, the Council of Australian Governments (COAG) adopted a strategy for the efficient and sustainable reform of the water industry. It noted ‘widespread natural resource degradation’ of water resources and called for new measures to be taken. The payment of the full cost of water use by consumers, and an integrated approach to water management and institutional change, were both important components of the strategy. However, as the focus of this paper is on legal issues, these components are not dealt with in any detail. The following sections do, however, briefly consider the international and national context of law reform and also other areas of legislation which impact on consumptive and non-consumptive use of water.

4.2 International and national context of the reforms

International treaties and conventions place obligations on the management of water resources. Perhaps our most important international obligation is the Ramsar Convention on Wetlands of International Importance 1971. This is often referred to as the Ramsar Convention. Participating countries are required to designate wetlands for listing, based on their international importance. Criteria for listing relate to either the sites’ uniqueness, rarity or representativeness, or the flora, fauna or ecological communities they support. Countries are also obliged to promote the conservation and wise use of wetlands and their species by several methods including establishing nature reserves on wetlands whether or not they have been listed.

Besides binding legal obligations, Australia has signed policy instruments also referred to as ‘soft law’ that guide the way that we manage our resources. In 1987 the United Nations adopted the Brundtland Report. It called for sustainable development to ensure that development meets the needs of the present without compromising the ability of future generations to meet their own needs.

Although the Brundtland Report did not result in any formal international obligations for Australia, by 1992, actions by the United Nations did begin to have implications for Australia. The UN Conference on Environment and Development (UNCED) held in that year formulated several conventions including the UN Convention on Biological Diversity. This aimed to conserve
ecosystems and natural habitats, and promote the recovery of threatened species in their natural surroundings. Under this convention Australia was obliged to make plans and strategies to carry out rehabilitation and restoration of degraded ecosystems and their habitat.

Following UNCED, an action plan referred to as Agenda 21 was formulated. It noted a lack of understanding of the effect development and use of water resources had on aquatic ecosystems and set out specific provisions for the protection of the quality and supply of fresh water resources.\textsuperscript{60}

In line with international concerns, in 1992 the Australian Commonwealth, States and Territories entered an Intergovernmental Agreement on the Environment (IGAE). All levels of government accepted that principles of ecologically sustainable development (ESD) would guide development and implementation of environmental policy and programs. These four guiding principles were:

- Decision-making processes should effectively integrate both long and short-term economic, environmental, social and equity considerations;
- Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation (the precautionary principle);
- The need to develop a strong, growing and diversified economy which can enhance the capacity for environmental protection should be recognized;
- Decisions and actions should provide for broad community involvement on issues that affect them.\textsuperscript{61}

### 4.3 Issues for reform

In 1994, the Council of Australian Governments (COAG) commissioned and accepted a report for the efficient and sustainable reform of the water industry, now known as the National Water Reform Framework. Key elements of the Framework included:

- pricing based on principles of full cost recovery and removal of cross subsidies,
- providing an integrated catchment management approach to water resource management, and
- institutional reform.

A raft of reforms was needed. Those that particularly impacted on the legal aspects of consumptive and non-consumptive use of water were:

**Water entitlements**

- implementing clearly specified water entitlements which separate water property rights from land title;

**Environmental needs**

- allocating water for the environment, and where river systems were over-allocated, aiming for ‘substantial progress’ to provide a better balance in water resource use;
- allocating water for environmental contingencies, reviewable every five years;
- carrying out environmental studies before constructing significant new irrigation schemes or dams;
- improving land management especially for rivers with a high environmental value;

**Trading**

- trading water entitlements, both intra and interstate, through arrangements that are consistent and socially, physically and ecologically sustainable;

**Public consultation**

- consulting the public where new initiatives are proposed especially in relation to pricing, specification of water entitlements, and trading in those entitlements.
Because reform in water resource policy was seen as an integral part of the wider microeconomic reform and natural resource and environmental agendas, a decision was made in 1994 to tie water reforms to a package of payments by the Federal government under the National Competition Policy.

The implementation of COAG policy was seen to be contentious. Important questions included:

1. How would existing statutory entitlements to take and use water be converted to new rights?
2. How would water be allocated to the environment?

There were other implicit questions that followed:

3. If there was not sufficient water for ecosystems, how would water be re-allocated from consumptive use?
4. Would compensation be payable if reallocation was to take place?

The first question, above, was addressed in 1995 by the Agricultural and Resource Management Council of Australia and New Zealand (ARMCANZ) who proposed a strategic framework for converting existing statutory entitlements into property rights. This report (referred to as the Strategic Framework) established principles accepted as a plan of action by all States. Based on hydrological assessment, comprehensive planning systems were to provide for consumptive and non-consumptive water uses before a property rights regime was implemented. This basin-wide planning approach which considers non-consumptive use was the report’s strongest point. Ecological needs and the involvement of the community in planning processes were recognised. There were other strengths. In determining sustainable flow regimes, the Framework recommended that best available scientific information be used.

The second question, how water would be allocated to the environment, was addressed in 1996 by the National Principles for the Provision of Water for Ecosystems. The Ecosystem Principles were developed jointly by ARMCANZ and the Australian and New Zealand Environment and Conservation Council (ANZECC). The report recommended that tensions between consumptive and non-consumptive use of water be resolved as far as possible, by providing water to sustain ecological values of aquatic ecosystems, whilst recognising the existing rights of other water users. However where systems were over-committed, action including reallocation should be taken to meet environmental needs. Any future allocation should be on the basis that natural ecological processes and biodiversity are sustained. It could be argued that the Ecosystem Principles established that where ecological needs and private rights intersect, the former should have priority, because unless the primary needs of aquatic ecosystems are met, human use of resources cannot be maintained over the long term.

The third question, where resources were over-allocated, how was water to be reallocated from consumptive use, was extremely contentious. This and the fourth question — the issue of compensation for reallocation from consumptive use — will be considered in part 5 of this paper.

4.4 Water allocation under the new State legislation

Following the guidelines of these two documents, South Australia, New South Wales and Queensland enacted new water legislation after 1995. Victoria has not enacted new legislation as its Water Act 1989 had already set up a new framework for tradable rights in water. State legislation attempts to provide comprehensively for water allocation and management. It is not possible to discuss all aspects of water law reform in this paper — what it offers is an overview of certain important areas:

- objectives of water management;
planning, adaptive management and allocating water for consumptive use;

- allocating water for environmental flows; and

- trading water.

### 4.4.1 Water management objectives

South Australia, which relies on its one major river, the Murray, is acutely aware that its own use and use by others upstream affect the sustainability of the river. The Water Resources Act 1997 (SA) provides for sustainable use of water. It reads:

s. 6(1) The object of this Act is to establish a system for the use and management of the water resources of the State -

(a) that ensures that the use and management of those resources sustain the physical, economic and social well being of the people of the State and facilitate the economic development of the State while

- ensuring that those resources are able to meet the reasonably foreseeable needs of future generations; and

- protecting the ecosystems (including their biological diversity) that depend on those resources; and

(b) that, by requiring the use of caution and other safeguards, reduces to a minimum the detrimental effects of that use and management.

In addition, all persons and bodies involved in the administration of the Act, including the Minister, must act consistently with, and seek to further, the object of the Act and must specifically have regard to a range of matters, including the protection and enhancement of ecosystems that depend on naturally occurring water. (Comment 26)

Water legislation in Queensland and New South Wales also provides objectives of water management consistent with principles of ESD. Queensland’s Act recognizes that efficient use of water includes water recycling. The Act however limits the duty of sustainable management only to Chapter 2 of the Act which concentrates on setting up a planning system. It is therefore uncertain whether Queensland’s Act goes far enough to ensure sustainable management for all aspects of water management. For example chapter 3 of the Act that relates to matters such as the provision of water and sewerage services, regulation of referable dams and flood mitigation responsibilities, is not subject to the duty of sustainable management.

