

Secretary: *J. O'Connell***RECEIVED**

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**Submission to the House of Representatives Standing Committee on  
Agriculture, Fisheries and Forestry**

**Inquiry into Future Water Supplies for  
Australia's Rural Industries & Communities**

HOUSE OF REPRESENTATIVES  
STANDING COMMITTEE ON  
AGRICULTURE, FISHERIES  
AND FORESTRY

19 December 2002

Murrumbidgee Irrigation

### About Murrumbidgee Irrigation

Murrumbidgee Irrigation is a public company that provides water supply services to the Murrumbidgee Irrigation Area and Districts. The water - about 1,000 GL per year - is diverted from the Murrumbidgee at Berembed Weir just north of Narrandera and Gogeldrie Weir near Leeton. It is then gravity fed through an extensive channel system to about 3,000 farms in the region as well as some key food processing businesses and towns. The Company employs over 200 people, and gross value of farm production in the MIA is estimated at about \$700 million per year.

This submission draws heavily on the attached papers that have recently been presented in other fora. First, a presentation by Geoff Hipkins, CE Murrumbidgee Irrigation, to the Murray Darling Basin Commission Community Advisory Committee Workshop of 19 August 2002 titled 'River Murray Environmental Flows, Property Rights, and Adjustment Mechanisms'. Second, a presentation by Dick Thompson, Chair of Murrumbidgee Irrigation, to the ANCID Conference, 1-4 September 2002, 'Water Saving, Sound Management, and River Health'. Third, a paper presented to the Eastern NSW Branch of the Australian Institute of Agricultural Science and Technology (AIAST) forum on Water Rights at North Sydney, 14 October 2002 by Dick Thompson and Geoff Hipkins.

The following conclusion in section 4.5 of the AIAST paper is particularly relevant:

"We need to start with community recognition of the inter-dependency of environmental and production objectives, and the need for cooperation if the welfare of all stakeholders is to be maximised. From a policy point of view, we need to focus attention on only those policies, programs, and activities that are consistent with achieving either or both objectives without cost to the other. All efficient, equitable, and creative solutions need to be encouraged along the following lines:

- There is a need for dramatic improvement in the quantity, quality, and availability of information services available to stakeholders. Research and development services will be critical for success.
- Initially we need to focus on activities that deliver productivity gains, including:
  - Capital efficiency via reduced in-system water losses (including in the river) and on-farm savings with equity based distribution of benefits. Measures may include:
    - ⇒ Incentives for private investment in water savings, in system and on-farm

- ⇒ Direct investment by Government in water savings
- Management efficiency through increased coordination between suppliers and major users (including the environment), better management planning systems with greater accountability for water managers, better integration of natural resource management with other policies such as taxation, and greater attention to improved management of the reform process (including improved consultation between stakeholders).
- Market efficiency and water access rights that improve the allocation, management, and use of scarce water resources – and contribute to healthier river systems and enhance production.
- Only when all avenues listed above are exhausted should we again consider, by use of any mechanism, the compulsory acquisition of water from license holders. If this situation were to arise – which would seem unlikely – the community should provide up-front compensation to license holders and comprehensive structural adjustment assistance to communities that are adversely affected.”

### **The role of the Commonwealth**

The submission is based on an understanding that the key roles of the Commonwealth in relation to water supply in rural and regional Australia are to:

- establish and communicate a clear National vision for water supply and management, and
- help to achieve the vision through policies in areas such as infrastructure spending, taxation, natural resource management, competition policy, research and development, and – perhaps more indirectly - through the facilitation and coordination of State functions related to water policy.

Some of the difficult issues related to water policy such as water access rights (entitlements, allocations etc) are, perhaps, beyond the direct policy purview of the Commonwealth. However, this submission reflects the view that the Commonwealth has an important role as an 'honest broker', and it has implementation leverage via mechanisms such as the National Competition Council adjustment grants to States for successful implementation of reforms.

### **The Murray-Darling Basin**

The submission focuses on issues related to improving the health of the Murray-Darling Basin, but the principles are considered to be relevant to similar water supply in other catchments.

