From natural flow to engineered resource:

History of conflict over water access rights in New South Wales (1825 – 1944)

A thesis submitted for the degree of Doctor of Philosophy of
The Australian National University

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Candidate's declaration

Except as acknowledged in the text, the work presented in this thesis is my own original research and has not been submitted, in whole or in part, for a degree or diploma at this or any other tertiary institution

Elinor Jean, 17 November 2014
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1. Books, book chapters, papers and reports

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Abstract

Australia has a rich history of water law and conflict. This thesis examines water disputes and regulation in New South Wales from the early nineteenth century until the turn of the twentieth century. The decades leading to the 1850s were a formative era for New South Wales water law. From the 1850s onwards, the challenges facing the law multiplied, as water use intensity increased and water users sought greater development. This research explores the resulting conflicts over water through the lenses of relationships between water users and the natural environment, other water users and the state. This analysis is assisted by James Linton's theory that modern, Western society has re-defined water as an abstract resource, dissociated from ecological and social meanings.

The operation of the common law riparian doctrine within the Australian landscape was a key challenge for nineteenth-century water law. In particular, riparianism's focus on 'natural flow' placed major limits on the development of watercourses. At the turn of the twentieth century, the riparian doctrine was replaced with a statutory public administration regime. The removal of water access constrained by riparian landownership and concepts such as 'natural flow' enabled human transformation of watercourses on a landscape scale. This qualitatively changed the nature of end user rights to access the waters of rivers and streams, causing multiple separations in the relationships between water, water users and the natural landscape.

Twentieth-century water management was characterised by the construction of major storages on the headwaters, the regulation of riverflow and the diversion of water to irrigation settlements. The vesting of flowing water in the Crown and state investment in water development assisted the evolution of water as an 'engineered resource', altering the relationship between water use, and the geography of the landscape and
rhythms of the seasons. The centralisation of water resources allowed the state to manage water as a unified and homogeneous yet divisible resource, and water access rights came to express an increasingly abstract relationship between water and its natural ecology. The state's monopoly control over the major watercourses also allowed the Crown to become the arbiter of end user access to water. As a result, water-sharing relationships between water users shifted from disputes between individuals or among communities of users, to public debates centred around state management, planning and allocation decisions.

Water disputes also evidence scattered claims by water users for use-based, decentralised, and public water access regimes. While none of these categories has had a defining influence on the structure of the general water law, they provide further insights into the shifting relationships between water users, the natural world and the state — in particular, reiterating the tendency of New South Wales water law to define water use independently from social and ecological meanings. These patterns from New South Wales' water law history provide valuable insights into modern-day water law doctrines and can assist to better understand the foundations of today's water conflicts.
Introduction

1. Water conflict past and present

In south–eastern Australia, the twenty-first century was ushered in alongside the worst drought in at least 100 years. The drought intensified a process of national water reform, a process marked by both conflict and cooperation. Rural water users have been among the most vocal critics, with irrigators in particular concerned that the changes will erode or remove their water access rights. To date, there have been two major legal challenges,¹ as well as more minor litigation² and protests within rural communities. Resolving this conflict is a fundamental challenge for the future of the water reform agenda and water resource management.

Neither water conflict nor the reform of water management and regulation are new to Australia. This thesis examines the history of water disputes involving rural water users in the nineteenth and early twentieth centuries in New South Wales. Six case studies explore water conflict arising from manufacturing, pastoralist, mining, irrigative and household water uses. By analysing the historical evolution of water access regimes and debates over access to water, this thesis provides a framework to better understand some of the origins of today's water conflicts and the doctrines that define them.

The water reforms at the turn of the twentieth century brought about watershed change to water access. The vesting of flowing water in the Crown fundamentally altered the various relationships between consumptive water users, the state and

² e.g. Ashworth v Victoria (2003) 125 LGERA 422.
nature. During the nineteenth century, water disputes were predominantly between individual water users or between classes of water users. Development of water resources was generally small-scale and localised, and water users were highly subject to the variability of landscape and season. In 1896, the waters of rivers, creeks and lakes were vested in the Crown and the following decades saw the State government manage and control the broad-scale development of New South Wales water resources. Water-sharing disputes shifted from private disputes between individuals or among communities of users, to public debates where the state played a key role as arbiter and mediator of water access and allocation decisions. This development of a public administration system also had critical impacts on the relationship between water users and the landscape, with water access rights embodying an increasingly abstract relationship between water, water use and the natural ecology.

Three broad themes or relationships are critical to this history of water access regimes and water users' rights to access flowing water:

1. the role of the state in managing water resources and regulating end users' water access;
2. the relationship between end users and the natural landscape; and
3. water-sharing disputes, and negotiation and conflict over how to best allocate water among end users.

These same themes are still evident in water conflict today. Chapter 1 draws on the Lee v Commonwealth Federal Court litigation to introduce these themes, highlighting how each of these relationships have evolved during the nineteenth, twentieth and twenty-first centuries. The thesis' analysis relies on Canadian geographer James Linton's recent work on water as a 'modern abstraction' and Chapter 1 also introduces

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3 The term 'abstract' is drawn from James Linton, who argues that modern water management has come to define water as separate to its social and ecological relations, 'reduced to an abstract commodity' (Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 14).


the major principles of Linton's theory that modern society has separated water from its ecological and social connections. In this regard, this thesis' key finding is that water access regimes have increasingly defined water as an isolated substance in and of itself and water users as individual, disconnected consumers.6

2. Case studies

This thesis tells a narrative of water conflict from white settlement until the turn of the twentieth century. Part A examines the development and application of the common law in New South Wales, in the context first of manufacturing water users in the early nineteenth century and second of pastoralist water uses in the second half of the century. Part B examines the origins of the public administration system and its impact on water access rights, exploring first the statutory regulation of water on the goldfields and second the debates over general water reform leading to the vesting of flowing water in the Crown in 1896. Public administration enabled the landscape-wide modification of watercourses and the supply of water by state authorities outside the rhythms of the natural ecology. Part C examines two key moments of conflict during this evolution: firstly, the tensions surrounding the establishment of irrigation and river regulation, and secondly, the rights of residents of rural towns to a public water supply.

The first concentration of water disputes between white settlers in colonial New South Wales took place among the fledging manufacturing industry, involving interests such as milling, distilling and wool-washing. Chapter 2 documents this history of water conflict among manufacturing interests in the Sydney region between 1825 and 1856. This was a formative era within New South Wales water law. Litigation was defined by limited conflict among competing water users over water and the early colonial authorities seeking to protect the water supplies for the growing city of Sydney. The case study commences with the first litigated water dispute in New South Wales and

6 'Consumer' is a complex term. This thesis defines 'consumer' in terms of an abstracted relationship between the water user and water, such that a right to access water is defined in terms of the rightholder's entitlement to extract or have delivered a certain quantity of water. This thesis discusses in particular the lack of recognition within legal systems of community or ecological relationships surrounding water and water use.
closes with the maturation of the common law of water in the 1850s and the adoption of the common law riparian doctrine.

This thesis then shifts from Sydney to the inland rivers, from manufacturing to the pastoralist expansion along the waterways of the colony. Between the late 1850s and the 1880s, a series of sometimes violent conflicts occurred between pastoralists over the construction of dams on rivers and streams. This era is notable particularly for the discordance that emerged between the riparian law and practice on the ground. Rather than bring legal action, aggrieved parties forcibly broke the dams of upstream landholders and negotiated community-based settlements. Chapter 3 examines these conflicts, detailing in particular the applicability of the English riparian doctrine to arid inland Australia. This analysis centres around the limited role played by the state, the intensification of water use, and the riparian doctrine's capacity to reconcile 'natural flow' with increasing development. These first and second case studies — manufacturing and pastoralism — provide a history of the common law of watercourses in New South Wales.

Unlike disputes between pastoralists, access to water on the goldfields in the 1850s and 1860s was heavily regulated by the state, providing for the colony's first statutory water rights arrangements. Chapter 4 examines water law and conflict during the New South Wales goldrush. The colonial government instituted a regime of water privileges and permissions, enabling substantial modification of the natural landscape via water storages and diversionary works. Water management was complicated by miners' resentment of government regulation and class tensions. Nevertheless, the administrative regime for water access on the goldfields can be seen as a precursor of the public administration system. Consistent with later statutory reforms, this chapter identifies a close connection between public administration and the attenuation of relationships between water, water users and the natural landscape.

From public administration on the goldfields, this thesis moves to analyse the disputes and debates leading up to and arising from the vesting of flowing water in the Crown in 1896. While some water users were in favour of state control over water, others made distinct claims to use-based water access rights and decentralised or cooperative
water access arrangements to support development. After 40 years of debate, the Water Rights Act 1896 (NSW) (Water Rights Act) removed the riparian rights of landholders and replaced them with a state monopoly over flowing water. This had the immediate impact of enabling pastoralists to legalise their dams. It also set the scene for landscape-wide national development of water resources. Together the third and fourth case studies — goldfields and water reform — outline the genesis of New South Wales' public administration system.

Chapter 6 continues this story, by exploring the conflicts that accompanied the development of river regulation and irrigation in the Murrumbidgee and Lachlan river valleys, from the 1890s into the twentieth century. Both private and public water resource development challenged the established rights of the community of landholders on major watercourses to access water. Landholders on the lower rivers continued to claim riparian rights to protect their water from upstream diversions for irrigation. These water security debates entailed fundamentally different visions for the rivers: as naturally flowing streams providing flood irrigation or as regulated water supply channels. With the construction by the state of headwater dams on major rivers and the establishment of broad-scale irrigation settlements, water was defined increasingly as a quantifiable 'engineered resource' and water allocation was decided by the administrative arm of the state.

Contests over access to water at the turn of the century did not only occur in the agricultural sector. Chapter 7 investigates the water access rights and political protests of the residents of New South Wales rural and regional towns. Town residents had few legal rights to demand the construction of a water supply and, as non-landholders, only limited rights to access water sources themselves. In this regard, the case study examines in particular the decades long struggle of the people of Broken Hill, in the arid far west of New South Wales, to obtain a secure water supply from the government. Both the fifth and sixth case studies — irrigation and town water supply — examine struggles for power over water under a public administration system, where the state became the ultimate arbiter of water access. In particular, these case studies highlight the evolution of water users as consumers of water supply services: a category of water user who had either no or only limited capacity to source their
own water supply and who therefore became dependent on a central authority (the state or a private provider) to ensure access to water.

The concluding chapter examines the key trajectories from within this history, guided by principles from Linton’s modern water theory. This chapter uses land-based water access rights, public administration, use-based water access rights and public rights as metaphors to examine major trends. Firstly, this thesis argues that the relationship between water, water use and the natural environment became gradually attenuated, particularly with the demise of the common law riparian doctrine. Secondly, the chapter argues that the centralisation of water in the hands of the state has played a crucial role in re-defining water as an abstract, unified yet highly divisible ‘engineered resource’. Thirdly, the history of use-based water access rights can be used to explore concepts of private property in water, especially the connection between private property and the definition of water as an ‘abstract resource’. Finally, this thesis argues that New South Wales water law only displays limited recognition of social relationships between people and water, evidenced in particular by the weakness of public water access rights.

3. Thesis scope and contribution to research

This thesis provides a detailed analysis of water access regimes and water conflict in New South Wales, from the first decades of the nineteenth century to the turn of the twentieth century. This period has been relatively understudied by Australian water lawyers, the major studies being Peter Davis’,7 and Sandford Clark and Ian Renard’s8 works written in the 1960s and 1970s. The works of J.M. Powell,9 Clem Lloyd10 and,

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10 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988).
more recently, Emily O’Gorman\textsuperscript{11} and Erica Nathan,\textsuperscript{12} have outlined legal and administrative frameworks within an environmental and social history context.\textsuperscript{13} Edwyna Harris has also recently undertaken an economic analysis of disputes among pastoralists in the nineteenth century.\textsuperscript{14}

In this context, this thesis seeks to fill three important lacunae within contemporary legal discourse. Firstly, Davis, Clark and Renard’s work was written at the height of the twentieth century’s public administration system. More than four decades later, there is great value in re-visiting this period of history to understand how it may assist in resolving challenges in the contemporary reform process. At a time when a new regulatory paradigm is amending water regulation, it is timely to review the events that led to public administration’s establishment and to identify key pre-requisite steps that define today’s water access doctrines.

Secondly, existing analyses of nineteenth-century law focus on English doctrines without substantial exploration of their \textit{application} in nineteenth-century Australia.\textsuperscript{15} As is well recognised, the Australian landscape posed considerable challenges. The


\textsuperscript{12} Erica Nathan, \textit{Lost Waters: a history of a troubled catchment} (Melbourne University Press, 2007).


colonial economy and productive uses of water were also quite distinct from English origins. Moreover, one of the hallmarks of nineteenth-century water law in New South Wales was a disjuncture between law and practice on the ground. In this context, this thesis examines especially the history of the riparian doctrine, from its first adoption into Australia in the 1850s, to its abolition in 1896 and gradual decline in the twentieth century. Contemporary water law discourse has tended to dismiss riparianism as unsuited to the Australian landscape and productive needs. While recognising that nineteenth-century land and water use was highly destructive of natural ecosystems, this thesis suggests that nevertheless there is value in recognising the close land–water nexus embodied within the riparian doctrine. This thesis examines in detail the extent to which New South Wales litigants and courts sought and were willing to adapt riparianism to an arid and simultaneously flood-prone landscape, as well as the informal water access regimes that evolved when water users were unwilling to rely on the law.

Thirdly, the modern-day Australian water reform agenda parallels an international trend towards privatisation and marketisation of water. This trend has been critiqued worldwide and often rejected by populations who see it as a dangerous challenge to community and public water access rights, and to ecological health. Social critique of

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similar neoliberal processes undertaken in Australia has been much less extensive.\(^{19}\)
This thesis connects international critical analyses to the uniquely Australian water law and management paradigm, and in so doing, provides a novel and revealing analysis of key structures within water law history.\(^{20}\) This thesis draws on histories of water and water management within the discipline of critical geography, most particularly James Linton's history of water as a modern 'abstraction'.\(^{21}\)

This thesis builds on and extends existing accounts of nineteenth century water law by examining litigated and non-litigated disputes, as well as the evolution of water access regimes. Rather than emphasise on the policy intentions of government, this thesis is written expressly from the perspective of end users of water, exploring their distinct interests and the capacity of legal doctrines to meet their needs. Case studies detail both legal rights to use and control water as well as public and political debates evidencing water users' claims to a water access right. The research draws on traditional legal sources — litigated caselaw, legislation and parliamentary debates — augmented by media reports of public debate and informal (non-litigated) disputes.\(^{22}\)

\(^{19}\) Sharon Beder has been an outspoken critic (see e.g. Sharon Beder, 'Water must go to those who deserve it the most, the rich', \textit{The Age} (Melbourne), 21 September 2006, 17). Michael Cathcart's recent book, \textit{The Water Dreamers: a remarkable history of our dry continent} (The Text Publishing Company, 2009) has raised concerns about the interaction of a water market and sustainability (at 257). For a discussion of the pros and cons of a water market, see also Alex Gardner, Richard Bartlett and Janice Gray, \textit{Water Resources Law} (2009, LexisNexis Butterworths), 527–532.


\(^{22}\) This research is indebted to the National Library of Australia's Newspaper Digitalisation Project (available on Trove), which has enabled full-text searches of all major and minor Australian newspapers, making a wealth of nineteenth and early twentieth century debates much more easily accessible.
The research methodology set four broad defining parameters. Firstly, the research examined one jurisdiction: New South Wales. Secondly, this thesis focused on rights to access the waters of rivers, creeks, lakes and waterholes, excluding especially rainwater run-off and groundwater. Thirdly, this thesis excluded intercolonial and interstate water conflict and regulation, except where there were defined impacts on conflicts involving end users. Finally, in order to better understand today’s rural water conflict, this thesis largely focused on disputes located in rural and regional areas (apart from the first case study, located in early colonial Sydney).

This thesis did not examine Aboriginal rights to access water and conflicts between the white invaders and the Aboriginal population over land and water. Nevertheless, this thesis takes as its starting point that all water access rights held by European water users in Australia are based on the dispossession of the Indigenous inhabitants of their traditional ownership of the land. All end users' claims to a right to access water — particularly prior use rights claimed on the basis that the user 'got there first' — should be read against the background of the systematic dispossession by the white settlers of Aboriginal land and water.

23 Recognising that the borders of the colony of New South Wales shifted substantially during the nineteenth century, this thesis focuses on disputes within the borders of present-day New South Wales.

24 While relevant water regulations during the study period did occasionally touch on rainwater run-off, this was a far less substantial subject of conflict. Disputes over groundwater were excluded from the scope of the study, on the basis that there was much less evidence of systematic disputes over groundwater in New South Wales during the study period and that analysing groundwater would require significant exploration of a largely distinct legal regime.

25 It is worthwhile also noting that this thesis is a white male history of water access. For a discussion of the contemporary relationship of rural Australian women to water and drought see Margaret Alston, 'I'd like to just walk out of here': Australian women's experience of drought', (2006) 46(2) Sociologia Ruralis 154. Internationally, there has been substantial focus on the relationships between women and water internationally — see for example Cecilia Tortajada, Women and water management: the Latin American experience (Oxford University Press, 2000); Nefissa Naguib, Women, water and memory: recasting lives in Palestine (Brill, 2009); Sara Ahmed, Flowing upstream: empowering women through water management initiatives in India (Foundation Books, 2005); Isha Ray, 'Women, Water and Development', (2007) 32 Annual Review of Environment and Resources 421.

4. Conclusion

End users' rights to access flowing water evolved substantially during the nineteenth and early twentieth century in New South Wales. Drawing on Linton's history of 'modern water', this thesis investigates how water access regimes have conceptualised the relationships between water users, the state and the natural landscape. The key turning point within this history was the replacement of the common law riparian doctrine with a public administration system. This intensified the disconnection of water access from the natural landscape and enabled the reconfiguration of the waters of New South Wales as a quantifiable 'engineered resource'. It also weakened communal or social relationships between water users and water, as water access came to be mediated by the administrative arm of the state. Understanding how New South Wales water law has come to embody abstract 'modern water' contributes to our understanding of history, as well as providing insights into the cause of water conflict today.
Chapter 1

Water law and conflict in historical perspective

1. Introduction: defining themes in New South Wales water law history

Twenty-first century water conflict and regulation are built upon pre-requisite steps from more than 200 years of European settlement in Australia. The defining trajectory within nineteenth and early twentieth century water law was the shift from a land-based riparian access regime to a public administration regime. The first half of the nineteenth century was a formative era for the colony and water regulation was characterised by the establishment of the common law of water. By the 1850s, the English common law riparian doctrine had been endorsed to govern access to water from the rivers and creeks of the colony. The second half of the nineteenth century saw increasing conflict between end users over water as a result of the intensification and expansion of production. The development of water resources spurred tensions over water access and fuelled a decades-long debate over the need for legislative water reform.

From a legal perspective, these years are characterised, firstly, by a disjuncture between legal doctrines and institutions, and practice on the ground, and, secondly, by a series of proposals or claims for alternative approaches to water access. At the same time as disputes among pastoralists over the inland rivers and creeks of the colony tested the capacity of the dominant riparian doctrine to enable development, water users debated:

- the establishment of localised cooperative or corporate arrangements to develop water resources;
• claims to use-based water access rights, on the basis either of long-term, established possession or their modification and 'improvement' of water courses; and

• the increasing role of the executive state in managing and developing water resources, and deciding end user access.

These approaches were driven by the differing interests of water users and distinct visions for the future.

The century ended with the establishment of public administration as the dominant water access regime. The enactment of the Water Rights Act in 1896 vested rights to the use and control of flowing water in the Crown and abolished the common law riparian access rights of riverside landholders. Public administration enabled the landscape-scale manipulation of watercourses and the re-definition of water as an 'engineered resource'. Public administration also established the state as the arbiter of water end users' access, especially in towns and irrigation colonies where users were dependent on an external water supply. This paradigm shift from riparianism to public administration did not take place overnight. Its origins can be located within water regulation and debates from the 1850s onwards, while the full impacts of the 1896 legislative reform were only realised by water users in the first years of the twentieth century.

While government still plays a crucial role in water management today, the modern-day reforms are modifying key aspects of this public administration system. At a time when water regulation is moving away from public administration, it is valuable to examine the debates and disputes that led to its development. Moreover, today's water conflicts have in large part arisen directly out of the compacts and agreements made during the development of public administration. As such, understanding the historical foundations of water regulation in New South Wales can

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1 s.1(1) Water Rights Act 1896 (NSW).
2 Confirmed in 1900 in Hanson v The Grassy Gully Mining Company [1900] NSWLawRp 91; (1900) 21 LR (NSW) 271 (20 November 1900); see also ICM Agriculture Pty Ltd v The Commonwealth of Australia [2009] HCA 51 (9 December 2009).
illuminate the origins of today's water conflict. This thesis uses three broad themes to track the tensions between these various water access rights and regimes:

1. the role of the state and the relationship between water users and the state;
2. the relationship between water users and the natural environment; and
3. the relationship between water users among themselves.

This thesis argues that the advent of public administration qualitatively altered the relationships between water, water users and the natural landscape.

2. Water law and conflict past and present

The focus of water reform today is on the Murray-Darling Basin, Australia's agricultural foodbowl. In 2010, furious protests erupted within irrigation communities in the Basin over the *Guide to the Basin Plan*, an early blueprint of the Basin Plan. Small groups of people across the Basin burned copies of the guide in symbolic protest, evidence of the deep-seated unease in rural communities about the water reform agenda. Nineteenth and early twentieth century New South Wales saw similar eruptions of conflict over water, such as the periodic outbreaks among pastoralists over dam-building along inland streams or the protests by the residents of Broken Hill in the arid west against the government's failure to provide them with a safe water supply. The identification of key themes running through water conflict today and historically demonstrates how water law and conflict today are built upon pre-requisite steps from the past.

2.1 Lee v Commonwealth (2014) and the legal challenge to the reform agenda

The present-day water reforms commenced in the 1970s, triggered by the recognition that water resources were over-allocated and that water-dependent ecosystems were

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degraded. These reforms have not gone unchallenged. Most recently, in 2012, Mr Daniel Lee and Mr Graeme Gropler brought a constitutional challenge to the validity of the *Water Act 2007* (Cth).\(^7\) The two irrigation farmers were acting on behalf of an incorporated group of approximately 500 irrigators from New South Wales, Victoria and South Australia (Murray Valley United Inc.). The case was decided in the Federal Court of Australia\(^8\) by North J on 2 May 2014 against the plaintiffs.\(^9\) North J was scathing in his criticism of the plaintiffs' legal case, rejecting it on the basis that it had no reasonable prospects of success.\(^10\) Nevertheless, the plaintiffs' pleadings remain valuable source documents as to irrigators' concerns about the water reforms.

The plaintiffs' broad complaint was that the water reforms had impacted and would continue to impact adversely on their water rights. Mr Lee and Mr Gropler claimed water rights with a strong historical basis, in particular the right to continue using:

*no more River water than is reasonable for irrigation and conservation [as has] sustained their respective farms with his or her family as irrigation farmers over many years.*\(^11\)

The plaintiffs argued that their properties were unviable as commercial farming concerns without reasonable access to water for irrigation. They defined 'reasonable' as the 'historical measure of use by horticulturalists that is reasonable and which accords with industry standards'.\(^12\) They also relied on their long-term uninterrupted use of water, citing that the farms have each been irrigated for approximately one century.\(^13\)

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\(^8\) The case was first lodged in the High Court of Australia and was then remitted by that court to the Federal Court of Australia (*Lee v Commonwealth of Australia* [2012] HCA 62).

\(^9\) The plaintiffs have applied to the full court of the Federal Court for leave to appeal; as at 9 November 2014, the parties are waiting the court's decision.

\(^10\) s.31A of the *Federal Court of Australia Act 1976* (Cth).

\(^11\) clause 20 of the Statement of Claim (filed with the High Court of Australia on 31 October 2012).

\(^12\) clause 20 of the Statement of Claim (filed with the High Court of Australia on 31 October 2012).

\(^13\) Mr Lee's property at Merbein in Victoria has been irrigated since 1909 and Mr Gropler's property at Cobdogla in South Australia has been irrigated since 1920 (clauses 5 and 7 of the Statement of Claim, filed with the High Court of Australia on 31 October 2012).
The difficulties experienced by the plaintiffs can be broadly referenced to three interconnected elements of the water reforms. Firstly, the reforms re-define the role of government, including increasing the role of the Commonwealth Government to oversee water management and planning. The plaintiffs complained about the removal or erosion by government of water access rights that were previously considered to be secure. Secondly, the reforms have expressly included the environment and sustainability in water management regulations, including provision for environmental flows, in order to re-balance environmental and consumptive uses. The intention has been to protect and restore natural ecosystems as well as improving security for water users. The plaintiffs raised concerns about the impact of the reservation of water for the environment on their farming operations. Thirdly, the reforms have introduced neoliberal mechanisms, such as a water market and water pricing, with the policy objective of ensuring that water is used efficiently and for the highest value uses. The plaintiffs raised concerns about the impacts of deregulation and marketisation on their water security.


15 For an early statement of the need for environmental in-stream flows, see e.g. S.R. Dovers and D.G. Day, 'Australian Rivers and Statute Law', (1988) 5 Environmental and Planning Law Journal 2, 98.

16 The first trial markets were introduced as early as 1983 (Margaret Bond and David Farrier, 'Transferable water allocations: property right or shimmering mirage', (1996) 13(3) Environmental and Planning Law Journal 213 at 214).

Each of these concerns has a distinct evolution within Australia's water law and management history. This thesis analyses the multiple relationships between water users, the state and the natural environment:

1. the evolving role of the state in regulating and facilitating end users' access to water;
2. the relationship of consumptive users to the natural environment, including the extent to which specific water rights regimes were embedded within the natural geography of the landscape and rhythms of the seasons; and
3. the relationship of consumptive users to each other, in particular examining how different water rights regimes shared water among end users.

2.2 Role of the state in managing and regulating access to water resources

The guiding thread underlying the plaintiffs' case in Lee v Commonwealth was a complaint against government for the removal or erosion of rights to access water. The plaintiffs claimed that s.100 of the Australian Constitution supported a substantive right for States' residents to water. Mr Lee and Mr Gropler argued that their use of water over a long period of time and their respective State governments' acquiescence in and sponsorship of this water use created a water access right.