Arguably the Water Management Act 2000 (NSW) goes further than other States in implementing the ARMCANZ/ANZECC Ecosystem principles in its objects clause. Its objects clause emphasises long term sustainable management rather than consumptive use, and refers specifically to protection, enhancement and restoration of water sources, their associated ecosystems, ecological processes, biological diversity and water quality. In particular management principles for water sharing state unequivocally that:

(a) the sharing of water ... must protect the water source and its dependent ecosystems; and

(b) ...the basic landholder rights of owners of land; and

(c) sharing or extraction of water under any other right must not prejudice the principles set out in paragraphs (a) and (b).

Basic landholder rights are defined to include domestic and stock rights, harvestable rights and native title rights. Water for other consumptive use, for example for irrigated agriculture, is provided through access licences. These management principles provide a clear priority for water sharing between consumptive and non-consumptive use.

At the other end of the spectrum, Victoria’s statement of purposes in its Water Act 1989 may be implemented in such a way to give priority to consumptive use. Amongst other purposes, the Act sets out:

- to provide for better definition of private water entitlements and the entitlements of water authorities,
- to foster the provision of responsible and efficient water services suited to various needs and various consumers; and
- to continue in existence and protect all public and private rights to water existing before the Act.

As for non-consumptive use of water, the Act sets out only to provide formal means for protecting and enhancing environmental qualities of waterways and their instream uses. There is no substantive duty to provide for ecosystems’ requirements. While there may be an argument that the reference to protection of public rights may include protection of ecosystems’ need for water, this argument is weak given that private rights are specifically defined, but public rights are not. It may be said that the Victorian Act is equivocal about supplying water for the environment.

4.4.2 Planning, management and water for consumptive use

The ARMCANZ Strategic Framework accepts that comprehensive planning should take place before allocating tradeable rights in water for consumptive use. It also provides for a periodic review of plans. All States accept that planning is the cornerstone of the new generation of water legislation. A brief analysis of State provisions follows.

Queensland

Queensland’s water planning process most closely follows the ARMCANZ Strategic Framework. Water Resource Plans (WRPs) have been in progress since 1995 for priority catchments in the State but few have been completed to date. The WRPs are to establish broad objectives for consumptive and environmental use. Environmental flow objectives with stated ecological outcomes are to be provided.

Planning is to take place with a community reference panel which includes local representatives of cultural, economic and environmental interests. However the role of such panels is not specified by legislation except that the Minister is to consider their advice in preparing draft WRPs. The use of expert technical reports in the planning process is discretionary but the Minister is required to state before the process begins, what arrangements are to be available. Public notice of draft plans is mandatory and all ‘properly made submissions’ must be considered by the Minister before a final plan is made.

The WRPs are to be implemented by Resources Operation Plans. This step will lead to conversion of existing licences to water allocations in conformity with water allocation security objectives in the WRP. The water allocation security objective 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’. A priority grouping, for example high security, will attach to all water allocations supplied from dams. Reviews of WRPs will occur every 10 years.

New South Wales

New South Wales has also adopted a planning model. The model is based on a 10 year planning process structured around the issuing of access licences. These licences will be linked to a share component and/or an extraction component established after the planning process. The licences are subject to water management plans based on a 10 year period and a review of the plan after 5 years. Management committees are established in each declared catchment-based area to carry out specific planning tasks. For example preparing a draft plan for water sharing. Public consultation of draft plans is mandatory.
Of all the States, New South Wales has the clearest provisions for monitoring and accountability:

- the Minister is responsible for ensuring an audit of the plan takes place at intervals of not more than 5 years to ascertain whether the provisions of the plan have been given effect; and
- in setting out the terms of reference for a new management plan, the Minister must have regard to the results of the latest audit.

In practice, either an independent scientist or an Expert Panel has been made available to most management committees entrusted with making water management plans, but the new Act does not make this a legislative requirement. However the representation on these management committees is legislatively prescribed to ensure that they reflect local community interests and includes at least one person nominated by the Minister for the Environment.

South Australia

South Australia has a hierarchical statutory planning arrangement. At the top of the hierarchy is the State Water Plan (SWP). State Water Plans are to be amended whenever the Minister considers it necessary in order to achieve the object of the Act. Specific periods of review are not stated. The next tier of planning is primarily at catchment-level through Catchment Water Management Plans (CWMP), with provision for optional local water management plans which must be consistent with the CWMP for that area.

The scope of CWMPs are defined in the Act but no methodology or outcomes are specified. Financial provisions for implementation of a CWMP are for a 3 year period which imply a similar period for reviews but no specific period is provided.

For some areas of South Australia planning is the only legal mechanism to regulate the taking and use of river water.

Until recent law reform riparian rights were still available but all common law rights have now been abolished. However, legislation still allows water to be taken for domestic or domestic stock use without a licence in some circumstances. Regulation of other consumptive uses depends on whether the water resources are prescribed. If the water resource is prescribed by regulation under the Water Resources Act 1997, consumptive users in South Australia must not take water from a prescribed water resource unless they have licences or authorization from the Minister. Water resources in many parts of the State are not prescribed and in those areas licences are not required — persons are constrained in their consumptive use only by conditions of a water management plan if one is in place.

There is no provision in the South Australia Act for the establishment of independent scientific advice about environmental requirements, targets or benchmarks in plans. There is however a requirement that the peak water advisory body in the State is chaired by a person who in the opinion of the Minister has knowledge of water management and of the ecosystems that depend on it. The Minister may appoint additional persons with special expertise to assist the body in any particular matter.

Victoria

No formal planning process exists in Victoria although semi-exclusive rights to water have been allocated under its 1989 Act. It was the first State to convert the poorly specified bulk annual average volume allocated to irrigation schemes to new Bulk Entitlements (BE). Two important aspects of the specification of new BEs are volume (or share of flow or storage), and security of supply, defined as ‘the statistical probability of being able to supply a given volume of water in a year’. Additionally, obligations such as passing flows, measurement, reporting and financial responsibilities are specified. Before granting the BE, the Minister for
Conservation and Natural Resources is obliged to consider an extensive list of matters, including the environment, but is not under any substantive duty to provide for ecologically sustainable management of water resources. At present the scope of planning in Victoria is limited to the management of water licences within areas managed by a water authority. This is a fragmented approach because planning does not exist for other consumptive use within any given area. The Water (Irrigation Farm Dams) Bill 2001 allows for a planning process for areas which are declared to be water supply protection areas.

Undermining of planning

However sound the planning process under the new Acts, provisions which allow for the switch from the previous legislation to new legislation (called transitional provisions) may undermine the outcomes and processes of plans. For example in Queensland, the Fitzroy Water Resource Plan is deemed to comply with all the criteria of s46 of the Water Act 2000 (Qld) thus silencing any legal challenges that its environmental flow objectives fail to protect the health of ecosystems. There are other examples of transitional provisions that undermine standards. In these ways decisions on the approvals of final plans may be susceptible to the influence of shorter term political objectives and so fail to provide for long term sustainable ecological objectives.

Planning may be undermined in yet another form, for example, legislation enacted to over-ride water plans. A recent example is found in Queensland. A Water Resource Plan was completed in 2000 for the Burnett Catchment. A year later the Minister for State Development introduced a bill into Parliament to over-ride the Burnett WRP by amending environmental flow objectives established under the plan. The object of the Water Infrastructure Development (Burnett Basin) Amendment Act 2001 (Qld) was to allow for the building of Paradise Dam and other storages in the basin. During parliamentary debate over the bill, Mr Seeney, National Party member and shadow Minister for National Resources said

This legislation does not correct the Burnett water resource plan properly, and it does not give the Burnett water plan any credibility. In fact this legislation destroys whatever credibility the Burnett water resource plan may have in the eyes of some, until now. This legislation adjusts those politically derived environmental flow objectives set by Mr Welford [the then Minister for Natural Resources] to restrict irrigation development in the Burnett just enough to allow the Premier’s political promise to be delivered to the Bundaberg area...Let there be no mistake or misunderstanding about that. This legislation sets a precedent that we [the National Party] will follow. When that time comes, as it one day must, let there be no hypocritical opposition from Labor members of the Beattie Labor government who will support this legislation today.