## 1. Context

Water supply in rural and regional Australia is very fragmented. At the political level there is conflict about sharing water between environmental, and economic and social objectives. This is reflected in community debate about the forthcoming proposal to recover additional environmental flows for the Murray-Darling Basin ('The Living Murray', MDBC, 2002). Box 1 provides some background on the socio-economic contribution of the irrigation industry, and related environmental concerns.

Stakeholders in rural water supply must operate within a highly fragmented legislative, regulatory, institutional, informational, policy, and social climates. Unfortunately, attempts to resolve water issues have also reflected divisive approaches, including by Government agencies responsible for impartial evaluation of the issues and formulation of constructive policies and programs.<sup>1</sup>

The degree of fragmentation has contributed significantly to perceptions of slow progress made in delivering better river health, and loss of social and economic benefits – particularly at a regional level. These costs will increase over time, and they will ultimately be borne by the whole community (one way or another<sup>2</sup>).

What is needed is a refocus on consultative and constructive engagement of the issues based on sound information, and on the formulation of consistent, and well integrated, policy based solutions. If the Commonwealth can achieve that, it will have contributed enormously to better outcomes for the community (for both environmental and socio-economic objectives).

### **Box 1: The socio-economic contribution of irrigation, and environmental concerns**

Irrigated agriculture underpins about 80 per cent of rural wealth in Australia, using less than 1 per cent of its land area. In other words, about 80 per cent of annual producer benefits of \$30 billion a year, consumer benefits (purchases) of some \$55 billion a year, and social benefits derived from over 470,000 jobs. It also makes a significant contribution to exports and the Nation's Balance of Payments.

In delivering these benefits irrigation extracts about 70 per cent of the water diverted from our river systems. In the Murray-Darling Basin, however, this may be as high as 86 per cent(a), and average long-term diversions are about 11,400 GL compared to total average run-off of 24,300 GL. On this basis about 40 per cent of natural flow in the Basin is diverted for irrigation.

Environmental concerns centre on losses to environmental assets - including land, vegetation, and species - caused by post-regulation reductions in river flows and changes in the pattern of flows (higher, lower, and colder than natural flows). These include: river bank instability, erosion, and seepage into floodplain areas, reduced wetland health through over-watering in some cases and under-watering in others, degraded riverine land through elevated water tables and salinity, and reduced species through cold water releases from the bottom of dams and restrictions on fish passage.

(a) This estimate differs from that of the MDBC because it adjusts for the use of diversions from the Snowy River.

<sup>1</sup> See attached paper by Hipkins and Thompson (section 3.2) for more detail.

<sup>2</sup> See Hipkins and Thompson (section 4.4) for more detail.

Although fragmentation presents many challenges, there is also much to work with. There is widespread support in the rural community for the environmental and socio-economic health of the Nation's river systems. The critical issue therefore is how we go about achieving what are, ultimately, complementary objectives.

What is needed is a clear vision for rural water supply and a high priority given to its achievement. There should be an institutional framework that enables 'arms length' management of resources and service delivery (for all types of water use), and clear definition of roles, responsibilities, and property rights. These institutions should be held accountable by the vision, strategies should be consistent with the vision within a mixed economy policy framework, and there should be a comprehensive set of policies and projects consistent with those strategies.

## **2. *Establishing a clear vision of water supply for the Nation***

*The establishment of a single clear vision for water supply and management at the Commonwealth level would provide a basis for harnessing constructive debate and policy formulation throughout all levels of Government, and among the community. The MDBC Ministerial Council Corowa Communique of 12 April 2002, provides a sound starting point.*

*"to focus management of the structures and resources of the River Murray to improve the environment while maintaining the social and economic benefits obtained from resource use"*

The statement focuses community attention on objectives – where they rightly belong (as opposed to activities such as water recovery). It recognises and legitimises reasonable goals for all stakeholders, and it highlights the key to success – sound management of our structures and resources. Such a vision must also be accorded sufficient *priority* to get the job done.