In historical perspective, this claim to a water use right on the basis of long-term use and government endorsement highlights the role that State governments have played in regulating and, at times, guaranteeing end user access to water. Public administration — described variously as a 'nationalisation' system and as a 'state


18 i.e. the colonial government before federation and the State government after federation.
19 Lee v Commonwealth is not an isolated case in this regard. For example, see also the 2009 High Court case, ICM Agriculture Pty Ltd v The Commonwealth of Australia [2009] HCA 51 (9 December 2009); and the 2003 Victorian case, Ashworth v The State of Victoria ([2003] VSC 194), in which a farmer unsuccessfully disputed the State government's legislative restriction on his use of rainwater stored in farm dams for irrigation. 19
21 Peter Davis, '"Nationalisation" of Water Use Rights by the Australian States', The University of Queensland Law Journal 9(1) (1975), 1, 24. The terms 'national' and 'nationalisation' have been frequently used in Australian
socialism' system\textsuperscript{22} — was characterised by the vesting of water in the Crown, state investment in the construction and operation of major headworks, and the delivery by state agencies of public and irrigative water supply services. Its primary role was to kick-start the expansion of water conservation\textsuperscript{23} at a time of expanding population and increasing desire for more water-intensive crop farming.\textsuperscript{24}

From the perspective of the water access rights of end users, a critical element of public administration was the state's ability to completely control water allocations\textsuperscript{25} through a 'water use and flow right monopoly'.\textsuperscript{26} In support of their claim, Mr Lee and Mr Gropler noted the long-term state sponsorhip of their irrigative water use. Both properties are in state-established irrigation districts which have continued under state management or endorsement. The plaintiffs' case highlights a contradiction which emerged within water management at the end of the twentieth century. Water licences under pre-reform legislation (such as the \textit{Water Act 1912} (NSW)) were not property rights but relatively insecure administrative permissions.\textsuperscript{27} Nevertheless, water law history to refer to actions of the colonial or State governments (and are therefore not just limited to actions of the Commonwealth Government).

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\textsuperscript{25} The term 'water allocation' linguistically expresses the state's new role to determine end user access to water — whereas water 'access' is a more neutral term, water 'allocation' implies a decision by an external authority to distribute a resource.


\textsuperscript{27} Alex Gardner, Richard Bartlett and Janice Gray, \textit{Water Resources Law} (2009, LexisNexis Butterworths), 553; Alex Gardner 'The Legal Basis for the Emerging Value of Water Licences — Property Rights or Tenuous Permissions', (2003) 10 \textit{Australian Property Law Journal} 1. This was also demonstrated in the 2009 case, \textit{ICM Agriculture Pty Ltd v The Commonwealth of Australia} [2009] HCA 51 (9 December 2009) when the plaintiff irrigators complained that the replacement of bore licences issued under the \textit{Water Act 2012} (NSW) with new aquifer access licences issued under the \textit{Water Management Act 2000} (NSW) was an unjust acquisition of property. The new licences entitled the plaintiffs to take substantially less water than they had been allowed under their former licences (a 66--70% reduction) (at 2, per French CJ and Gummow and Crennan JJ). The High Court of Australia found that the plaintiffs' bore licences were not property rights and that there had been no unjust acquisition.
State governments' actions over many years in endorsing the security of pre-reform licences led water users to believe that their water security was guaranteed. This contradiction was recognised by the New South Wales government in 2004. Introducing legislation to create water access licences with perpetual duration, the Minister for Natural Resources, Mr Craig Knowles, indicated that:

*The fact is that so-called water rights have been tenuous since 1912 [the enactment of the Water Act 1912]. [...] The governments of Australia have put a spotlight on these historic assumptions [...] We now have a responsibility to confirm the security that has been implied for more than 100 years.*

The concerns expressed by the plaintiffs in *Lee v Commonwealth* are not just that Commonwealth government action has removed their water entitlements. The concern is that government first guaranteed water access, only to remove it one century later.

The thesis case studies track the evolution of the state as a central authority managing water resources and mediating end users' water access. The role of the state in water conflict changed markedly from the early nineteenth century into the first decades of the twentieth century. In the first decades of white settlement, the Governor exercised strong administrative powers over the colony's resources. For much of the rest of the nineteenth century, however, once rights to water or waterside land were alienated to private individuals, the executive arm of the state had no further capacity to control end users' water access — and, indeed, the colonial authorities often struggled to prevent illegal (i.e. unauthorised) occupation of land and water.

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28 This is now reflected in s.69 *Water Management Act 2000* (NSW), noting that this did not apply to all categories of water access licence. This was a requirement of the *Intergovernmental Agreement on a National Water Initiative* (2004).

29 Craig Knowles, Minister for Natural Resources, second reading speech on the *Water Management Amendment Bill* 2004 (12 May 2004, Legislative Assembly).


31 The state did play a major role in providing a water supply for the city of Sydney, a role which started in the earliest days of the nineteenth century. For example, Michael Cathcart describes the construction by the colonial authorities of three tanks cut into the sandstone of the Cadigal Stream in Sydney Cove (which then became known as the 'Tank Stream') as 'Australia's first government-funded hydro-engineering project' (Michael Cathcart, *The Water Dreamers: a remarkable history of our dry continent* (The Text Publishing Company, 2009), 28). The earliest examples of water legislation in New South Wales were also in relation to the construction of Sydney's water supply (e.g. *Sydney Water Supply Act 1833*; *Metropolitan Water and Sewerage Act 1880*) and also the construction of town water supplies (e.g. *Country Towns Water and Sewerage...*
The vesting of flowing water in the Crown in 1896 effected watershed change in the role of the state, with a defining impact on the nature of water access rights for end users. Firstly, the inherent connectivity between the natural landscape, and water use and availability was weakened, to be replaced by centralised management and planning of water as an 'engineered resource'. Secondly, water-sharing relationships came to be mediated by the state, in effect converting private or community-based disputes into public debates where the state was seen as the ultimate arbiter of water availability.

2.3 The relationship between water users and the natural landscape

The plaintiffs in Lee v Commonwealth raised concerns about how the Commonwealth's recovery of water for environmental flows would impact on their farming operations. This recognition of environmental water needs is a relatively new concern within water management, which did not play a role in water disputes or water management decisions in the nineteenth and early twentieth century. Indeed, water that was not used for productive purposes was often referred to as 'surplus' or 'waste' water. Nevertheless, the need to re-establish environmental flows rests upon a long history of increasing human transformational change of New South Wales river landscapes.

In the earliest days of European settlement, water uses were relatively technology unintensive and water needs could be met by simple geographic expansion. Without artificial water storages, however, production was constrained by the variabilities of

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32 This thesis conceptualises this idea with the metaphor of 'natural flow'.

33 A key objective of the Basin Plan is to establish an environmentally sustainable level of take by establishing a new limit on the amount of water that can be used for human consumptive purposes (the sustainable diversion limit) (Chapter 6 of the Basin Plan).

34 For example, Mr Lee raised concerns that the reduction target for the Basin as a whole would be applied across the board, noting that his farm would not be viable with a reduction of that size. The plaintiffs also raised more nuanced concerns about the impact of Commonwealth water recovery strategies on irrigation communities (e.g. the impact of the 'swiss cheese' effect, whereby the cessation or reduction of irrigation on individual properties has flow-on effects for the remaining irrigators in an area).

the landscape and seasons. The nineteenth century saw the gradual expansion of human manipulation of the water landscape, starting with small-scale and largely privatised development by individual landholders:

*In this initial phase of discovery and settlement, it was largely a matter of the pioneers responding to the availability of land and water. Eventually, however, all the easy options were exhausted and there came the realisation that, for any permanent occupation of much of the inland, effective measures would be needed to control and share the meagre water resources present.*

Early small-scale development took the form of shallow tanks dug out of stream beds or simple earthen banks acting as weirs across watercourses. Despite their localised nature, these works still had a substantial and lasting impact on the natural ecology. Nevertheless, these first attempts to manipulate water courses remained highly subject to the natural rhythms of the river landscape as a whole — for example, they were often damaged or destroyed by floods.

A paradigm shift occurred around the turn of the twentieth century, with the construction by the state of large dams and water diversions, enabling landscape-scale development. Large dams were built first for city water supplies, followed closely by

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39 This thesis uses the term 'manipulation' to refer to the conscious and active process of transforming watercourses from natural systems to 'artificial', 'regulated' or 'engineered' systems. This is not to deny that nineteenth-century land and water use had significant and detrimental impacts on the natural ecology. However, the approach particularly of the large pastoral landholders was to extract as much as possible from the landscape while putting as little as possible back in. Similarly, the goldfields could be said to be governed by a 'resource extraction' methodology, concerned to exploit the landscape regardless of ecological or social cost. This thesis argues that the twentieth-century water development paradigm brought about a qualitatively different 're-shaping' of the natural world, which, in turn, further dissociated water users from the natural rhythms and geography of the landscape.

40 e.g. construction of the Upper Nepean Scheme to supply water to Sydney between 1888 and the early twentieth century (including Cataract, Cordeaux, Avon and Nepean dams, as well as Prospect Reservoir) (W.V. Aird, *The water supply, sewerage, and drainage of Sydney* (Metropolitan Water Sewerage and Drainage Board, 1961). The history of other Australian colonies is slightly different in this regard: e.g. Victoria constructed the Yan Yean Reservoir to supply Melbourne in 1857 (John Pigram, 'The taming of the waters', in R.L. Heathcote (ed.), *The Australian experience: essays in Australian land settlement and resource management* (Cheshire Longman Pty Ltd, 1988) 151, 154).
dams for irrigation (e.g. construction of Burrinjuck Dam on the Murrumbidgee).\textsuperscript{41} The construction of larger water conservation schemes brought about significant change in the relationship between water users and the landscape. Headworks regulated rivers\textsuperscript{42} and promised to provide a secure water supply to all river users, while water supply schemes diverted water from the river landscape on a much greater scale.

This thesis argues that this development of water resources was accompanied by an attenuation of the intrinsic relationship between water, water use and the natural landscape. This was evident within water disputes and water law in two key ways. Firstly, the geographical scale of the disputes increased as the scale of human intervention into and manipulation of the natural environment became landscape-wide. Secondly, water access rights adapted to reflect an increasingly abstract relationship with the environment. Traditional land-based rights such as the common law riparian doctrine had envisaged a close and integral relationship between water use and the natural landscape. By contrast, the early statutory irrigation rights to water defined water and the right to access it in much more abstract and quantitative terms: as a right to use a volume of water on a set area of land or for a defined crop, without any necessary connection with flow of water in the natural landscape.\textsuperscript{43}

2.4 Water access regimes and water sharing

The third broad concern raised by the plaintiffs in \textit{Lee v Commonwealth} was that the deregulation of water entitlements and the creation of a water market had impacted on their financial security and the availability of water for their farms.\textsuperscript{44} Deregulation

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\item The regulation of rivers had major impacts on flow regimes; for a discussion, see Matthew Colloff, \textit{Flooded Forest and Desert Creek: ecology and history of the river red gum} (CSIRO Publishing, 2014) 174–179.
\item Noting that quantification of water resources took on a qualitatively different meaning in the late twentieth century, with the introduction of volumetric entitlements and planning (see in general Poh-Ling Tan, 'An Historical Introduction to Water Reform in NSW - 1975 to 1994', (2002) 19(6) \textit{Environmental and Planning Law Journal} 445).
\item For example, the plaintiffs questioned the extent to which farmers who had sold their water entitlements to the government were genuinely 'willing sellers', suggesting that many sold their water in order to clear their properties of debt. In this regard, see Lin Crase, Leo O'Reilly and Brian Dollery, 'Water markets as a vehicle for water reform: the case of New South Wales', (2000) 44 \textit{The Australian Journal of Agricultural and Resource Economics} 2, 299 at 318, who suggest that a primary motivation for the sale of water entitlements is the 'need
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and marketisation have modified the previously dominant public administration regime. The plaintiffs worried in particular about the definition water entitlements as a form of tradeable property and the activation of previously unused water entitlements (known as 'sleepers and dozers'). Mr Lee claimed that the activation of these unused or rarely used licences substantially reduced the reliability of water allocations:

There were very, very opportunistic corporate farms that bought up previously unused licences and activated them and developed property with government sanction, and suddenly water that had never been used was demanded at the time of shortage by far more users. There simply wasn't enough to go around.

The water market deregulated the public administration system's approach to water allocation, theoretically allowing free trade between willing buyers and sellers to be a major determinant of who can access water and who cannot.

The sharing of water among competing users is a key challenge faced by water law, historically and today. The water market is the latest in a long history of different approaches to water sharing in New South Wales. The establishment of water law in the early nineteenth century and its evolution in response to the development of

for money. As such, selling water is akin to 'selling the back paddock', though with potentially more far-reaching consequences as land without water becomes devalued.

The origins of the water market are in the very beginning of the modern-day reforms. In 1981, Randall proposed that water entitlements should be re-defined as 'legal property instruments, vested in the individual and negotiable independently of the land' (Alan Randall, 'Property entitlements and pricing policies for a maturing water economy' (1981) 25(3) The Australian Journal of Agricultural Economics 195, 201).


One aspect of the 'unbundling' of water licences. In New South Wales, 'unbundling' also saw the creation of three distinct water entitlements. Water access licences entailed a 'share component' (a right to access a specified share of the water available in a specified source or area) and an 'extraction component' (a right to take water) (s.56 Water Management Act 2000 (NSW)). Water users would also require a third entitlement: a water use approval (the right to use water for a particular purpose at a particular location) (s.89 Water Management Act 2000 (NSW)). These components could be held separately — e.g. there was no requirement for the holder of a water access licence to also hold a water use approval.

These were water entitlements that had never or only rarely been used before the introduction of a water market but which nevertheless became tradeable. See in general Donna Brennan and Michelle Scoccimarro, 'Issues in defining property rights to improve Australian water markets' (1999) 43(1) The Australian Journal of Agricultural and Resource Economics 69.

Michael Cathcart critiques this element of the water market on the basis that 'random property sales by "willing sellers" are no substitute for systematic planning' (Michael Cathcart, The Water Dreamers: a remarkable history of our dry continent (The Text Publishing Company, 2009), 257).
water resources saw a range of water-sharing arrangements operate.\textsuperscript{50,51} This thesis analyses four broad categories of water-sharing regime: land-based access regimes; cooperative or centralised regimes, including the public administration system; use-based access regimes; and public rights access regimes.

Much of the nineteenth century was dominated by land-based rights to access water, especially the common law riparian doctrine. These water access rights had their basis in a person's ownership of land on the banks of a stream\textsuperscript{52} and, arguably, arose out of the close and integral relationship between land and water. In societies where human manipulation of the natural flow regimes was minimal and water use was dominated by in-stream uses, water could be used within the confines and rhythms of the natural landscape. Under the common law riparian doctrine, the use by a single water user was limited primarily by natural conditions ('natural flow'), in conjunction with the needs and actions of all other water users along the stream. The case studies identified at least two forms of non-statutory land-based entitlement claimed by water users in historical New South Wales:

1. rights based on a simple land–water nexus, such as an exclusive right to use a watercourse; and
2. the complex balance and dynamic of common law riparian rights, in which each riparian water user's water access right was co-dependent or correlative on other riparian water users' equal rights.

\textsuperscript{50} These arrangements encompass two broad legal questions: the source of the water access right (i.e. how does a water user prove that they have a right to access the water source) and the water-sharing regime which governed the water user's relationship with other users (i.e. how does a water user prove that they have priority over another competing user).


Both of these forms of entitlement envisaged water use within the river landscape and water users' access was largely dependent upon the natural availability of water. Indeed, a key tension within the application of the riparian doctrine was the extent to which riverside landholders could develop the watercourse and thereby alter the natural flow regime of the stream. The development of water resources under the Water Rights Act from the end of the nineteenth century onwards 'broke' this necessary connection with the landscape. Twentieth century statutory land-based rights often removed the nexus between the natural water source and the water use, such that the entitlement became affixed to a property entitlement in land without the necessary connection to using water within its natural landscape.

Twentieth-century Australian water sharing has been defined above all by the public administration system. Public administration has enabled the state to become a central governing authority, with three broad roles:

1. management of water resources, enabled by a Crown monopoly over key sources of water in nature;
2. responsibility to allocate water access rights among end users through statutory and administrative water privileges; and
3. construction and management of water conservation and irrigation schemes.

In effect, rights to access and control water were concentrated in the hands of a central authority and re-distributed to end users. Public administration had two broad advantages. Firstly, it enabled more effective management and development of water resources on a landscape scale, compared to individual, scattered private water users. As a result, public administration effected an instrumentalist and interventionist relationship between water users and nature, including the landscape-wide modification of watercourses. Secondly, public administration created a monopoly over water resources and could therefore mediate water-sharing disputes 'at source'.

Cooperative and corporate water management and supply arrangements were also closely linked to development prerogatives. Characterised by a central authority controlling or a proportion of the water resources of a particular area, which, in turn, was responsible for supplying water to end users, these arrangements bore a strong
resemblance to the core principles of public administration. These arrangements included water trusts managed by local landholders, irrigation colonies established by municipal councils or private syndicates, and private water supply companies. In the second half of the nineteenth century, landholders seeking greater development of water resources would sometimes propose local water trusts as a means of enabling development. While water trusts did operate in Victoria, there is no evidence of them having operated in New South Wales. In the early 1890s, municipal councils and private syndicates established, largely unsuccessfully, irrigation colonies across New South Wales — once again, certain rights to manage and distribute water were vested in the colonies' governing authority. Three key variables distinguish these centralised and cooperative arrangements:

1. the geographical scale on which the water supply arrangement operated;
2. the nature of the central authority (a private company or syndicate, a public authority such as the Crown or a municipal council, or a cooperative arrangement between private landholders; and
3. whether the central authority had exclusive control over all the water resources of the area.

Some water users would also argue for use-based rights to access water. These rights derived from a person's actual use of the stream and allowed pre-existing or established users to gain priority to the extent of their use of the water resource. Use-based entitlements had four major characteristics:


1. the entitlement depended upon an active use;
2. priority of entitlement was chronological;
3. the entitlement was to a defined volume of water (even if that volume was not defined in terms of a unit of measurement but was defined by a specific, established use); and
4. there was no necessary connection with riparian land or the natural landscape.

The thesis case studies document how use-based rights were claimed by two distinct classes of water users: long-established, 'sedentary' users, whose security of entitlement was under threat from a new class of users; and new, innovative users who claimed that their enterprise in developing the water resource entitled them to property rights in the water. At times, the state also established use-based arrangements to prioritise access to water. This thesis suggests that use-based entitlements had two broad, potentially contradictory functions: firstly, to value pre-existing, established users, and secondly, to value new users who could innovate increase water use efficiency. Unlike traditional land-based rights, use-based rights entailed a weaker connection with the natural landscape and therefore enabled water use outside natural flow patterns or for extractive purposes on land further removed from the river valley. Furthermore, use-based water access was more closely associated with private property in water and even the state-sponsored prior use regimes were more highly privatised than other water access arrangements.

The water users with the weakest rights to access water in New South Wales history were the general public, working class or household water users. These users would often claim public water access rights — either the right to access the water source themselves or, more frequently, the right to have the state construct and operate water supply services. The concept of a public water access right was broad, based on concepts of public interest and water as a public good. As a general rule, public water

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55 In some Western United States jurisdictions, prior appropriation rights were even transferable to separate watersheds (see Amy Sinden, 'The tragedy of the commons and the myth of a private property solution', (2007) 78 University of Colorado Law Review 533, 577–578). See also Alex Gardner, Richard Bartlett and Janice Gray, Water Resources Law (2009, LexisNexis Butterworths) 30.

56 There is a need to be clear about language. In discussing public water access rights, this thesis is concerned with the rights of members of the general public to access water. However, the term 'public' is also used to refer to the rights held by the Crown in the resource. This distinction has often been blurred by the fact that
access rights were claimed by classes of water users who were relatively weak — such as disenfranchised or propertyless classes of water users with little economic, legal or political power. This lack of power was arguably intensified by the lack of any organic relationship between public water users and natural water sources. Household water users in cities and rural towns received water as an 'engineered good', extracted from its natural landscape and delivered via water infrastructure. Debates over public water access were another aspect of public administration, with water users strongly favouring state over privatised water supplies. The thesis case studies examine major examples of each of these water-sharing arrangements, focusing on concepts of community or equitable access to water.

3. New South Wales water law in critical perspective

3.1 Introducing the 'modern water' paradigm

This thesis' analysis of relationships between water users, the natural environment and the state is assisted by key concepts from James Linton's 'modern water' theory. Linton has analysed the history of hydrological science and discourse from the seventeenth to the twenty-first centuries, exploring how humans define and describe water and water sources. Linton proposes that modern western and global society has chosen a particular way to know and relate to water, which he names 'modern water'. He suggests that far from being an ahistoric, eternally unchanging substance, water is an historically specific social creation. In effect, 'water is what we make of it'. He argues that modern society has reduced water to an abstraction, separate to and infinitely separable from broader social and ecological connections:

In essence, modern water is the presumption that any and all waters can be and should be considered apart from their social and ecological relations and reduced to an abstract commodity.

participants have often sought to rely on state control over a watersource or water supply system as a means of ensuring that the general rights of the public to access the resource were protected.

57 Linton discusses the complex and contested concepts of 'modern' and 'western' in Jamie Linton, What is water? The history and crisis of a modern abstraction (PhD thesis, Carleton University, 2006) 4.
58 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 14.
59 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 1.
60 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 14.
Linton's modern water postulates that modern western society has defined 'water' as conceptually distinct from both human society and water's natural ecology. This thesis argues that both of these separations are present in the transformation from 'natural flow' to 'engineered water' within New South Wales water law.

Linton developed the theory of 'modern water' by examining the history of western definitions of water. Drawing on the work of Christopher Hamlin, he argues that modern 'water' has evolved from pre-modern 'waters'. Linton and Hamlin both argue that there has been a dramatic historical shift in how western cultures characterise water. In pre-modern times — for Linton's purposes, before the seventeenth century in Europe — plural 'waters' were culturally and geographically specific, whereas modern 'water' has become an abstract, universal and singular concept which encompasses all forms of liquid water. Hamlin compares present-day perceptions of water with concepts of water in classical philosophy, classical natural history, and European folklore and religion. These pre-modern waters were qualitatively and geographically unique, each spring or river having its own flavours, deity and local cultural significance. Hamlin believes that a paradigm shift occurred in the nineteenth century:

in which water went from [a] class of infinitely varied substances to a monolithic substance containing a greater or lesser concentration of adventitious ingredients, known as 'impurities'.

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61 For example, Linton suggests that 'modern water can be considered an intellectual achievement, the main feature of which has been to abstract all the world's waters from their local, social, cultural, religious, and ecological contexts, to reduce them to a single substance, and thus render them commensurable' (James Linton, 'Modern water and its discontents: a history of hydrosocial renewal', (2014) 1 WtREs Water, 111 at 113).


63 Linton has critiqued the overwhelming focus on liquid or 'blue' water, noting that modern water 'normalizes an experience of water that presumes the prominence of streamflow, or flowing, liquid surface water', ignoring for example, soil moisture destined for transpiration by plants (what Malin Falkenmark has called 'green water') (Linton 2008, 'Is the hydrological cycle sustainable? A historical-geographical critique of a modern concept' in 98 Annals of the American Geographers 630, 641, citing Malin Falkenmark, Towards hydrosolidarity: Ample opportunities for human ingenuity (Stockholm International Water Institute, 2005).


This paradigm shift resulted in waters ceasing to be 'many' and becoming 'one', attention shifting from variability to uniformity.\(^{66}\) Linton focuses on a longer period of history — from the seventeenth into the twenty-first century — but tracks a similar process. In the place of historic and traditional waters, western society came to understand water as a substance in and of itself, highly capable of abstraction. According to Linton, this 'modern water' has been separated from nature and from humans,\(^{67}\) allowing it to evolve as 'an objective, homogeneous, ahistorical entity devoid of cultural content'.\(^{68}\)

### 3.2 The loss of social and ecological connections in relation to water

Modern water is both disconnected from human society and from its natural ecology. In pre-modern, traditional societies, there was a close relationship between human society and culture, and water and water sources:

> As a rule, rivers were not — could not — be known as abstract hydrological phenomena but were known, rather, in relation to the social context in which they became manifest. Rivers were more than just influences or determinants of society; they were part of society [...]\(^{69}\)

In traditional India and Bali, for example, human–water relations defined people and water in a way that rendered them materially and conceptually inseparable.\(^{70}\) Traditionally, each river or water source had its own socially created identity, often deified or treated as holy.\(^{71}\) Linton believes that the paradigm shift posited by Hamlin was more than simply a shift from 'waters' to 'water'. Modern water became removed from 'the social relations that had given water(s) a variety of meanings and

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\(^{66}\) Christopher Hamlin, 'Waters or water? Master narratives in water history and their implications for contemporary water policy' (2000) 2 Water Policy 313.

\(^{67}\) Jamie Linton, *What is water? The history of a modern abstraction* (UBC Press, 2010), 18.

\(^{68}\) Jamie Linton, *What is water? The history of a modern abstraction* (UBC Press, 2010), 19.


manifestations in different places — a substance separate from human society and culture, cleansed of social and cultural meanings.

This desocialisation of water was simultaneously a disconnection from water's natural ecology, a process that entailed multiple disconnections between water, human society and the natural landscape. Linton cites Bernard Kalaora, who argues that technical control and conceptual abstraction of water has 'broken relations that otherwise bind specific groups of people to the waters of particular territories'. The evolution of modern water could also be termed a 'loss of place' whereby any sense of inhabiting a particular locale with a particular ecology is lost. Strang has termed this abstraction of water from its physical and social location the 'dematerialisation' of water.

This 'dematerialisation' — a metaphorical abstraction of water in which it ceases to be in any particular place or group — is also a 'de-socialisation' that denies the reality of local, specific human–environmental relationships and alienates the medium through which individuals can identify with a locale and its other inhabitants.

Once water has been isolated from any cultural or social connections and from its own natural environment, it can then be re-defined as a substance in and of itself. Linton suggests that this new substance has three key characteristics: abstraction, universalisation and naturalness. Abstraction refers to the fact that modern water is no longer 'complicated' by ecological, cultural or social factors. Water can be defined as

72 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 98.
73 Bernard Kalaora, 'De l'eau sensible à OH2', Colloque International OH2 (Université de Bourgogne, 2001), cited in Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 18.
74 see John Bellamy Foster, Ecology against capitalism (New York University Press, 2002) 9; Foster draws on the writings of Wendell Berry, Raymond Dasmann and Gary Snyder (Gary Snyder, Turtle Island (New Directions Publishing, 1974); Raymond Dasmann, Environmental Conservation (John Wiley & Sons, 1976); Wendell Berry, The Unsettling of America: culture and agriculture (San Val, 1996).
75 In the context of wetland restoration in the United States, Morgan Robertson critiques how landscapes are 'are conceived of as movable and consumable commodities'. To achieve this commodity status, 'wetland services had to be abstracted from their place-specificity: in an ideal form, all wetlands would be seen as a bundle of commensurable and physically movable functions. [...] Wetlands in one place were made replaceable by wetlands in another place' (Morgan Robertson, 'No net loss: wetland restoration and the incomplete capitalization of nature', (2000) 32(4) Antipode 463).
77 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 8.
an abstract and manageable substance. In particular, water becomes quantifiable, homogenised and highly divisible.\textsuperscript{78} \textit{Universalisation} refers to the idea that all waters have become defined as one unified resource.\textsuperscript{79} By \textit{naturalness}, Linton suggests that the abstract nature of modern water has been upheld as water's essence, its true nature: 'not only may all waters be reduced to H2O but the product of this reduction is understood to constitute water's essence, its basic nature.'\textsuperscript{80} This helps to legitimise modern water as the 'true' or 'one and only' means of understanding water.

3.3 'Modern water' and the role of the state in managing water resources

The evolution of Linton's modern water began as early as the seventeenth century. Linton suggests, however, that the twentieth century state made particular use of modern water to enable national water projects. The role of large, state-sponsored hydro-engineering projects to enable 'nation-building' is well documented within Australia's history, most often in relation to the Snowy Scheme.\textsuperscript{81} Linton's analysis of the connections between the state and the modern water paradigm is useful to analyse how public administration impacted water access relationships in New South Wales.