4.4.3 Environmental flows

The best outcome for non-consumptive use in Victoria has been an increased allocation of 25,000 ML for the Barmah-Millewa Forest. But this is not an outcome repeated throughout the State. Water for environmental purposes in Victoria was generally made available by capping all abstractive uses through the Bulk Entitlement process. Minimum passing flows were imposed as conditions on the BEs granted to rural supply authorities. For example new and improved flows were available at a few points in the Goulburn river system, but it has been suggested that in this particular case the provisions for passing flow were influenced more by supply of water for irrigation than environmental concerns. As the BEs granted are perpetual, it is unlikely that minimum passing flows will
be adjusted without a legal challenge by consumptive users.

The only BE for non-consumptive use in Victoria was for 27,600 ML and issued in 1999. The water has been allocated since the early 1980s for specific wetlands in response to duck-hunters’ demands for water for duck nesting and breeding. In 1999 the BE allocated this volume of water for all ecosystem needs along the Murray, and in that respect the provision was an improvement. However use of the BE is expensive – if channel and supply systems owned by Goulburn-Murray Water are used to supply this water, a substantial delivery cost is incurred.

New South Wales has taken a different, more innovative approach to providing water for the environment. The new Water Management Act 2000 (NSW) enacted environmental water rules for the identification, establishment and maintenance of three types of environmental allocations:

- environmental health water that is committed for fundamental ecosystem health at all times and may not be taken or used for other purposes;
- supplementary environmental health water which is for specified environmental purposes at specified times or circumstances; and
- adaptive environmental health water held under access licences.\(^{118}\)

In his second reading speech, the Minister for Agriculture, and Minister for Land and Water Conservation explained that

\[\text{Environmental health water would include all current environmental flow rules on the regulated rivers ... including any existing environmental contingency allowances ...}\]

\[\text{Supplementary environmental water is principally allocated for environmental purposes but subject to critical events, such as bird breeding or fish passage. If the preset triggers are not activated, the water may be allocated to extractive use... Adaptive environmental water is a normal access water entitlement that a licence holder has decided to use for agreed environmental purposes. It is made available at the discretion of licence holders, so it can be converted back to consumptive use or traded at their discretion. It will be subject to normal access rules and water use approvals... This water can only be used where it is consistent with the water management plan or ministerial agreement}\ ]^{119}

None of these types of allocation is as yet available because WMPs have not yet been made, but interim provision for ecological needs was made in 1998-99. In the lead up to the new New South Wales Act, catchment-based river management committees (RMCs) on inland rivers determined allocations in the form of Environmental Contingency Allowances (ECAs). They made flow rules and restricted access to off-allocation flows. In doing so, the RMCs had to negotiate reallocation of water from consumptive to ecosystem use. Flow rules allow for translucent/variable flows in order to mimic natural flow regimes. Monitoring of the rules was to be carried out. This meant even if a particular management decision failed, there would be valuable lessons learnt from that failure. The statutory provisions for review of management plans were referred to earlier.

In some respects the ECAs were similar to the Victorian BE for flora and fauna use. A specific volume of water was allocated, and some of the wetlands watered had management plans. But current New South Wales ECAs also provided benefits for consumptive uses in addition to ecosystem needs. For example, in the Lachlan River, specific portions of the ECA could be used to flush algal blooms and also to dilute salinity.

Environmental flows in both South Australia and Queensland are also to be provided within the planning process. The process for providing these flows follows a similar two-step process – first the South Australia catchment water plan (or Queensland WRP) provides a general goal or environmental flow objective, then the South Australia water allocation plan (or Queensland Resource Operation Plan)
provides details on how the flows will be provided. Queensland’s environmental flows must, by statute, be based on the best available scientific evidence. South Australia’s legislation is silent on this point. In both States environmental flows are only available for certain catchments. In South Australia, controls relate only to prescribed surface water areas, large areas lie outside of these. In Queensland the planning process has started only in priority areas.

4.4.4 Trading

The COAG decision in 1994 required that arrangements for trading water entitlements, both intra and interstate, should be consistent and socially, physically and ecologically sustainable. In 1996, the Murray-Darling Basin Ministerial Council approved an initial pilot project for permanent interstate trade for high security licences in the Mallee region of New South Wales, South Australia and Victoria. Subsequently a Schedule was added to the Murray-Darling Basin Agreement by the Ministerial Council to allow for such trade.

A survey of State legislation finds that arrangements for trade are not consistent. The units of water which are able to be bought and sold is different in each of the States. Further the allocation framework is also different in each State. Consequently, these differences may result in increased transaction costs that discourage trading across State boundaries. Further, the procedures and limitations or otherwise for transfers vary between States. State provisions are far too complex to describe in detail. A table in Appendix 1 gives a concise summary of provisions.

As mentioned above, the COAG decision required that arrangements for trading water also needed to be socially, physically and ecologically sustainable. Queensland and South Australia require that the ‘public interest’ is to be considered by the relevant decision-makers before transfers of water are approved, but legislation is silent as to what is the public interest. In the absence of a definition, judicial guidance becomes necessary but this option of litigation is not only expensive but leaves administrators with a lack of specific criteria when making their decisions.

There are three different approaches to ensure that trading arrangements are socially, physically and ecologically sustainable: first, one that relies on planning instruments, secondly one that relies on widely circulated general principles and, thirdly a legislative approach. All require prior approval of individual transfers which may have a significant impact.

The approach relying on planning instruments and regulations is found in South Australia and Queensland. In both States transfers may be for an absolute (or permanent) or limited (temporary) period. For example, in Queensland, to ensure that transfers of water allocation are ecologically sustainable, they are allowed if:

- permitted under the transfer rules of a resource operations plan; or
- if transfers are not provided for under a resource operation plan, then they should be compatible with environmental flow objectives; in the public interest; and will not affect natural ecosystems in an adverse way.

If trades in licences occur in areas of Queensland where no resource operations plans are available, then they need to comply with regulations. At the time of writing, no resource operation plan has been finalised. The regulations at the present time allow trading only for the Mareeba Dimbula water supply scheme, and is likely to extend to other areas at a later date. Under the regulations, the effect of the proposed transfer on the sustainability of land and water resources in the area must be considered before the proposed transfer is approved.
Under the Water Act 2000 (Qld), a more cautious approach is provided only if transfers fall outside the rules of a resource operations plan. In that situation, public notice and the right of the public to make objections are available. The Chief Executive in Queensland (or the Minister in South Australia) is to consider the 'public interest'. This term is not defined, but most would regard it as encompassing social, physical and ecological factors.

New South Wales has yet to implement the transfer provisions of the Water Management Act 2000 (NSW) and is not expected to before mid 2002. In the interim, the provisions of the Water Act 1912 (NSW) apply. Both under the old and new provisions, fairly detailed guidelines, legal and administrative requirements apply. These guidelines are to guide the making of water trading rules by management committees in each catchment and are to be incorporated into each WMP. This is the most prescriptive approach, but one that suggests that a high level of consistency should be found throughout the State. It also suggests that officers in the regions who will be responsible for making and implementing trading rules will be acquainted with the relevant general principles.

A third approach is found in Victoria. This does not rely on planning instruments or general principles. Instead legislation, regulations and by-laws provide for a whole range of transfers. Detailed requirements in the Act provide for transfers of bulk entitlements. It is the Minister who approves these, and the interstate transfers of s 51 licences. Where Ministerial approval is needed, s 40 of the Water Act 1989 (Vic) requires the Minister to have regard to a range of matters, including the report of a specially convened panel if so required by the Minister, availability of water, needs of other water users, and environmental factors. The safeguards imposed by legislation constrain the process of the Ministerial decision — it imposes a procedural duty on the Minister to consider all these factors, but does not impose a substantive duty to ensure trade is socially, physically and ecologically sustainable.

Temporary transfers of water rights within an irrigation district in Victoria are regulated under detailed by-laws. Permanent transfers of water rights are subject to regulations.127

Each of the three approaches has its strengths and limitations. However, the general principles espoused in the guidelines referred to above in New South Wales are notable for the strong emphasis placed on education to facilitate the implementation of the legislation by water managers and users in regional areas.