## **3. *The institutional framework***

The COAG agenda for water reform (1994) called for the separation of institutions responsible for resource management, regulation, and service provision. This has been accomplished in NSW at the level of service provision for irrigation. The river manager, the regulator, and the environmental services manager remain integrated. But such institutional arrangements are found throughout the Basin. The MDBC Commission's roles and responsibilities currently include: policy coordinator and adviser for the Basin, a regulator of the Basin, manager and operator of the Murray River, and manager of environmental services for the Murray. The problems with these arrangements include:

- Conflicts of interest. It is not clear how such conflicts are currently resolved. But it often leads to 'management by rules' and such rules may or may not be in the interests of optimal natural resource management. In the absence of clear rules and accountability conflict resolution becomes very risky for stakeholders.
- Blurring of incentives. For instance, the MDBC Commission is currently promoting 'community discussion' about water recovery for the 'environment'. But who is actually getting the water recovered under the current institutional framework? The MDBC.
- Potential for one institution sending mixed messages to users of natural resources (including the environment). This will ultimately prove costly for investment in all TBL objectives.

- Transparency and accountability will inevitably be compromised, at the expense of cost effective achievement of objectives.
- Information services and other links to stakeholders will be weakened.
- Bureaucratisation of natural resource management and a focus of attention on inputs rather than outputs.

All of the above problems have been in evidence before and during the implementation of recent water reforms. To the extent that the need for reform of rural water supply has emerged from past institutional failures (such as over-licensing of resources in the Basin), it seems strange that we would consider water reform to be achievable without thorough-going reform of the institutional arrangements. Indeed such reform may be necessary just to regain the confidence of resource users.

*What is needed is separate and independent institutions to reflect the roles and responsibilities for the river regulator, the river manager and operator, managers for major user groups (eg the environment, irrigators, fisheries, and so on), and performance auditing for non-market areas.*

#### **4. Accountability for achieving the vision**

Institutions responsible for implementing water reforms have not always remained consistent with vision statements made by leaders (such as the MDBC Ministerial Council and COAG). For example, the MDBC paper 'The Living Murray' in stage 1 of its project to improve the health of the Murray (entitled "Inform and Engage") asks the community to decide whether it wants to recover water voluntarily or compulsorily:

"If it is decided to retrieve environmental flows compulsorily, the following mechanisms are available:

- Reduction of entitlements without compensation;
- Reduction of entitlements with compensation (compulsory acquisition of access rights);
- Targeted structural adjustment (closure of 'uneconomic' irrigation areas)."<sup>3</sup>

The questions that the MDBC are asking the community are in direct conflict with the stated objective to improve river health while maintaining socio-economic benefits (as stated in the MDBC Ministerial Council's Corowa Communique (12 April 2002), above). These sort of mixed messages are counter-productive. *Steps should be taken to ensure that strategies and policies are consistent with the vision, and – in the event of inconsistencies - to minimise their negative impacts.*

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<sup>3</sup> 'The Living Murray', MDBC, July 2002. See also Hipkins, 'River Murray Environment Flows, Property Rights, and Adjustment Mechanisms', 2002, for comments on this issue.

## **5. Strategies that are appropriate and consistent with the vision**

Some of the current strategies for improving river health and maintaining socio-economic benefits seem to conflict with established practices in other policy areas. For example, unclear property rights expose asset owners and managers – including environmental assets – to simple administrative changes that may have large impacts on the output value of the access licences. Also, the current MDBC project to develop a decision support framework for water sharing<sup>4</sup> seems to be attempting to acquire economic and financial information designed to tell users whether they are profitable or not. At the same time it is difficult to discern clear accountability mechanisms for non-market resources such as 'environmental water'. *We need to ensure that our strategies are appropriate roles for Governing agencies, and for the circumstances facing stakeholders.*

Improving river health requires increased investment (people, resources, and finance) in our natural assets. In designing management structures for these investments, we need to recognise that the bulk of resource use and benefits are "non-market".<sup>5</sup> Strategies should be based on sound governance of managers, including: comprehensive and transparent management planning and planning processes, systematic reporting and accountability for managers, and – wherever feasible – the use of market forces to govern resource use and access to benefits.

Maintenance of social and economic benefits while improving river health requires productivity improvements in water use and saving in order to release resources for investment (especially for the environment). In this area, the market governs the bulk of resource users (such as farmers, towns, and businesses). Strategies here should be based on sound governance of markets to ensure they are fair and effective in meeting objectives (including for the environment), of water service providers and the provision of infrastructure services to market participants, and of policies that enable fair and efficient ways for water surpluses/savings to be re-invested in river health.