In the twentieth-century United States, modern water emerged or was strengthened in association with efforts by the state to gain control of the nation's waterways.\textsuperscript{82} Linton argues that state-led water planning in the United States recast water as a

\textsuperscript{78} Erik Swyngedouw argues that the urbanisation of water was both an ecological–metabolic transformation and social transformation: water became legally defined, standardised and homogenised (Erik Swyngedouw, 'Water, money and power' in Leo Panitch and Colin Leys (eds) \textit{Socialist Register 2007: coming to terms with nature} (The Merlin Press, 2006) 195, 200).

\textsuperscript{79} Jamie Linton, \textit{What is water? The history of a modern abstraction} (UBC Press, 2010), 8.

\textsuperscript{80} Jamie Linton, \textit{What is water? The history of a modern abstraction} (UBC Press, 2010), 8.

\textsuperscript{81} see e.g. Michael Cathcart, \textit{The Water Dreamers: a remarkable history of our dry continent} (The Text Publishing Company, 2009) 247; Allon and Sofoulis have written 'The pursuit of the gigantic was an integral part of modern nation-building in Australia, with large-scale infrastructure projects [...] representing not only an 'ideology of conquest' over energy resources such as water but the 'heroic' nature of modernisation and development as well as the literal and metaphorical construction of an 'Australian way of life' (Fiona Allon and Zoë Sofoulis, 'Everyday Water: cultures in transition', (2006) 37(1) \textit{Australian Geographer} 45, 48). This process is not limited to Australia; see e.g. Rohan d'Souza, 'Framing India's hydraulic crises: the politics of the modern large dam', (2008) 60(3) \textit{Monthly Review} 112.

\textsuperscript{82} Jamie Linton, \textit{What is water? The history of a modern abstraction} (UBC Press, 2010), 149.
'resource' thereby enabling a 'unified plan of water control'. The United States government 'materially re-engineered modern water as a resource' — and in so doing, further abstracted water from any substantive relationship with the natural landscape or human society and culture. As eco-feminist, Vandana Shiva, has noted:

_Naming something a 'resource' is one of the most common discursive moves by which 'nature has been clearly stripped of her creative power; she has been turned into a container for raw materials waiting to be transformed into inputs for commodity production'._

For Linton, it was this process that 'materialised' modern water and consolidated 'its identity as an abstraction of flow'.

Linton hypothesises that science also played a key role in this transformation of water into a resource. Early evidence of the development of 'modern water' as a substance without cultural or ecological connections can be found in the first systematic studies of water 'as a moving fluid' by students under Galileo in the early 1600s. In more modern times, the reduction of all water to its fundamental unit — a molecule of H2O — re-defined water 'as an abstract, isomorphic, measurable quantity'. Science used chemistry to translate water into mathematics. In a similar vein, Linton critiques the nineteenth century and twentieth century invention of the hydrological cycle:

_From a world of qualitative differences, natural philosophy effected 'the restriction of natural reality to a complex of quantities' of which 'nothing is scientifically knowable except what is measurable'. Such an abstract, measurable conception of water was necessary in order to construct the_

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84 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 21.
86 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 149.
87 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 101–102.
88 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 14; on this see also Jean-Pierre Goubert, The conquest of water: the advent of health in the industrial age (Princeton University Press, 1986).
modern, scientific hydrologic cycle, which is based on the mathematical equation of precipitation with runoff and evaporation in a river basin.

The hydrological cycle's abstract pictorial representation of water's role in nature was 'readily adapted to the needs of state planning agencies in the 1930s to make water visible — or "legible" — for the purpose of accounting for and controlling it.'

To even imagine their 'national control', it was necessary to find the means by which all the running waters of the United States' could be made known and available to state planners.

The reconstruction of water as an abstract, asocial and ahistorical substance allowed its redefinition as a 'resource' to be 'managed' by the state as a subject of technical expertise.

3.4 Implications of modern water for New South Wales

Modern water's disconnection between water, nature and human society is easy to see in relation to rivers in Australia today. For example, Erica Nathan has described the disconnect between urban populations and water in the Australian landscape as a 'narrative of estrangement and loss'.

She documents a 'silent slide towards...

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93 James Linton, 'Modern water and its discontents: a history of hydrosocial renewal', (2014) 1 WIREs Water, 111 at 113. The thesis case studies touch on the role of sciences such as hydrology and meteorology in assisting to plan the development of water resources. Public administration relied heavily on 'experts' such as hydro-engineers to assist in the scientific management of water resources — what Emily O'Gorman has discussed in terms of a growing trend for "universal" scientific knowledge as the pre-eminent form form understanding and managing environments' (Emily O'Gorman, Flood country: an environmental history of the Murray–Darling Basin (CSIRO Publishing, 2012) 69). See also Fiona Allon and Zoe Sofoulis, 'public discourses on conservation in Australia and elsewhere are dominated by experts — resource economists, engineers, ecologists, biologists, etc. — in what British sociologist Elizabeth Shove labels as 'environment-centred' inquiry. This is an approach preoccupied with predicting supply and demand of future resources as calculated in terms of global, regional or national needs [...] ' (Fiona Allon and Zoë Sofoulis, 'Everyday Water: cultures in transition', (2006) 37(1) Australian Geographer 45, 46, citing Elizabeth Shove, Comfort, cleanliness and convenience: the social organization of normality (Berg, 2003)). This reliance on external experts to resolve water problems can be seen as contributing to the disconnect between communities and water management, and has been cited by Linton as one aspect of 'modern water': the 'transfer of control of water to placeless discourses of hydrological engineering, infrastructural management and economics' (Jamie Linton, What is water? The history and crisis of a modern abstraction (PhD thesis, Carleton University, 2006) 48).
segregation of rural people and local water places,' in which 'water has been distilled from its past to produce a resource removed from history, landscapes disconnected from community'. Nathan's history of social relations in the Moorabool catchment in Victoria attempts to re-connect humans to nature. This thesis similarly tracks the history of this disconnection between humans, water and the landscape within New South Wales water law.

Studies of Australian water history often outline three broad phases: a 'pioneering' phase from white invasion until the beginning of the twentieth century, a 'development' or 'delivery' phase from then until the last decades of the twentieth century, and the current 'mature' or 'management' phase. The 'pioneering' phase directly followed European settlement and was characterised by geographic expansion and relatively low levels of human modification of water sources, with the use and exploitation of water unconstrained by future impacts. The 'development' phase was characterised by the construction of large-scale public dams, the regulation of inland rivers and the establishment of irrigation. Water development became a national (i.e. state-sponsored) project, assisted by scientific knowledge and engineering technology, and managed by the state bureaucracy. Key drivers of the second phase

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97 The transition from one phase to another did not occur overnight and different authors choose different 'turning points' to mark the transition from the first phase to the second phase — for example, Musgrave and Blackmore (who are more focused on the history of the Murray–Darling Basin) suggest the first phase ran until the 1920s (Warren Musgrave, 'Historical development of water resources in Australia: irrigation policy in the Murray–Darling Basin', in Lin Crase (ed.) *Water Policy in Australia: the impact of change and uncertainty* (Resources for the Future, 2008) 28, 29; Don Blackmore, 'Protecting the future', in Daniel Connell (ed.), *Uncharted Waters* (Murray-Darling Basin Commission, 2002) 1, 1.
100 David Ingle Smith, *Water in Australia: resources and management* (Oxford University Press, 1998) 156; Matthew Colloff, *Flooded forest and desert creek: ecology and history of the river red gum* (CSIRO Publishing,
were economic development and social stability and well-being. The third, 'management' phase arose in the 1970s and 1980s and can be characterised in particular by the recognition that water resources are inelastic and finite, and that, instead of seeking new sources of water, there is a need to restrain demand and re-allocate supplies to the most productive users. This phase arose in order to respond to the problems created in the first two phases and, as such, resolving the challenges of modern-day water law reform depends critically on a good understanding of both prior phases.

This thesis focuses on the legal relationships that characterised the first two phases, especially the conflicts and tensions that drove the transition from 'pioneering' to 'development'. This transition is characterised by:

1. the increasing involvement of the modern state in managing water resources;
2. a shift from water access doctrines constrained by the natural landscape to doctrines based within a paradigm of 'engineered abundance'; and
3. the conversion of private or community-based water-sharing relationships into public relationships based on concepts of bureaucratically administered, equitable access.

James Linton focuses on the shift from traditional, 'pre-modern' water relationships to modern water. In the Australian context, this could be compared to the replacement of traditional Indigenous social relationships surrounding water with the water

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102 see e.g. Margaret Bond and David Farrier, 'Transferable water allocations: property right or shimmering mirage', (1996) 13 Environmental and Planning Law Journal 3, 213 at 222; see in general Alex Gardner, Richard Bartlett and Janice Gray, Water Resources Law (2009, LexisNexis Butterworths), 106–125.


104 Catherine Gross, Fairness and justice in environmental decision making: water under the bridge (Routledge, 2014) 51–52.
relationships of the European invaders. For example, Michael Cathcart suggests that Australian Aboriginal 'hydro-engineering' projects — such as the eel traps in western Victoria or the fish traps on the Barwon River in far northern New South Wales — 'operated as an extension of the environment, creating connections between people and the natural world'. By contrast, he suggests that twentieth-century engineering projects 'were built in defiance of nature: they set themselves in conflict with the rivers on which they relied'. Instead of working within natural ecosystems, state-sponsored hydro-engineering projects can be characterised as 'heroic' attempts to colonise, defy and overcome nature. The result was what Allon and Sofoulis have termed 'big water' (and this thesis calls 'engineered water'):

\[\text{a system historically evolved to embody the fantasy of endless supply and the dream of making the desert green, through heroic, monumental engineering efforts involving massive public subsidies, gigantic dams, pipe networks, pumps, and central treatment plants.}\]

This process has produced 'big water': water that is stored and produced within large dams and diversion networks, a continuously available, seasonally invariant substance. This water is abstracted from nature in at least three key ways: firstly, the storage of water in large headworks and the large-scale diversion of water from the natural channel, secondly, the removal of internal variabilities and the purification of water into a homogenous, standardised substance, and thirdly, the regulation of rivers and the management of water distinctly from natural seasonal variations. This transformation was based on a strongly scientific approach to water management and agriculture.

\[\text{105 Michael Cathcart, } \textit{The Water Dreamers: a remarkable history of our dry continent} \text{ (The Text Publishing Company, 2009) 248.}\]
\[\text{106 Michael Cathcart, } \textit{The Water Dreamers: a remarkable history of our dry continent} \text{ (The Text Publishing Company, 2009) 248.}\]
\[\text{107 see e.g. Michael Cathcart, } \textit{The Water Dreamers: a remarkable history of our dry continent} \text{ (The Text Publishing Company, 2009) 247-248.}\]
\[\text{109 Fiona Allon, 'Dams, Plants, Pipes and Flows: From Big Water to Everyday Water', (2008) 6(3) reconstruction; see also Rohan d'Souza, 'Framing India's hydraulic crises: the politics of the modern large dam', (2008) 60(3) } \textit{Monthly Review} \text{ 112, 113.}\]
\[\text{110 From the end of the nineteenth century, government-directed scientific research had a rising influence on rural production (J.M. Powell, 'Patrimony of the people: the role of government in land settlement', in}\]
Nineteenth and early twentieth century water access doctrines also demonstrate significant change in the relationship between water, water use and the natural ecology. In particular, water access regimes contained at least three approaches to defining river and creek water:

1. As a *watercourse*. This approach is a relatively static approach to understanding water, which does not distinguish between the water itself and the landscape in which it is found.

2. As 'flowing water'. This approach is much more fluid, defining water as a substance separate from and flowing through the landscape but still inevitably 'bound' by the geographic confines of the river valley. In this context, the case studies examine conflicts between in-stream and extractive water users over the natural flow, including debates about access to floodwaters.

3. As regulated engineered 'big water'. This approach defines water as an abstract and manageable substance separate to the landscape. This water is largely contained in dams and supplied to productive users through networks of pipes and channels, on the basis of users rights to receive or extract a certain quantity of water.

This thesis examines instances of each of these three types of water in water access regimes during the study period. The case studies focus in particular on the shift from water access rights that located water use within the confines of the landscape towards rights which defined water more abstractly as human manipulation and modification of water sources became landscape-wide.

Public administration also re-defined nineteenth-century water-sharing relationships. This was a contradictory process. The common law riparian doctrine inherently encompassed concepts of community, in that flowing water was shared equally among the community of riparian landholders. This gave riparianism at least the outward appearance of traditional, common property relationships regarding water.\footnote{R.L. Heathcote (ed.), *The Australian Experience: essays in Australian land settlement and resource management* (Longman Cheshire Pty Ltd, 1988) 14, 21; see also McMichael, who notes that farmers demanded a more scientific approach to agriculture in the late nineteenth century (Philip McMichael, *Settlers and the Agrarian Question: Capitalism in colonial Australia* (Cambridge University Press, 1984), 227).}

\footnote{see e.g. Vandana Shiva, *Water Wars: Privatisation, Pollution and Profit* (Pluto Press, 2002) 20.}
By abolishing the riparian doctrine, public administration replaced the correlative connection between water users with administrative relationships between water users and the bureaucratic state. Particularly those water users who were dependent on an external authority for a water supply were transformed from 'community' to individual 'consumers' whose primary social relationship was with a central water agency. State management also had progressive elements, however. In particular, public administration inherently encompassed concepts of equitable access and sharing water as a social good. Thus, public administration moderated the private property aspects of nineteenth-century water law.

4. Conclusion

Using Linton's 'modern water', this thesis examines nineteenth and early twentieth century water law, focusing on how water access regimes express the relationships between water users, the state and nature. The title statement — from 'natural flow' to 'engineered resource' — captures the key dynamics of the paradigm shift from common law riparianism to public administration. The removal of the common law rights of landholders to access water and the parallel creation of a Crown monopoly in flowing water brought about qualitative change in both the water-sharing relationships between water users, and the relationship between water users and the natural landscape. The following case studies examine three parallel processes of evolution. Firstly, they track the evolving role of the state in relation to water resources, focusing on the landmark change brought about by public administration. Secondly, the case studies explore the evolving relationships between water users and the natural environment, detailing the ways in which water access regimes have defined the relationship between the water and its natural landscape — in particular, the extent to which a water access right defines water use by reference to concepts such as 'natural flow'. Thirdly, the case studies examine the evolution of water-sharing relationships between water users.
Chapter 2

Manufacturing water disputes and the establishment of water law in the colony of New South Wales (1825 – 1856)

1. Introduction

The first litigated disputes over water access rights in colonial New South Wales predominantly involved the use of water for manufacturing uses such as milling, wool-washing and distilling. New South Wales water law in the 1820s and 1830s was quite undeveloped and these cases established common law water access doctrines. As the colony evolved economically and politically — and as the English courts clarified water law doctrines — colonial water law became more sophisticated, and was relatively well defined by the late 1850s.

Most of these early disputes were between the colonial authorities and private manufacturers. The Crown's concern was to protect the public interest in water by reserving or resuming water for Sydney. There were only very few litigated disputes in the first half of the nineteenth century between private water users competing over water, most likely as a result of the low level of development of the New South Wales manufacturing economy. As such, water sharing among private users was not a key determinant in water disputes.

The manufacturing water law cases evidence both land-based and use-based rights to access water. This chapter starts by analysing the first two litigated water disputes in New South Wales, both between the colonial administration and manufacturing water users. These disputes demonstrate relatively unsophisticated land-based water access rights, with legal discourse assuming a simple nexus between land and water. The chapter then considers French v McHenry (1832), a dispute between two millers on the
Nepean River, at the same time exploring the history of the common law ancient use and prior use doctrines. The chapter uses this discussion to propose four key elements of use-based doctrines. The discussion then returns to disputes between the colonial authorities and private water users in the 1850s. It was these cases that finally settled the common law of water in New South Wales, especially introducing the common law riparian doctrine. The chapter focuses on three broad themes:

1. introducing land-based and use-based rights to water, focusing in particular on the different relationships each represents between water users, water and the natural landscape;

2. exploring the role of the early colonial Crown within water conflict; and

3. investigating the history of water's use in manufacturing to explain the lack of water-sharing disputes among private manufacturers.

2. Early land-based rights to access water: R v Cooper and R v West

*R v Cooper* in 1825 and *R v West* in 1831–1832 were Crown prosecutions of private manufacturers. These cases did not rely on English water law doctrines, instead drawing directly on early colonial concepts of land occupation and tenure. Both cases demonstrate close and relatively simple relationships between landholding and water right. In *R v Cooper*, the plaintiff was able to retain access to water on the basis of mere occupation of riverside land. In *R v West*, the plaintiff's right to land was justified on the basis of his Crown grant of water. These two cases highlight New South Wales' position as a new English colony where European land and water tenure only had a few years' history, compared with English water access doctrines which were rooted in hundreds of years of settled land tenure and water use.

2.1 *R v Cooper* (1825): informal possession of land and water

In 1825, the Crown brought a suit against Mr Robert Cooper ‘for taking possession of a certain parcel of Crown land near Black Wattle Swamp, without legal authority’.

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1 English law was adopted into the colony in 1828 (s.24 *Australian Courts Act 1828*) so far as applicable (see in general Patrick Parkinson, *Tradition and change in Australian law* (Lawbook Co, 2013) 150).

2 *R v Cooper* [1825] NSWSupC 9 (12 February 1825).
Cooper wished to establish a distillery and had applied to the Governor for a portion of
the 'glebe of St Phillip's'. He chose this land because of its advantageous location in
relation to a water source. Mr Cooper received no answer to his formal application but
was apparently given informal consent by the Surveyor-General to take possession of
the land. After commencing construction, Mr Cooper was given notice to desist by the
Governor's Private Secretary:

thinking that the stream of water which ran through this land would be
required for the use of the town, and being also ignorant of the authority under
which Mr Cooper had thus possessed himself of it [...]³

Mr Cooper refused to surrender the land and continued to build his distillery. The
Crown sued him to recover possession.

At this stage in the colony's history, formal rights to land were acquired by way of a
grant from the Crown.⁴ Cooper, however, had only received informal consent and did
not have a valid land grant. The Crown argued that there had been a mistake in putting
Mr Cooper in possession of this land. Nevertheless, the jury found for Cooper on the
basis that 'Mr Cooper obtained possession of the land in question in the manner
practised hitherto in the Colony'.⁵ The fact that Mr Cooper had expended considerable
outlay on the building and had entered into contractual undertakings in relation to the
distillery was relevant to their decision making.

Cooper's case was strongly supported in the contemporaneous media. An editorial in
the Australian in response to the case claimed that the Crown's prosecution of Cooper
was 'most unjust and impolitic'.⁶ The editorial claimed that more than half the landed
property of the colony was held on similarly informal title. This case therefore had the
potential to create great disquiet in relation to colonists' land title.⁷ Forbes CJ who

³ R v Cooper [1825] NSWSupC 9 (12 February 1825).
⁴ Generally on the role of Crown grants as evidence of lawful possession of land, see Bruce Kercher, Debt,
  Seduction and Other Disasters: the birth of civil law in convict New South Wales (The Federation Press, 1996)
  122–123.
⁵ R v Cooper [1825] NSWSupC 9 (12 February 1825).
⁶ The Australian (Sydney), 17 February 1825.
⁷ The Australian (Sydney), 17 February 1825. Early colonial land title was often quite uncertain and gubernatorial
  attempts to regulate the alienation and sale of land were largely unsuccessful; see in general Bruce Kercher,
presided over the case subsequently wrote to the Governor, recommending that
Mr Cooper:

*should have a Grant of the Place on which he has erected his distillery, under
such terms and with such Reservations of the Right of Water to the Public, as to
your Excellency may seem equitable.*

The Governor granted Mr Cooper a regular grant for the land, reserving the stream for
the use of the government or for the public benefit.

Cooper’s case demonstrates the unsophisticated nature of water rights in the early
colonial law. The discussion in the case implies that occupation of land next to a water
course guaranteed a right to access the water. This implication is strengthened by the
land grant which Mr Cooper eventually received: a grant of land with the rights to
water reserved for the benefit of the Crown. The assumption is that if the Crown had
not chosen to reserve the water, Mr Cooper’s lawful occupation of the land would
have entitled him to relatively unrestricted rights to access the stream.

2.2 R v West (1831–1832): an exclusive Crown grant to water

A similar case to *R v Cooper* arose in the early 1830s: *R v West*. In 1810, Mr Thomas
West had applied to Governor Macquarie for permission to build a mill on land near
the South Head Road. Mr West wished to use water from springs and streams that
flowed into Rushcutters Bay. Governor Macquarie granted this permission, including
an explicit grant of the water:

*Thomas West, has my permission to erect a water mill to the ground specified in
his memorial, with an exclusive right to the stream alluded to, and of which he
will receive a lease or grant, so soon as the mill is finished.*

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8 cited in footnote 7 at *R v Cooper*, Decisions of the Superior Courts of New South Wales 1788–1899,
9 cited in footnote 7 at *R v Cooper*, Decisions of the Superior Courts of New South Wales 1788–1899,
10 This water source is found in the present-day Centennial Park.
11 *R v West* [1832] NSWSupC 79.
The dispute arose 20 years later. This area came to be known as the Lachlan Swamps and was used to supply Sydney with water. The Sydney authorities built a water supply tunnel from the swamps (known as 'Busby's Bore') in the 1830s. This case may have been linked to the Crown's development of the Lachlan Swamps as an early water source for Sydney.

The Crown accused Mr West of trespass, on the basis that he had exceeded the land granted to him. The case was decided by a jury in favour of West in 1831 but was re-tried in 1832 with a verdict for the Crown. Both the cases were decided largely on a factual basis and the judgment does not elucidate water law principles at the time. However, key concepts indicating the attitude towards water access can be drawn from the pleadings. In particular, West's case provides further insights into the relationship between property in land and rights to access water — in this case, in an intriguing reversal. Instead of a landowner trying to prove on the basis of their landholding that they have rights to water, West already had an undisputed right to water and was trying on that basis to claim land.

The dispute centred on whether West had merely been granted the land on which his mill was built or also the land on the banks of the springs and streams which he used. In the 1831 case, the Crown argued that:

*It is manifest, therefore, that [Mr West] wanted merely a scite for a mill, and a grant of the streams of water which flowed to, and concentrated at, the scite, not to obtain 70 or 80 acres of land.*

In the 1832 case, the Crown argued that a 'grant of a watercourse was perfectly distinct from a grant of land, it did not convey the adjacent land'.

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12 Sydney Water Supply Act 1833. Note that there was a dispute involving the bore and tunnel (Busby v Taylor [1833] NSWSupC 9 at 44 per Dowling and Burton JJ), which appears to have been an action by John Busby (the instigator of the tunnel's construction) and the Solicitor-General against a private landholder (Taylor) for damaging the tunnel.

13 R v West [1831] NSWSupC 66 (12 October 1831); heard by Stephen J.

14 R v West [1832] NSWSupC 79 (18 October 1832); heard by Forbes CJ, Stephen and Dowling JJ. The difference in outcomes between the 1831 and 1832 cases arose from differing instructions to the jury in relation to how they should determine whether the defendant had trespassed on the land or not.

15 R v West [1831] NSWSupC 66 (12 October 1831).

16 R v West [1832] NSWSupC 79 (18 October 1832).
Mr West based his case on the Attorney-General's concession that he had a right to the water. West's counsel argued that as a consequence he was 'entitled to the land on each side of it':

*It has been contended on the other side, that all the defendant wanted was the sources of the streams, and that to this extent only the grant from Governor Macquarie went. [How] was this object to be secured, unless the defendant were put in possession of the sources from which the water was derived? The intention, it is said, was to grant the water, for the purposes of a mill, but not the land through which it flowed! [Where] is the man in this Colony who ever heard of the water being granted without the land? or how the water could be secured to the defendant for the purposes for which it was intended, without the possession of the land through which it runs?*

In the 1832 case, the Surveyor-General who had marked out West's land supported West's case by stating that he 'never knew an instance in this Colony of water being granted without the land'. The case does not give any definitive guidance in resolving this point.

The grant also gave Mr West an exclusive right to use the streams. In 1810, after West had made his application for a Crown grant, a man named Leith also applied to build a mill on the same streams:

*Leith received a reply, that the Governor had no objection to grant him an adequate quantity of land whereon to build a water-mill, provided the situation did not in any way interfere with a prior engagement of Mr. Thomas West, whose ground and spring must be strictly secured and previously marked out.*

In the 1832 case, a man named Antill, who had been on Macquarie's staff, gave evidence that 'Leith applied to build a water mill; the stream was not sufficient to turn two mills; West was considered to have the exclusive right to the water'. This apparently exclusive right diverges sharply from later water access doctrines which

17 *R v West* [1831] NSWSupC 66 (12 October 1831).
18 *R v West* [1831] NSWSupC 66 (12 October 1831).
19 *R v West* [1832] NSWSupC 79 (18 October 1832).
20 *R v West* [1831] NSWSupC 66 (12 October 1831).
21 *R v West* [1832] NSWSupC 79 (18 October 1832).
stressed the need to share flowing water — based on the fundamental principle of the common law of water rights that flowing water in the stream is common to all and cannot be subject to private property (*publici juris*).\(^{22}\)

The land-based water access principles exposed in both *R v Cooper* and *R v West* illustrate the inherently close connection between land-based rights and the natural landscape. Before rivers were extensively modified and regulated, water users were highly dependent on the form of the natural landscape. Water-dependent industries needed to be established close to a natural watersource. A water mill, for example, needed to be located directly on the channel and the use of water for power was subject to the strength and power of the natural flow of water. For this reason, Scott and Coustalin suggest that the earliest English disputes involving water mills may have been over the best location rather than the flow of water.\(^{23}\)

However, both *R v Cooper* and *R v West* demonstrate a relatively simple understanding of this relationship between land and water. The discussion in West’s case indicates that Mr West was granted a right to the stream — as opposed to a right to the flow of water or to extract a certain volume of water. Mr West’s right to access the water could be defined as a right to the *watercourse* itself. The approach in *R v Cooper* and *R v West* can be contrasted with later water rights, which emphasise a right to share the flow of water with other users or which entitle the holder to access a defined share of the available water.

*R v Cooper* and *R v West* also both demonstrate tension between the Crown and individual private manufacturers over regulating access to water. At this time, the

\(^{22}\) Alex Gardner, Richard Bartlett and Janice Gray, *Water Resources Law* (2009, LexisNexis Butterworths). Caselaw and water law discourse tends to use the terms 'res communes' and 'publici juris' relatively interchangeably in this context. For example, Tan notes that Roman law did not always draw a clear distinction between *res communes*, *res publicae* and *res universitatis* (Poh-Ling Tan, 'The changing concepts of property in surface water resources in Australia' (2002) 13 *The Journal of Water Law* 269, 271). Gray also notes that the common law itself failed to use Roman terms consistently in relation to the common property nature of water noting that cases appear to use the terms *publici juris*, *res communes* and *res publicae* without distinction (what she calls 'hybridisation') (Janice Gray, 'Legal approaches to the ownership, management and regulation of water from riparian rights to commodification' (2006) 1(2) *Transforming Cultures eJournal* 64, 73–74).

executive power of the Governor was still very strong. Governor Macquarie's knowledge of and interest in West's mill was relied on by West's to support his case:

_Gentlemen, I shall prove to you, that not only did the defendant go considerably higher up on the land, in digging dykes and forming dams for his mill, but that this was done under the immediate eye of Governor Macquarie, who was constantly in the habit of riding to the mill, both before and after its completion_ [...] 