In order to strengthen the transfer provisions in each State:

- arrangements for trade should be consistent across the States;
- general principles should be developed to give substance to the test of sustainability; and
- specific criteria should be developed for the test of the 'public interest'.

4.5 Other legislation impacting on water use

Each State has legislation which indirectly impacts on water use. Generally this is in the areas of development/planning, environmental protection, catchment management and soil conservation.128 Only Victoria has heritage rivers protection.129 Draft management plans have been made for some 18 key areas in Victoria and 26 relatively undisturbed river catchments.130 These areas and catchments are one of the matters required to be considered when the Minister is making a decision on the grant of a bulk entitlement or its transfer.131

Besides other legislation within the States, Commonwealth legislation also impacts indirectly on water use. The first generation of federal environmental legislation comprising mainly the
Environment Protection (Impact of Proposals) Act 1974 (Cth) focused on regulating the indirect environmental impacts of granting government licences and approvals and the activities of the Commonwealth government itself. That legislation was considered largely ineffective because Commonwealth environmental legislation in the 1970s and 80s relied on non-environmental issues for constitutional validity.

The Commonwealth has now relied on its power to legislate for external affairs, to enact the Environment Protection and Biodiversity Conservation Act 1999 (Cth). Under this Act, the Commonwealth assumed responsibility for activities that may have significant impact on matters of national environmental significance (for example Ramsar wetlands, nationally endangered or vulnerable species, migratory birds and endangered ecological communities), on Commonwealth actions and on Commonwealth areas. Biodiversity protection has been improved under the Act as has protection for Ramsar wetlands. The building of a new dam triggers the need for approval assessment, but there are no provisions that trigger control of significant water allocation decisions. However, there is scope for adding further triggers over time.
5 Recommendations for an Improved Legal Framework

Public debate over policy and law reform has challenged expectations about water use. Many issues raised are contentious on political, scientific and social fronts. It must be acknowledged that the economic prosperity of inland irrigation has been bought at considerable environmental cost. River systems have suffered much degradation in the two centuries since colonial occupation. In this comparatively short period, water resources have become fully committed, wetlands have been drained, natural habitats destroyed, and native species have dwindled under the burden of highly modified flow regimes and spreading exotic pest species. Our knowledge about resource use is as yet incomplete, and ecosystems may react in a manner which is entirely unexpected. In these circumstances it is essential that management decisions do not entrench the mistakes of the past.

State legislation in the last few years has made vast changes to the legal framework. Generally, these changes have significantly improved the capacity of State Governments to respond to the resource management issues that have emerged. However there are still areas where improvements are needed. Some of these involve clarifying the legislation. Others are needed to ensure that, as much as possible, the full potential of the legislation is realised through the effective implementation of its provisions. Although some recommendations for reform are made in this part of the paper, the task here is to define the challenges for legal reform more sharply rather than to propose neat solutions. Hence, instead of focusing on a description of the law, the following sections shift perspective to a discussion of policy matters.

5.1 Managing all of the terrestrial water cycle

If the ARMCANZ Strategic Framework and the ARMCANZ/ANZECC Ecosystem Principles are to be given effect in the Murray-Darling Basin, the principles of ecologically sustainable management need to be incorporated into legislation for the management of water resources. Not all States have fully provided for these principles in their Water Acts' water management objectives. The New South Wales legislation has provided an example of how this may be achieved by providing clear management principles (see, for example, section 4.4.1 above).

If the water resources of the Basin are to be used in an ecologically sustainable way, it is necessary for the States to have the power to plan and manage these resources across the main terrestrial phases of the hydrological cycle. This includes water in upper catchments and floodplains. In 1986, New South Wales vested all water resources in the State, including diffuse surface flows (that is water flowing over land and not contained within a watercourse). As a result of recent legislation, South Australia and Queensland now have the power to allocate and manage diffuse surface flows.\(^{138}\)

Victoria, in its explanatory memorandum to a 2001 Bill to amend its Water Act, acknowledges that there is a gap in the State's water allocation framework because irrigation and commercial dams built away from a waterway are not regulated under the Water Act 1989 (Vic). The new Victorian Bill is aimed at regulating the building of dams, which is different from managing the water resource itself. Compare this to the approach in New South Wales, where a
A proportion of rainwater run-off is considered a ‘harvestable right’ of the landholder. Although both approaches may achieve the same objective, the New South Wales approach is more consistent with the principle of the State exercising control over all terrestrial phases of the hydrological cycle.

Present legislation in all States extends to groundwater, but in practice an integrated approach for surface and groundwater has yet to be reflected in management practices. Management plans continue to be made separately for surface and groundwater use. While this may be appropriate in regions where there is relatively little water movement between surface and sub-surface waters, the need of ecological sustainability and for greater efficiencies in the use of a limited resource in the future will require consideration of the interaction and interdependencies between surface and groundwater systems. This is essential if the terrestrial phases of the water cycle are to be managed in an ecologically sustainable way. The enormous scope of the challenge of this management task is all the more apparent in the light of the incompleteness of data and understanding of our water resources that for managing conjunctive use.

5.2 Improved specification of consumptive entitlements

Specification of private access to water has not followed a uniform pattern. In at least three ways the specification of consumptive entitlements may be improved. Firstly, specification of these entitlements should be made capable of regular review at time periods which are clearly stated (see for example the Queensland and New South Wales models as discussed in section 4.4.2). Unless consumptive access to water is able to be reviewed, adaptive management is made extremely difficult and water resource use is less likely to be ecologically sustainable. If one accepts that the principles of planning and sustainability guide water management and allocation, then it is logical to provide for periodic review of consumptive and environmental entitlements. Instead, this has become an intensely political issue.

Secondly, legislation in most States provides for types of new water entitlement. In Victoria and Queensland the specification of the new entitlement includes a reference to security of supply levels. The term ‘security’ is used in these two States to refer to the frequency and severity of shortfalls between the quantity of water desired and the quantity of water that could be supplied. It is often indicated as a statistical probability. For example urban users in the Goulburn catchment, Victoria, have 99% security whereas irrigators received 97% security for water rights.

In New South Wales the concept of statistical probability is now referred to as a reliability factor. This is not a component of access licences. Instead, the 10 year life of the WMP provides for security, subject to payment of compensation where adjustments are made. It is suggested that to enhance the trading of entitlements and to achieve consistency across the States, security of supply (or a reliability factor) should be an element of specification. If this is not yet predictable in some States using present computer modelling, future planning may be able to fulfil this.

Thirdly, the calculation of security of supply (or a reliability factor) is dependent on good data collection to support computer modelling of the resource. Data relating to unregulated streams and surface water may be insufficient in many States to support accurate computer models predicting the probability of delivery or availability of water. This is further justification for careful attention to provisions for periodic review in water legislation.
5.3 Better provision of water for ecosystems

The allocation of water for ecosystems may also be improved. Firstly, a legislative duty should be imposed on all persons involved in the allocation and management of water resources to comply with ecologically sustainable management as it is understood by the ARMCANZ/ANZECC Ecosystems Principles. As section 4 of this paper shows, at present this duty has not been imposed in several States. In particular a duty should be imposed to rehabilitate degraded aquatic ecosystems and to protect representative freshwater ecosystems.146

Secondly, the allocation of water for ecosystems should be made using best scientific evidence. This is not yet a legislative requirement in all States. Neither is it a requirement that this type of allocation be made on the basis of independent scientific reports. This is a weakness that needs to be addressed as soon as possible. This recommendation overlaps with the next recommendation.

The third area of improvement relates to accountability. The Ecosystems Principles stress that accountability is essential to environmental water provisions. In this context accountability means that use of the allocation should be clearly demarcated, holders of environmental allocations should be clearly defined, and they should give an account of their performance.147 Why is accountability a good thing? Historically water agencies have been given such wide administrative discretion that they were often not liable for their actions.148 Accountability of water agencies is vital and needs to be legislatively provided. The following aspects are in need of attention.

- One problem of water provisions, particularly in the past, is that they are difficult to understand. While it is difficult to completely rid water legislation of technical jargon of water managers — water management undeniably is complex and for decades management has been the domain of engineers — legislation and planning documents should be written in plain English to be, as far as possible, understood by those with the task of implementation and members of the community.