## **6. Natural resource planning and management**

The current activities supporting the strategy of fast track recovery of water for investment in river health is very risky. Decisions are being taken without the benefit of a comprehensive planning framework, including inadequate research and information, and reporting and monitoring systems for managers.

Community interest in environmental water is likely to increase in future. It is not implausible that local, regional, and even State demands for environmental water for special projects such as wetland watering will quickly outstrip supply (at any level of available environment water). There is no market available to help re-allocate environmental water. Governments will therefore require sound and transparent management planning systems to deal with expected growth in demands by well-organised interest groups.

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<sup>4</sup> This project is part of the MDBC's Integrated Catchment Management framework, and aims to use quantitative targets to assess the most beneficial use of water, and take appropriate action.

<sup>5</sup> In this context the term non-market is used to reflect the absence of formal markets to enable exchange of goods and services using a common currency.

At the vision level, stakeholders need to know what a healthy Murray-Darling Basin might be expected to look like. What are the major environmental assets in the Basin (forests, wetlands, riverine lands, species, water-courses, lakes etc)? What is their current condition, and more importantly, what would they be like in a healthy basin? The community needs a clear baseline and a constructive, transparent, and plausible alternative that not only encourages investment in a healthy basin, but enhances monitoring and ongoing participation in activities that are consistent with a healthy basin.

Once a constructive and achievable vision for a healthy basin is agreed the community needs to establish what has to happen to take us from the current situation to the healthy situation. Additional environmental water may be a necessary input but there will be many others (such as infrastructure services, research and development services, management services, monitoring services, etc). Priority projects and activities must be identified and resources directed to implementation. At the outset, an independent manager of environmental water services needs to be established with clear responsibilities in accordance the vision of basin health. If necessary the responsibilities of managers for other types of water use should be adjusted to ensure consistency with the vision of basin health.

This management and planning system should be established to deal with water that is currently allocated to the environment. It should have the following key elements:

- Clear institutional arrangements for management of water, and statement of the roles and responsibilities of managers.
- Clear output intentions for environment water including priorities for action.
- Clear strategies for use of environment water, and other inputs, to deliver outputs.
- An annual 'budget' for proposed environmental water activities.
- Comprehensive annual monitoring of results using established principles of water accounting (or water balances).
- Transparent and systematic annual reporting of performance to all stakeholders (that is subject to independent audit of performance).

In addition to a sound planning framework, we need integrated planning systems. To an extent Kathleen Bowmer, of CSIRO, foreshadows the need for integration, while commending catchment based planning, when she concludes:

"the challenge in water sharing, and in natural resource management more generally, is to demonstrate that options developed by catchment-based communities can work inside basin-wide, statewide, national, and international policies and treaties" (K Bowmer, Reflections on Developing a Water Sharing Plan", paper presented to the Fenner Conference on the Environment, 31 July-1 August 2002, Canberra.)

Unfortunately, there are currently very few comprehensive river plans in Australia – let alone catchment, or basin-wide plans. As noted earlier, clear visioning above the catchment level is needed for preparation of sound river and catchment plans. Aggregate constraints on water use

may be a reasonable 'tops down' approach to resource management – if the constraints are well targeted and stable. The detailed activities for water management and supply, for both the environment and market production, can then be developed at the local and regional levels.

*The Commonwealth would be well placed to help design or finance the design of an appropriate planning framework for management and use of water (particularly environment water), and help establish it at State, regional, and local levels.* The MDBC has made a start with its work on catchment planning – but much more is needed. At the same time we needed to ensure that planning processes do not become overly bureaucratic and excuses for inertia.

The Commonwealth may also consider *assistance to implement these plans through direct financial support and/or direct resourcing of environment water management and coordination programs.*

## **7. Research and development**

Kathleen Bowmer, refers to 'Knowledge issues' to explain what went wrong in preparing the draft Water Sharing Plan for the Murrumbidgee in NSW, including: poor integration of local knowledge with academic or agency policy; inadequate technical support of the management planning group (in areas such as geomorphology, law, and economics); a dearth of local information about aquatic ecology (to the extent that "the best available information on environmental flows required for a healthy river remain coarse and simplistic"); calls for access to research and documentation supporting perceived benefits of environmental flows; and difficulties in accessing expertise in research agencies such as Universities, Research Centres, and CSIRO.