Nevertheless, the cases — and especially Cooper's informal 'taking' of land and water — indicate the limits of the Crown's power. Moreover, the Crown was not seeking to control or regulate the waters of the colony as a whole but simply to reserve watersources for Sydney. As such, _R v Cooper_ and _R v West_ also provide early indications of the inherent conflict between private manufacturers establishing themselves on a watercourse so that they may take and use water for themselves and the responsibility of city authorities to provide inner-city manufacturers and inhabitants with water.

### 3. Use-based rights to water and their application in early colonial New South Wales

In 1832, a dispute arose between two millers on the Nepean River near Sydney: _French v McHenry_. Whereas _R v Cooper_ and _R v West_ were concerned only with whether the use of the water and associated land were lawful, _French v McHenry_ was a priority dispute between two manufacturers on the same river. This case stands alone in the history of New South Wales water law: not only does it appear to be the only example of the 'classic' water dispute between two millers on the same reach of stream, it is also the only case in which the English prior use doctrine was directly applied by the New South Wales Supreme Court. The case is therefore a valuable starting point to explore the key principles of use-based rights to water. This section

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24 There was strong government control over economic activities particularly in the first two decades after white settlement; see generally Geoffrey Blainey, _A land half won_ (Sun Books Pty Ltd, 1982) 35–36. The era of autocratic gubernatorial executive power ended in the early 1820s. For example, 1823 saw the establishment of a new Supreme Court with all the powers of the Westminster courts (see Paul Finn, _Law and government in colonial Australia_ (Oxford University Press, 1987) 35; Patrick Parkinson, _Tradition and change in Australian law_ (Lawbook Co, 2013) 139–145).

25 _French v McHenry_[1832] NSWSupC 46 (9 July 1832); see also 'Supreme Court', _The Sydney Herald_ (Sydney), 16 July 1832, 2; 'Supreme Court', _The Sydney Gazette and New South Wales Advertiser_ (Sydney), 10 July 1832, 3.
first explores *French v McHenry* itself. It then ventures into English law to outline the ancient use and prior use doctrines, drawing some broad conclusions about the nature and applicability of use-based water access rights. The section then returns to New South Wales, exploring the history of water milling in the first half of the nineteenth century.

3.1 French v McHenry

In *French v McHenry*, the plaintiff, Mr Charles French, rented a corn and flour mill. Upstream, the defendant, Mr John McHenry, built a larger mill, a reservoir and races. Evidence was given that the defendant’s weir deprived the plaintiff’s mill of water, hampering its operation. The case was ultimately decided by assessors but was brought before Dowling J of the New South Wales Supreme Court to determine if the plaintiff had a case. The Court needed to decide two questions:

1. whether Mr French (the earlier, downstream user) had a lawful right to use the water course at all; and

2. if so, whether he had any legal claim against Mr McHenry (the later, upstream user) for adversely impacting his water use.

The defendant claimed that the plaintiff could not maintain the action as the plaintiff’s use of the water course was unlawful. He argued that the plaintiff would need to either show an ancient use (which required possession since 'time immemorial') or a Crown grant. French’s mill had only been operating for 4–5 years and therefore he clearly could not argue ancient use. He also did not have a Crown grant. However, he did have informal permission from the Crown’s representatives. The Crown engineer, Mr Alexander Kinghorn, gave evidence that although the Crown had not granted express permission to build the mill, 'it was erected under the eye of the Government' and certainly informally endorsed by Crown representatives.27

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26 *French v McHenry* [1832] NSWSupC 46 (9 July 1832); see also ‘Law Intelligence’, *The Sydney Herald* (Sydney), 16 July 1832, 2.

27 The mill was built by Kinghorn’s son, who sold it to a man named Jackson, from whom French was renting.
In this respect, Dowling J’s was similar to that in *R v Cooper*. He noted that the evidence implied that the plaintiff was in lawful possession of his mill and as such, even in the absence of a Crown grant, the Crown's informal approval entitled him to possession of the land. On the assumption that the plaintiff’s possession of the mill was lawful, Dowling J held that ‘in the absence of any claim of right by any other person, the plaintiff had a right to the use of this stream of water’. Mr French therefore had a right to use water in the basis of his occupation of the land — an outcome identical to *R v Cooper* in 1825.

Dowling J further held that if French’s use of water ‘were abridged by the unlawful act of another’ he would be entitled to redress. The question was then, what would amount to such an ‘unlawful’ act? Dowling J turned to the English prior use doctrine to resolve this question. Dowling J noted that Mr French’s right to the stream of water was only to 'such extent [...] as should not injure or prejudice the rights of others, which were coeval [contemporary] with that of the plaintiff'. The implication is that Dowling J was applying the English common law prior use doctrine.\(^28\) This is supported by his citing *Williams v Morland*,\(^29\) a prior use precedent. The defendant’s use came later than the plaintiff’s and therefore he could not abridge the plaintiff’s beneficial use of his mill. The assessors found for the plaintiff and awarded damages of £21. *French v McHenry* referenced both ancient use and prior use and is therefore an excellent starting point to examine use-based water access doctrines.

### 3.2 English manufacturing and use-based common law water access doctrines

The English ancient use and prior use doctrines were developed in the context of an industrialising England, heavily dependent on water power. The 'classic' English water dispute of this time was between two or more millers on the same stream. Watermills had been well-established in England from at least the early Middle Ages. Increases in the economic uses of water between the seventeenth and nineteenth centuries correlated with increases in litigation over water.\(^30\) In the century 1770–1870, there

\(^{28}\) e.g. *Liggins v Inge* (1831) 7 Bing. 680.
\(^{29}\) *Williams v Morland* [1824] EngR 224; 2 B & C 910.
were over 200 reported cases relating to water rights.\textsuperscript{31} The two key disputes were caused by the mills owners’ modification of river flow regimes:

1. complaints by downstream mills that mills upstream prevented sufficient flow falling; and

2. complaints by upstream mills that downstream mills, by damming the river, had lessened the rate of flow upstream.\textsuperscript{32}

The English common law of water existed in a state of confusion from the seventeenth until at least the mid-nineteenth century.\textsuperscript{33} Courts battled with a great variety of doctrinal and procedural approaches to regulating access to water and deciding water-sharing disputes across a wide range of industries.\textsuperscript{34} Broad English doctrines which were later applied or argued in New South Wales were ancient use,\textsuperscript{35} prior use, and riparianism.\textsuperscript{36}

a. Water disputes and manufacturing: context for the common law’s development

The Domesday Book in 1086 recorded approximately 6,000 watermills in England.\textsuperscript{37} This number had increased to a peak of approximately 12,000 by 1300 but decreased sharply in the following two centuries as a result of the stagnation of the medieval

\textsuperscript{31} Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004), 41. The real number was likely much high, as only a small proportion of the disputes would have been reported centrally and many disputes were resolved informally through negotiation.

\textsuperscript{32} Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004), 41.

\textsuperscript{33} Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004), 335: ‘The history of water law shows that it was never entirely clear which riparian doctrines applied in England at least until Embrey v Owen in 1851 and possibly even later’.

\textsuperscript{34} Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004), 341: ‘Many or most of the leading cases of modern English riparianism concerned [...] downstream, underground, and surface waters, and often consumptive uses such as mining, irrigation, and pollutive manufacturing in addition to municipal and domestic water supply, with canal building, fisheries and navigation also important’.

\textsuperscript{35} Ancient use was also known as prescription.


From the sixteenth century onwards, early capitalist agriculture and manufacture intensified the industrial use of streams for mill-power (especially corn-milling, fulling and forging). Conflict also arose between water uses that required streams to be relatively open (e.g. navigation and fishing) and milling (which blocked and diverted streams).

Whereas medieval cases had largely involved navigation, fishing and complaints about floods, the emerging capitalist era saw the rise of disputes between mill-owners over stream flow and river diversions. In particular, the seventeenth and nineteenth centuries saw a substantial increase in the number of mills. By 1700, there were at least 10,000 and maybe as many as 20,000 mills in England. Getzler argues that these figures were multiplied many times over between 1760 and 1830. Mill size, industrial output, and consequent impact on the water source and other water users also increased. By the nineteenth century, mills were effectively centralised industrial factories. Mill-wheels were as large as sixty feet (18 metres) in diameter. Getzler reports that one of the Arkwrights’ mills in Manchester used 6,000 gallons (27,200 litres) per minute. Reynolds reports densities from thirteen mills for every two miles (3.2 kilometres) to 200 mills for six miles (9.7 kilometres). It was reported that there

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41 T.E. Lauer, ‘The common law background of the riparian doctrine’ (1963) 28 Missouri Law Review 60, 72; see also Anthony Scott and Georgina Coustain, ‘Rights over flowing water’ in Anthony Scott (ed.), The evolution of resource property rights (Oxford University Press, 2008) 63, 66, who argue that most disputes in the Middle Ages were over navigation and fishing, but that there may have been disputes over the location of water mills.

42 Mills were not the only use of water in early capitalist England. Canals were fundamental for internal transport, as English industrialisation was based upon haulage along a canal network (John Langton, ‘The industrial revolution and the regional geography of England’ (1984) 9(2) Transactions of the Institute of British Geographers 145, 162). There were many disputes over water involving canals and canal owners. Water was also essential as a raw material in the industrial revolution: brewing, food manufacture, and other manufacturing (textiles, dyeing, printing, chemical and mining industries) (Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004). Getzler notes that irrigation use of water was low but some litigated cases did involve irrigators (e.g. Wright v Williams (1836) S.C. 1 Tyr. & G. 375; 1 Gale, 410; 5 L.J. Ex. 107 [mines polluting irrigation water supply]; Ward v Robins (1846) 15 M&W 238 [dispute between a miller and a farmer over water]; Embrey v Owen (1851) 6 Ex. 353. [dispute between a miller and a farmer over water]; Northam v Hurley (1853) S.C. 23 L.J.Q.B. 183; 17 Jur. 672; Greatrex v Hayward (1853) S.C 43 L.J. Ex. 137 [dispute between two farmers]; AG v Bristol Waterworks (1855) S.C 3 C.L R. 726; 24 L.J. Ex. 205 [town water supply diverted water previously used by large-landowner for irrigation]; Sampson v Hoddinott (1857) S.C. 26 L.J.C.P. 148; 3 Jrn. N.S. 243; 5 W.R. 230 [diverting water to mill depriving water meadows of water]).


were 300 mills on the river Irwell and its branches between Bacup and Prestolee (approximately 32 kilometres). In 1837, one dam over 100 feet (30 metres) high was built to power two dozen mills.

Water power in industrial England was therefore far from the idyllic imagery of the medieval water mill. Not only were industrial mills large, factory-style workplaces, built on overcrowded rivers, but rivers and river flow were themselves extensively altered. The natural fall of water alone was insufficient to power the industrial mills and there were vast investments in ‘river-widening, wells, weirs, dams, sluices, bridges, leets [channels] and mill-races’. Dams were used to control the flow of water and increase its fall. Even in England, where rainfall and river flows are much more regular than Australia, mills experienced difficulties with streams being too dry in summer, freezing in winter, and flooding at times. For example, in Derbyshire at the Evans’ family cotton mill in the late eighteenth and early nineteenth centuries:

_The River Derwent provided the only means of power used by the Evanses. They told the [Factories Inquiry Commissioner] in 1833 that they were uncertain of its extent, since the supply of water was irregular; but they estimated it at 100 horsepower. The mills, they added, had been stopped, ‘a week at a time by floods and occasionally part of every day for many weeks by short water in dry seasons’._

Pelham’s in-depth study of water power and industrialisation in Birmingham in the eighteenth century has also noted a tendency of some of the rivers in the catchment to ‘fluctuate violently in wet weather due to rapid run-off’. Millers built reservoirs and millraces, in part in order to counter-act this natural variability, as well as to artificially increase the water power of the natural stream. Water power remained

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47 see e.g. E.P. Thompson, _The Making of the English Working Class_ (Vintage Books, 1966), 193.
important in industrial England until approximately 1850–1870, when steam power and electricity generation finally superseded water power.

b. The ancient use doctrine

The ancient use doctrine was applied in England from the fifteenth and sixteenth centuries on industrialising rivers. Ancient use was effectively a form of adverse possession, whereby rightholders could claim rights to access water through long-term, unchallenged use. The basis of the right was the presumed acquiescence of any others who might have a right to the resource in the newcomer’s occupation or use:

[A] riparian owner asserting right to unimpeded flow of water must, in the absence of express grant from neighbours, plead ancient use (‘from time immemorial’) of the flow as evidence of a presumed grant constituting the right. Where the water use was for a particular purpose, such as powering a mill wheel, it might be necessary additionally to plead ‘antiquum molendinum’: that there was an ancient mill, and that use of water by that particular mill was legitimated by immemorial custom or grant.

The right originated in the medieval era and was originally held by a feudal tenant against a landlord. Its foundations lay in the monopoly that feudal lords held over milling. A private individual wishing to build and operate a mill would need
permission of the lord of the manor. A mill that was operated for 'time immemorial' could no longer be cancelled by the landlord. As the feudal era gave way to capitalist production, the doctrine shifted in emphasis and application. From the seventeenth century onwards, the right holder could enforce their ancient use against the whole world and not just against their landlord.

Ancient use appears to have relaxed over time to allow newer users and a degree of innovation in water use. Originally, the ancient use had not only been tied to the use of the stream but the water user would also often need to claim that there was an ancient mill ('antiquum molendinum'). Ancient use had been not so much a right to a certain amount of water as a right tied to a specific, well-established water use. This changed in Luttrel's case in 1601. The plaintiff in that case was allowed to claim ancient use, even though he had recently torn down his 'ancient mill' and replaced it with two new corn mills. Ancient use also shifted from a requirement that the water use had been established since 'time immemorial' to be legislatively defined as 20 years. This may have assisted in the application of the doctrine as competition over streams intensified and it became useful to better define the boundaries of contested rights.

Ancient use or prescription continued within English law throughout the following centuries. However, it could not solve all the water-sharing problems on the rapidly industrialising and changing English rivers. The ancient use doctrine had two potential weaknesses:

1. it entrenched the established, quite possibly inefficient 'ancient users'; and


60 Anthony Scott and Georgina Coustalin, 'The evolution of water rights' (1995) 35 Natural Resources Journal 821, 841. P.M. Lane defines 'time immemorial' as having originally meant use since 1189 (the year of the accession of Richard I), although usually 20 years would constitute presumptive long use (P.M. Lane, 'Australian Land Law', in Justin Gleeson, J.A. Watson and Ruth Higgins (eds), Historical Foundations of Australian Law: Institutions, concepts and personalities (Federation Press, 2013) 212.


2. it did not protect water users whose use did not amount to an 'ancient use' against encroachments from even newer users — as far new water users were concerned, ancient use promoted 'strict anarchy'.

In New South Wales, the application of the ancient use doctrine itself was always contested. At times, though, water users have claimed a right to access water on the basis of long-term, established use.

c. The prior use doctrine

The English prior use doctrine was a ‘first-in-time first-in-right’ doctrine, similar to the prior appropriation doctrine of the western United States. Ancient use and prior use were conceptually different in two key ways. The first was the length of time for which the resource needed to have been used. Ancient use required use since 'time immemorial' or 'time out of memory'. By contrast, a water user could claim a right under the prior use doctrine solely on the basis that they had used of the water for a period longer than the opposing party's use. The second factor was the extent to which the water resource was modified. The ancient use doctrine focused on protecting established millers who had an ancient mill whereas the prior use doctrine was explicitly directed towards creating rights for those water users who had modified the watercourse.

Concepts of prior use emerged in England the mid–late eighteenth century. Blackstone’s *Commentaries on the Laws of England*, written between 1765 and 1769 endorsed a prior use approach to water rights. Noting that flowing water was inevitably common, Blackstone suggested that the water users would acquire a usufructuary right as a result of their prior use:

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66 e.g. Lauer suggests that the 1785 case *Robinson v Lord Byron* was a step away from ancient use to prior use (T.E. Lauer, ‘The common law background of the riparian doctrine’ (1963) 28 *Missouri Law Review* 60, 100).
If a stream be unoccupied, I may erect a mill thereon, and detain the water; yet not so as to injure my neighbour's prior mill, or his meadow; for he hath by the first occupancy acquired a property in the current.\(^{67}\)

This 'Blackstonian prior appropriation' regarded flowing water as 'res nullius'\(^{68}\) (the property of no-one), which is appropriated by a riparian owner, so that the level of use enjoyed by the first occupier is protected.\(^{69}\)

*Bealey v Shaw* (1805) was a turning point in the application of the prior use doctrine in English law.\(^{70}\) This case involved a diversion of water by an upstream landowner, which injured the plaintiff's capacity to use his mills and machinery. Lord Ellenborough CJ held that:

> The general rule of law as applied to this subject is, that [...] every man has a right to have the advantage of a flow of water in his own land without diminution or alteration.\(^{71}\)

Lord Ellenborough CJ qualified this right, by arguing that an 'adverse right may exist founded on the occupation of another'.\(^{72}\) The downstream plaintiff's right to the water flowing over their land was limited to the water that remained after other landholders' prior occupation of the water source was accounted for. In the same case, Lawrence J held that:

> For [the defendants] contend that they had a right to appropriate as much of the water as they pleaded from time to time to their own use; and yet they deny the same right to the plaintiff to appropriate to his use what had not been


\(^{71}\) *Bealey v Shaw* [1805] 6 East 209 at 1269.

\(^{72}\) *Bealey v Shaw* [1805] 6 East 209 at 1269; See also Grose J, who held that 'The plaintiff had a right to all the water flowing over his own estate, subject only to the easement which the defendants might have in it in respect of the premises which they occupied higher up the river' (at 1269).
appropriated before by any other person. In this the defendants are wrong; for if the occupiers of their premises could before have appropriated to themselves any part of the water flowing through their own lands, by the same rule those through whose lands it afterwards flowed might appropriate so much as had not been appropriated before by others.73

Three key concepts can be drawn from Lawrence J’s reasoning. Firstly, Lawrence J used the language of 'appropriation' — the taking of water, thereby making it the property of the water user. The focus of the prior use doctrine was on the active use of the water of the stream. Secondly, the rights occurred in a necessarily chronological order, such that each new water user only had access to what proportion of the water resource earlier water users had not already appropriated. Thirdly, and as a consequence, the rights obtained from prior use were inevitably quantitative — i.e. a prior user would acquire a right to a certain volume of water. The quantitative nature of prior use rights is even more evident in Le Blanc J’s judgment:

For the true rule is, that after the erection of works and the appropriation by the owner of the land of a certain quantity of the water flowing over it, if a proprietor of other land afterwards take what remains of the water before unappropriated, the first mentioned owner, however he might before such second appropriation have taken to himself so much more, cannot do so afterwards.74

In 1820s and early 1830s England, prior use-based rights to water became particularly prominent,75 until, in the 1833 case of Mason v Hill, English law moved starkly away from prior use.76

Prior use arguably assisted the industrialisation process by disenfranchising pre-existing users in favour of new, innovative water users. Rose argues that prior use

73 Bealey v Shaw [1805] 6 East 209 at 1270 (emphasis added).
74 Bealey v Shaw [1805] 6 East 209 at 1270 (emphasis added).
76 Mason v Hill (1833) 5 B. & A.D. 2.
Regimes favour rapid development as opposed to passive occupancy. Prior use thus favoured a party who undertook active investment. For example, under Blackstone’s proposed prior appropriation doctrine, prior rights would have gone to the first user to alter a resource from its natural state. Prior use concepts were also applied at a similar point in history in the eastern United States to favour those water users who ‘improved’ the watercourse over long-term established users:

*The first person to install works for utilizing the power of the fall would be entitled to keep that power, either against a prior unimproving user — however ancient his use — or against a subsequent improver along the same watercourse.*

The disenfranchisement of pre-existing users inherent in the prior use doctrine depended on a particular characterisation of *publici juris*. The prior use doctrine suggested that unappropriated flowing water was *res nullius* or the property of no-one. Flowing water would be in the form of a commons *only until it was occupied or appropriated*, at which time it would become private property.

The 'res nullius' principle disenfranchised established users. As Rose notes, the notion that the right should go to the first occupant assumes that there are no pre-existing occupants — i.e. that the resource is ‘up for grabs’ and there are no existing rights in the resource at all. Rose argues that prior use ‘treated the resource as basically empty of property rights and welcomed those who would stake a claim’. Such a right of occupancy would be lost by relinquishment or abandonment, in which case the water would again become *publici juris*.

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d. Characteristics of use-based doctrines and their application in New South Wales

Both the common law ancient use and prior use doctrines had a short-lived and relatively uncontroversial existence in New South Wales. However, many other water access regimes and water disputes in nineteenth and early twentieth century New South Wales related variants of used-based claims to a water access right. In particular:

- in the mid–late nineteenth century, pastoralist landholders wishing to protect their monopoly over water resources argued a form of use-based doctrine based on the capital and effort they had expended in constructing water conservation works;
- in the late nineteenth century, pastoralists wishing to construct larger dams and establish more capital intensive agriculture argued for a form of use-based right to water;
- a form of prior appropriation doctrine was established by goldfields regulations during the gold rush;
- in the twentieth century, established pastoralist users occasionally used reasoning equivalent to ancient use on which to base a claim to 'accrued privileges' to water; and
- the State government experimented with prior appropriation principles in the 1930s as a means to prioritise water users' access to water and ensure the most efficient use of scarce water resources.

The ancient use and the prior use approaches to water access demonstrate the contradictory nature of use-based water access principles, especially in a context where water use is changing. These doctrines can both encourage and retard development, and can therefore be used for two distinct purposes: to protect a well-established user who happened to 'get there first' or, paradoxically, by a class of newer users wishing to disenfranchise pre-existing users and establish their own claim. The contradiction intensifies — or repeats itself — as the newer users, in time,
themselves become established users. From a water management perspective, use-based rights have the great advantage of encouraging innovation and ensuring active use but, ironically, can also entrench an existing class of inefficient users.

A use-based water access right is a claim to water on the basis of an existing and active use. This implies some key characteristics. The first is the need for a 'beneficial use' or an 'improvement' of the water source. For example, *Williams v Morland* held that an 'individual can only acquire a right to [flowing water] by appropriating so much of it as he requires for a beneficial purpose.' Secondly, a use-based claim to water is limited by the use itself. If, for example, the water user increases their water use, the increase will not be protected in the same way as the original use. As a result, the right necessarily entails a quantitative element, even if it is only the right to use the same volume of water that the user has always used or the volume of water necessary for the specified use. Thirdly, the water access rights are necessarily chronological. That is, the right to use water must date from the point in time when the water use commenced. These elements can be found in Dowling J's judgment in *French v McHenry:*

> by law running water is originally publici juris [...] and an [individual] can only acquire a right to it, by applying so much of it as he requires for a beneficial purpose, leaving the rest to others, who if they acquire a right to it by subsequent appropriation, can lawfully be disturbed in the enjoyment of it. The utmost that the [defendant] can have is an equal enjoyment with [plaintiff]. He has no right to abridge the [plaintiff’s] right. He cannot take advantage of his own wrong.

This section of the judgment contains substantially similar key indicia of a prior use right: firstly, that the priority right was obtained by the plaintiff occupying the resource chronologically earlier than the defendant; secondly, that the plaintiff was using the resource for an active or beneficial purpose; and thirdly, that the plaintiff thereby obtained a right to a particular quantity of water. Arguably, the guiding principle

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85 Noting that 'improving' the water source is generally understood to mean development, which would not necessarily amount to an improvement from an ecological perspective.

86 *Williams v Morland* [1824] EngR 224; 2 B & C 910 per Bayley, Holroyd and Littledale JJ.

87 *French v McHenry* [1832] NSWSupC 46 (9 July 1832) (emphasis added).
behind these use-based water access rights is that the right is dependent on the actions and initiative of the water user in establishing their use.

These three elements of prior use can be augmented by a fourth 'negative' element: by contrast to land-based rights, use-based rights have no necessary connection between the water access right and land or the landscape. This lack of any inherent relation to riparian landholding, alongside the quantitative nature of use-based rights, mean that these rights represent a form of entitlement more closely aligned with Linton's modern water than, for example, most land-based rights to water.

### 3.3 Water milling, water sharing and the evolution of water access law

The English common law of water had developed substantially between the seventeenth and nineteenth centuries in response to industrialisation and the use of rivers for water power. English common law doctrines needed to be able to equitably share water among water users along over-crowded and extensively developed rivers. New South Wales manufacturing disputes in the first half of the nineteenth century did not need to resolve water-sharing questions to the same degree. Indeed, by contrast to England and the eastern United States, New South Wales water law history is remarkable for its absence of disputes between manufacturing water users along the length of the stream.

In the 1820s and 1830s, there were a reasonable number of prosecutions for or disputes relating to nuisance but these do not appear to have involved discussions about rights to access water. For example, in *R v MacArthur*, a disturbance at Parramatta led Mr John MacArthur, a local magistrate and member of the Legislative Council, to be convicted of riot. Mr George Howell operated a mill on the Parramatta

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88 Noting that the ancient use and prior use doctrine did connect to land and 'riparian owners'. The United State prior appropriation doctrine, however, did not connect the water access right to landholding (Alex Gardner, Richard Bartlett and Janice Gray, *Water Resources Law* (2009, LexisNexis Butterworths) 30).

89 *R v Macarthur* (1828) Sel Case (Dowling) 882; [1828] NSWSupC 6; *Bignal v Cooper* [1828] NSWSupC 45.

90 *R v Macarthur* (1828) Sel Case (Dowling) 882; [1828] NSWSupC 6.

River. Mr John Raine, his neighbour and operator of a rival steam mill, objected to either the dam or the water 'improperly projecting upon his premises'. The implication from the media's coverage of the case was that Raine's objection to the dam arose more from his concerns about Howell's new water mill interfering with his business than genuine concerns about the dam itself. After some discussion with Mr Howell, Mr Raine cut a drain in the dam. The 'riot' occurred when Howell's men and townspeople 'assembled and filled it up again', Mr MacArthur being accused of urging on and inciting the riot.

New South Wales only really started to tackle complex, multi-party water-sharing questions from the 1850s onwards, first on the goldfields and then among pastoralists along key watercourses. The absence of significant disputes among water millers in New South Wales can be ascribed to the comparatively undeveloped nature of the manufacturing industry. Pearson has carried out a detailed archaeological and historical study of the history of water-powered flourmills in New South Wales history. Watermills were used for other purposes, including sawmilling, paper-making, mining, and textiles. However, the number of flourmills far outnumbered other purposes and other mills will have faced much of the same economic and environmental circumstances as flourmills.