- Unless measurable standards relating to provision and management of water for ecosystems apply, governmental agencies, when under pressure both from their political masters and their customers who are consumptive users, may continue to allow unsustainable practices.149 Enforceable standards should be provided for scientific data to be effectively incorporated into the law. These standards should also include ecological outcomes to be achieved and must stand up to a how, when and where level of scrutiny.

- Accountability is unachievable unless a clear plan exists for using water for ecosystems. This plan should be made in consultation with community stakeholders, preferably on an annual basis, with a detailed report as to usage or non-usage of water. Details should include agreed measures, indicators of sustainability, and mechanisms for monitoring and review. An independent audit of the use of allocations should be carried out at least once during the tenure of a water management plan. The audit’s findings should be made public and be taken into consideration in the making of the next water management plan.

- The usage of environmental allocations may be dependent on financial considerations instead of ecological ones. For example the Bulk Entitlement for all ecosystems use along the Murray has been traded, and there are concerns that profit from trading is needed to pay for substantial delivery costs incurred in using the water.150 If allocations are tradable, there needs to be clear principles governing trade and also how the money from the sale of environmental allocations is to be used.151
Members of the public may find it difficult to obtain data and sensitive reports. Public access to data, plans and reports should be available at no cost. Freedom of information legislation may provide access, but it is costly, time-consuming and not always effective in public interest matters.\footnote{152}

5.4 Public involvement in regulation

The idea of accountability raises the question who are water managers accountable to? For instance, currently in Victoria the legal owner of Victorian BEs for the environment is the Minister administering the Conservation, Forests and Land Act 1987. It may be difficult to persuade the Minister to enforce provisions of the BE because of the strict rules of having ‘standing’ to sue.

If the BE for flora and fauna is expressly vested in the State on behalf of the people of the State of Victoria, the public acquires an explicit interest in the environmental flows.\footnote{153} If this is done, it would follow that legislation should provide that any member of the public should be able to claim a right to access information, and with the appropriate safeguards, be able to enforce public rights.

The public now plays a crucial role in planning through membership of committees and in consultation. Their much increased responsibility in planning should allow them increased opportunities in enforcement of planning and other provisions. Generally under previous water legislation, members of the public had limited rights of objection to proposals and even more restricted rights of appeal against administrative decisions. This has changed in some States, for example New South Wales and Queensland new measures which have been introduced include increased rights of objection to proposals and appeals from decisions.\footnote{154} It is significant that in New South Wales any person may now bring proceedings either to remedy or restrain a breach of the water legislation.\footnote{155} A slightly narrower provision exists in Queensland.\footnote{156}

5.5 Explicitness of re-allocation and compensation

Re-allocation of resources occur in mainly three phases: (1) when area-based licences are converted to volumetric form; (2) when water is re-allocated, through the water planning process, from volumetric licences, to a share of the resource allocated for consumptive use through entitlements; (3) if the share of the resource allocated for consumptive use is adjusted.

The issue of compensation arises at each of these phases. Some general principles regarding compensation apply. First, there is no general right to claim compensation when a State acquires a property right of an individual. In contrast, compensation must be paid when the Commonwealth acquires property.\footnote{157} Secondly, pre-reform mechanisms allowing access to water, for example licences, are not proprietary interests because they were not secure. As discussed earlier, these rights to take and use water could be amended, varied suspended, cancelled or revoked under previous Acts.\footnote{158} Thirdly it is doubtful that these rights would fulfil a strict test of property because they were not widely transferable.

Historically consumptive users have not received compensation in the 1st phase. In the past the rates for conversion have been fairly generous. New South Wales is in the process of converting licences on unregulated streams to a volumetric basis. General principles have been formulated. For example, sleeper/dozer portions of licences are given a lower conversion rate than those portions in active use.\footnote{159}

As for the 2nd phases, re-allocation has not been explicitly dealt with. In over-allocated catchments, for example groundwater licences in the Namoi catchment of New South Wales, water has to be ‘clawed-back’ from consumptive use
before a sustainable level of use is achieved. How water is clawed back, which type of users should be affected, and whether the reduction should be uniform for all types of access regardless of a history of use, have been extremely difficult questions. For the most part, river management committees in each catchment have to make recommendations on these issues. This fragmentation of decision-making while allowing for consideration of local interests also gives rise to an inconsistent approach.

It is suggested a consistent policy model for reduction in consumptive use should be formulated and made known to the public. In New South Wales at least, it appears that a decision has been made that groundwater licences will be reduced by an across-the-board percentage. This is based on the estimated sustainable yield of each aquifer zone within the catchment. Whether or not these licences had been in use is not considered relevant.

Irrigators have asked for compensation to be paid in Phase 2 if their existing water use is reduced upon conversion to new entitlements. If the general principles regarding compensation were to be applied to existing water rights before plans were made, it is unlikely that consumptive users are entitled to compensation. There were no provisions in any of the previous State legislation allowing users any right to compensation.

Queensland and New South Wales have explicitly dealt with the main issues regarding re-allocation of water resources during the 3rd phase. A right to compensation has also been expressly provided in specified circumstances. If adjustments to water allocations occur during reviews of Water Resource Plans in Queensland, no compensation will be payable. It is expected that if the total allocatable resource in the plan needs to be reduced upon review, then every entitlement holder will have a correspondingly smaller share of the resource. Reduction is expected to occur at the same rate regardless of use. If changes to water allocations occur during the scheduled review, then no compensation is payable to the holder. On the other hand, reasonable compensation is payable if changes occur at any other time. The same principles apply in New South Wales but South Australia and Victorian legislation is silent on the matter.

Consumptive users are capable of exerting considerable lobbying power on both politicians and bureaucrats. In contrast, ecosystems have no voice and those interested in protecting the environment are a diffuse group who do not derive direct benefits from its protection. If re-allocation and the principles of compensation are not made explicit in all three phases of re-allocation of resources, the danger exists that the introduction of private tradable rights in water will continue the historical pattern of elevating consumptive over environmental use.

From the perspective of consumptive users, clear principles will introduce some certainty and consistency in re-allocation of resources. Answers to the issues raised in this section of the paper are particularly difficult. Even if entitlements issued after plans are made are considered 'property rights' it is open for a statutory regime that creates these rights to also create a statutory framework for re-allocation, and to prescribe any rights to and limits for compensation.
6 Concluding Comments

Because our understanding of the role of fluctuations in flow in the maintenance of riverine ecosystems are relatively recent in origin, both the common law and the previous legal framework naturally did not provide for ecosystems needs. Water legislation, when it was first introduced in the 1880s promoted consumptive use, particularly irrigated agriculture, because of the needs of that era. It was enacted for two purposes, firstly to create a system of administrative rather than judicial apportionment of rights to use water. Secondly, legislation sought to do away with the vagaries of the riparian doctrine. However legislation was still based on common law concepts that were inappropriate for application to Australian conditions, for example the notion that water flowed within a defined watercourse.

Changes in legislation over the next 100 years were incremental and implementation of the law relied on administrative discretion. The legislation became fragmented, difficult to apply and did not reflect ecological values that were becoming more accepted nationally and internationally in since the 1970s.

Law reform adopted by some of the States at the turn of the 20th century made radical changes to that legal framework. The main gains for water reform were that in some States it allowed for:
- ecologically sustainable management of water resources;
- management of the whole of the terrestrial phase of the hydrological cycle;
- specified rights for both consumptive users and for ecosystems; and
- consumptive rights to be tradeable provided reasonable conditions were met.

However despite incentives under the National Competition Policy, not all States have fulfilled the objectives of policy documents, particularly the ARMCANZ/ANZECC Ecosystems Principles.

From the discussion on law reform in this paper, it is apparent that several areas require continued policy and legal development. Recommendations made in this paper include:
- legislating for more accountability by water agencies to ensure good management of environmental water provisions;
- the mandatory use of independent scientific reports in the making of water plans;
- open standing for groups representing the public interest; and
- increased public involvement in the remedy or restraint of offences against water legislation.

