



# When private water rights become a public asset: Stakeholder perspectives on the fairness of environmental water management



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## SUMMARY

This paper explores environmental water management as a social process of navigating conflicting interests through a distributive justice lens. Environmental water management can achieve substantial ecological outcomes and address ongoing river degradation caused by past management and climate change; however it also causes specific and substantial burdens and benefits to different groups of stakeholders. Given that in most developed countries the majority of land is under private tenure, environmental watering must have active cooperation of private landholders to achieve its ecological outcomes and thus it must effectively deal with an array of vested interests. Australia's reforms aimed at reallocating water from production to the environment have resulted in significant considerable volumes of environmental water.

In the state of New South Wales, this water is managed by the state and national governments with the help of five Environmental Water Advisory Groups made up of a wide representation of interests. In this paper, we explore the perceptions of environmental, government, irrigator and grazing representatives, which demonstrate conflicting principles over how environmental water should be distributed. We detail how government water managers reconcile competing distributive principles of equity (ensuring that no one is disproportionately affected or benefits unduly), need (achieving environmental outcomes) and efficiency (prioritizing operational feasibility) in order to maintain the social acceptability of environmental water.

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## 1. Introduction

Australia is a pioneer in the use and management of environmental flows, adopting a raft of reforms to institutionalise and legalise environmental flows in its water management (Swainson et al., 2011). An environmental flow is an allocation to the 'environment', akin to a water allocation to agriculture or domestic supply. Environmental water considers the quantity of water available for the environment, as well as the frequency, timing and duration of environmental water discharges (Gupta, 2008). Decades of water reforms have worked to redistribute water licenses, resulting in significant parcels of water changing from being private rights in the form of extractive licenses used to produce food and fibre, to a public asset where water is used to maintain a healthy river system.

While the concept of allocating water to the environment presents enormous technical challenges for water managers

(Conallin et al., 2012; Smakhtin et al., 2004), in this paper we focus on the localised social challenges involved in environmental water management (EWM) in a highly regulated river system, since the successful management of environmental water is "as much about people as [it is] about the environment" (Dyson et al., 2008, p.107). Ideas about how environmental water ought to be distributed, and the fairness of that distribution, are crucial if EWM is to be accepted, and indeed effective. We use an Australian case study to illustrate that EWM must have community support and endorsement for two reasons. First, as the past 20 years of Australian water reform demonstrate, issues of distributive justice and in particular the fierce public opposition to the redistribution of water from the private to the public domain, has had a significant impact on the progress of EWM (Gale et al., 2014). Reforms aimed at rebalancing water extraction are not confined to Australia; similar actions have been undertaken in many basins around the world (Poff et al., 2003). Second, a significant proportion of land in the Western nations is managed through private tenure (Moon and Cocklin, 2011), as such water managers must have the cooperation of landholders to deliver positive ecosystem outcomes. The influence of distributive justice on community

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endorsement of EWM and consequently the effectiveness of EWM activities highlights the need to better understand persistent and emerging issues of distributive justice in EWM.

In this paper we utilise the distributive aspects of the Social Justice Framework (Lukaszewicz, 2014; Lukaszewicz and Baldwin, 2013) to analyse localised distributive justice concerns which impact on the development of environmental water management plans. We are not considering broader justice issues associated with environmental water such as downstream impacts or societal environmental values (see Morrison et al., 2012; Bowmer, 2014 for more on these aspects). The Social Justice Framework is applied to the process and outcomes of New South Wales (NSW) Environmental Water Advisory Groups (EWAGs), an integral process of community engagement within NSW EWM. We first present a brief history of environmental water in NSW highlighting the political contestation of environmental water acquisition and management. The distributive justice principles used in this analysis are then explained, followed by a description of NSW EWAGs. The findings of the study are provided, highlighting how water managers are actively negotiating the social acceptability of EWM with affected stakeholders, and the need for fairness, particularly the need for sufficient opportunities for interest mediation throughout EWM decision-making processes.

## 2. Australia's ongoing quest to reform and secure environmental water

The development of Australia's river systems for consumptive uses and the associated extraction of significant volumes of water are at the root of the environmental degradation that EWM is meant to address (Kingsford, 2000). In the past, water was mainly seen as an economic resource essential for state development and successful agricultural enterprises (Connell et al., 2006; Fisher, 2007), with conservation outcomes only becoming prevalent in the 1980s (Godden, 2005).