The first watermill on mainland New South Wales was built at Government Farm in Parramatta between 1798 and 1804. This mill proved largely to be a failure, being destroyed twice by floods and hindered at other times with an under-supply of

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93 *The Australian* (Sydney), 1 February 1828, 2.
94 ‘Proceedings before the bench of magistrates, Parramatta’, *The Sydney Gazette and New South Wales Advertiser* (Sydney), 30 January 1828, 2; ‘The King against the Honourable John M’Arthur, Esquire, and Others’, *The Sydney Gazette and New South Wales Advertiser* (Sydney), 28 March 1828, 2; ‘Supreme Court’, *The Sydney Gazette and New South Wales Advertiser* (Sydney), 18 February 1828, 2; ‘Supreme Court’, *The Australian* (Sydney), 28 March 1828, 3.
96 see e.g. Morawa District Historical Society (18 October 2014) <members.liinet.net.au/~caladenia@westnet.com.au>; Papermaking in New South Wales to 1900 (2005–2007) <home.vicnet.net.au/~paper/NSWPaper.html>. Gold mining water mills were governed by separate goldfields water legislation and regulations (see Chapter 3).
97 Warwick Pearson, ‘Water power in a dry continent: The transfer of watermill technology from Britain to Australia in the Nineteenth Century’ (1996) 14 *Australasian Historical Archaeology* 46, 51.
water.98 The first private mill was that built by Thomas West in 1811–181299 and the following decades saw the gradual expansion of water-milling into the areas around Sydney (e.g. Botany, Wiseman’s Ferry, and Kurrajong) and further abroad.100 These watermills were beset by environmental and economic difficulties. Low water supply was a key issue. For example, Pearson reports that for the entire lifetime of the Australian Agricultural Company’s flourmills at Stroud north of Newcastle in the 1830s, 'water-supply problems in the form of recurrent droughts forced the owners of the mill to experiment with supplementary power sources'.101 Many mills went bankrupt, although the causes of the bankruptcy are not documented.102

The history of the growth and decline of water-powered flourmills in New South Wales can help to explain the history of milling disputes. In 1837, there were 23 water-powered flourmills in New South Wales.103 The number of mills peaked in 1850 at 45 mills and dropped quickly throughout the 1850s.104 In 1860, the number had dropped to 24 and by 1870 it had dropped again to 16.105 According to Pearson, there

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98 Warwick Pearson, ‘Water-Powered Flourmilling on the New England Tablelands of New South Wales’ (1998) 16 Australasian Historical Archaeology 30, 31. See also reference to building a Government water mill at Parramatta in 1803 (The Sydney Gazette and New South Wales Advertiser (Sydney), 23 October 1803, 2); reference later in 1803 that Government gangs were building the races for a mill (The Sydney Gazette and New South Wales Advertiser (Sydney), 6 November 1803, 2); reference to a Government water mill for milling flour in 1805 at Parramatta (The Sydney Gazette and New South Wales Advertiser (Sydney), 17 February 1805, 2).

99 Warwick Pearson, ‘Water-Powered Flourmilling on the New England Tablelands of New South Wales’ (1998) 16 Australasian Historical Archaeology 30, 31. See also 1812 notice that West’s flour was advertising for business. The wheel was said to be the first water mill at Sydney, with a wheel of 18 feet diameter and capable of grinding 4.5 bushels per hour. It was located at Barcom Glen, near Surry Hills and Woolloomooloo (The Sydney Gazette and New South Wales Advertiser, 25 January 1812, 2). A similar notice in 1813 indicated that a grain water mill had been erected at Barcom Glen; the mill was declared to be the first mill in the vicinity of Sydney (The Sydney Gazette and New South Wales Advertiser, (Sydney), 25 December 1813, 1).


102 e.g. Singleton’s mill at Richmond was put up for sale for bankruptcy at least four times between 1816 and 1819 (The Sydney Gazette and New South Wales Advertiser (Sydney), 23 November 1816, 2; The Sydney Gazette and New South Wales Advertiser (Sydney), 22 August 1818, 2; The Sydney Gazette and New South Wales Advertiser (Sydney), 8 May 1819, 3). In 1816, Singleton was also trying to sell his own mill (The Sydney Gazette and New South Wales Advertiser (Sydney), 23 March 1816, 1). See also in 1820, in response to bankruptcy, the provost-marshall put Howell’s water-mill at Parramatta up for sale (The Sydney Gazette and New South Wales Advertiser (Sydney), 16 December 1820, 1).


were still two mills operating in 1894 but none thereafter. There appears to have been a small amount of water power until at least the early twentieth century for other purposes — e.g. woollen or paper mills.

Besides water power, mills were also powered by horse, wind and human labour, all three of which, especially human labour, were relatively insignificant. The main rival to water-power was steam. In 1840, there were 26 steam-powered flourmills in New South Wales compared to 31 water-powered mills. By 1850, this number had risen to 75 steam mills to 45 watermills. By 1860 there were 134 steam mills and by 1870 there were 155.

Geographical and economic factors are important in understanding the relative unimportance of water power in New South Wales, especially after the mid-nineteenth century. As industry moved into the interior of the colony, steam-power came to predominate as it was much more reliable in the drier and less predictable climate. Moreover, in the 1860s and 1870s, as wheat became a more commercial crop produced not only for local consumption but for export, small local watermills based at individual stations were replaced by larger steam mills in urban manufacturing centres.

The economic conditions in Australia were also very different to those in England. The density of watermills across New South Wales was always low compared to the intensity of English manufacturing water use. The lack of development of a milling industry in Australia could potentially be attributed to environmental factors. Mills did

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107 e.g. there was a woollen mill operating at Parramatta in 1902 (‘Parramatta District: The woollen mills dam’, The Sydney Morning Herald (Sydney), 29 May 1902, 5) and there was a dispute involving a papermill in 1902 on the Georges River (‘Disputed water rights’, The Sydney Morning Herald (Sydney), 8 August 1902, 6; ‘Disputed water rights’, Liverpool Herald (Liverpool), 9 August 1902, 3; ‘Disputed water rights’, Liverpool Herald (Liverpool), 30 August 1902, 5; ‘Disputed water rights’, The Sydney Morning Herald (Sydney), 29 August 1902, 7; The Sydney Morning Herald (Sydney), 22 September 1902, 6).


110 Warwick Pearson, ‘Water power in a dry continent: The transfer of watermill technology from Britain to Australia in the Nineteenth Century’ (1996) 14 Australasian Historical Archaeology 46, 51.
experience substantial difficulties with low river flows and drought. Economic factors were also crucial. The Australian economy in the first half of the nineteenth century was not an industrial manufacturing economy. Until the mid–late nineteenth century, flour production was predominantly for the local market. For example, it was not until 1866 that sufficient wheat was produced for export in the New England region. As a result, when water milling was most popular in New South Wales — i.e. before 1850 — there was no competitive drive to intensify the milling industry. Unlike in England and the eastern United States, the development of the general water law would not be driven by competition of milling interests but instead, later in the nineteenth century and twentieth century by development of the agricultural industry.

4. Manufacturing water disputes in the 1850s: clarification of legal doctrine

In the 1850s, two decades after *R v West* and *French v McHenry*, a series of cases were brought by private manufacturers attempting to either protect their access to water or to gain compensation for its loss as a result of the Sydney authorities' actions in building a water supply for the city. The most important 1850s cases were:

- Cooper v The Corporation of Sydney (1853) (Cooper's case);¹¹³
- Lord (Mary) v The City Commissioners (1856) (Mary Lord's case);
- Lord (Edward) v The City Commissioners (1856) (Edward Lord's case); and
- Darvall v The City Commissioners (1856) (Darvall's case).¹¹⁴

¹¹¹ Though note that Pearson discusses how Australian mills were designed to accommodate the differences in climate and landscape, citing the 'generally lower volume and higher variability of rainfall in Australia, together with a topography of higher relief in those parts of the Australian colonies suitable for waterpower use' (Warwick Pearson, 'Water power in a dry continent: The transfer of watermill technology from Britain to Australia in the Nineteenth Century' (1996) 14 *Australasian Historical Archaeology* 46, 54).


¹¹³ *Cooper v Corporation of Sydney* (1853) 1 Legge 765.

¹¹⁴ *Mary Lord's, Edward Lord's and Darvall's cases can be cited jointly as Lord v Commissioners for the City of Sydney* 7 NSWLR Eq. 10; Legge 912. They were also reported in the *Sydney Morning Herald* on 28 February, 4–5 March, 28 April, 2 & 6 May, 2 & 4 September and 30 December 1856. Mary Lord's case was appealed to the Privy Council (1859) 12 Moore P.C. 473. There was another case, *George Lord v The City Commissioners*, which was decided later on substantially the same principles of law ('George Lord v The City Commissioners', *The Sydney Morning Herald* (Sydney), 21 June 1856, 5). Mary Lord was the widow of Simeon Lord, prominent early manufacturer who established works at Port Botany; George Lord and Edward Lord were his sons (D.R. Hainsworth, *Lord, Simeon (1771–1840)*, Australian Dictionary of Biography, <adb.anu.edu.au/biography/lord-simeon-2371/text3115>; David Henry, *Lord, George William (1818–1880)*, Australian Dictionary of Biography, <adb.anu.edu.au/biography/lord-george-william4037/text6417>).
These cases established new doctrines into New South Wales water law and clarified the applicability of old doctrines. The pivotal legal development was the introduction of the riparian doctrine into New South Wales law in 1853. Unlike the relatively basic approach taken in *R v Cooper* and *R v West*, the riparian doctrine established a sophisticated approach to sharing water among users along a stream. By emphasising the flowing nature of river and stream waters, riparianism changed how the law conceptualised the landscape. The judgments in the four cases stressed the unique nature of flowing water as a transient, constantly moving substance. Rights to a 'watercourse' became rights to use and share 'flowing water'. The adoption of the riparian doctrine was accompanied by a parallel limitation on the capacity of the Crown to grant rights to flowing water and the rejection or limitation of the prior use and ancient use doctrines as a basis for rights to access water.

4.1 Supplying Sydney's water supply: background context to the litigation

The tension in these cases was once again between the Crown and private manufacturers, with the colonial authorities concerned to protect Sydney's water supply. The history of Sydney's water supply is one of gradual expansion out from the city:

- the Cadigal or Tank Stream was the city's first water supply;
- Sydney's first 'piped' water supply came from the Lachlan Swamps and was built in the early 1830s;
- in the 1850s, the city built a water supply from the industrial area of Port Botany; and
- when that supply became too small for the city's needs, the city started to build the modern water supply networks in the Hawkesbury–Nepean catchment.

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115 Coincidentally, this 'maturation' of the common law of water in New South Wales occurred at the same time as the evolution of responsible government (Patrick Parkinson, *Tradition and change in Australian law* (Lawbook Co, 2013) 148). The primary driver behind the clarification of water law doctrine at this time would appear to be the clarification of English doctrine.

116 Authorized by the *Sydney Water Supply Act 1833* (The 'Tunnel' Act).

Similar tensions also occurred at this time in England between private and non-urban users of water, and town water and sewerage authorities. However, the Crown's resumption of water sources for city water supplies in New South Wales was driven at least in part by city-based manufacturers and industry leaders agitating for a better piped water supply. As such, this tension can be approached from two perspectives. Firstly, it can be seen as a tension between the Crown and private water users, in which the role of the Crown is to protect the general interests of the community at large. Secondly, it can be seen as a form of water-sharing conflict between two different groups of private water users: those private manufacturers who had provided for their own supply by building their operations on a natural watersource and inner-city manufacturers who wanted a piped mains water supply.

While water-sharing disputes between manufacturing water users had been limited before the 1850s, the second half of the nineteenth century saw an increase in water-dependent manufacturing industry:

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\text{Nascent manufacturing industries in the colony [in the 1850s] were virtually all heavy users of water; the major industries being woolen industries, soap and tobacco factories, sugar refining, and brewing and distilling. The increasing use of steam engines also produced a growing dependence on regular and copious water supplies.}\]

Manufacturing and commercial users in Sydney used town water supplies from as early as the 1840s. Flour companies, breweries and distilleries, tanneries and soap
factories all signed contracts with the Sydney Corporation and many connected illegally to corporation pipes.\textsuperscript{121}

The development of industry was a key factor prompting the development of city water supplies in New South Wales. In the early 1850s, 150 Sydney manufacturers, including the Tooth brothers,\textsuperscript{122} David Jones,\textsuperscript{123} members of the Campbell and Fairfax families, Thomas Holt\textsuperscript{124} and George Lord, signed a petition complaining about the Sydney Corporation's mismanagement of water supply and failure to meet water contracts.\textsuperscript{125} The petition prompted an enquiry into Sydney's water supply in 1852, which 'stressed the effects the inferior water supply\textsuperscript{126} had had on the development of manufacturing in Sydney'.\textsuperscript{127} The enquiry recommended drawing water from the Botany Swamps — a decision which, once implemented, would impact directly on the use of water by manufacturers in that location and lead to the Lord and Darvall litigation.\textsuperscript{128}

\textsuperscript{121} David Clark, ‘“Worse than physic”: Sydney’s water supply 1788–1888’ in Max Kelly (ed.), Nineteenth-Century Sydney: essays in urban history (Sydney University Press, 1978) 54, 56.

\textsuperscript{122} The Tooth brothers (Edwin, Robert and Frederick) operated a merchant and brewing firm (G.P. Walsh, Tooth, Edwin (1822–1858), Australian Dictionary of Biography, <adb.anu.edu.au/biography/tooth-edwin-4944/text7851>.

\textsuperscript{123} David Jones established the well-known Australian department store David Jones in 1838 (G.P. Walsh, Jones, David (1793–1873), Australian Dictionary of Biography, <adb.anu.edu.au/biography/jones-david-2279/text2929>.


\textsuperscript{125} A similar process of manufacturing water users turning towards centralised city water supplies also occurred in England in the late nineteenth century. Manufacturing users had until then largely supplied their own water. However, they turned to centralised town water supplies as a result of the polluted state of rivers in industrial areas (J.A. Hassan, ‘The growth and impact of the British water industry in the nineteenth century’ 38(4) The Economic History Review 531, 541).

\textsuperscript{126} David Clark, ‘“Worse than physic”: Sydney’s water supply 1788–1888’ in Max Kelly (ed.), Nineteenth-Century Sydney: essays in urban history (Sydney University Press, 1978) 54, 57.

\textsuperscript{127} Manufacturer dissatisfaction with water supply would lead to at least three more enquiries into Sydney’s water: in 1853 as a result of the ‘Australian Brewery Scandal’ (where a brewery was accused of making an illegal connection to the main), in 1867 and in 1875. The inadequate water supply was cited in the 1870s as causing manufacturing development to be retarded: ‘[T]he effects of the poor supply on manufacturing growth were widely reiterated. Thomas Holt argued that the main reason New South Wales was lagging behind Victorian manufacturing development was because of the shortage and cost of water’. Clark argues that evidence for this is the rapid industrial growth that occurred in the Botany area after the Nepean system was completed (David Clark, ‘“Worse than physic”: Sydney’s water supply 1788–1888’ in Max Kelly (ed.), Nineteenth-Century Sydney: essays in urban history (Sydney University Press, 1978) 54, 57–65; Richard White, The role of water in the development of New South Wales (Water Resources Commission, 1984) 34).
4.2 Introducing the English riparian doctrine

Cooper's case and the Lord and Darvall cases applied the riparian doctrine in New South Wales for the first time. This was in response to the English adoption of the United States riparian doctrine\(^\text{129}\) in the early 1850s\(^\text{130}\) to regulate access to water flow in a defined channel.\(^\text{131}\)

The 1805 New York State case *Palmer v Mulligan* provides an early expression of the riparian doctrine. In a dispute between two timber-mills, Livingston J rejected the argument that a landholder who first built a dam or mill on a public or navigable river could acquire an exclusive right to the water.\(^\text{132}\) Instead, he held that both the plaintiff and defendant landholders had equal rights to build dams and mills on their respective water frontages, as long as they did not injure the public interest in the navigation of the river or inflict more than trivial damage or inconvenience on other users of the stream.\(^\text{133}\) This reference to 'equal rights' and inflicting no more than 'trivial damage or inconvenience' on other water users would become two of the key principles of riparianism.

Palmer's case was followed by a series of New York state decisions in which judges relied on similar principles.\(^\text{134}\) In 1827, the doctrine was endorsed at the United States

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\(^{129}\) There are multiple instances of United States influence on Australian water law and management — in particular, the adoption of the riparian reasonable use doctrine (via England), the influence of American gold miners on Australian practices during the goldrush, and the influence of American principles on irrigation (e.g. via Deakin, the Chaffey Brothers and Elwood Mead). For discussion of this American influence particularly on irrigation, see Peter Davis, 'Australian and American Water Allocation Systems Compared', (1968) 9(3) *Boston College Industrial and Commercial Law Review* 647; Ian Tyrrell, *True Gardens of the Gods: Californian–Australian Environmental Reform 1860–1930* (University of California Press, 1999); Jessica Teisch, *Engineering nature: water, development and the global spread of American environmental expertise* (University of North Carolina Press, 2011).

\(^{130}\) English courts had rejected the prior use doctrine in *Mason v Hill* (1833) 5 B. & A.D. 2. The following two decades saw substantial development of English water law.


\(^{132}\) *Palmer v Mulligan* (1805) 3 Caines R. 307.


\(^{134}\) e.g. *Platt v Johnson* (1818) 15 Johns 213; *Reed v Gifford* (1825) 1 Hopkins R. 416; *Merrit v Brinkerhoff* (1820) 17 Johns 306.
federal level by Story J in *Tyler v Wilkinson*.\(^{135}\) The reasonable use doctrine was later endorsed in other United States east coast jurisdictions\(^ {136}\) and Story J’s judgment was also prominently relied on by Chancellor Kent’s in his Commentaries. The riparian doctrine was adopted into English law in 1851 in *Embrey v Owen*\(^ {137}\) and accepted by the House of Lords in the Privy Council decision *Miner v Gilmour* in 1858.\(^ {138}\) While predominantly drawing on American precedents, *Embrey v Owen* was also consistent with the development of English law over the preceding decades.\(^ {139}\)

Riparianism was a sophisticated water-sharing regime. Two elements of the doctrine should be emphasised: it centred on a conceptualisation of river and stream water as 'naturally flowing water' and it located the right to access water in the relationship between riparian land and the stream. It gave riparian landholders equal rights to access water, on the proviso that no individual landholder's use unreasonably impacted on any other landholder — hence Rose's denomination of the test 'the reasonable use doctrine'.\(^ {140}\) All riparian landholders were entitled, on the basis of their landholding, to use the water of the stream.\(^ {141}\) For example, in *Tyler v Wilkinson*, Story J had held that by virtue of their land ownership, landholders had 'a right to the use of the water flowing over it in its natural current, without diminution or obstruction'.\(^ {142}\) Parke B in *Embrey v Owen* held similarly that the 'right to have the stream to flow in its natural state without diminution or alteration is incident to the property in the land through which it passes'.\(^ {143}\)

\(^{135}\) *Tyler v Wilkinson* 4 Mason 397, 24 F.Cas. 472 at 474 per Story J.


\(^{137}\) *Embrey v Owen* (1851) 6 Ex. 353.

\(^{138}\) *Miner v Gilmour* (1858) 11 Moore 131.

\(^{139}\) see in particular, *Wright v Howard* (1823) 1 Sim. & St. 190 (an Equity decision which applied strong 'natural flow' principles); *Mason v Hill* (1833) 5 B. & A.D. 2; *Wood v Waud* (1849) 3 Ex. 748.


\(^{141}\) Sandford Clark and Ian Renard note that one of the reasons for this was in the general rules of trespass: 'The claim of non-riparians to share in the available supply inevitable conflicted with the fundamental principle that a landowner’s close is inviolable' (Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation', (1969) 7 Melbourne University Law Review 475, 478).

\(^{142}\) *Tyler v Wilkinson* 4 Mason 397, 24 F.Cas. 472 at 474 per Story J.

\(^{143}\) *Embrey v Owen* (1851) 6 Ex. 353 at 369.
At the heart of the riparian doctrine was the principle that flowing water was common property over which there could be no absolute private ownership.\textsuperscript{144} Lord Denman had held in \textit{Mason v Hill} (1833) (when rejecting the prior use doctrine) that:

\textit{no one had any property in [running] water itself, except in that particular portion, which he might have abstracted from the stream, and of which he had the possession; and during the time of such possession only.}\textsuperscript{145}

Landholders' riparian rights were usufructuary rights only. That is, the landholder had no property in the water body itself, only a right to use or access the water.\textsuperscript{146}

All riparian landholders' rights to access the flowing water were equal and no landholder could prejudice another landholder's use of the stream. Riparian landholders might use water for 'ordinary purposes' (generally understood to be domestic and stock uses) without consideration for their impact on other landholders. However, a landholder could only use the water for an 'extraordinary purpose' (e.g. damming the stream for a mill or diverting the water for irrigation) if that did not inflict a 'sensible injury' on other landholders. In this regard, riparian rights can be described as 'correlative' rights.\textsuperscript{147} 'Reasonable use' was considered to be a question of degree, decided on the facts of each case in question.\textsuperscript{148}

Rose associates the riparian doctrine with in-stream uses, such as such as milling which allow multiple uses of the same water.\textsuperscript{149} Contrasting the development of prior appropriation (a form of prior use) in the western United States with the development

\textsuperscript{144} Alex Gardner, Richard Bartlett and Janice Gray, \textit{Water Resources Law} (2009, LexisNexis Butterworths) 152; see also discussion at 154–157 of what is meant by a 'watercourse'.

\textsuperscript{145} \textit{Mason v Hill} (1833) 5 B. & A.D. 2 at 24. Arguably, this was a different emphasis to the definition of \textit{publici juris} used in the prior use cases. The prior use doctrine had used the \textit{publici juris} principle to justify giving rights to first occupant — the doctrine provided that if a resource was 'empty' of property rights, then a first occupant could gain rights by possession. In \textit{Mason v Hill}, by rejecting the idea that a first occupant deprive other landholders of the 'special benefit and advantage of the natural flow of water', Lord Denman strengthened the \textit{res communes} or common property principle within the common law of water.

\textsuperscript{146} \textit{Tyler v Wilkinson} 4 Mason 397, 24 F.Cas. 472 at 474 per Story J.

\textsuperscript{147} see e.g. Joshua Getzler, \textit{A History of Water Rights at Common Law} (Oxford University Press, 2004) 343; Harris, Edwyna, \textit{The persistence of correlative water rights in colonial Australia: a theoretical contradiction?} (Monash University Department of Economics discussion paper, 2008).

\textsuperscript{148} \textit{Embury v Owen} (1851) 6 Ex. 353.

of riparianism in the eastern states, she suggests that the riparian doctrine operates well in situations where there are multiple competing users along a stream all of whom depend on in-stream flows:

[Water] for power is in a sense a renewable resource [...] and the maximum development of water for power requires not consumption, but rather use and relinquishment among the group of riparian owners, so that the volume of the water may be used again and again on its way downstream.

As such, the value of the river was at its highest when used as a unity. Joshua Getzler is critical of Rose's economic assessment of the evolution of riparianism in England and the United States. For the purposes of this thesis, however, the key point to note is that riparianism, as a land-based doctrine centred around concepts of natural flow, mitigated towards in-stream or in-landscape uses.

While not being an environmentalist doctrine, the riparian doctrine entailed an inherently close relationship between the water, the water user and water use, and the landscape. There are two broad reasons for this. Firstly, the riparian doctrine was a land-based doctrine, which gave water access rights on the basis of riverside landholding. The originators of the doctrine saw the flow of water in instrumentalist terms — that is, the water was there for landholders to use for productive purposes:

The natural stream, existing by the bounty of Providence for the benefit of the land through which it flows, is an incident annexed, by operation of law, to the land itself.

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150 The argument that is often relied on to explain this distinction is that water was relatively abundant in the east — and that therefore the law could retain a common property approach — whereas water was very scarce in the west, which therefore needed privatise entire streams. Rose rejects this argument to focus on the nature of the resource use. In particular, she compares the in-stream water uses of the eastern states with the consumptive uses of the western states. Western water uses, whether for mining or irrigation, took water away from the stream and did not return it. Hence, western water use was effectively a zero-sum game (Carol Rose, ‘Energy and Efficiency in the Realignment of Common-Law Water Rights’ (1990) 19(2) The Journal of Legal Studies 261, 290-291).


155 Tyler v Wilkinson 4 Mason 397, 24 F.Cas. 472 at 474 per Story J.
Nevertheless, water use based on riparian landholding inevitably located the water use within the natural geography of the river valley or catchment. Secondly, the concept of natural flow was critical to the riparian doctrine. The riparian landholder had a right to 'the use of the water flowing over [their land] in its natural current, without diminution or obstruction'. This concept of natural or legitimate flow or current defined the water right firmly within the frame of the natural environment. The water user was entitled to use the flow of water as set by the confines or patterns of the natural landscape and seasons. As such, while the riparian doctrine could allow a degree of development, human modification of watercourses would be limited.

4.3 Application of the riparian doctrine in New South Wales

The riparian doctrine was first applied in New South Wales in Cooper v Sydney in 1853. Mr Cooper owned land near the Lachlan Swamps, the area of swampy land from which the city of Sydney had built a water tunnel in the early 1830s. Mr Cooper complained that the Crown's construction of a trench would divert the flow of water from his property and was seeking an injunction to halt construction works. The case came before the New South Wales Supreme Court twice: first on 8 June 1853 and then again on 13 July 1853. Judgment from the second hearing was reserved until 28 September 1853.

At the first hearing on 8 June 1853, the court decided against Mr Cooper on the basis that there was no 'continuous and habitually running stream of water at the place in question which the Corporation was seeking to divert'. They described the flow of water to Mr Cooper's property as an 'occasional overflow' which only:

assumed the aspect of a running stream [...] when there was a larger quantity of rain than usual and the swamp contained a larger quantity of water than its spongy soil would retain.

156 Tyler v Wilkinson 4 Mason 397, 24 F.Cas. 472 at 474 per Story J.
157 Cooper v Corporation of Sydney (1853) 1 Legge 765 at 707; see also 'Supreme Court', The Sydney Morning Herald (Sydney), 30 September 1853, 2.
158 Cooper v Corporation of Sydney (1853) 1 Legge 765 at 707.
The court decided on that basis that this flow was a 'mere occasional excess or overflow of the sub-surface water and not a running stream properly so-called'. The court decided against Mr Cooper on the basis of *Acton v Blundell* — a key English groundwater case that had held that 'the possessor of land was entitled to draw off to any extent the sub-surface water of the lands which he [...] possessed'. Mr Cooper's injunction was refused. However on the following day, the court allowed the parties to give fresh evidence and set a new trial date.

At the second hearing, Cooper brought stronger evidence that there was a running stream. The court still had significant doubts about this stream's existence, however, as the evidence was contradictory. The court was concerned that while some affidavits spoke of a stream 'distinctly as running in a channel' others mentioned 'a flow over the surface'. In discussing the distinction between water dispersed across the surface of the land and a flowing stream, the court suggested that:

> Flowing water over the surface of land indicates a state of things opposed to the idea of a stream, and scarcely consistent with the supposition of permanency. [...] A constantly running current in a bed or worn channel would have been too obvious to the eye to have admitted of either equivocation or dispute.