Issues about water allocation and management are inherently political. For most of the history of the Murray-Darling Basin, water politics has been about making ‘a bigger cake’ rather than dividing a ‘cake’ that is finite or getting smaller. The last few years have seen rapid changes in the institutional stage on which the politics of water allocation is played out. The new politics of water allocation in the late 20th and early 21st century is essentially a phase of institutional experimentation in which we are yet to understand what works well and what does not. It is important the Murray-Darling Basin Commission continues to support efforts to learn from the current phase of experimentation and ensure that the partner State Governments incorporate the new understandings in their water legislation.
Appendix 1

State provisions regarding transfers of entitlements are found in the:

- Water Management Act 2000 (NSW);
- Water Act 2000 (Qld);
- Water Resources Act 1997 (SA); and
- Water Act 1989 (Vic).

This table highlights the differences in the allocation framework between States and the complexity regarding transfers of entitlements. For that reason some of the terms used in the first column may not easily fit descriptions of either the entitlements or the procedures within a particular state, and are to be read as an attempt to search for a generic reference that will allow some comparison between States.
<table>
<thead>
<tr>
<th>Bulk allocations</th>
<th>NSW</th>
<th>Qld</th>
<th>SA</th>
<th>Vic</th>
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</thead>
<tbody>
<tr>
<td>Referred to as a bulk access regime under a management plan: s 45.</td>
<td>The Act is silent regarding bulk allocations, instead it provides for a licence to operate water infrastructure: s 109. Provisions allow the trade of whole or part of this licence: s 114(1).</td>
<td>The Act does not differentiate between personal and bulk water allocations/licences.</td>
<td>Referred to as Bulk Entitlement (BE). Various types of BEs may be traded temporarily or permanently: s 46</td>
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<tr>
<td>The regime is not an allocation to a particular person or corporation. It may not be traded.</td>
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<tr>
<td>Access licences are to be issued. Trade is to be subject to WMPs and transfer principles which have yet to be published: s 71. The whole or part of the water allocation may be transferred for the whole or part of the term of the licence: s 72. Interstate transfers may be allowed by agreement between State Ministers: s 74. Currently because access licences are not yet in place, trade takes place under the Water Act 1912. Approvals are required. There is a distinction between temporary and permanent transfers.</td>
<td>The Act does not differentiate between one type of new entitlement and another. All new entitlements are called 'water allocations' and may be 'dealt with' or sold or leased: ss 128-137. Transfer rules apply: s 129. If the proposed transfer does not fall within the transfer rules, ss 130 - 134 allow for additional safeguards eg. public notice and additional information. The Chief Executive approves, based on statutory criteria which include 'public interest': s 134. Transfers for a water season are subject to a lesser degree of scrutiny ss 142-145.</td>
<td>The Act differentiates between a licence and the water allocation assigned to that licence. One may be transferred without the other, although commonly both will be transferred at the same time. Similar provisions apply to transfers of both licences and water allocations: ss 38-41. Transfers of a licence may be absolute or for a limited period: s 38(2). The water allocation may be wholly or partly transferred, and may be for an absolute or limited period: s 38(1)(b) and (4). All transfers are subject to Ministerial approval and Statutory criteria apply: s 59, 41.</td>
<td>ss 51 and 52 licences may be traded temporarily or permanently: s 62. s 51 licence may be traded interstate with Ministerial approval: s 62(2A).</td>
<td></td>
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</table>
Entitlements within irrigation schemes
Access licences are to be issued to all types of irrigation schemes: ss 118, 141, 222.

For an irrigation corporation, a single access licence will be issued to the corporation and the provisions for transfers described above will apply.

The Act is silent regarding transfers within the scheme. At present transfers are subject to the trading rules of the corporation.

Other relevant provisions
Basic landholder rights are available. They include riparian domestic and stock rights (s 52) harvestable rights for capturing rainwater run-off (s 53) and native title rights (s 55).

Water for riparian domestic and stock use does not require a licence: s 20(3).
Licences not subject to a water resource plan may be transferred only if a regulation provides: s 223.
Amalgamation or sub-division of licences are permitted: s 224-5.

Water for domestic and stock use does not require a licence provided that user has access to a waterway or land on which a bore is located: s 8(1).

<table>
<thead>
<tr>
<th>NSW</th>
<th>Qld</th>
<th>SA</th>
<th>Vic</th>
</tr>
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<tbody>
<tr>
<td>Access licences are to be issued to all types of irrigation schemes: ss 118, 141, 222.</td>
<td>See information for licences.</td>
<td>See information for licences.</td>
<td>Temporary transfers are limited to a maximum of one irrigation period: s 224(4) and are subject to by-laws made by authority: s 225. Interstate transfers may be temporary or permanent: ss 224A, 226A. Interstate transfers should be subject to ministerial guidelines: s 224B. Permanent interstate transfers are subject to regulations made under s 228.</td>
</tr>
<tr>
<td>For an irrigation corporation, a single access licence will be issued to the corporation and the provisions for transfers described above will apply.</td>
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<td>Water for riparian domestic and stock use does not require a licence: s 20(3). Licences not subject to a water resource plan may be transferred only if a regulation provides: s 223. Amalgamation or sub-division of licences are permitted: s 224-5.</td>
<td>All licences and water allocations attached to them are personal property: s 29(5). Water for domestic and stock use does not require a licence if that user is a riparian or takes surface water from land: s 7(5).</td>
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</tr>
</tbody>
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7 End Notes and Bibliography

Papers in this series


4 The ACT government has since 1998 participated in the Murray-Darling basin Initiative via a memorandum of understanding. This allows the ACT to take part in the planning and management of Basin environmental resources but not to be involved in the water management of the river system: Murray-Darling Basin Commission, *Annual Report 1997-98,* MDBC, Canberra, p 17.
5 The emphasis in the report is on the legislation of the States of Queensland, New South Wales, Victoria and South Australia. To keep the report within the size limit set for it, the legislation of the Australian Capital Territory has not been included.
7 These have been held to include drinking and cooking, cleaning and washing, feeding and supplying water to an ordinary quantity of cattle and the production of water power. See *Halsbury's Laws of England,* 4th ed, London, Butterworths, 1984, Vol 49, para 401-402.
8 *Embrey v Owen* (1851) 6 Exch 353, 155 ER 579.
9 The riparian doctrine allowed a downstream riparian to sue to prevent any ‘extraordinary’ upstream use by another person. If the upstream use was not challenged it would ripen into a prescriptive right against a lower riparian landowner. This is how many weirs and mill streams came to be unchallengeable by downstream riparians.
10 *Embrey v Owen* (1851) 6 Exch 353, 155 ER 579; *Mason v Hill* (1833) 5 B & Ad 1, 110 ER 692; *Williams v Morland* (1824) 2 B & C 910, 107 ER 620.
11 The *Water Conservation Act* 1881 (Vic.) and earlier legislation created waterworks trusts. Each trust would be locally organised and given power over the surface water supplies within its jurisdiction (generally within the shire boundaries). The trusts would be empowered to divert water themselves and license the diversion of water by others.
12 Water Act 1905 (Vic) s 5. Section 8 provided that no-one after the enactment of the 1886 Act could acquire any prescriptive right on the basis of long user. This section was based on legal advice given to the Victorian Government that riparian rights were based on long user concept of prescription: PN Davis, Australian Irrigation Law and Administration: Development and Analysis, SJD thesis, University of Wisconsin, 1971.

13 See Rights in Water and Water Conservation and Utilization Act 1910 (Qld); Rights Water and Irrigation Act 1914 (WA); Control of Water Ordinance 1938 for the Northern Territory. Tasmania and South Australia preserved limited riparian rights.


15 See SD Clark and IA Renard, ‘Constitutional, Legal and Administrative Problems’ in HJ Firth and GS Sawer The Murray Waters: Man, nature and a river system, Angus & Robertson, Sydney, 1974, 265-6.


