A NEW ERA FOR AUSTRALIAN WATER LEGISLATION

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Abstract

This paper questions the role of water authorities and reviews recent changes in Australia's water legislation. Traditionally the role of water authorities has been to monitor hydrological flows and promote economic development which utilises available water resources. Nowadays the role is more complex, they must ensure that the water resource is used efficiently, the distribution of income derived from the water is equitable, and that environmental requirements are taken into account. Water authorities, being custodians of a public good, have become public policy makers. Should they be expected to take on such a role and if so, do they have the institutional and legal infrastructure necessary to implement social policy? This paper will attempt to assess the role of water authorities and identify ways in which their effectiveness can be enhanced.

Introduction

Water management in Australia has entered into what Randall (1980) called a *mature phase*. No longer do water authorities look solely to the construction of bigger dams to solve water issues (the pork barrel approach of the past (Paterson, 1987)), rather they examine options of improving the allocation of existing water entitlements in conjunction with environmental and social policy objectives. The objective is to promote efficiency and equity of water allocation while protecting the environment. This objective will only be achievable if the legislation gives clear direction in terms of the role and power of water authorities, guidelines for the transfer of water entitlements and the establishment of environmental water entitlements. Australian water legislation has been a quagmire of statutes[1]. The recent legislative reforms attempt to adopt a "systems" approach which incorporates water management issues into one Act and thereby give greater coordination to the role of Government (Paterson, 1986). This paper questions whether the series of state water legislative reforms over the past decade have made this objective achievable.

The paper begins with an overview of the role of state water authorities to establish what is expected of them and examines how the recent legislation accommodates the new diverse role of the water authority. Two major policy reforms, namely transferability and environmental water allocations, are then examined. Finally the paper suggests improvements in the legislation which may improve the management of Australia's water resources.

THE ROLE OF THE STATE WATER AUTHORITIES

If the water authority is to achieve its objectives it needs to have a clearly defined role that, when implemented, or tested in the courts, will be upheld. Historically the role of water authorities have been only vaguely defined. As a result there has been inconsistent Land Court opinions as to the role of the Water authority, as illustrated in the following review of legislation and court decisions in eastern Australian states.

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[1]The Water Act 1989 (Vic.) replaced some 15 different statutes (Peterson, 1989).

The role of the Queensland Water Resources Commission

In the planning of water resource development, the Queensland Water Resources Commission (QRWC) has legislative direction to ensure that projects promote the public interest. The *Water Resources Administration Act 1979 (Qld)* states that the Commissioner shall

> "enable plans to be formulated, coordinated and implemented for the conservation, replenishment, utilisation and distribution of the waters of the State to the best advantage of the public interest" (*Water Resources Act 1989 (Qld)* s. 3.11(3)(g)(ii)).

To implement effectively the broad aims set out in the Act, the QWRC must be able to amend, revoke, or impose conditions on licences based upon criteria of public interest. Yet conditions of licences and the authority of the Commission, as stated in the *Water Resources Act* 1989 (*Qld*) authorise the Commission to impose restrictive conditions only if valid hydrological factors exist[2]. No powers are conferred to make decisions based upon economic or social grounds. This has been carried over largely unchanged from the *Water Resources Administration Act 1979 (Qld)*.

While the legislation defines the bounds of the water authority, it is dependent upon judicial interpretation. In interpreting the legislation, judicial statements have been inconsistent in regard to the role of the QWRC in promoting broader management (distributive) objectives[3]. In summation of *Hill and others v Commissioner of Irrigation and Water Supply* (1977), Q.L.C.R. 136, the magistrate Mr McDowell stated that in his view, the Court should ensure a "fair and equitable" outcome. In *Stuart v The Commissioner of Water Resources*, (1982) Q.L.C.R. 136, the presiding Mr Smith stated that he was "in no position to gauge whether,...the increased amount of water...is commensurably equitable." Such a statement appears to imply that he felt a need to judge the case on grounds of equity or fairness, but was unable to define a "reasonable share". In *Burt v The Commissioner of Water Resources* (1983), Q.L.C.R. 52, it was found that

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[2] Hydrological factors include the capacity of channels and the certainty of supply to existing water users (Water Resources Act 1989 (Qld) s.4.18).