The extent of information needed to adequately address water resource management is daunting, especially if we continue to take a 'top-down' approach to research and information services. Delivery of much needed research and information may become more manageable, and better integrated, if the top-down approach is complemented by a bottom-up approach at local and regional levels. This could be achieved through cooperation among research agencies (Commonwealth, State, and other)<sup>6</sup>, long term commitment to placement of technical expertise at a regional level along the rivers (eg within existing research and education institutions, and corporations), and adequate funding support. There may be a case for greater investment in a regionally based research and technical support for environmental and other water resource management planning.

In addition, some of the knowledge acquisition about water supply being funded by Government is questionable in terms of benefit. For example, the MDBC project to develop a decision support framework for water sharing (see above) seems ill-conceived. *There may be a case for a comprehensive review of current expenditure by Government agencies on knowledge acquisition in relation to rural water supply to ensure that it is justified.*

## **8. Governance of markets**

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<sup>6</sup> Such as the National Program for Sustainable Irrigation (NPSI) and the recently established Cooperative Research Centre for Irrigation Futures (CRC).



Efficient markets are critical for maintaining the socio-economic benefits from current water use, and ensuring river health. Distortions in agricultural product markets have been well documented and Governments have long sought to reduce the adverse impacts on Australian farmers. Water transfer markets have evolved quite recently, and they require close monitoring to ensure that they are operating consistently with the objectives of improved river health while maintaining socio-economic benefits. Uncertainties arise from<sup>7</sup>:

- Unclear and uncertain property rights diminish the potential benefits of trade, and increase risk of losses to production and the environment (eg through sale of climatic under-use).
- Fragmented market conditions, including: physical barriers to entry and infrastructure restrictions such as dam imbalances, and variable impacts of regulations across states, valleys, and regions (including environment and trade rules).
- Lack of transparency, information, and stability for participants.

*The Commonwealth could review the performance of transfer markets in light of socio-economic and river health objectives, make recommendations to improve efficiency of the market, and help to implement the recommendations.*

#### **9. Infrastructure for water supply and management**

Achieving our environmental objectives will require sound management of flows in rivers and tributaries to reflect more natural riverine conditions, and provide flows to reflect more natural flooding and drying events (in special project areas such as river wetlands), see Box 1. These special project areas, eg where too much or too little water gets into wetland areas - will exist throughout the thousands of kilometres in our river systems. In the Murray-Darling Basin there will be a need for infrastructure to enable managers to deliver expected environmental benefits. On-route (off-stream) storages, and engineering solutions to erosion, over-watering, cold water releases, and fish passages will be required (see Box 1). *Commonwealth funding and rapid implementation of such initiatives would engender confidence that investment in river health by the Nation is of high priority.*

At the same time there is likely to be high returns from infrastructure investment in water savings that would be available for re-allocation to the environment. Murrumbidgee Irrigation estimates that one program (set of projects) in the MIA and Districts may be able to save 100 GL of water at a total cost of about \$200 million. The MIA and Districts comprises less than 10 per cent of entitlement in the Murray-Darling Basin. If this water saving can be repeated throughout the basin, then over 1,000 GL may be made available through investment in water saving (compared with the MDBC target scenarios for environment flow needs in the range of 350 to 1,500 GL). In this light a recent conclusion by ABARE is relevant.

"the model results suggest there is considerable scope for strategic investment in water use efficiency in the Murray system." (ABARE, 'Improving water use efficiency: targeting public investment', in ABARE Current Issues, July 2002)

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<sup>7</sup> The attached papers by Thompson and Hipkins provide more detail about these issues (section 3.5).

The analysis by ABARE also implies that public investment targeted at water efficiency in the Murray Basin would provide indirect environmental benefits in the form of additional flows, as well as directly address environmental concerns about rising water tables and salinity.