In relation to this point, the court directed two questions at the jury:

1. 'Is there a running stream, in a channel between banks, flowing continually or habitually in such channel [...] into and through the complainant's land?'
2. 'If not flowing between banks, or in channel, yet is there in fact a continually or habitually flowing stream [...] to and over the complainant's land?'

As far as the New South Wales Supreme Court was concerned, the key requirement for the plaintiff to be able to claim riparian rights was a running stream 'flowing

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159 *Cooper v Corporation of Sydney* (1853) 1 Legge 765 at 707.
160 *Acton v Blundell* (1843) 12 M. & W. 324.
161 *Cooper v Corporation of Sydney* (1853) 1 Legge 765 at 707.
continually or habitually. The court indicated that they might be flexible about whether there needed to be defined banks or a channel. Mr Cooper's supply of water must also have been 'sensibly diminished' by the actions of the Sydney Corporation. The court noted, citing directly from *Embrey v Owen*, that riparian occupiers were entitled to the reasonable flow of a stream of water through their land, undiminished by unreasonable actions of other riparians.

Cooper's case was confirmed by Lord and Darvall cases, which unequivocally adopted the riparian doctrine. These three cases all arose as a result of the scheme to supply Sydney with water from the Botany Swamps. Simeon Lord, along with other colonial manufacturers, had established Botany Bay or Port Botany as a manufacturing district from around 1815. Water mills and manufactories were built upon the streams running from the Botany Swamps into Port Botany. The water in the area was also used for wool-washing. The Crown resumed the land and the creek from several owners in the early 1850s. The cases were all brought by private landholders claiming compensation for their loss of water rights. The plaintiffs had recovered from the defendants the value of the land resumed and damages for the loss of the motive power for their water mills. The question was whether they were entitled to compensation for the loss of water for other purposes as well (such as wool-washing).

From the perspective of the riparian doctrine, the key point at issue in the Lord and Darvall cases was whether a landholder who did not own the bed of the stream had riparian rights. In Mary Lord's case, the court held that:

*The plaintiff, therefore, not having even the prima facie, right to the land over which the creek flowed ad medium filum aquae, with think has no riparian right to use the water which flows by her land [..].*

Mary Lord appealed from the New South Wales Supreme Court to the Privy Council, which held *in obiter* that riparian rights could still exist even when the landowner did

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162 The court would later shift away at least from the requirement that a stream flow continuously, applying the riparian doctrine to ephemeral streams as well (*Moore v Leighton* ('Supreme Court', *Sydney Morning Herald* (Sydney), 16 February 1859, 3)).

163 e.g. *Lord v Commissioners for the City of Sydney* 7 NSWLR Eq. 10; Legge 912, citing *Tyler v Wilkinson* 4 Mason 397, 24 F.Cas. 472.

164 e.g. *Lord v Commissioners for the City of Sydney* 7 NSWLR Eq. 10; Legge 912.
not own the soil over which the water flows.\textsuperscript{165} However, the Privy Council did not decide this question as they held that Mary Lord's grant did in fact include the bed of the stream. The implicit message in the Privy Council decision is that they considered the New South Wales Supreme Court was attaching too much value to potentially unimportant distinctions:

\begin{quote}
It is a question of some nicety, and it so constantly happens that the owner of the bank is also the owner of the land \textit{ad medium filum} that it is dangerous to attribute too much importance to the language either of judicial decisions or text-books, which seem to define the right, where the foundation of it has not come specifically in question.\textsuperscript{166}
\end{quote}

The adoption of the riparian doctrine into New South Wales law in \textit{Cooper v Sydney} and the Lord cases did not place much strain on the core principles of the doctrine. The real test of the doctrine's capacity to respond to the needs of the colony would emerge as disputes arose among groups of pastoralists on runs along the rivers of the colony, from the late 1850s onwards.

\textbf{4.4 Treatment of Crown grant in Cooper's case and Edward Lord's case}

In Cooper's case, the court directed the jury to determine whether the plaintiff's land was held under any grant from the Crown and whether the stream had flowed at the date of that grant. Their intention in doing so was to test whether, when Mr Cooper received his original land grant, the Crown had granted:

\begin{quote}
any casual or accidental advantage, such as that of the enjoyment of water, temporarily overflowing (or which might at times overflow) from underground sources on land remaining the possession of the Crown.
\end{quote}

The implication is that even if Mr Cooper could not claim the rights of a riparian landholder to a flowing stream, he might nevertheless have held rights to the water under the terms of a Crown grant. In this regard, Cooper's case did not come to a settled conclusion.

\textsuperscript{165} \textit{Lord (Mary) v The City Commissioners} (1859) 12 Moore P.C. 473.
\textsuperscript{166} \textit{Lord (Mary) v The City Commissioners} (1859) 12 Moore P.C. 473.
Edward Lord’s case, however, appears to narrow the approach to Crown grants of watercourses that was taken in *R v West* in 1832. Edward Lord’s land (granted originally to Simeon Lord) was a grant of ‘the bed of the stream and lands on both sides of it’. The Crown had reserved ‘any quantity of water [...] as may be required for public purposes’:

> provided always that such water or land, so required, shall not interfere with, or in any manner injure, or prevent the due working of, the water mills, erected [...] on the lands and watercourses hereby granted; and to build within the term of five years, a water mill of a twelve horse power.’\(^{167}\)

The defendant had conceded that Edward Lord was owed compensation for the loss of the workings of the mills under the terms of the grant. However, they disputed whether Lord was entitled to additional compensation for the loss of the amenity of the water.

Edward Lord attempted to argue that the reservation of the water to the Crown in the grant was invalid on the basis that ‘a reservation of water, a thing fleeting in its nature, and not as such susceptible of appropriation could only be taken to mean the reservation of a fishery therein’. As such, he appears to have been attempting to argue that he had an unconditional grant of the watercourse, similar to that which West had received from Governor Macquarie in 1810.\(^{168}\) The New South Wales Supreme Court, however, held that the original grant had not included a grant of water at all. Sir Alfred Stephen held, on behalf of the full court, that:

> But, here, there was nothing granted but land; and no part of that land was excepted. *The stream was not granted, nor could it have been granted.* A qualified right in Lord [the plaintiff landholder] to take it, as proprietor of the soil, passed with the grant; but the water itself, specifically, arising from sources

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167 Lord v Commissioners for the City of Sydney 7 NSWLR Eq. 10; Legge 912; see also Edward Lord v The City Commissioners (‘Supreme Court’, *The Sydney Morning Herald* (Sydney), 28 April 1856, 4). Darvall’s case was similar in this respect, however he had no mill and therefore did not receive compensation for the loss of the water.

168 *R v West* [1832] NSWSupC 79.
beyond the land, and passing thence in continual flow to the ocean, was not susceptible of grant, and, therefore could not be subject of an exemption. 169

The court interpreted the reservation as simply restricting the grantee's right to use the water and retaining rights for the Crown. This finding in Edward Lord's case that the stream could not have been granted appears to contradict R v West, in which case Mr West was granted an exclusive right to use the stream.

The key distinction between the cases was their approach to flowing water. R v West did not explore the complexities of defining access rights to water flowing in a stream. Instead, the court treated the grant as one of the watercourse as a whole. The grant in Edward Lord's case was worded similarly, suggesting that Lord had received a grant to the 'watercourse' subject to a reservation to the Crown. Nevertheless, Sir Alfred Stephen used legal principles which were current at the time, that flowing water was not subject to private property. The focus of the entitlement had shifted from a right to a watercourse to a right to flowing water.

This development has particular consequences when considered from the perspective of Linton's modern water. Linton's theory indicates that modern society has defined water in isolation from the surrounding landscape, redefining it as a manageable and quantifiable substance. Arguably thinking about water as a 'watercourse' inherently proposes a unity between the water and the landscape — that is, the water is not defined as a substance in and of itself. By contrast, the concept of water flowing within a defined channel describes water separately from the watercourse and therefore postulates a partial separation between water and the landscape. Water flowing in a river or stream is still conceptualised within the natural landscape but there is no longer the same unity of water and landscape as the concept of 'watercourse' entails.

This Crown grant (as well as the Crown grant in R v West) could also be seen as providing a form of prior use right. Lord was granted a right to use the watercourse for a specific purpose, on the apparent proviso that he build the water mill of that size within the set timeframe. Presumably the grant would have protected Lord against the

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169 Edward Lord v The City Commissioners ('Supreme Court', The Sydney Morning Herald (Sydney), 28 April 1856, 4 [emphasis added].
encroachment of others on his capacity to use that water. This would fit in with the hypothesis that prior use rights function assist new users to become established and thereby innovate use of the water resource. Moreover, the injunction on Lord to build the mill within five years bears supports the concepts of enterprise and innovation underscoring prior use doctrines. Lord's right to the use of the water was dependent on his development and of that water source for productive purposes.

4.5 Treatment of use-based doctrines: rejection of ancient use and prior use

Cooper's case also discussed whether Mr Cooper had gained a right to the water by ancient use or prescription. The New South Wales Supreme Court doubted the general applicability of this doctrine in New South Wales, because any private lands within the colony would only have recently been granted by the Crown:

Would not the presumption, therefore, of a Crown grant — conveying to an individual the surplus, or casual overflowing of the water from that land — be too violent to be adopted by any tribunal?170

The idea that water users could obtain rights by ancient use returned in three cases in the 1860s — in each of which cases the courts grappled with the idea of establishing long-use given the recent settlement of New South Wales.

The 1860 case, Hood v Sydney Corporation,171 mentions that 20 years' use of a watercourse might of itself create a water right. The plaintiff owned lands in Botany Bay, on which he used a stream for wool-washing. The Sydney Corporation prevented the plaintiff from using the water for this purpose because the plaintiff's business was fouling the water in the watercourse and reservoir. As a direct result, the plaintiff argued that he was prevented from putting his land to beneficial use. The Court decided that the plaintiff would not have an action at common law. His actions in fouling the stream exceeded his riparian rights because they were not reasonable actions and he could not claim ancient use as he had not been using the watercourse for 20 years.

170 Cooper v Corporation of Sydney (1853) 1 Legge 765.
171 Hood v Corporation of Sydney (1860) 2 Legge 1294.
In a water nuisance case in 1865, *Vickery v Marr*, the New South Wales Supreme Court moved starkly away from the applicability of ancient use as a basis for water rights in the colony. The plaintiff owned land in Pitt St on which he ran a mercantile business. The defendant owned land in Castlereagh St, on which there was a ginger beer manufactory. The defendant used a drain to send manufacturing waste and sewerage down onto the plaintiff’s land. The drain had originally been on the site of watercourse, which had long since been excavated, modified and eventually disappeared beneath the growing city. The defendant failed, on two counts. Firstly, if the original watercourse still existed, the defendant would have had a riparian right to use those waters but this right would not have allowed him to pollute them to the extent that he did. Secondly, if the original watercourse no longer existed, the defendant could not succeed on a claim that he had always been used to discharge sewerage down that drain. This was held primarily on the basis that there could be no such thing as immemorial usage within such a young colony.

This conclusion from *Vickery v Marr* was clarified and softened in *Pring v Marina* (1866–1867), a dispute between squatters over water. The New South Wales Supreme Court in *Pring v Marina* rejected prior use. The court held that mere priority of use would confer no right to any diversion or appropriation of water from a flowing stream which was inconsistent with the equal enjoyment of others of the water from such stream in its natural flow. Ancient use was not rejected outright but the court cautioned against its application. Long exclusive enjoyment by a particular user of water, without interruption, could be legal. The user would need to prove that they had had 20 years exclusive enjoyment in a neighbourhood where there are residents who might have interrupted it if they had thought themselves justified in so doing. However, such circumstances would seldom exist in New South Wales and there would be no such presumption from a similar user in a newly settled part of the country.

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172 *Vickery v Marr* ('Supreme Court', *The Sydney Morning Herald* (Sydney), 6 September 1865, 5).
173 *Pring v Marina* (1866) 5 SCR (NSW) 390.
174 *Pring v Marina* is discussed in more detail in Chapter 3.
175 This is consistent with Lord Denman’s emphatic rejection of prior use concepts in *Mason v Hill* (1833) 5 B. & A.D. 2.
176 P.M. Lane notes that the applicability of the doctrine of prescription was further considered and not outright rejected in relation to land in 1904 in *Delovery v Permanent Trustee Co of NSW* (1904) 1 CLR 283 (P.M. Lane,
5. Conclusion

The first half of the nineteenth century was a formative era in New South Wales water law. During these years, a settled water law doctrine slowly evolved, of which the adoption of the riparian doctrine was the key achievement. The central tension was between the Crown and private manufacturing users, as the Crown reclaimed or protected water sources for public use. The Crown had no general role in regulating distribution of water access rights among private users and was instead interested only in reserving specific water sources for the use of the growing cities and towns.

The major missing element during these decades was any broad-scale conflict between private water users. This can be largely attributed to the general lack of development of the manufacturing industry in New South Wales. However, these cases do contain an implied tension between two groups of private manufacturing users: those who sourced their own water and those who wished for a piped mains supply. As such, the role of the Crown in reserving water for public use was not merely directed towards protecting the rights of the general population to water. Crown control over selected water sources also aimed at providing water supplies for city-based manufacturers and private industry — a precursor of the role the Crown would later play in providing the necessary investment to support the development of water resources.

The water disputes in this case study facilitate analysis of two broad categories of water right: use-based rights and land-based rights. The prior use doctrine applied in *French v McHenry* suggests that use-based rights have four broad elements:

1. active possession or modification of the water resource;
2. chronologically held rights;
3. rights are to a defined volume of water; and
4. no necessary connection between the right and the natural landscape.

This thesis suggests that use-based rights may be used for two often contradictory purposes: firstly, to protect an established user, and secondly, to allow a new and

innovative user to establish a claim. Later case studies will investigate examples of use-based water access rights to test this assumption.

This case study also saw a distinct evolution of land-based rights. *R v Cooper* and *R v West* had entailed a relatively undeveloped or unsophisticated approach to describing water access rights: a right to access a watercourse. This approach tended to visualise land and water as one unity. The riparian doctrine allowed a more nuanced understanding of water access rights as rights to *flowing water*. Water was considered to be separate to and distinct from land, defined as a substance in and of itself. However, the water access right was still firmly fixed within the landscape of the river valley. As such, while riparianism had evolved in an industrialised context, it arguably contained inherent limits to development. It would not be not until the second half of the nineteenth century that New South Wales water users and courts started to unpick the realities of water sharing in the arid Australian landscape — in the vastly different context of pastoral disputes over water in inland New South Wales. This would enable the new riparian doctrine and its careful balance of the rights of water users along a stream to be tested within the New South Wales landscape and climate.
Chapter 3

Disputes among pastoralists over water: 'testing' the riparian doctrine (1858 – 1896)

1. Introduction

In second half of the nineteenth century, conflict emerged among pastoralist and settlers, especially over dam-building on shared streams. This was a testing ground for the riparian doctrine in New South Wales, as well as a partial driver towards the legislative reforms at the end of the century. Riparianism had been accepted into New South Wales common law in the 1850s but its interpretation in Australian social, economic and environmental conditions had yet to be determined. The pastoralist water disputes in the second half of the century were crucial to determining how the New South Wales Supreme Court would apply the doctrine to water-sharing disputes between multiple users along a stream. This chapter focuses in particular on the capacity of the riparian doctrine, a strongly landscape-based doctrine, to deal with an increasing tendency towards development of water resources.

This chapter introduces the key elements in the conflicts between pastoralists by first discussing an 1839 case, *Hallen v King*. This case is a useful starting point for identifying key issues that would emerge after 1850. The case study then outlines the economic background to the water disputes that arose from the 1850s onwards. The chapter

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1 The term 'settler' is generic and can refer to new inhabitants into rural Australia from a wide range of sources and programs (J.M. Powell, 'Patrimony of the people: the role of government in land settlement', in R.L. Heathcote (ed.), *The Australian experience: essays in Australian land settlement and resource management* (Longman Cheshire Pty Ltd, 1988) 14, 14). This thesis uses the term 'pastoralist' to refer to graziers who occupied large tracts of the inland for sheep and cattle; many of these were 'squatters', illegal settlers who occupied land without Crown approval. The term 'landholder' is broader, referring to any occupant or owner of land. Other waves of settlement included 'free selection', which was an attempt in the second half of the nineteenth century to establish closer settlement and more intensive agriculture, and the establishment of 'irrigation settlers' into irrigation colonies from the 1890s onwards.
then considers the tensions between pastoralists and free selectors over access to water. The latter part of the chapter examines history of water conflicts among pastoralists between the 1850s and 1880s, focusing on flashpoints of dispute:

- the emergence of the first concentration of disputes along the Billabong Creek in the late 1850s;
- the resurgence of conflict in the Lachlan and the Billabong in the mid–late 1860s; and
- the spread of scattered disputes across the colony in the 1870s and 1880s, including into the western district.

The defining element of these water sharing disputes was a disjuncture between legal doctrine and water users' practice on the ground. As a result, the colonial state played a marginal role in either resolving the conflicts or determining end users' water access.

2. Hallen v King: an early pastoralist water dispute

In 1839, *Hallen v King* was litigated in the New South Wales Supreme Court between two pastoralists. Mr Hallen, the plaintiff, and Mr King, the defendant, both held runs outside the borders of the colony, described by the court as being located at Green Bark Creek on the 'Big River'. The Big River was the Clarence River, in the northern rivers district, an area which had only recently been explored and colonised by white settlers. Mr Hallen's complaint was that Mr King had trespassed on his run. King's actions included breaking the dam which Hallen had constructed for £100 in order to wash his sheep and driving sheep through the creek in order to muddy the water. According to the plaintiff's case, the defendant had also threatened to put his sheep into 'every waterhole', preventing the plaintiff from watering his stock.

In his defence, Mr King argued firstly that Mr Hallen was not in possession of the run and secondly that he had removed the dam because 'it had the effect of preventing

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2 *Hallen v King* [1839] NSWSupC 47 per Stephen J; see also 'Civil Side', *The Sydney Monitor and Commercial Advertiser* (Sydney), 10 July 1839, 2; 'Hallen v King', *The Colonist* (Sydney), 10 July 1839, 3.

3 Exploratory trips were being undertaken in 1839 (see e.g. 'The Big River', *The Sydney Gazette and New South Wales Advertiser* (Sydney), 30 April 1839, 2). The Clarence region in the 1830s was still on the frontier of invasion; on conflict between expansion of pastoralism and Indigenous people, see Geoffrey Blainey, *A land half won* (Sun Books Pty Ltd, 1982) 72–98.
the water from running down the river [Green Bark Creek] to the place where the
defendant washed his sheep'. The case was decided using land law principles.
Stephen J\(^4\) held that the foundation of the action of trespass was possession:
'possession is a *prima facie* title, and the possessor of land or a house can resist every
person who cannot prove a title'. Thus, in the absence of Mr King holding an authority
from the Crown to occupy the land, Stephen J instructed the jury that if they found
Mr Hallen to have actually been in possession of the run, then they would need to
decide in his favour. The case does not discuss the parties' water rights separately
from land and as such appears to simply assume that a right to the land included a
right to the water.\(^5\)

Stephen J rejected Mr King's second line of defence that he had destroyed the dam in
order to protect the flow of water past his own downstream property, on the
procedural basis that the defendant needed to have given the plaintiff notice of his
intention to plead it. While it was not applicable here, however, Stephen J did not
reject this defence outright. Disputes later in the century focused on the actions of
downstream run-holders 'cutting' (breaking down and destroying) the dams of
upstream run-holders. Therefore Mr King's attempted defence that he needed to
break the dam so that he might enjoy his own water rights is a pre-cursor of the water
disputes that would later shape water conflicts. Mr King's apparent deliberate
targeting of Mr Hallen's water supply in order to drive him off his run also indicates the
crucial importance of water to pastoralist landholders.

The jury returned a verdict for Mr Hallen and awarded damages of £200. The case did
not raise a great deal of interest in the media at the time.\(^6\) By contrast, later in the
nineteenth century, disputes over 'dam breaking' would become controversial and
publicised, including driving a series of attempts at legislative reform.

\(^4\) Stephen J was on the bench for *R v West* and some though not all of 1850s riparian doctrine cases in Sydney. He would later become Sir Alfred Stephen, chief justice of the Supreme Court, and would preside over three of the most important riparian rights decisions for pastoralists: *Moore v Leighton* (1859), *Pring v Marina* (1866–1867) and *Howell v Prince* (1869). In his role as a member of the Legislative Council, Stephen would also comment on water reform proposals towards the end of the nineteenth century.

\(^5\) This decision is akin to the contemporaneous manufacturing cases *R v Cooper* [1825] NSWSupC 9 (12 February 1825) and *R v West* [1831] NSWSupC 66 (12 October 1831); [1832] NSWSupC 79.

\(^6\) see for example the lack of interest expressed in the Sydney media: 'Civil Side', *The Sydney Monitor and Commercial Advertiser* (Sydney), 10 July 1839, 2
3. The background to the disputes

Pastoralism’s golden age was 1820–1850 and, as *Hallen v King* indicates, there was some degree of conflict between pastoralists over water during this time. The first concentration of water rights litigation involving graziers arose in the late 1850s. The drivers of this conflict can be found in the economic conditions faced by pastoralists at this time. Disputes were driven by a compound of three interrelated economic, social and geographical factors:

1. the intensification of pastoral production itself, driven by competition;
2. the geographic expansion of pastoralism into the arid interior; and
3. the threat posed by closer settlement to pastoralists’ land and water security.

Primary production had been important for the Australian colonial economy from the first days of European settlement but faced serious hurdles. The colony’s small population meant that while there was a large amount of land available for agricultural production, the domestic market was small and there was little available labour. The solution was wool production. Sheep grazing required large tracts of land but little labour. Wool could also be transported the long voyage back to Europe where it was used in the growing English textile industry. Pastoralists expanded into the inland without Crown approval, thus becoming known as ‘squatters’. This was a frontier of invasion, creating *de facto* private property by the dispossession of the Aboriginal owners, justified on the basis of the *terra nullius* doctrine.

In the early days of pastoral expansion, pastoralists entering the industry or expanding their operations had occupied land that was relatively well-watered. Taking advantage

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8 *e.g.* *Hallen v King* [1828] NSWSupC 6.
of the lack of competition from other European settlers, pastoralists concentrated their landholdings along the river frontages. They fanned out 'along the inland rivers, appropriating the frontages and carving out huge runs along the waterways'.12 This was a sparse use of the land, which rendered country that was not within four miles of a permanent watercourse unusable by others.13 Production was technology unintensive, with minimal construction of works to retain water in the landscape.14 Instead, graziers relied on their large runs, the mobility of their flocks and their strategic occupation of the watercourses.

From the mid-nineteenth century onwards, however, there were substantial changes in pastoral production and the relationship between pastoralism and the landscape. The years 1860–1890 have been described as 'the second pastoral age'.15 Between 1855 and the 1870s, wool prices rose, in turn stimulating expansion in the size and number of sheep flocks.16 Expansion of the pastoral industry in the 1850s encountered increasing competition, however. All riverside land in eastern Australia had been occupied by European settlers and the pastoral frontiers needed to expand into the arid west in search for sheep pasture.17 Those settlers moving westwards encountered greater water scarcity and the history of water conflict tracks this westward-moving frontier. By the 1880s, water disputes were occurring among pastoralists as far west and north as Broken Hill and Brewarrina.

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12 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988), 52; see also Erica Nathan, 'pastoral "runs" wrapped around creeks, bordered the river, edged the swamps and included permanent springs, so there was little need to manipulate the water resource' (Erica Nathan, Lost Waters: a history of a troubled catchment (Melbourne University Press, 2007) 10).
13 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988) 52–53.
14 This was partly a result of precarious land tenures; lacking secure tenure, pastoralists did not want to invest in 'clearing, draining, fencing, cultivation or water supply' (J.M. Powell, Watering the Garden State: water, land and community in Victoria 1834–1988 (Allen and Unwin, 1989) 42). This was also as a result of a mode of production designed around obtaining maximum outputs from minimal inputs: 'The economics of sheep production were essentially based on increasing the size of the flock in the shortest possible time and the lowest possible cost of shepherds' wages and station supplies. Clearing and paddock fencing were considered unnecessary expenses' (Matthew Colloff, Flooded Forest and Desert Creek: ecology and history of the river red gum (CSIRO Publishing, 2014) 129).
In the east, pressure on land and water resources became more intense, as squatters' landholdings opened up to closer settlement via free selection. The 1850s and 1860s saw a battle over land and political reform, which challenged squatters' political and economic power. Between 1845 and 1850, the population of New South Wales had grown from 280,000 to 400,000 (an increase of 71%) and by 1860, as a result of the goldrush, the population had grown to 1,150,000 (an increase of 188%). The following decades saw state-sponsored attempts to settle the land to more close agriculture. Closer settlement had partly to do with resolving the class tensions that emerged at the end of the goldrush — as large numbers of unemployed labourers came off the goldfields — as well as establishing a more permanent, cultivated farming industry.

This closer settlement placed great pressures on the pastoralists and was a direct cause of water conflicts between squatters and selectors over water. The disputes between squatters and selectors were reported in the media and debated in parliament, but do not appear to have been litigated or to have had a substantial effect on the development of the water law. However, the pressure on squatters was not only from direct competition over resources. Much of the land released for selection was acquired — illegally and legally — by squatters purchasing back their own runs. Wells writes that 'from 1872 and 1873 squatters were forced into widespread strategic purchases of their runs to ward off the ever-encroaching selectors.' This too placed financial burdens onto the pastoralists, as they had to start operating on an even footing with other landholders. This greater competition, at the

22 Emily O’Gorman, Flood country: an environmental history of the Murray–Darling Basin (CSIRO Publishing, 2012) 71; Graeme Davison sees the move towards closer settlement as having arisen out of an idealised memory of England as a 'green, well-watered land of farms and villages', with a 'solid base of farms, villages and small towns' (Graeme Davison, 'Country life: the rise and decline of an Australian ideal', in Graeme Davison and Marc Brodie (eds), Struggle Country: the rural ideal in twentieth century Australia (Monash University ePress, 2005) 1, 1).
same time as high wool prices were driving the expansion of production, caused increasing development of water resources.

The years 1871–1890 saw a marked increase in the level of investment in the pastoral industry\(^\text{24}\) as production became increasingly capital intensive. The environment was 'increasingly modified, dominated and rendered accessible to human exploitation'.\(^\text{25}\) Pastoralists also sought to develop the 'back country', the relatively unwatered lands behind the riparian frontages. The first dams for pastoral purposes had been built possibly as early as the 1820s\(^\text{26}\) but only became widespread in the 1850s and 1860s. A direct chronological and geographical connection can be found between the commencement of large-scale disputes along the inland creeks and rivers and the intensification of production from the mid-1850s onwards. The earliest concentration of dams — built to provide stock and households with a more permanent water supply and for wool washing — occurred in the Riverina\(^\text{27}\) in the mid–late 1850s,\(^\text{28}\) triggering the first widespread disputes between pastoralists over dams.\(^\text{29}\) These disputes died down when floods washed all the dams away in 1860.\(^\text{30}\)

These disputes were either between one downstream landholder against an upstream landholder or, more frequently, involved the community of downstream riparian landholders against a smaller number of upstream landholders. A key dynamic within this conflict was the downstream landholders' complaint that individual upstream landholders had, by building larger storages and diverting water away from the channel, unjustly monopolised the water.