[3] The judicial system becomes involved in interpreting the legislation when a person appeals against a decision of the QWRC. Under the Water Resources Act 1989 (Qld) s. 4.26, "A person aggrieved by a decision of the Commission may... appeal to the Land Court".

> "in the exercise of his powers the use, flow and control of water in all watercourses the Commissioner is charged to take measures to ensure the more equal distribution and beneficial use of water" (*Burt v The Commissioner of Water Resources* (1983), Q.L.C.R. 52).

On the other hand, in another Land Court decision, the presiding Mr Smith stated that

> "The Land Court is a creature of statute. It has no inherent powers of correction in the public interest or on the grounds of equity" (*Dickson v Babinda Swamp Drainage Board* (1982), Q.L.C.R. 174).

What can be concluded? While the land Court philosophically supports the public interest, it does not see itself as having the power to support claims based upon public interest criteria. Nevertheless, in numerous cases equity is cited as of primary importance. The Court appears to be willing to apply some criteria of equity in their decisions, but have been constrained by a lack of legislative guidance and authority. The Court, being bound by the legislation, have had to be concerned solely with hydrological issues, rather than viewing water management issues in terms of the social goals of natural resource management.

The role of the New South Wales Department of Water Resources

Similar problems have occurred in New South Wales as a result of poorly formulated legislation. Until 1986 the Water Conservation and Irrigation Commission (WCIC) of New South Wales was responsible for instream water management in that State. The role of the WCIC was subject to a number of Acts, reflecting the complexity of water management[4]. The responsibilities of the WCIC included the construction of dams and weirs, the allocation of water entitlements and management of the ecosystem of the rivers and tributaries. The role of the WCIC was the same as the water authority of Queensland at that time, namely, to promote the public interest.

The Court of Appeal from the *Water Act 1912 (NSW)* was to the Land and Environment Court, later to be known as the Land and Valuation Court. The case of *Thorpes Ltd. v Water Conservation and Irrigation Commission* (1957), 36 LVR 62 set a precedent in determining the role of the water authority. The case concerned an application to construct a levy bank to divert

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[4]. While the w ter authority is primarily governed by the *Water Act* it needs to take into account a range of Acts other than those concerned specifically with water management, such as Soil Conservation, Environmental Protection acts. This need to take into account a range of acts other than those concerned specifically with water management in common across all Australian states

water. In refusing the application, the water authority argued that it was not in the public interest to issue a license. The question of public interest arose when determining the actions of the Court as a result of an argument that the levy bank would effect downstream users.

The breadth of the discretion open to the Commission in dealing with an application for a license is quite great. The Commission could reject the application because it effects other's rights, or weigh the benefits against the losses. The water authority also represents the interests of flood plains as common property. Justice Sugerman in summary of *Thorpes Ltd. v Water Conservation and Irrigation Commission,* (1957), 36 LVR 62 drew a number of points. First, the public and private interests are the main concerns when determining whether to approve a license, and the width of discretion of the Commission is considerable[5]. Second, while the interests of other individuals are a valid reason for refusing a license, effects on the flood plain are within the jurisdiction of the Commission as grounds to refuse a license. The question of the effect of irrigator's actions is deemed to be within the public interest and under the control of the water authority. According to Justice Sugerman

> "the statute converts the whole question of interference with the flood plain into one of public interest and places it under the control of a public authority"[6].

How are the rights of individual interests protected under the umbrella of public interest? According to Justice Sugerman, there is no reason why a right to which the Crown is the beneficiary should be so disposed to benefit one water user at the expense of the another. Yet in determining whether the transfer was in the public interest it became a question of weighing the benefits against the losses. While it was stated that advantage derived by the applicant did not exceed the losses to neighbouring land, the case furnishes no measure of the losses and benefits. The inference is that if the Commission decides to reject an application because the losses exceed the benefits , then the case for the applicant must demonstrate otherwise. The case appeared to be judged upon maximising individual interests as measured by their sum, rather than protection of the individual entitlements.