Environmental degradation of Australia's river systems became a nationally significant issue in the early 1990s, prompting a series of legal and institutional changes to water management (see Fig. 1 for a timeline of environmental water reform). The purpose of this section is not to exhaustively describe the chronology of the water reforms (which have been well depicted by Quiggin, 2012; Connell, 2007; Crase, 2011 amongst others), but to provide an overview of water reform, focusing on Murray-Darling Basin reforms within NSW, Australia's most populated and water consumptive state (Swainson et al., 2011).

The 1990s saw several attempts to curb extractive water usage and return water to the environment underpinned by the 1994 Council of Australian Governments (COAG) Water Reform Framework Agreement. This Agreement sought to achieve a sustainable water industry and included the core elements of contemporary water reform; the creation of water rights separate from title and the associated water market, water pricing reform, and the allocation of environmental water (Kildea and Williams, 2010). In 1997 the NSW government established stakeholder committees to develop valley based water sharing plans which were the first major attempt to re allocate water from extractive users to the environment (Bowmer, 2003), and involved all major water stakeholders in each valley. After years of negotiations these deeply contested and legally challenged plans (Millar, 2005; Bowmer, 2007) resulted in only minor amounts of environmental water being obtained, without compensation to water users. The success of these early plans were hampered by political trade-offs (Evans and Wolfenden, 2005) and prevailing environmental conditions, with many water sharing plans suspended during the Millennium Drought (Swainson et al., 2011).

In 2004 a second phase of water reform commenced with the National Water Initiative (NWI). The NWI sought to 'complement and extend' the 1994 water reform agenda providing a water management system that both provided certainty and optimised social, economic and environmental outcomes (Kildea and Williams, 2010).

The federal *Water Act* was legislated in 2007, paving the way for the creation of the Murray-Darling Basin Authority (MDBA) in place of the Murray-Darling Basin Commission (MDBC) in 2008. The MDBA was tasked to develop the Murray-Darling Basin Plan, a seminal policy instrument which would for the first time treat the Basin as a single system. Following several iterations, the Basin Plan came into effect in 2012. Each iteration was met with fierce opposition from rural communities and water users (Alston and Whittenbury, 2011; Crase, 2011; Quiggin, 2012; Gale et al., 2014) regarding the Sustainable Diversion Limits, the volume of water to be 'diverted' from extractive use to the environment, with irrigation communities (especially in the irrigation districts of NSW) contending that such massive cuts to extractive water availability would lead to their economic ruin (Gale et al., 2014). The final Basin Plan settled on 2750 GJ being returned to the river as environmental water (from an initial 3000–4000 GJ), an amount seen to be inadequate by various environmental representatives and the South Australian government (Gale et al., 2014).

As of November 30, 2014, federal environmental water holdings for the MDB totaled 2242.281 GJ of registered entitlements (Department of Environment, 2014), just 507.719 GJ short of its official target. The majority of environmental water held in NSW was made available through two key water reform programs; (i) the AU\$3.1 billion 'Restoring the Balance in the Murray Program' (water buyback) which purchase permanent water licenses to be managed by the newly instituted Commonwealth Environmental Water Holder (CEWH) (see Robinson, 2010), and (ii) the parallel AU\$5.8 billion 'Sustainable Rural Water Use and Infrastructure Program' designed to improve the efficiency and productivity of water use through infrastructure investments (Harwood, 2010). Additional environmental water was sourced from historical water reform initiatives run by both federal and state governments, including planned and adaptive water prescribed in water sharing plans (see NSW OEH, 2014), and buyback water through The Living Murray initiative (NSW OEH, 2014).

NSW consumptive water availability was particularly affected by these water reform programs, with 72% of water allocation buybacks coming from NSW (NWC, 2009); additionally NSW received a disproportionately high amount of the infrastructure funding (Productivity Commission, 2009).

### 2.1. Governance of NSW environmental water management

EWM is a rapidly evolving and relatively new responsibility of the NSW Government. The two primary water agencies are the NSW Office of Water (NOW) (part of the Department of Primary Industries) and the Office of Environment and Heritage (OEH). NOW is the lead agency for water resource management and consequently regulates the implementation of the NSW Water Management Act 2000 and the federal Water Act 2007. OEH manages environmental water, including adaptive environmental water licences held by the NSW Government and water allocations established under water sharing plans. Both state agencies cooperate with the Commonwealth Environmental Water Office (CEWO) on the management of environmental water held by the federal Government (NSW Government, 2014).

History suggests that the management, purpose and nature of environmental water will continue to be questioned by stakeholders (Knights, 2001). With such a large volume of environmental water now available for the long term conservation and

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