\(^{26}\) Clem Lloyd, *Either drought or plenty: water development and management in NSW* (Department of Water Resources NSW, 1988) 55.

\(^{27}\) The Riverina is an area of south-west New South Wales, located around the lower river floodplains on the Murray, Murrumbidgee and Lachlan rivers. The Riverina had a strong self-identity and at times in the nineteenth century attempted to secede from New South Wales.

\(^{28}\) Clem Lloyd, *Either drought or plenty: water development and management in NSW* (Department of Water Resources NSW, 1988) 56.


4. Conflict between squatters and selectors over water

Evidence of conflict between pastoralists and free selectors over water can be found from the mid-1860s up until the late nineteenth century. The year 1865–1866 was a high point in the conflict. Both selectors and squatters attempted to control access to water. Squatters did this by a process known as 'peacocking', whereby dummy selectors would buy up all the water frontages, the waterholes and the best land. The selectors, similarly, 'wanted the best land, including the best access to water, and became known as cockatoos'.

These conflicts were characterised by the desire of squatters to retain their monopoly over land and water. To do so, squatters and their allies appear to have drawn in particular on the argument that their initiative in building and maintaining water infrastructure entitled them to a species of prior use rights — i.e. that the capital investment they had made in water works should create a monopoly to the watercourses. At times, they also attempted to leverage their greater landholding to gain greater rights over the water resources of a district. To counter the economic power of the squatters, selectors argued that they had equal rights to the water and may have argued for a public right to the rivers. The water disputes between pastoralists and selectors took place within a broader context of debates over land tenure and land reform more generally.

Squatters' priorities were to protect their access to the rivers from the encroachments of the selectors, in an attempt to preserve their monopoly of access to the streams. On some occasions they tried to do so by brute force. For example, in 1896, a group of

33 1860 NSW election campaign was fought over land reform (Bruce Kercher, An Unruly Child: a history of law in Australia (Allen and Unwin, 1995) 126). See also Tom O'Lincoln on the political debates over land reform in the 1850s and 1860s (Tom O'Lincoln, The Squatters in Colonial Australia, Marxist Interventions, <www.anu.edu.au/polsci/marx/interventions/squatters.htm>).
selectors wrote to their member of Parliament complaining that regular patrols by the local squatters' stockmen were denying their cattle access to the river.34

The summer 1865–1866 was a flashpoint of dispute between selectors' and squatters in relation to access to water. The Alienation of Lands Act 1861, which enabled conversion of land held by squatters on Crown lease to freehold, allowed for reservations or exemptions to be made from free selection. The Governor might reserve or dedicate public reservoirs, aqueducts or watercourses for the preservation of water supply.35 Debate erupted in late 1865 over a large number of reserves made, including 280 square miles on the Billabong and 235 square miles on the Yanko Creek, both of which were important water sources in the Riverina district.36 Selectors' advocates responded furiously, arguing that all the most valuable portions of agricultural land had been removed from free selection, likening the government's actions to the enclosure of lands in England.37

The government made two broad defences. First, that the reservation was necessary for the public benefit. Mr John Robertson, Minister for Lands, said that:

*The reservations were made for the sake of the public estate, so that neither the free selector on the one hand, nor the squatter on the other, should be able to pick out the eyes of the country.* 38

Second, Mr Robertson defended the reservations on the Yanko Creek more particularly as being justified by the actions of the leaseholder 'having taken up back country and waterless plains, and, at great cost having supplied them with water by artificial means'. 39

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34 Mr Moore, member for Bingara, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).

35 s.5 Alienation of Lands Act 1861 (NSW).


37 See e.g. 'Mr Cowper v Free Selection', Queanbeyan Age and General Advertiser (Queanbeyan), 4 January 1866, 3; 'Strangulation of Free Selection', Clarence and Richmond Examiner and New England Advertiser (NSW), 9 January 1866, 3; 'The Reserves', The Goulburn Herald and Chronicle (Goulburn), 2 June 1866, 3.

38 'The reserves from sale', The Maitland Mercury and Hunter River General Advertiser (Maitland), 6 January 1866, 4.

39 'Mr Robertson's Meeting', The Maitland Mercury and Hunter River General Advertiser (Maitland), 18 January 1866, 3.
Squatters’ advocates similarly attempted to justify the reserves by reference to the enterprise and industry that pastoralists had put into developing these water sources. In relation to the Yanko Creek, for example, it was noted by Mr Forlonge (member for Orange) that:

_There was a cutting of several miles in length, on which £20,000 had been expended. Dams had also been erected by those gentlemen who now held the runs. If no protection was to be awarded in cases where so large an amount of private capital had to be expended, there would be little inducement to squatters to render valuable the greatest portion of the county which was valueless without the expenditure of capital and labour._\(^{40}\)

Squatters argued that they should not be expected, without security of tenure, to invest capital ‘in procuring water as a base for the settlement of the free selector’.\(^{41}\) As such, pastoralists were effectively arguing that where they had ‘improved’ a water source, they should obtain exclusive water rights on the basis that this water was ‘to all intents and purposes, artificial’.\(^{42}\)

A series of three articles appeared in the _Sydney Morning Herald_ in 1866, written from the squatter perspective and calling for water reform. The author complained of the impact that this closer settlement of the land had on water security of pastoralists:

> [H]alf-a-dozen men paying their £20 each, may go and settle down along the course of water conserved by the industry of the squatter, or round a well sunk by him on a waterless back plain, and so destroy the access of the stock to that

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\(^{40}\) ‘Legislative Assembly’, _Empire_ (Sydney), 22 December 1865, 2–4.

\(^{41}\) ‘The Pastoral Interest’, _The Sydney Morning Herald_ (Sydney), 20 January 1866, 7.

\(^{42}\) ‘The Pastoral Interest’, _The Sydney Morning Herald_ (Sydney), 20 January 1866, 7. The common law had separate rules in relation to artificial watercourses (canals, mill races, mine drainage channels), which in general granted more exclusive rights to landholders to block or divert the passage of water (in general, see Alex Gardner, Richard Bartlett and Janice Gray, _Water Resources Law_ (2009, LexisNexis Butterworths) 156–157). English caselaw does not appear, however, to be particularly apt to this scenario, however, in that rather than focusing on a water user’s right to protect artificially stored water, the cases instead deal with rights to artificial flows, such as mine drainage (e.g. could a person using a drain complain if a person higher up stopped the flow of water). Key cases in this regard include _Arkwright v Gell_ (1839) 5 M.&W. 203; _Magor v Chadwick_ (1840) 11 A.D.&E. 570; _Wood v Waud_ (1849) 3 Ex. 748; _Beeston v Weate_ (1856) 5 E.L.&B.L 986; _Greatrex v Hayward_ (1853) 8 Ex. 291. See also _Laing v Whaley_ (1858) 3 H.&N. 674 which discusses rights to access the water of a canal. A guiding thread running through these decisions is that courts were more likely to protect downstream users’ rights to artificially flowing water if the stream was older or more permanent.
water which their owner has at so great expense provided for their sustenance.\footnote{The conservation of water and the legislation affecting it', \textit{Sydney Morning Herald} (Sydney), 28 May 1866, 5.}

This complaint against the selectors was quite disdainful and had a clear class content, the author suggesting that free selection had enabled 'any dismissed drunken labourer to gratify his spite' by taking up land directly next to the squatters' dams and wells.\footnote{The conservation of water and the legislation affecting it', \textit{Sydney Morning Herald} (Sydney), 28 May 1866, 5.}

Underlying this complaint was the implicit belief that the squatters in question had obtained rights to water on the basis of the effort and expense they had undertaken to build water access and storages. The writer proposed to ensure squatters security over their water works by an amendment to the \textit{Alienation of Lands Act 1861}:

\begin{quote}
Wherever water has been preserved by artificial means at the expense of the holder of a run, a reserve from free selection shall be made along the channel or reservoir containing such water; said reserve to have a depth of one mile on each side of such channel or round such reservoir.\footnote{The conservation of water and the legislation affecting it', \textit{Sydney Morning Herald} (Sydney), 28 May 1866, 5.}
\end{quote}

If enacted, this statutory water right would have provided crude protection of and exclusive right to water supply works.

The squatters were using use-based reasoning to claim that their water storage works should be reserved for their exclusive use alone. There were two bases for this claim. Firstly, leaving aside the prior — and better — claims of the Indigenous landholders, the squatters considered that they had 'got there first'.\footnote{see e.g. Bruce Kercher, that the real attack on property rights was by squatters when they 'marched across Aboriginal land and established their runs regardless of the rights of those had occupied it for thousands of years' (Bruce Kercher, \textit{An Unruly Child: a history of law in Australia} (Allen and Unwin, 1995) 128.).} The Australian \textit{terra nullius} doctrine had justified the dispossession of the Indigenous inhabitants and could be in fact said to have performed a similar function to the common law prior use doctrine's re-definition of flowing waters as \textit{res nullius} (i.e. empty of property rights). Secondly, squatters' claimed that they should have priority on the basis of their 'improvement' of the water source.
In 1878, Mr James Squire Farnell\textsuperscript{47} proposed a different approach, which would have allowed squatters greater control over the rivers on the basis of their greater landholdings. Mr Farnell's water bill proposed the establishment of water trusts to concentrate and centralise control over water within a geographical area. Squatters would have been given greater powers than selectors to control the trust. An opinion article in \textit{The Maitland Mercury} doubted that his scheme would work, due to the enmity between selectors and squatters, which was described as a 'serious obstacle':\textsuperscript{48}

\begin{quote}
\textit{We allude to the want of harmony between free selectors and pastoral tenants of the Crown. These two parts of a country community are not likely to unite in a common petition.}\textsuperscript{49}
\end{quote}

The Bill was framed to give great power to squatting interest: the greater the value of a landholder’s land, the more votes they had within the water trust:

\begin{quote}
\textit{Here, as under the Municipalities Act, the interests of property are concerned, and property should have due representation. But the free selector will look upon the advantage which the cumulative vote gives wealth against numbers as an offence.}\textsuperscript{50}
\end{quote}

Mr Farnell's bill was an early example of an attempt to develop centralised or cooperative means of regulating access to water resources — in this case, in the hands of the powerful squatting class.

By contrast, the concept of equality was at the heart of selectors' claims to rights to access water. Arguably, selectors and their advocates needed the rhetoric of equality to counter the greater economic and political power wielded by pastoralist interests. One of the problems faced by selectors was that their landholdings did not always extend to the river. For example, during debates in 1896, Mr Moore, member for Bingara, raised the concern that the Water Rights Bill did not adequately address the

\begin{flushright}
\textsuperscript{48} 'The Water Conservation Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 19 November 1878, 4.
\textsuperscript{49} 'The Water Conservation Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 19 November 1878, 4.
\textsuperscript{50} 'The Water Conservation Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 19 November 1878, 4.
\end{flushright}
question of frontages to the watercourses. Selectors in his constituency were facing
the problem that where the frontages of their selections did not run right into the
river, the squatters who held the lease surrounding their selection would sue them for
trespass the moment they moved outside their boundary to get to the river.51
A number of selectors in his constituency had written to him that:

We find it necessary to leave our front gates open to allow our stock to get to
the river, as they require three or four drinks every day in the summer. [...] As
the station stockmen patrol the river bed every day they threaten to impound
our stock if we do not shut them up. What we want to know is whether the
squatter has any right to interfere with any stock? Have we not a just right to
the river too, as far as the centre of the running water?52

If the selectors' landholding did not extend at least to the bank of the river, then they
would have no rights under the riparian doctrine.

Selectors do not appear to have been parties to litigated water disputes to any great
extent,53 potentially because they did not have the resources to take legal action.
As far as the water law is concerned, therefore, the simmering tension between
selectors and squatters in the second half of the nineteenth century in relation to
water is a side story.

5. Water disputes along inland waterways in the 1850s

Water disputes among pastoralists were much more significant. The first concentration
of disputes occurred in 1858 and 1859.54 These disputes were not resolved by
reference to the common law riparian doctrine, despite its adoption into the colony in
1853. Instead, the disputants resorted instead to extra-legal means, such as the violent
removal of offending dams and attempted resolution through publically negotiated

51 Mr Moore, member for Bingara, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative
Assembly).
52 Mr Moore, member for Bingara, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative
Assembly).
53 There is a reference to selectors being the key objectors to Samuel M'Caughey's dam on the Billabong in 1897
in the Blackwood v McCaughey litigation ('Water rights', Barrier Miner (Broken Hill), 28 October 1897, 2)
however this reference would seem to be fallacious in that the named objectors in that case were squatters.
54 Also referred to as the 'Billybong' or 'Billibong', now known as Billabong Creek.
agreement. Also in 1859, in an apparently unrelated case, the New South Wales Supreme Court needed to decide a dispute involving the diversion of a stream and the adverse implications for a downstream water user who had relied on that stream (Moore v Leighton). This case developed the riparian doctrine in the context of ephemeral streams, thereby indicating willingness on the part of the New South Wales Supreme Court to consider how the riparian doctrine's 'natural flow' concepts would operate in the Australian climate.

These two unrelated water disputes mark the start of a decades-long disjuncture between the law and water use and conflicts on the ground. This case study explores the dimensions of this discord, examining the development of the riparian doctrine by the New South Wales Supreme Court alongside the parallel emergence and out-of-court resolution of multi-party water conflicts along the inland rivers and tributaries.

5.1 Water disputes emerged in the Riverina

The first concentration water conflict between pastoralists was on the Billabong in the Riverina. The Billabong Creek is a tributary of the Edward River and can also receive water from the Murrumbidgee via the Yanko Creek. The Billabong was described at the time as being a sluggish and tortuous watercourse, a 'mere channel without deep waterholes' which flowed for about two months annually and only flowed its full length in extremely wet years.

The conflict coincided with the intensification of pastoral production and the construction by riparian landholders of dams across the stream. The suggestion in the

55 Dam cutting was not limited to New South Wales. For example, in 1877, dam cutting was reported on the Gunbower Creek in Victoria in the Murray River catchment ('Cohuna', Riverine Herald (Moama and Echuca), 14 July 1877, 3). Dam breaking and forceful self-help also occurred in England and the United States in the context of industrialisation. For a discussion of dam-breaking in the industrial United States, see Theodore Steinberg, 'Dam-Breaking in the 19th-Century Merrimack Valley: Water, Social Conflict, and the Waltham-Lowell Mills', (1990) 24(1) Journal of Social History 25. See also Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004) 338.


57 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5.

58 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5.

59 'Edward River District', The Sydney Morning Herald (Sydney), 15 November 1858, 5.

60 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5.
media at the time was that dam-building had started on a serious scale approximately one decade earlier and had not caused tensions. The first suggestion that dams should be cut appears to have been in 1857. Further tensions over dams on the Billabong were reported in March 1858:

No sooner does the water reach the different stations than it is caught by the ‘dams’ erected by some of the settlers. These dams extend right across the stream; those settlers who live on the lower ends of the creek complain that the parties so obstructing the water are doing so illegally.

Threats of legal action and of dam-breaking were made. The riparian landholders down the lower end of the stream had three broad complaints:

1. that it was illegal to obstruct the water by dams in any instance;
2. that if dams were to be erected, they should be of a 'reasonable height' so as to allow the water to overrun them; and
3. that no party had a right to do more than save the 'backwater' — i.e. no dam should abstract more water from the creek than could be held in the dam itself.

The concerns of downstream landholders grew throughout 1858. The dams were first cut on 5 November 1858. The dam-breakers, Mr Ricketson and two others, were summonsed to appear at Deniliquin for 'maliciously and unlawfully cutting away' Mr Desailly's dam. The dam-owners resurrected their dams and later in November, dams owned by the Desailly brothers and by a Mr Brodribb were again cut away by a party of 12 or 13 men bearing picks, spades and axes. One of Mr Brodribb's dams was 90 feet across. This matter was referred to the police court at Deniliquin for legal
resolution\textsuperscript{69} and at this stage the situation along the Billabong was especially tense. The Sydney Morning Herald correspondent reported that:\textsuperscript{70}

\begin{quote}
I hear that parties owning stations on the lower portions of the creek are disposed to cut down all the dams on the Billybong; those who own the dams are also, I hear, determined to resist by force of arms. There is, therefore, a prospect of bloodshed. The Government will have to see to the affair without delay.
\end{quote}

It is unclear whether the correspondent was being over-melodramatic, although there is a reference from early 1859 of Mr Desailly having erected a 'wooden fort [...] with port-holes' with which to defend his dam.\textsuperscript{71}

In December 1858, pastoralist Mr Ashcroft as well as the superintendents employed by pastoralists Mr McGregor and Mr M'Bean were all summoned to answer the charge laid by Mr Brodribb of willful destruction of property.\textsuperscript{72} The case was finalised in January 1859, Mr Peter McGregor, Mr James Ashcroft and Mr Edward Ashcroft being tried for riot and disturbing the peace. The jury found the three men all not guilty\textsuperscript{73} and they later brought an action against the magistrates for false imprisonment.\textsuperscript{74}

Given the charge was a criminal charge for breach of the peace, there was no need to discuss the legality of the dams or their removal by the downstream landholders. None of the parties in the case relied on riparian rights. There were, however, some interesting \textit{obiter} comments during the trial about water rights. The counsel for the defendants argued in favour of their rights to cut away dams higher up the streams, suggesting that Mr Brodribb 'talked nonsense when he said the erection of his dam did not keep water from his neighbours below':

\textsuperscript{69} 'Edward River District', \textit{The Sydney Morning Herald} (Sydney), 15 November 1858, 2; 'M'Gregor v Kelly and others', \textit{Empire} (Sydney), 17 November 1860, 5.
\textsuperscript{70} 'Edward River District', \textit{The Sydney Morning Herald} (Sydney), 15 November 1858, 2
\textsuperscript{71} 'Edward River District', \textit{The Sydney Morning Herald} (Sydney), 7 January 1859, 2–3.
\textsuperscript{72} 'Edward River District', \textit{The Sydney Morning Herald} (Sydney), 4 December 1858, 5; see also Clem Lloyd, \textit{Either drought or plenty: water development and management in NSW} (Department of Water Resources NSW, 1988), 56–57.
\textsuperscript{73} 'Riot near Deniliquin', \textit{The Goulburn Herald and County of Argyle Advertiser} (NSW), 15 January 1859, 2.
\textsuperscript{74} 'Deniliquin', \textit{Empire} (Sydney), 20 September 1860, 3; 'Tanks and Dams', \textit{The Sydney Morning Herald} (Sydney), 24 December 1885, 5.
[He] might as well have said that water will not find its own level. It is a natural right to have water that flows by your own property, and they felt that their natural rights were invaded. Although Mr Brodribb had a right to such water as he required by lawful means, he fails the moment he creates a dam and deprives his neighbours of what belongs to them.\(^75\)

The chairman of the court was, however, unsympathetic to this argument, stating, somewhat categorically, that 'Mr Brodribb or any other person would be justified in putting up a dam in the creek running through his own property and I cannot understand how it could be considered a nuisance'.\(^76\) It was not, however, a question that needed to be entered upon for the case at hand.

There were occasional comments in the public debate that all dams on the Billabong should be removed.\(^77\) Lloyd reports that there was a 'general feeling' that dams should not be constructed at least on intermittent watercourses.\(^78\) Downstream landholders especially raised concerns that if dams were too high, given how flat the country was, they would divert the flow of water across the countryside:

\[They\] say that some of the dams are so high that tens of thousands of tons of water are allowed to overrun the flats in the immediate neighbourhood when the water would, if left to its natural course, go down the stream.\(^79\)

In 1859, the builders of 'formidable dams' were accused of cutting the banks of the creek to force water upon their back country, thus 'exhausting' a supply which 'amply sufficed for all parties'.\(^80\)

In complaining about inundation of 'back country', it is unclear the extent to which the downstream landholders were normalising in-channel flows. The Billabong, Yanko and Colombo creeks were largely ephemeral and would naturally have flowed out across a

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75 'Riot near Deniliquin', *The Goulburn Herald and County of Argyle Advertiser* (NSW), 15 January 1859, 2.
76 'Riot near Deniliquin', *The Goulburn Herald and County of Argyle Advertiser* (NSW), 15 January 1859, 2.
77 see e.g. 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2.
79 'Edward River District', *The Sydney Morning Herald* (Sydney), 9 March 1858, 5.
80 'The Billybong Dams and Dam-Breakers', *Wagga Wagga Express and Murrumbidgee District Advertiser* (NSW), 12 February 1859, 2.
broad floodplain at high flows. From the mid-nineteenth century onwards, pastoralist landholders constructed works to straighten and deepen channels. In the 1850s, the Yanko Cutting had been undertaken to give the water along the Yanko a more direct course and prevent large amounts of 'waste' (by which was meant the loss of water onto the floodplain). The diversion of water by upstream landholders onto the back country may therefore have in fact more closely resembled the natural flow patterns of the watercourse than the preferred flow pattern of downstream landholders that water would remain in the channel.

The general concern of the community of landholders along the creek appears to have been that some dams at least were acceptable and necessary but that upstream landholders should not be able to take more than their fair share of the water. For example, it was reported in November 1858, that:

*one gentleman on the upper part of the Billybong has inundated for miles [...] his station with water from his dam or dams, while those below, who are now fighting for water, have scarcely sufficient even to wash themselves.*

There were complaints of upstream dam-owners monopolising and wasting the water, expressing the inherent belief that all landholders had equal rights to the water. For example, one of the dam-breakers, Mr Henry Ricketson, asserted that if there were no dams, there would be sufficient water in the Billabong to supply all parties for four months of the year. Interestingly though, at this point in time, there were at least 23 stations on the Billabong — 145 miles of water frontage — which depended on dams for a summer water supply. Approximately 25–30 dams were

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82 'Edward River District', *The Sydney Morning Herald* (Sydney), 9 March 1858, 5.
83 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2.
84 see e.g. 'Edward River District', *The Sydney Morning Herald* (Sydney), 7 January 1859, 2–3; 'The Billybong Dams and Dam-Breakers', *Wagga Wagga Express and Murrumbidgee District Advertiser* (NSW), 12 February 1859, 2.
85 'Edward River District', *The Sydney Morning Herald* (Sydney), 7 January 1859, 2–3.
86 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2. The stations and station-owners with dams were cited at: (1) Rand, Mobinga; (2) Brown; (3) North (Gunanbill); (4) Atkin (North Gunanbill); (5) Glass (Nonrannil); (6) John Broughton; (7) William Broughton; (8) Brennan; (9) James Kennedy; (10) Desailly brothers; (11) Patrick Brougham; (12) John Brougham; (13) Ransthorne; (14) M‘Kenzie; (15) Dun; (16) William Brodribb; (17) Peppin and Sons; (18) Box; (19) Ricketson; (20) Herbert (Clear Hills); (21) Gwynne; (22) Ashcroft; (23) M‘Bean.
The chief dams affected by the dam-breaking were those of Brodribb and Desailly. However, at least four of the stations charged with dam-breaking themselves relied on dams throughout the summer (M’Bean, Ashcroft, Ricketson and Dun).

The conflict in 1858–1959 was resolved outside the law and as such there was no chance to test the new riparian doctrine in this context of multi-party disputes along a stream. Instead, participants mostly resorted to non-legal means of protecting their rights — especially by what Harris terms 'violent self-help' (dam-cutting) or by public negotiation. The failure of the riparian doctrine to operate in relation to these disputes may have had a significant impact in on public perceptions of the law, feeding the belief that had arisen at least by the mid–late 1860s that the law was 'unsettled'.

Despite the clear tension among riparian landholders at this stage, it is valuable to also note the degree of cooperation that occurred among landholders. Downstream landholders worked together to break Brodribb and Desailly's dams and other neighbours attempted to operate as 'go betweens', trying to resolve the dispute without violence or destruction of property. Moreover, the pastoral community also came together at least two public meetings to publicly negotiate and agree a compromise for the entire Billabong. In November 1858, a public meeting was held at Conargo to attempt to resolve the question by public mutual consent. This meeting unanimously resolved that:

87 'M'Gregor v Kelly and others', *Empire* (Sydney), 17 November 1860, 5.
89 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2.
91 see e.g. 'The Billabong Dam', *The Sydney Morning Herald* (Sydney), 6 February 1868, 4.
92 At times, landholders also cooperated on constructing works (such as the Yanko cutting). In the 1850s in Victoria, squatters joined forces to dam and divert the Wimmera River (J.M. Powell, *Watering the Garden State: water, land and community in Victoria 1834–1988* (Allen and Unwin, 1989) 44).
93 see e.g. 'Edward River District', *The Sydney Morning Herald* (Sydney), 7 January 1859, 2–3.
94 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2; see also 'Water Supply in the Interior', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 11 April 1867, 2 which noted that 'a number of the squatters in the Deniliquin district recently laid down formally by agreement the principles to guide them in these matters'.

[E]ach station holder on the creek should be allowed to construct as many dams as he desired, provided that in no case he retained more than eight feet (perpendicular) of water; also, that the water was in no case to be thrown over the banks of the creek, in which event the height of the water must be reduced to meet the peculiar locality.  

This approach is consistent with the core principles of the riparian doctrine, that all landholders have an equal right to use and access flowing water and that diminution or obstruction should only be allowed if it does not cause sensible or material injury to another water user. The intention that water should not be diverted from the channel to flood the back country also seems consistent with the general principles of the riparian doctrine. A similar proposal was made by Henry Ricketson:

> It would be easy enough to dam the creek upon fair principles, so as not to annoy your neighbours below. Sluices could be used to allow the water to pass downwards and when the water has passed through the creek its entire length, the sluice could be closed; by this simple contrivance, matters could be satisfactorily and fairly arranged.

Another public meeting was held at Deniliquin in the first half of 1859 to discuss 'a suitable arrangement being made for the present regulation of dams on the Billabong Creek' and to consider 'the principle on which legislative provision should be made for the future.' At this meeting, a 'general reconciliation' took place, and Mr John Hay, member of parliament for the Murray, was invited to assist reconciliation at a further meeting on 14 July 1859. This mediation 'produced some uneasy compromise.'

95 'Edward River District', *The Sydney Morning Herald* (Sydney), 15 November 1858, 2; see also 'Edward River District', *The Sydney Morning Herald* (Sydney), 9 March 1858, 5.

96 'Edward River District', *The Sydney Morning Herald* (Sydney), 7 January 1859, 2–3.

97 'Edward River District', *The Sydney Morning Herald* (Sydney), 12 July 1859, 5.

98 'Edward River District', *The Sydney Morning Herald* (Sydney), 12 July 1859, 5.

5.2 Moore v Leighton: *application of the riparian doctrine to intermittent streams*

In the year after the 'Billabong riot' occurred, the New South Wales Supreme Court had to deal with a claim for riparian rights where there was no permanent stream: *Moore v Leighton* (1859). The plaintiff, an innkeeper, claimed that the defendant had diverted the stream. The defendant had drained a swamp, allegedly stopping a stream that came to the plaintiff’s land. The plaintiff argued that the diversion of water injured his business, because bullock teams and travellers with horses would previously stop there to allow their animals to drink. The key question for the jury was whether the stream could be classified as a watercourse. If there was no watercourse, then the riparian doctrine would not apply and the plaintiff would have no right to redress.