In 1986, a fundamental administrative change was made to water management in New South Wales. The *Water Resources Administration Act 1986 (NSW)* established the Water Administration Ministerial Corporation to manage the water resource through the Department of Water Resources. The Water Resources Commission was essentially abolished. The Act gave the

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5. The broadness of the discretion of the Commission may allow for cases to be assessed individually, but also increases uncertainty of tenure of other water users.

6. *Thorpes Ltd. v Water Conservation and Irrigation Commission (1957)*, 36 LVR p. 68.

Water Administration Ministerial Corporation considerably more power than its predecessor[7]. The Act states that

> "In the exercise of the right conferred by subsection (1) or of any other function, the Ministerial Corporation may take such measures as the Ministerial Corporation thinks fit for:
>
> (a) the conservation, replenishment and supply of water;
> (b) the equitable distribution of water;
> (c) the beneficial distribution of water;
> (d) the protection of water from pollution and the improvement of its quality
> .
> .
> .
> (i) environmental protection." (*Water Administration Act 1986 (NSW)*, s 12(3))

Clearly there has been a substantial shift from considering only hydrological factors to consideration of social issues. This Act clearly states the social role of the water authority. The application of the Act, however, depends upon how the water authority embraces the new management guidelines and the interpretation of the legalisation by the judiciary. The judicial interpretation of the legislation by the Court is represented in *Coulton v Holcombe (1990) 20 NSWLR* 138. Mr Justice Allan, in determining how to share the water, stated that

> "One would anticipate that it would be likely that attention would be given, whether by legislation or as matter of administration, to the interests of the State as a whole on the one hand and to fairness between existing water users as between themselves and as between them and likely future water users."

This raises two issues; namely equity and consideration for future requirements. Justice Allen stated on a number of occasions the need to *promote the welfare of the State as a whole.*

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7. Under the *Water Act (1912)*, the role of the Water Resources Commission was to resolve issues when in its opinion a certain view was correct, or that it was "satisfied" , or "dissatisfied". The role was primarily to resolve conflicting interests. The vagueness of the legislation lead to many legislative challenges on the grounds of administrative error or failure to consider all the relevant issues in its decision (see *Coulton V Holcombe* (1990) 20 NSWLR 138).

Promoting the welfare of the State could be construed as promoting a *Benthamite view*. Without examining individual utility functions, to promote such a view is merely to promote an efficient distribution of the resource without consideration of distributive consequences. Promoting the welfare of the State as a whole has been interpreted by Justice Allan as ensuring that the optimal financial return to the water resource is achieved.

The second issue is the consideration of future as well as existing water users. The *Water Administration Act 1986,*[8] states that the Commission only needs to be satisfied that the water source in question had sufficient supply to meet the allocations of holders of existing entitlements. Justice Allan suggests future demand also should be considered. If future water needs are to be considered, then questions of potential income, welfare, and discounting need to be addressed.

The Role of the Department of Water Resources of Victoria

The social importance of water management in Victoria has been well defined since 1958. According to the *Water Act 1958 (Vic.)* s3(a), which has remained unchanged by the recent legalisation,

> "the objective of the Department of Water Resources is to provide advice to the Minister an all matters relevant to the activities or functions of the Department to ensure.
>
> (a) that the water resources of the State are managed in ways which are most beneficial to the people of Victoria,
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> (b) that water services are provided to local communities to the extent and to the standards appropriate to the needs of those communities;
>
> (c) that water services and associated management, economic and financial practices and policies are provided and administered efficiently, economically and in a manner fully accountable to the Government and the people of Victoria,
>
> (d) that there is secured in the water sector a working environment which is safe and satisfying; and
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> (e) that the management of water resources and the provision of water services are undertaken in a socially and environmentally responsible manner and in consultation with the appropriate authorities."