*Again, rapid approval of Commonwealth funding and implementation of infrastructure initiatives would engender confidence that investment in river health by the Nation is of high priority.*

#### **10. Policies enabling private investment in savings for river health**

Lack of progress in specifying property rights in access to water is harmful to both socio-economic and environmental objectives. Uncertainties reduce productive investment in agriculture, agribusiness, and other industries, reduce incentives for private investment in water saving, compromise potential investments in environmentally sound projects such as rehabilitation of riverine land and water savings, and increase risks of third party impacts (on both the environment and producers). Moreover, the investment that we do get will tend to be the type that we don't want as uncertainty tilts the playing field in favour of short term projects that have less regard for long term sustainability (for either production or the environment).

*Establishment of water access property rights that are consistent with fair and efficient use of water resources, and that are consistent with socio-economic and basin health objectives is needed. Within reasonable constraints these rights should be sufficiently consistent throughout the basin to enable a level playing field for trade and for environmental standards.*

*Tax arrangements need to be consistent with the Commonwealths goals for natural resource management and water saving. At present accelerated depreciation allowances are available to primary producers (individuals and companies) for investment in water efficiency and savings. However, this does not extend to water suppliers. That is, Murrumbidgee Irrigation shareholders are eligible but the Company is not. This acts as a disincentive to larger scale investment in water efficiency and savings. But such investments may have very high social returns.*

*The Commonwealth should also consider tax and other incentives for private investment in projects that directly deliver better river health, and that increase water efficiency and savings. Options may include:*

- 150 per cent tax deduction for investment in water savings.
- Direct funding of private initiatives in return for environmental or water benefits.
- Support for private investment initiatives such as the Pratt water infrastructure proposals.

#### **11. Facilitation and coordination of States in water management**

The attached paper by Dick Thompson implies that sound water management in the Murray-Darling Basin will rely heavily on coordinated activity and cooperation between the States. In fact, in the absence of such cooperation environmental releases in one State may even damage the environment in another State. *There may be a role for the Commonwealth to help coordinate a cooperative approach to the management of environment water between the States.*

This is also true of other aspects of water management and supply, including property rights for water access, environmental regulations, and integration and regulation of water transfer markets.

## **12. Financing reforms in rural water supply**

*The principle of equitable cost sharing should be reflected in all financial strategies to improve basin health while maintaining socio-economic benefits.* All of Australia has an equity interest in environmental benefits of better river health. Even in the absence of clear property rights, irrigators should be compensated for water that has been transferred from licence holders back to Government agencies (as environmental water) via administrative mechanisms. Compensation in the form of structural adjustment programs for rural communities that have been disadvantaged should also be considered.

In this light it is worth noting that current arguments between levels of Australian Government about 'who should meet such costs?' must be particularly unsavoury to the irrigators who are currently meeting the costs.

Another advantage of clear water access property rights is that an obligation to compensate licensees would remove the current distortion favouring use of administrative mechanisms to recover water because it appears to be 'cost free' – at least to the administrators. This is illusory. The economic costs are high, and they will eventually be shared one way or another. The problem is that we will all be poorer for the experience. Property rights would ensure that the financial costs of administrative changes would be clear and up-front. If, in these circumstances, administrators believe that taking water off irrigators would still enhance community welfare – then so be it. That said, such an outcome would be surprising.

## **ADDITIONAL INFORMATION HELD BY THE SECRETARIAT**

### **Attachment to Submission No. 127 - Murrumbidgee Irrigation**

1. *A Sound environment: Healthy Rivers and a Buoyant Irrigation Industry.* A Presentation to the Eastern NSW Branch of the AIAST forum on Water Rights North Sydney, 14 October 2002 - Dick Thompson and Geoff Hipkins, Murrumbidgee Irrigation.
2. *Water Saving, Sound Management, and River Health* - Dick Thompson, Chairman Murrumbidgee Irrigation. A Presentation to the ANCID Conference, 1-4 September, 2002.
3. *River Murray Environmental Flows, Property Rights, And Adjustment Mechanisms.* A Presentation to the MDBC Murray Environmental Flows Workshop, 19 August 2002, Geoff Hipkins CEO Murrumbidgee Irrigation.