20 As above, p 1182.

21 As above, p 1182.


25 For Victoria, see Hon D White MLC, Minister for Water Supply, in his speech advising parliament of the government’s intention to comprehensively overhaul water law, Victorian Legislative Council, Parliamentary Debates, 2 December 1983, cited in A Scarce Resource, 1992, 8; for NSW, see Task Force to Review Reforms in the Water Industry, Review of Reforms in the water industry - 1988: Report to the Minister for Natural Resources, vol. 2, Background Paper No 1, Sydney, 1988, 3 which stated that as at 1984, 37 major Acts and 17 public bodies were involved in water administration.

26 It identified 8 major issues which fell into 3 categories: (1) environmental - protecting water quality and instream uses; (2) management - regarding issues of efficiency, pricing, co-ordinated management of water and land resources, data collection; and (3) funding of research and continuing Commonwealth government involvement: K.D. Green, Water 2000: A Perspective on Australia’s Water Resources to the Year 2000, AGPS, Canberra, 1983, vii-viii.

27 NSW Legislative Assembly, Hansard, 21 September 1977, 8170.

28 Water Act (NSW) 1912, Division 4 B.

29 Coulton v Holcombe (1990) 20 NSWLR 138, 149.


31 WaterAct (NSW) 1912, s 20 AB.

32 A water audit confirmed that water managers on the Murrumbidgee, Murray and Goulburn were making large allowances for under-usage when announcing allocations: Murray-Darling Basin Ministerial Council, An Audit of Water Use in the Murray-Darling Basin, MDBMC, Canberra, 1995, 29 (hereafter Water Audit, 1995).

33 The term ‘security of supply’ referred to the frequency and severity of shortfalls between the quantity of water desired and the quantity of water that could be supplied: See Murray-Darling Basin Ministerial Council, An Audit of Water Use in the Murray-Darling Basin, MDBMC, Canberra, 1995, 29. Security ranged from a very high level, where water demands would be completely met every year, and low, where irrigators might not have all their full requirements met every year and some years might not receive any water at all. The level of security that irrigators required depended on crop requirements.


35 The cases are McCrae v Coulton (1986) 7 NSWLR 644 (Court of Appeal); Coulton v Holcombe (1986) 162 CLR 1 (High Court); Holcombe v Coulton (1988) 17 NSWLR 71 (Supreme Court); and


Water Act, 1912, s 22B(4).

The audit by Dr John Paterson was not into water use but the administration of NSW’s water resources. The audit itself was not published; see Task Force to Review Reforms in the Water Industry, Review of Reforms in the water industry - 1988: Report to the Minister for Natural Resources, vol. 1, Sydney, 1988.

The Water (Central Management Restructuring Act) 1984 (Vic) also provided objectives for water management.

The Water Administration Act, 1986 (NSW) s 4 provided for management:
(a) to ensure that the water and related resources of the State are allocated and used in ways which are consistent with environmental requirements and provide the maximum long-term benefit for the State and for Australia; and
(b) to provide water and related resources to meet the needs of water users in a commercial manner consistent with the overall water management policies of the government.

Water Administration Act, 1986 (NSW), s 12.


Ibid, 11.

Water (Amendment) Act 1986 inserted Div 4C into Part 2 of the Water Act 1912 (NSW). However these amendments only commenced application in 1989. The main reason for the delay was to allow financial institutions to make sure that any mortgage interests they had over land would be secure: see B Cummings ‘ Water Transfers: the NSW Experience ‘ in Transferability of Water Entitlement: An International Seminar and Workshop Proceedings, July 1990, Armidale, Centre for Water Policy Research, 1990, JJ Pigram and BP Hooper (eds),186.

Water Act 1912 (NSW) Part 2 Div 4B.


Water (Permanent Transfer of Water Rights) Regulations 1991 (Vic), Schedule 5 lists areas and districts mostly in Northern Victoria.

Water (Permanent Transfer of Water Rights) Regulations 1991 (Vic), ss5 and 7.

Water Act 1989 (Vic), s 224(4).

See the series of undated Water Notes prepared by the Land and Water Unit, Goulburn-Murray Water.


Further pricing reform required that adequate financial provision be made for refurbishment of assets such as storages and other infrastructure, and that cross-subsidies which currently exist between water users be removed. See Report of the Working Group on Water Resource Policy to the Council of Australian Governments, unpublished paper, February 1994.

As far as possible, the roles of water resource management, standard setting and regulatory enforcement were to be separated institutionally from service provision. The management of irrigation areas should be devolved to local bodies subject to the establishment of appropriate regulatory framework: ibid.

This is named the Ramsar convention after the town where the convention was signed in 1971. For an analysis of the implementation of the Ramsar convention see M Comino, ‘The Ramsar Convention in Australia – Improving the Implementation Framework’ (1997) 13 Environmental and Planning Law Journal 89.

‘Wetlands’ include areas of marsh, fen, peatland or water, whether artificial or natural, permanent or temporary with water that is static or flowing, fresh, brackish or salt. There are not confined to inland
areas and may include marine areas which at low tide are covered by waters not over six metres. See Article 1, Ramsar Convention on Wetlands of International Importance, 1971, (1972) 11 ILM 963.

In response to growing concerns over the losses of wetlands, the National Wetlands Program was established by the Commonwealth in 1989. The Program funded the creation of a directory of important wetlands in Australia in 1993, and provides funds for States and Territories to develop management plans and improve management arrangements for Ramsar listed wetlands and others on the directory. For a discussion of ‘wise use’ and the changing focus of the Ramsar Convention see D Farrier and L Tucker, ‘Wise Use of Wetlands under the Ramsar Convention’, (2000) 12 Journal of Environmental Law, 21.

See for example the Stockholm Declaration (1972) 11 ILM 1416, Rio Declaration (1992) 31 ILM 874, the Japan-Australia and China-Australia Migratory Bird Agreements. For a description of these see Fisher, 2000 at chapter 2.


These actions should include the rehabilitation of polluted and degraded water bodies; protection of groundwater resources; and once again the conservation and protection of wetlands. See generally chapter 18 of Agenda 21.

Intergovernmental Agreement on the Environment, AGPS, Canberra, 1992, ss 3.4 and 3.5.


ARMCANZ, 1995, 12.


Water Act 2000 (Qld) ss 10,11; Water Management Act 2000 (NSW) s 3.

Water Act 2000 (Qld) s 10(3).

Other chapters of the Act, for example Chapter 3 which deals with infrastructure and sewerage services have different purposes and do not refer to sustainable management. Water Act 2000 (Qld) s 361 sets out the purpose of Chapter 3.

Water Management Act 2000 (NSW) s 3.

Water Management Act 2000 (NSW) s 5(3).

Water Management Act 2000 (NSW) s 52.

Water Management Act 2000 (NSW) s 53.

Water Management Act 2000 (NSW) s 55.

Water Act 1989 (Vic) s 1.

Water Act 1989 (Vic) s 8.

Water Act 2000 (Qld) ss 46(1)(e) and 46(3)(a). Ecological outcome is defined as ‘a consequence for an ecosystem in its component parts specified for aquifers, drainage basins, catchments, subcatchments and watercourses’: schedule 4.

Water Act 2000 (Qld) ss 41, 47.

Water Act 2000 (Qld) s 39(c) and Water Management Act 2000 (NSW)

Water Act 2000 (Qld) ss 49, 50.

Water Act 2000 (Qld) s 46(3)(b).

Water Act 2000 (Qld) schedule 4.

Water Act 2000 (Qld) s 128(1)(e).

Water Act 2000 (Qld) s 55(3).
The new Act uses the word ‘rights’ only in reference to state and basic landholder rights. All other users obtain ‘licences’, denoting that their interests, although tradable, are ranked lower than the two rights. The licences are generally issued for a period of 15 years: Water Management Act 2000 (NSW) s 69(1)(a). Local and major water utility access licences are issued for 20 years and regulated river (supplementary water) access licences are issued for the term of the associated access licence: ss 69(1)(b) and (c) and 70.

Water Management Act 2000 (NSW) s 56(5).
Water Management Act 2000 (NSW) s 43.
Water Management Act 2000 (NSW) ss 38-9.
Water Management Act 2000 (NSW) s 44.

See for example list of Lachlan River Management Committee furnished by DLWC Forbes, November 1999 to the writer.

Water Management Act 2000 (NSW) ss 12 and 13.
Water Management Act 2000 (NSW) s 13(1)(g).