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8. The *Water Act 1912* was amended by the *Water Administration Act 1986.* and the *Water Administration (Amendment) Act 1986.*

Where the Victorian legislation differs from that of Queensland and New South Wales is the stated involvement of economic policy in the management role of the water Authority. If the Victorian government were to formulate a policy promoting social equity, this would be applied directly in water management decision-making as all the objectives listed in the *Water Act 1958 (Vic.)* s.3(a) are

> "subject to the general direction of the Minister and in accordance with the economic, social and environmental policies of the Government of Victoria" (*Water Act 1958 (Vic.)* s.19).

This section, combined with section 3(a), would suggest that distributive objectives of the Victorian government should be considered in water policy planning.

The 1958 Act has been replaced by the *Water Act 1989 (Vic.)*[9]. In similar fashion to the 1958 Act, the *Water Act 1989* (s. 7(1)) vests the right to the use , flow and control of the water resources of Victoria in the Crown, represented by the Department of Water Resources. The role of the minister in charge of the department has remained largely unchanged; this is to make sure that a continuous program of assessment of the water resources of the State is undertaken so as to identify needs relative to use and the economic, social and environmental values of land and waterways and allocate the available water resources accordingly.

In summary, each eastern state of Australia has created its own water resource authority with stated management objectives. However, the role of water authorities, as governed by the water resource legislation, is only vaguely defined. The stated role of the Queensland Water Resources Commission (QWRC) is to promote the public interest; the role of the New South Wales Department of Water Resources (NSWWR) is to promote the welfare of the State as a whole, and that of the Department of Water Resources of Victoria (DWRV) is to manage the water resource in ways that most benefit the people of Victoria. While these objectives appear the same and well-accepted motherhood statements, they can be interpreted differently.

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[9]The 1989 Act replaces the *Water Act 1956*.

THE ESTABLISHMENT OF WATER MARKETS

One of the initiatives of water authorities in Australia has been the introduction of transferable water entitlements. Has the legislation given the water authorities the power to manage the markets in such a way as to promote their social objectives?

Water markets in New South Wales

In 1983 a trial water transfer scheme was introduced in New South Wales. In 1983/84 some 5200 megalitres were transferred, and in the following year this had increased to 99,075 megalitres State wide. Most of the transfers occurred in the Gwyder river basin, two thirds in 1986/87 (Crosio, 1987). Since the introduction of transferable water entitlement 714, 000 Ml had been transferred up to 30 June 1990 with an estimated additional rural income of $42 M. (Industry Commission (IC), 1992, p.158). Nevertheless, these annual transfers were restricted to supplementing short-term water shortages, rather than encouraging long-term efficiency were small in value relative to the size of the potential market.

In December, 1986, the NSW government introduced permanent transfer arrangements. The *Water Act (NSW) 1912* was amended and latter replaced by the *Water Act (NSW) 1987*. Division 4C, section 20AH of the Act, allows that "the holder of an entitlement (in this division referred to as the "transferor") may, with the approval of the Ministerial Corporation, transfer the whole, or part, of the water allocation for the entitlement to the holder of another entitlement (in this Division referred to as the "transferee")". In considering a transfer,

> "the Ministerial Corporation may take into consideration such matters as it thinks fit including (without limiting the matters that may be considered its opinion as to the social and economic effect that the transfer would have if approved".

The transfer can be for a limited period of time or permanent (section 20AH(2)). There is also the possibility for transfer between different private schemes (section 20AH(3))[10] and long-term intersectoral transfers. The possibility of permanent transfers opens the way for long-term adjustments to promote economic growth. Therefore the effects upon regional economies and even the equity of distribution could come under into consideration in New South Wales.

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[10] As yet there has been only one such transfer (NSWWRC, 1992, per. comm.)

Water Markets in Queensland

After a period of testing the concept of transferable water entitlements in the Border Rivers region[11], the Queensland Water Resources Commission (QWRC) introduced transferability across the State in 1989 with the *Water Resources Act 1989*. Under section 10.17 of the Act an irrigator may transfer all or part of his or her allocated water to another irrigator within the same water area:

> "An owner of a holding or other land or in respect of which a water allocation has been granted may, with the approval of the Commissioner and subject to this section, enter into an agreement with the owner of another piece or another parcel of land to allow the second-mentioned owner to use the water allocated under that allocation or a portion thereof" (*Water Resources Act 1989 (Qld)* s.10.17).

The legislation specifies conditions over the transfer in terms of approval by the Commission, the ownership of the licence, the duration of the transfer, and the burden of the administrative costs associated with the transfer. All transfers are subject to the approval of the Commission. According to the *Water Resources Act 1989*, section 10.17(5),

> 'In consideration of the proposal, the Commissioner may have regard to:-
> (a) the capability of the system to supply the additional water to the holding or other land subject of the proposed agreement;
> (b) other matters and things as he determines taking into account the objects and purposes of this Act.'

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[11] Transferability is being trialed in the Border Rivers basin. The *NSW-Queensland Border Rivers Act 1946* defines the Border Rivers region as "those portions of The Seven, Dumaresq, Macintyre, and Barwon Rivers that constitute part of the boundary between the States of New South Wales and Queensland". The management of the physical aspect of the River system, for example the maintenance of the weirs and dams, is the responsibility of the Dumaresq-Barwon Border Rivers Commission.

The success of transferability in the Border Rivers basin has been used as the yardstick for the future of transferability in Queensland. Transfers are restricted in the first instance to a period not exceeding a water year so that, like in other States, the trial could be conduced without changes to the legislation. During the trial period, surveys have been conducted to gauge the feeling to the water users to the scheme. In a phone survey of the irrigators along the Border River system conducted by the author, 10 irrigators (66% of the 15 irrigators asked), felt that the quantity of water transferable should be based upon historical use. However, there appears have been no apparent change in policy since then.

The Act does not provide for intersectoral transfers and is unclear as to the rights of third parties effected by transfers. The rationale for prohibiting intersectoral transfers is to test the concept of transferability first within the irrigation sector. "Intersectoral transfers are unlikely to become a reality until well into the future" (Fenwick, 1990, p.221). The transfer of water is not even available within the agricultural sector. Transfers are restricted to water entitlement holders only. Such limited reform seem unjustified provided the water authority has the power to intervene in transfers which have third party effects or are not promoting efficiency or social equity. At present the Act also does not make adequate provision for equity in water distribution and so transfers cannot be inhibited on the basis of social equity. The ultimate distribution of income derived from water is largely determined by the bargaining power of irrigators within the market.

Water Markets in Victoria

The government of Victoria viewed transferability as removing the fixed link between land and water. The major benefit was that irrigators could obtain increased water through the market without having to purchase more land. The Rural Water Commission of Victoria (RWCV) regarded the introduction as a logical extension of the current system where irrigators could transfer an entitlement between parcels of land under common ownership, under transferability, the requirement for common ownership was removed. Early transfers have been restricted to seasonal transfers, up to irrigators licensed quantity, and subject to channel capacity, no detriment of other irrigators, and drainage and salinity consequences (RWCV, 1986).

Currently bulk allocations may be transferred on either a permanent or temporary basis to another government authority. This could result in substantial changes in the distribution of income derived from the resource in society. The transfer of bulk allocations, like any other transfer is subject to objection and public hearings under section 40 of the Act. There is pressure to divert water away from agricultural use to urban and industrial use (IC, 1992). Yet it is not clear how section 40(j) is to be interpreted in response to an application for transfer across sectors of the economy, i.e. between agricultural, urban and industrial uses.

Transfers of retail allocation (allocations to individual irrigators) cannot be sold to urban or industrial users (Paterson, 1989b) . For reasons similar to those presented above this appears to be an unnecessary limitation to policy reform.