Water Resources Act 1997 (SA) s 90. The 1995 plan was adopted at the commencement of the Act and a new State Water Plan was made in 1999.

Water Resources Act 1997 (SA) s 91.
Water Resources Act 1997 (SA) s 92.
Water Resources Act 1997 (SA) s 92(4).

Water Resources Act 1997 (SA) s 7(5) provides that water may be taken without a license for those purposes by an occupier of land from a river flowing through the land, or a lake or well on the land, or from surface water flowing over land which they occupy.

Water Resources Act 1997 (SA) s 8.

Water Resources Act 1997 (SA) s 9(1). Examples of prescribed water resources are the River Murray, parts of Morambo Creek and its catchment.

Water Resources Act 1997 (SA) s 50(2)(a). This person will be the presiding member of the Water Resources Council.

NSW in 1995 also started to reform bulk licences for irrigation areas and districts.

Bulk Entitlement (Eildon-Goulburn) Conversion Order 1995, cl 4. The probability is dependent on computer models of hydrological conditions and information collected over a period of time. The more data and the longer the collection period, the more accurate the model.

Water Act 1989 (Vic), s 43. If it is by share of storage, then the amount of water is to be further quantified by reference to further matters such as the share of inflow to the storage, volumetric share of releases, seepage and evaporative loss adjustments, and the share of the water remaining in the storage after heavy inflow causes the water in the storage to spill over.

Water Act 1989 (Vic), s 64A.

Water (Irrigation Farm Dams) Bill 2001, s 10 which provides for a new Division 3 to the principal Act.

For example it is argued that the environmental flow objectives were drafted to accommodate the proposed storage development and failed to protect the health of ecosystems: see the analysis of Queensland’s first two Water Resource Plans by FC Coffey, ‘Assessment of Water Resource Plans under the Water Act 2000 (Qld): Ecological Outcomes and Environmental Flow Objectives in the Context of the Precautionary Principle and Sustainable Management,’ (2001) 18 Environmental and Planning Law Journal 410.

Plans in transition such as the Condamine and the Burnett have been deemed to comply with most of the process for preparation of a plan set out in Chapter 2 of the Act. Hence technical reports and documents that were to be part of the safeguards of the planning process are waived and public participation jeopardised. Transitional provisions for the Border Rivers, Burnett, and Condamine-Balonne WRPs may give priority to persons already using their licences and those who had built dams to collect overland flows by specified cut-off dates in 2000. Water Act 2000 (Qld) ss 1042 and 1043.

See second reading speech and debate over the Water Infrastructure Development (Burnett Basin) Amendment Bill, Queensland Hansard, 12 December 2001.

As above. See also mixed reaction by the community in S Ryan, ‘Paradise Lost?’, Courier Mail, 7 January 2002.

Since 1993, Barmah-Millewa Forest has an annual environmental allocation of 100 thousand ML, half provided by NSW and half by Victoria. This allocation is made under the Murray Darling Basin Initiative and in 1999 Victoria recommended that the increase be made out of Victoria’s share of...
Murray water: see Murray Water Entitlement Committee, Sharing the Murray- Proposal for defining people’s entitlement to Victoria’s water from the Murray, Melbourne, 1997.


118 Water Management Act 2000 (NSW), s 8.


120 Water Act 2000 (Qld) s 47(c).


122 In Queensland transfers for less than one season, called seasonal water assignments, fall into a different category and need less scrutiny, Water Act 2000 (Qld) ss 230-236.

123 Water Act 2000 (Qld), s 129.

124 Water Act 2000 (Qld), s 134.

125 Water Act 2000 (Qld), s 223.

126 Water Regulation 2000 (Qld), s 5(2).

127 Water Act 1989 (Vic) s 228.


129 The only State with heritage river protection is Victoria: Heritage Rivers Act 1992.

130 Finalisation of these plans have been slow so the protection so far is largely nominal. See M Maher, J Nevill and P Nicols, Improving the legislative basis for river management in Australia - Stage 2 Report, Draft Report for the Land and Water Australia, August 2001, Appendix A

131 Water Act 1989 (Vic) ss 40(ja), 35.


134 The external affairs power of the Commonwealth is found in the Constitution s 51(xxxi). This gives power to the Federal Parliament to make law implementing an international treaty or convention. For further reading see J Crawford, ‘The Constitution and the Environment’ (1991) 13 Syd LR 11.

135 In the first decision made under the Act in Booth v Bosworth, [2001] FCA 1453, the Federal Court accepted the argument that the spectacled flying fox was a species that contributed to the character of the Wet Tropics World Heritage Area as one of the ‘most significant regional ecosystems of the world’. The defendant’s actions in operating an electrical grid to electrocute these flying foxes which ate fruit of his lychee orchard located next to the Heritage Area, would therefore render the species endangered in the next five years and had to be restrained.

136 A Ramsar wetland is defined under the EPBC as an Australian wetland on the List of Wetlands of International Importance kept under the Ramsar convention, or a wetland thus declared by the Commonwealth Environment Minister: s 17 Environment Protection and Biodiversity Conservation Act 1999 (Cth).


138 Water Resources Act 1997 (SA), ss 7 and 8; Water Act 2000 (Qld), s 19.


141 For an explanation of the susceptibility of this and other rural issues to politicisation, see section 3.1.1 of the companion issues paper to this one: L Frost, I Reeve, R.Stayner and J McNeill, ‘Issues
Institute for Rural Futures


142 Water Act 2000 (Qld) is not clear on this, but see s 128(1)(e).
143 Water Audit, 1995, 29
144 See Bulk Entitlement Order (Kyabram) Conversion Order 1995 (Vic) cl 7.
147 ARMCANZ and ANZECC, National Principles for the provision of water for ecosystems, Occasional Paper SWR No 3, Canberra, Commonwealth of Australia, 1996, 10.
149 An American environmental litigator makes this conclusion from her experiences in recent US cases: see KL Boyles, ‘Making the Case for Enforceable Standards’ (1998) 13 Journal of Environmental Law and Litigation 1, 12.
150 See this author’s article at note 116 above and the references therein.
151 There has been acknowledgement of this need but no action taken in Victoria. Cf NSW which is to make regulations for transfer principles for trade in consumptive licences and entitlements: Water Management Act 2000 (NSW) s 71.
152 Two exemptions from freedom of information obligations are frequently encountered. They are (1) that the information is commercial-in-confidence, and this is a hurdle which is likely to increase as more private enterprise gets involved in water supply and management functions; and (2) that documents could prejudice the confidentiality of Cabinet considerations or operations. The second reason was furnished for refusing the FOI application of the Queensland Conservation Council for key documents regarding the decision to build Paradise Dam on the Burnett River, Queensland. See K O’Conor, ‘The Politics and fast-tracking of Paradise Dam: A synopsis’, Queensland Conservation Council, unpublished letter, 17 October 2001.
154 See for example Water Management Act 2000 (NSW) ss 62, 93 and 129 and Water Act 2000 (Qld) ss 132, 134, 208, 851, 863 and 87.
155 Water Management Act 2000 (NSW) s 336.
156 Water Act 2000 (Qld) s 784(1)(a).
157 Commonwealth Constitution s 51 (xxxi).
158 See for example, Water Resources Act 1989 (Qld) s 44(1)(f).
160 While total access allowed under existing licences amounts to 460 gigalitres a year, sustainable use is estimated at 215 gigalitres a year: The Hon R Amery, Minister for Agriculture and Minister for Land and Water Resources, Media Release, 21 August, 2001.
162 In 1996 an Independent Audit Group in its report to the Murray-Darling Ministerial Council recommended a hierarchy of rights in order to create a basis for a coherent and impartial assessment of the equity issues arising within and between States. The hierarchy was developed on the basis of two principles. First, those with formal access rights to water should be given precedence over informal forms of access (such as off-allocation and sales water); and secondly, those with a history of use should have precedence over those without: Murray-Darling Basin Ministerial Council, Setting the Cap: Report of the Independent Audit Group, MDBMC, Canberra, 1996, 4 and Appendix G, 60.