ENVIRONMENTAL WATER ALLOCATIONS

Concern for the preservation of riverine ecosystems is becoming an important component of water management in Australia (Thompson, 1991, p.155) as in other parts of the world[12]. A new social contract for the care and use of water resources has been encapsulated. For such an ethic to develop requires policy makers to recognise allocating water for environmental purposes as important. Provisions for instream use needs to be placed in the context of overall water allocation; otherwise it will continue to be regarded as a residual use of water (Milner and Knights, 1986). Most water allocation regimes are based on extractive use criteria driven by neo-classical economic measures of benefit. The preservation of ecosystem attributes is immeasurable by neo-classical economic paradigms (Norgaad, 1991). Formal recognition of claims on the ecosystem therefore requires that policy makers look beyond traditional neo-classical economics. In most eastern states of Australia, water managers' approaches to meeting environmental water requirements are a mixture of restrictions on trade that affect the flow of rivers and streams and the levels of water tables by command, and direct allocation to the environment by licensing. Formal instream allocations have been given the same legal status as allocations made for extractive purposes.

Each state has developed their own legislation and approached the issue of the environment differently. The following sections will assess the effectiveness of the State Water Acts in protecting the riverine ecosystem.

Water allocation for the environment in Victoria

Legislation in Victoria has lead the way in explicitly recognising the environment as a legitimate user of water resources, with direct water allocation being made for the environment. " Environmental problems attributable to rising water tables and consequential salinity are particularly acute across northern Victoria" (IC , 1992, p.171). The *Water Act (Vic) 1989* provides a formal means of protection and enhancement of the environmental qualities of waterways and instream uses. While other Acts also cover environmental issues, such as the *Environmental Protection Act 1987*, the legislation does not overlap not cause fragmentation of responsibilities. In most cases the water authority need only consult one Act. Under the *Water Act* water can be formally allocated for a number of instream uses, such as maintenance of aquatic, riparian, flood plain and wetland ecosystems; maintenance of aesthetic, scientific and cultural values; water-based

[12] For example, in Canada, the " most serious water problems are not related to inadequate supply at all, but to degraded water quality and to disrupted flow regimes " (Pearce 1985, p.48).

recreation; commercial fishing; water quality and navigation. Sections 46 and 62 of the Act allow the transfer of bulk entitlements and individual licences between different users. This includes transfers to and from the environment according to need. Where bulk entitlements already exist, instream licences may be issued to ensure a bulk entitlement is maintained at a specific level for a specific purpose.

Under sections 36 and 52 of the *Water Act 1989*, a government authority may apply to the minister for an in-stream water entitlement or licence. The Department of Conservation and Environment has taken the role of custodian of water allocations for the environment. Water can be allocated for instream use as a bulk entitlement or an individual licence (*Water Act 1989*, section 36 and section 52). Bulk allocations can take the form of a volume, a level of flow or a share of flow or storage (section 43). Capacity sharing[13] gives management the flexibility to storage capacity and planning beyond a water year. Instream licences may be allocated to ensure that, for example, a storage's capacity is managed to maintain the volume and timing of flow required for downstream environmental purposes such as wetland management (Dept. of Conservation and Environment, 1990).

Formally defined water allocations for the environment can be established by the issue of new allocations or the purchase or recoupment of existing allocations. While the legislation exists to allocate water to the environment, as yet no water allocations have been make, primarily because there is little unallocated water available. What unallocated water is available becomes part of the environmental flow by default. The issue to environmental allocations is subject to the same conditions under the Act as any other application for an entitlement. One of the conditions is an assurance that the certainty of tenure of existing licensees is protected. The issue of a new allocation in most river systems in Victoria at this time would, depending upon its size, seriously reduce the availability of water for existing extractive uses. In fact, no new licences have been issued since the 1989 Act was proclaimed (Dept. of Water Resources, per. comm., 1992). If an allocation was made to the environment the existing extractive users would have to be compensated (section 56(1)(a)(x)).

The purchase of existing extractive allocations for environmental purposes in the market is possible but would have to be financed. Ryan (1991) suggests imposing a tax upon market transfers. The revenue generated could then be used to fund the purchase of entitlements. An alternative option is to recoup a proportion of water traded at the time of transfer. The minister may (under section 62(6)(b)) impose conditions on the transfer of water entitlements similar to those imposed when the licence was originally issued. In approving a transfer of a licence under section 62 the minister may amend the conditions of the licence in accordance with section 56(1),

which specifies the conditions of a licence when it is originally issued. In other words, the amount of allocation and conditions of a licence are open to review when the licence is transferred. It appears that while the legislation is in place to provide water for the environment, as yet it has not had a significant effect due to lack of water.

Water allocation for the environment in Queensland

The *Water Act (Qld) 1989* fails to provide explicitly for environmental use. The role of the Water Resources Commission is to co-ordinate plans for the conservation of the waters of Queensland (section 3.11(g)(ii)), yet how these plans are to be implemented is not clear. In considering an application for a licence to extract water, for example, the Commission may inquire into availability and sufficiency of water to supply the requirements of riparian owners, licensees, permitees, the applicant and the water requirements of other Government authorities. No direct consideration is given for environmental requirements. Section 4.18 outlines the procedure of inquiry by the Commissioner to grant or refuse an application for a license. Section 4.18(1)(a)(E) makes reference to persons specified in section 2.2(a). Section 2.2(a) refers to restrictions on the rights in water vested with the Crown in terms of the rights of other authorities conferred by the *Water Act* or any other Act Environmental considerations may be accommodated under some other (perhaps conservation) Act. Unless environmental considerations are specific in the procedural implementation of the Act, then environmental requirements will only be met if they happen to coincide with extractive objectives.

Water allocation for the environment in New South Wales

The two main pieces of water legislation in New South Wales are the *Water Administration Act 1986* and the *Water Act 1987*. The *Water Administration Act 1986*, section 4, establishes the objectives of the Department of Water Resources, which are:

> "(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."

The only other specific references to the environment in the *Water Administration Act* are made in relation to the functions of the Water Administration Ministerial Corporation constituted under the Act. Section 4(j) allows the Corporation to "integrate the management of water resources with the management of other natural resources" and section 12(3)(i) to take such measures as the Ministerial Corporation thinks fit for environmental protection. The *Water Administration Act 1986* allows regulations to be developed to make allocations for environment explicit and has already been implemented. For example, the government has made an annual allocation of 50,000 Ml of water from regulated flows for the conservation of wildlife in the Macquarie Marshes. The New South Wales government is also planning to enlarge Pindari Dam from its current capacity of 37,500 Ml to 312,000 Ml. The project is subject to the Department of Water Resources conducting a number of studies to assess the impact the expansion of the dam will have on the aquatic environment downstream (Alexandra, 1991).

The *Water Act 1987* helps to achieve the intent of the *Water Administration Act* through the issuing of licences for the extraction and allocation of water. It is of particular importance that conditions can be imposed upon licences to protect environmental flows and associated riverine ecosystems (NSWDWR, 1991). The Ministerial Corporation also has the right to enter the market and purchase entitlements for any public purpose (*Water Act 1987*, Division 4C, section 20AL) which could include water for environmental flow.

The water resource managers are considering the merits or otherwise of transferability from an environmental perspective. The unused portion of a fixed environmental allocation could be transferred on a temporary basis. The benefits accrued from the transfer could then be used to support other environmental projects or purchasing water at a later time.

Other legislation also plays a part in protecting the environment. On 1 March, 1992, an Environmental Protection Authority was established in New South Wales. Its main input into water resources will be in the licensing and regulating of discharges of wastes into rivers and streams under the *Clean Waters Act 1970 (NSW)*.

SUGGESTED IMPROVEMENTS TO STATE WATER LEGISLATION

It would appear that of the states considered in this study the Victorian water legislation reforms appear to provide direction for the water authority in terms of transferability, and the allocation of water for environmental use. The *Water Act (Vic) 1989* failing appears to be the limited reform of intersectoral water transfers. While bulk allocations can be moved between sectors of the economy there are potential benefits which could be derived from the retail trade of water across sectors of the economy. To promote intersectoral transfers section 40 of the *Water*

Act 1989 (Vic.) needs to give greater power to the water authority to inhibit trade which does not promote an efficiency or social equity.

The Queensland Act could be improved by more clearly defining the role of the water authority as a social policy maker. It is clear from Court proceedings that the *Water Act 1989 (Qld)* does not give clear guidance on the social role of the water authority. Section 3.11 needs to define what is meant by "the best advantage of the public interest " as it could potentially be interpreted as encompassing social policy or as narrowly as solely hydrological issues. In considering an application for transfer the legislation gives the water authority the broadest brief possible, including as it does any other matters the Commissioner considers important. Its broad nature however could be its downfall. Undefined bounds are vague and open to dispute. Section 10.17(5) could be rewritten to define clearly the protection and process for assessing third party and environmental effects of trade. Finally, there appears no rational reason to inhibit intersectoral trade. If the public interests were well defined and protected, section 10.17 could be expanded to include the transfer of water to industrial, urban and environmental uses.

The Water Acts of all states collectively could be improved by clearly defining the meaning of an equitable distribution of water and beneficial distribution of water, particularly between current and future water users. The judiciary in New South Wales have interpreted the equity in terms of a Utilitarian viewpoint. If this is the view the government wishes to take that is fine. If not it would be advisable to define more clearly equity in the Act. Like the Queensland Act the Water Act of New South Wales gives the water authority, in this case the Ministerial corporation an open slate to consider such matters as it thinks fit. Such a broad brief is however open to dispute. It may be advisable for the legislation to define more clearly the parameters for consideration

CONCLUSION

Recent changes in Australian water legislation have attempted to involve the water authorities in social policy, improve the return to available water stocks by introducing transferable water entitlements, and give greater accountability for the environment. For many States this represents a major paradigm shift from the sole concern for hydrological issues. The effectiveness of these changes has in many instances been limited as a result of poorly defined legislation and indecisive legal decisions. To achieve social and environmental objectives the role of the water authority needs to be more clearly defined and accepted by the courts. In the recent review of water legislation in eastern Australia the role of the water authority incorporated the importance of efficiency, equity and environmental concern but only in broad statements. If there is to be effective

management of Australia's water resources then the Acts need to define more clearly the role of the water authorities. The water authority objectives of efficiency and equity are not well defined. Can the water authority refuse an allocation to one person because the water can be used more efficiently by another, or because it is more equitable to supply to another? These issues are not adequately defined by the Act. Unless the role of the water authorities is more clearly defined the stated objectives will become meaningless cliches.

The legislation allowing the transfer of water allocations provides only limited reallocation and so improvement in the efficient use of Australia's water resources. The transfer of individual water allocations is restricted within existing allocation holders. The major benefits from trade appear to be in intersectoral transfers away from agricultural use to urban and industrial use. Provided intersectoral transfer legislation is accompanied by adequate legislation to protect the environment, to protest third parties from damage and to consider regional economic consequences, there appears little reason for inhibiting such transfers.

The allocation of water for the environment, with some exceptions, has faired well out of the recent review of water legislation. When compared to other states, however, the Queensland *Water Act 1989 (Qld)* requires major reform as it fails to provide explicitly for environmental use. While the current method of announcing an annual allocation does allow for some consideration for allocating water to environmental use needs to be formally recognised as an allocation. Improvements in the Act could establish environmental water allocations or more formally recognise bulk allocations for environmental use, perhaps along similar lines to the Victorian system.

In conclusion, the review of Australia's water legislation has attempted to address current water issues such as efficiency and environmental requirements in a mature fashion. State Acts have attempted to provide water authorities the powers to reallocate water and give consideration to social issues such as equity. Future improvements in the Acts will only enhance the efficient and effective management of Australia's water resource. The water authority may require greater powers to manage effectively Australia's water resources if long-term sustainability of Australia's water resources is to be achieved.

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