As a matter of law, the court held that if a stream flowed into the defendant’s swamp, then the water had already become *publici juris* and the defendant would have no further right to divert the water, even though it became diffuse while on his land. Watercourse was described in a few different ways:

- ‘stream of water in a regular channel’;
- ‘any definite channel’;
- ‘continuous running stream’; and
- ‘whether there was a continual flow of water as to render it a stream properly so called, or whether it was so infrequent as to be recognisable only as an occasional watercourse’.

Most importantly, the court held that even an intermittent or ephemeral stream could be a stream:

*[if] there was ordinarily a flow of water along it. It would not be less a stream in such a case because it was occasionally dry. But if it was ordinarily dry, then the*
fact of water occasionally flowing along it would not raise it to the dignity of a stream.101

The court did not require constantly flowing water, instead emphasising the definition and regularity of the channel102 and whether it was more often wet than not. If so, it could be considered a stream for the purposes of the riparian doctrine. This approach appears to differ in emphasis from the earlier case, Cooper v Sydney, where the court was reluctant to recognise the 'occasional overflow of a swamp' as a running stream. In that case, the court had stressed the need for continuous or permanent flow. It is also unclear whether the definition of a flowing watercourse in Moore v Leighton would have applied to the Billabong. The suggestion that the stream should be more often wet than not suggests that the Billabong — which only flowed two to four months each year — could have been argued to not be a running stream.

These decisions show the New South Wales Supreme Court applying the riparian doctrine in a more arid climate than it had evolved. The court applied a distinctive definition of flowing water, one that appears to be relatively novel compared to English and United States case law, where courts had not needed to consider the application of the doctrine to ephemeral streams. The outcome indicates that the court was willing, to an extent at least, to adapt the doctrine to suit the comparatively arid climate of the colony.103 This judgment would also have the effect of ensuring that the riparian doctrine was applied to a wide range of all watercourses across the state and not only the larger, more permanent streams. As a result, upstream riparian landholders who wished to retain and divert water would need to take into account the impacts of their actions on the community of other riparian landholders.

101 Moore v Leighton from The Maitland Mercury and Hunter River General Advertiser (NSW), 19 February 1859, 3.
102 The Victorian Supreme Court found in 1899 that the definition of the channel was a major factor determining whether there was a watercourse or not (Lyons v Winter (1899) 25 VLR 464); see discussion in Poh-Ling Tan, Dividing the waters: a critical analysis of law reform in water allocation and management in Australia from 1989–1999 (PhD thesis, Australian National University, 2001) 25–26.
103 The riparian doctrine was brought into Australian law in 1853 in Cooper v Sydney as a direct application of English law. The New South Wales Supreme Court cases from the following decades show no conscious intention to depart from or alter the English doctrine. However, it would seem as though, either as a result of the different environmental situation (especially inland New South Wales' flood and drought-prone landscape) or as a result of differing economic circumstances (i.e. the application of the doctrine to settler-pastoralism rather than industrial manufacturing), the Court's operation of the doctrine did diverge subtly from English law. See generally on the propensity of English legal doctrines and institutions to transform upon transplantation into Australia, Bruce Kercher, Debt, Seduction and Other Disasters: the birth of civil law in convict New South Wales (The Federation Press, 1996) 218–219; Paul Finn, Law and Government in Colonial Australia (Oxford University Press, 1987).
6. Pastoralist water disputes intensified in the mid-1860s

Nearly ten years later, in the mid–late 1860s, disputes among pastoralists arose again, on the Billabong and in the Lachlan River catchment. At this time, the principles of the water law also developed further in the New South Wales Supreme Court cases, *Pring v Marina* in the Lachlan River catchment and *Howell v Prince*, a dispute near Sydney. The court endorsed *Moore v Leighton's* approach to intermittent streams and also held that all obstructions on streams, such as dams, were illegal, especially if they interrupted the flow of water. This was a crucial finding for the future of the riparian doctrine in New South Wales, both for its capacity to meet the needs of pastoralist water users and to allow for greater development. The 1860s disputes provide further evidence of a growing divide between the law and actual water use and water disputes on the ground.

6.1 Tyson v Desailly: *dam-cutting on the Lachlan*

In 1865–1866, a heated dispute arose between James Tyson, a pastoralist with extensive landholdings on the Lachlan, and George Desailly, one of the pastoralists whose dams had been cut nearly ten years' earlier on the Billabong. Mr Desailly had moved from the Billabong to the lower reaches of the Lachlan (near Booligal) and had started to develop the previously unsettled 'back country'. In July 1865, the *Sydney Morning Herald* reported that while only two of the established pastoralists on the Lachlan River (Mr Tyson and Mr Darchy) had dams, the new settlers moving onto the back blocks — who included the Brodribbs and the Desaillys — were undertaking considerable works to make the country productive. The *Herald* reported that these landholders were no longer needing to move sheep in search of water. Having provided for permanent water, the pastoralists were undertaking more intense, settled pastoral production.

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104 'The Lachlan Dam Cutting', *The Sydney Morning Herald* (Sydney), 13 January 1866, 8; see also 'The Lachlan Dam Cutting', *Empire* (Sydney), 13 January 1866, 5; 'The Lachlan Dam Cutting', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 16 January 1866, 2; 'News and Notes by a Sydney man', *The Brisbane Courier* (Brisbane), 17 January 1866, 6; 'The Lachlan Dam Cutting', *The Goulburn Herald and Chronicle* (Sydney), 17 January 1866, 4.

105 'A Tour in the Riverine District', *The Sydney Morning Herald* (Sydney), 13 July 1865, 2.

106 'A Tour in the Riverine District', *The Sydney Morning Herald* (Sydney), 13 July 1865, 2.
In the 1850s, it had been remarked that the back country, without permanent water, was lying 'waste' and 'useless'. The development of this country was driven by the intensification of pastoralist production. An artificial water supply would be necessary to enable this land to be put to productive purposes by European settlers:

*It must borne in mind that the country is of little value, if any, if no person is allowed to dam; in fact, to abandon it would be almost the best remedy. Again, damming is all right, if you can get the water at regular seasons; but the natural supply is casual and uncertain. To artificial means, then, must the settlers have recourse in the end.*

The natural geography of the landscape and climate in inland New South Wales would not allow such intense grazing production without more substantial modification or diversion of watercourses.

The Desaillys had apparently expended between £20,000 and £30,000 on improvements and had several large dams in the Willandra (an effluent of the Lachlan) and Billabong creeks. James Tyson's disputes with George Desaillly arose when Desaillly built a dam which apparently flooded the land back 15 or 20 miles near Booligal and caused most of his run to become flooded, while depriving downstream landholders of access to water. The dam was built at the junction of several creeks and threw the water back up each of these creeks.

A settler approximately six or seven miles below Desaillly's run was the first to cut Desaillly's new dam but it was soon repaired. Mr Tyson's land was 50 miles below Desaillly's and he had previously relied on the flow of water inundating his property. Mr Tyson started legal proceedings against Mr Desaillly while a family member,
described as a 'Mr P. Tyson' took a force of 11 men to cut away the dam.\footnote{\textit{The Lachlan Dam Cutting}, \textit{The Sydney Morning Herald} (Sydney), 13 January 1866, 8.} This dispute appears to have come closer to open violence than the Billabong dispute in 1858, Mr Desailly having indicated that he would resist the destruction of his dam:

\begin{quote}
[Mr Desailly] instructed his men to resist, by force of arms if necessary, the destruction of the dam, he himself stating that he would, if present, shoot the first man attempting destruction of the work. It was perhaps so fortunate that Mr Desailly was not present when the attacking party arrived, but in his stead were five of his armed retainers on the dam, threatening that the first man beginning the work of destruction would be shot.\footnote{\textit{The Lachlan Dam Cutting}, \textit{The Sydney Morning Herald} (Sydney), 13 January 1866, 8.}
\end{quote}

Tyson's party was not deterred and proceeded to level the dam, which was approximately 20 feet high. The Lachlan River correspondent appears to have been generally in support of the cutting of Desailly's dam, suggesting that the dam was impeding the natural flow of water:

\begin{quote}
[The] large mass of water broke through the earthy wall which had held so many linear miles of water in bondage [...] The water descended with considerable force through its legitimate channel and in twelve days or so the station holders below the dam, for fifty miles or more, welcomed its supply.\footnote{\textit{The Lachlan Dam Cutting}, \textit{The Sydney Morning Herald} (Sydney), 13 January 1866, 8 [emphasis added].}
\end{quote}

The reference to the 'legitimate channel' of the stream not only indicates that the writer did not approve of Desailly's dam but also implies a underlying normative preference for in-channel flows.

The dam was later rebuilt on a smaller scale and again cut away by Mr Tyson.\footnote{\textit{The Lachlan Dam Cutting}, \textit{The Sydney Morning Herald} (Sydney), 13 January 1866, 8.} The legal proceedings brought by Tyson do not appear to have ever come to judgment and it is therefore unclear what the arguments of each party would have been. Media reports suggested that the main point in the dispute would be over whether Mr Desailly had dammed the Lachlan itself or an anabranch of the river, implying that potentially a dam on an anabranch would be acceptable while a dam on the main
channel would not. However, the dispute was apparently referred to arbitration and the eventual outcome was not reported.

Later in 1866, there is evidence that settlers on the Lachlan were negotiating a public solution, which would enable dams to be constructed that met the needs of all parties. A specific concern of the meeting was how to provide a permanent water supply for runs which did not have frontage on the Lachlan River itself and thereby using the 'vast quantity of water which now flows to the sea and is wasted'.

6.2 The 'Great Billabong Dam case' in 1868

In 1866, there were also indications that there would once again be disputes over dams on the Billabong, when it was suggested that a dam built by a Mr Wilson would be cut away. Two years later, in 1868, acrimonious dispute over water flared up. The case *Dickson v Wilson* — often referred to as the 'Great Billabong Dam case' — was argued for three days before the New South Wales Supreme Court and then settled out of court. The plaintiff, Mr Dickson, complained about Mr Wilson's dam across the Billabong at Coree station, referred to as the 'famous Coree dam'. The dam had been first erected by the Desailly brothers and had in the past been cut away twice only to be rebuilt and strengthened.

The plaintiff himself had a dam at the Cooroonbun run 60–70 miles below. He nevertheless alleged that it was 'illegal on the part of the defendant to obstruct the natural flow of water through the Billabong' and that he, the plaintiff, was:

> entitled to the water flow of the Billabong creek, and that the defendant had wrongfully erected certain dams across the creek and obstructed the flow, and

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118 'General News', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 17 February 1866, 3.
119 'The Pastoral Interest in New South Wales', *The Darling Downs and General Advertiser* (Toowoomba, Queensland), 8 November 1866, 3.
120 'The Pastoral Interest in New South Wales', *The Darling Downs and General Advertiser* (Toowoomba, Queensland), 8 November 1866, 3; 'Dam Cutting Renewed', *The Sydney Morning Herald* (Sydney), 26 September 1866, 5.
122 'The great Billabong dam case', *The Sydney Morning Herald* (Sydney), 31 January 1868, 2.
123 'The great Billabong dam case', *The Sydney Morning Herald* (Sydney), 29 January 1868, 4.
thereby deprived the plaintiff of the use of the water of the creek, and compelled him to remove his sheep and cattle [...] 125

The result of the settlement was not published but there were indications that the defendant had agreed to lower the dam. 126

The fact that both the plaintiff and the defendant had dammed the Billabong highlights the complexity of these disputes. As with the earlier disputes on the Billabong, contemporaneous debate over *Wilson v Dickson* gives the impression that, by 1868, it was not dam-building *per se* that concerned objectors but large, upstream diversions that were perceived as unfair to landholders on the river as a whole. The Coree dam was referred to as a water monopoly ‘constructed with the most profound indifference to the inconvenience or necessities of the squatters below it’. 127 A smaller or differently built dam that allowed Coree station to take ‘reasonable and moderate precautions [...] to secure a fair supply of water’ would have been acceptable. The Coree dam had, however, ‘dammed up’ the whole stream, and effectively appropriated ‘the whole of the water’. 128 This debate repeated concerns about fairness that had been raised in 1858: the community of downstream users felt that upper landholders should not monopolise the water. 129

The key complaint in the media after the case was finished was that the failure to come to a judgment meant that ‘the legal question of the water supply is as unsettled as ever’:

*As the matter stands at present the power of an individual to stop a running stream is not legally decided. [...] Has the proprietor of a station on a stream (supposed to flow only at intervals) any legal power to intercept the water thereof?* 130

125 *The great Billabong dam case*, The Sydney Morning Herald (Sydney), 29 January 1868, 4.
126 Empire (Sydney), 31 January 1868, 2.
127 Empire (Sydney), 31 January 1868, 2.
128 Empire (Sydney), 31 January 1868, 2.
130 ‘The Billabong Dam’, The Sydney Morning Herald (Sydney), 6 February 1868, 4; see also ‘Marsden’, Empire (Sydney), 11 June 1867, 8.
In 1866, there had also been a suggestion that there was 'at present [...] no law whatever on the subject' of dam-building on watercourses.\textsuperscript{131} While the writer in that instance may have intended to indicate that there was no legislation and not that there was no law at all, these concerns that dam-building was unregulated evidence the disjuncture that was growing between law and reality. Dams had been built right along the Billabong and other watercourses, even though it was unclear whether they were legal or whether downstream landholders could legally destroy the dams. This misalignment between the law of flowing water and the reality of water management led to great uncertainty as to how the validity of the riparian doctrine.

6.3 Pring v Marina: water dispute on the Lachlan

In 1866 and 1867, in \textit{Pring v Marina},\textsuperscript{132} the New South Wales Supreme Court heard a dispute among pastoralists over the question of damming a stream. There were three decisions in the case:

1. the defendant challenged the plaintiff's pleas on demurrer in December 1866 (\textit{Pring v Marina (1)});\textsuperscript{133}
2. the case was tried and decided in April–May 1867 (\textit{Pring v Marina (2)});\textsuperscript{134} and
3. there was an attempt to have the case overturned by rule \textit{nisi} for a new trial (\textit{Pring v Marina (3)}) in June 1867.\textsuperscript{135}

The downstream plaintiff was overwhelmingly successful at all three hearings and the case became precedent against the construction of dams and diversionary works on flowing streams. The Solicitor-General represented the defendant at the trial and at the rule \textit{nisi} hearing, indicating that the government of the day supported pastoralists' rights to build dams on flowing streams.

\textsuperscript{131} 'The Pastoral Interest', \textit{The Sydney Morning Herald} (Sydney), 20 January 1866, 7.
\textsuperscript{132} \textit{Pring v Marina} (1866) 5 SCR (NSW) 390.
\textsuperscript{133} 'Pring v Marina – Demurrer', \textit{Empire} (Sydney), 7 December 1866, 2; 'Squatters' Water Privileges', \textit{The Maitland Mercury and Hunter River General Advertiser} (NSW), 13 December 1866, 3; 'Squatters' Water Privileges', \textit{The Sydney Morning Herald} (Sydney), 7 December 1866, 4.
\textsuperscript{134} 'Pring v Marina', \textit{The Sydney Morning Herald} (Sydney), 15 April 1867, 2; 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2; 'Marsden', \textit{Empire} (Sydney), 9 May 1867, 3.
\textsuperscript{135} 'Pring v Marina', \textit{The Sydney Morning Herald} (Sydney), 5 June 1867, 2; 'Marsden', \textit{Empire} (Sydney), 11 June 1867, 8; 'Pring v Marina', \textit{The Sydney Morning Herald} (Sydney), 9 September 1867, 2.
The plaintiff, Mr John Pring, and defendant, Mr Carlo Marina,\textsuperscript{136} were both squatters with runs that adjoined the same creek within the Lachlan River catchment. The case was located near Burrangong in the vicinity of Young in the upper reaches of the Lachlan. The defendant constructed a dam on a stream known as Back Creek, above the plaintiff's run in order to wash wool. The plaintiff, Mr Pring,\textsuperscript{137} complained that this deprived him of access to water and polluted his water supply. The creek appears to have been ephemeral, often no more than a series of waterholes. The dam itself was quite large for this time in New South Wales history, although there was some degree of difference of opinion as to its exact size and its effect on the creek. The plaintiff deposed that the dam wall was 12 feet high and 100 foot wide and that the creek was 50 feet wide at that point.\textsuperscript{138} The dam, when full, more than covered 1.5 acres with water.\textsuperscript{139} There is evidence in \textit{Pring v Marina} that Mr Marina's defence of his dam was supported by his neighbours. One commentator suggested in June 1867 that:

\begin{quote}
a good many of the squatters are now contributing to bear part of [Mr Marina's] expenses, as they do not think it fair to leave Mr Marina to bear all the onus, as the broad principle that what is his case today may be theirs tomorrow.\textsuperscript{140}
\end{quote}

In \textit{Pring v Marina (1)}, the defendant, Mr Marina, attempted have the case thrown out on the basis that:

- he had a right to use the water for sheep-washing and had erected the dam for that purpose;
- the pollution was no more than was necessary and unavoidable;
- the flow of the stream was only temporarily arrested while the water rose to the level of the dam; and


\textsuperscript{137} John Pring was a squatter; in 1853, he was living near Wagga; see W.G. McMinn, \textit{Pring, Robert Darlow (1853–1922)}, Australian Dictionary of Biography, <http://adb.anu.edu.au/biography/pring-robert-darlow-8118>.

\textsuperscript{138} 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2; also see 'Marsden', \textit{Empire} (Sydney), 9 May 1867, 3 for a discussion of the differing accounts as to the size of the dam.

\textsuperscript{139} 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2.

\textsuperscript{140} 'Marsden', \textit{Empire} (Sydney), 11 June 1867, 8.
• the loss to the plaintiff was inappreciably small and that sufficient was left for his use.141

As such, Mr Marina's defence tried to justify his actions within the principles of the riparian doctrine — that he as a landholder had an equal right to use the water, that his actions had had minimal effect on the flow of the stream, and that the plaintiff's access to water had not been materially affected.

The full court of the New South Wales Supreme Court — Sir Alfred Stephen CJ and Hargrave and Cheeke JJ — found against Mr Marina. Stephen CJ noted that damming a running stream might in some circumstances be lawful but that the dam could not obstruct the flow of the entire stream even for one moment.142 The construction of a dam could potentially be justified if it only allowed a 'reasonable portion' of the water to be retained for the landholder's 'necessary purposes'.143 Stephen CJ stressed that all landholders had equal rights to the flow of the stream:

For the stream, in its undiminished natural volume (or undiminished except by quantities necessarily abstracted for the use of owners higher up) belongs to each riparian occupier throughout its course. The question whether a particular use of the water, therefore, by any such occupier, is or is not justifiable, depends on the inquiry whether the use was reasonable, relatively to the rights of other riparian owners.144

Even if it was reasonable for the defendant to have diverted a considerable portion of the stream temporarily into a dam, it was not reasonable to arrest the entire progress of the stream.145 Even though it was accepted that the creek was naturally ephemeral, Stephen CJ held that the plaintiff had a right to 'constantly flowing water from the stream entering or passing by his land' and if this flow of water was stopped, he would not need to prove pecuniary damage.146

141 'Pring v Marina — Demurrer', Empire (Sydney), 7 December 1866, 2; 'Squatters' Water Privileges', The Sydney Morning Herald (Sydney), 7 December 1866, 4.
142 Pring v Marina (1866) 5 SCR (NSW) 390 at 396 per Stephen CJ.
143 Pring v Marina (1866) 5 SCR (NSW) 390 at 396 per Stephen CJ.
144 Pring v Marina (1866) 5 SCR (NSW) 390 at 396 per Stephen CJ.
145 Pring v Marina (1866) 5 SCR (NSW) 390 at 396 per Stephen CJ.
146 Pring v Marina (1866) 5 SCR (NSW) 390 at 396 per Stephen CJ; 'Pring v Marina — Demurrer', Empire (Sydney), 7 December 1866, 2; 'Squatters' Water Privileges', The Sydney Morning Herald (Sydney), 7 December 1866, 4;
Hargrave and Cheeke JJ similarly both had concerns about the fact that the defendant's dam entirely stopped the flow of water. Hargrave J decided against the defendant on the basis that he had 'tried to increase the value of his own run at the expense of the lower riparian owners' and that the only basis for his actions would be ancient use or an easement. Hargrave J held that 'any right to stop for a single day the flow of any stream would be inconsistent with the common law rights of other riparian owners'. Cheeke J suggested that the defendant's dam might have been legal if he could have shown that he had not stopped the flow of water.

The case was tried in April 1867, the plaintiff claiming £2000 damages on the basis that the defendant had:

1. wrongfully polluted the waters of the Back Creek by washing sheep; and
2. erected a dam and thereby obstructed the flow of water, depriving plaintiff of the use of the water.

Counsel for Mr Pring argued in court, similarly to Hargrave J at the demurrer, that no obstruction of a stream could be justified and that no occupant of riparian lands had any right to obstruct or divert a stream in any way, unless they had express grant or had become entitled by ancient use. He argued that no landowner had any right to more than the use of the water and that any encroachment on a stream was a violation of the rights of others. Mr Pring was attempting to show that Mr Marina's dam was still illegal, even if he could not prove any damages from its operation.

The Solicitor-General, acting on behalf of Mr Marina, argued for a different approach to riparian rights, focusing again on the concept of damage. He stressed that riparian proprietors had the right to use the waters of the stream for any purpose (such as manufacturing, commercial or agricultural purposes) provided that they did not

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'Squatters' Water Privileges', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 13 December 1866, 3.

147 *Pring v Marina* (1866) 5 SCR (NSW) 390 at 396 per Hargrave J.
148 *Pring v Marina* (1866) 5 SCR (NSW) 390 at 397 per Hargrave J.
149 *Pring v Marina* (1866) 5 SCR (NSW) 390 at 397 per Cheeke J.
150 'Pring v Marina', *The Sydney Morning Herald* (Sydney), 15 April 1867, 2.
151 'Pring v Marina', *The Goulburn Herald and Chronicle* (Goulburn), 17 April 1867, 2.
152 The English prior use case *Williams v Morland* [1824] EngR 224; 2 B & C 910 had held in 1824 that a plaintiff did need to show damage in order to succeed in an action against an upstream landholder.
interfere with the rights of others.\textsuperscript{153} He asserted that riparian landholders had a right to dam the water or divert it for irrigation. The key limiting factor on a riparian landholder's use of the stream was that there must be no sensible or material injury on downstream landholders. In this regard, he cited the House of Lords in \textit{Miner v Gilmour}\textsuperscript{154} and the Court of the Exchequer case \textit{Nuttall v Bracewell},\textsuperscript{155} both of which stressed that a riparian proprietor had no right to interfere with the course of a stream if that use inflicted a sensible injury on the lawful water use of other proprietors. In effect, the Solicitor-General was arguing that Mr Marina's dam should be considered to be legal unless Mr Pring or another riparian proprietor could prove damage.

The motivation of the Solicitor-General in supporting dams such as Mr Marina's appears to have been that this enabled the productive use of New South Wales streams:

\begin{quote}
[The] law favours the exercise of such right because it is at once beneficial to the owner and to the commonwealth. [...] Streams were intended for the benefit of mankind and it would be unfair to deprive anyone of their use unless he were so using them as to cause injury to others.\textsuperscript{156}
\end{quote}

The Solicitor-General's approach is reminiscent of Chancellor Kent's assertion that '[streams] of water are intended for the use and comfort of man'.\textsuperscript{157} The Solicitor-General was similarly dismissive of Mr Pring's complaint that Mr Marina had polluted the watercourse, stating that 'if the use made here of the water were a legitimate use and beneficial to the public it was at once brought within the operation of the law'.\textsuperscript{158}

The case was decided by Cheeke J and a jury. Cheeke J applied a similar approach to that taken in \textit{Moore v Leighton} to intermittent streams, indicating for the jury that 'if they believed the evidence', Back Creek was a flowing stream at one time and if so 'the

\textsuperscript{153} 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2.
\textsuperscript{154} \textit{Miner v Gilmour} (1858) 11 Moore 131.
\textsuperscript{155} \textit{Nuttall v Bracewell} (1866) 2 Ex. 1.
\textsuperscript{156} 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2.
\textsuperscript{157} James Kent, \textit{Commentaries on American Law} (Little, Brown, 1884); full text published online: Chancellor James Kent, \textit{Commentaries on American Law (1826–30)}, Lonang Institute, <lonang.com/library/reference/kent-commentaries-american-law/>.
\textsuperscript{158} 'Pring v Marina', \textit{The Goulburn Herald and Chronicle} (Goulburn), 17 April 1867, 2.
plaintiff could not lose any portion of his rights by its subsequently ceasing to flow'. The most interesting part of the judgment was in relation to the dam itself as an obstruction of the stream. Cheeke J took an apparently restrictive approach, instructing the jury that if they found that there was a permanent obstruction on a flowing stream, the plaintiff would be entitled to at least nominal damages. Cheeke J's authority for this approach was the 1866 English House of Lords case *Bicket v Morris*. The jury found for Mr Pring and awarded nominal damages of one farthing.

Mr Marina, represented by the Solicitor-General, moved for a new trial in June 1857 on the basis that there was insufficient evidence that the creek was a 'flowing stream'. The full court of the New South Wales Supreme Court rejected Mr Marina's application. The verdict was that the watercourse was a well-defined stream with banks but that there was only a constant flow of water along it in wet weather. Sir Alfred Stephen CJ and Cheeke and Faucett JJ held, in line with *Moore v Leighton*, that the stream in question need not be continuous to give a right of action for its obstruction. Hence, the plaintiff, Mr Pring, was entitled to have the stream 'left to its natural courses towards and through (or alongside of) his property, unimpeded by any dam or other similar obstruction on the property' of the defendant. Water diversions might be allowed — for example by building a reservoir to the side and channelling some of the stream flow to it during rainy weather — but obstructions of the stream were not. In a context where there were potentially already thousands of dams built on both ephemeral and permanent streams in New South Wales, this finding of the Supreme Court had significant implications for pastoralists and other riparian landholders.

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159 *Pring v Marina*, *The Goulburn Herald and Chronicle* (Goulburn), 17 April 1867, 2.
160 *Bicket v Morris* (1866) 4 M. (H.L.) 44.
161 'Pring v Marina', *The Sydney Morning Herald* (Sydney), 9 September 1867, 2.
162 'Pring v Marina', *The Sydney Morning Herald* (Sydney), 9 September 1867, 2.
163 Indeed, given how infrequently the watercourse in *Pring v Marina* flowed, this potentially even extended *Moore v Leighton*, which had held that while a stream could dry out, it nevertheless needed to flow 'more often than not'.
164 'Pring v Marina', *The Sydney Morning Herald* (Sydney), 9 September 1867, 2.
165 'Pring v Marina', *The Sydney Morning Herald* (Sydney), 9 September 1867, 2.
In 1869, a substantially similar Supreme Court — Stephen CJ, and Hargrave and Faucett JJ — endorsed and strengthened the approach that was taken in Pring v Marina. Howell v Prince was not a squatting case and the exact nature of the parties’ interests is not reported in the case decision. The watercourse was located in Botany Bay — an industrial area of Sydney — which implies that industrial interests may have been involved. The defendant had obstructed a stream, causing water to flow over and damage the plaintiff’s land. The facts in the case were quite different to the squatting cases, in that the plaintiff was not complaining that their access to water was impeded. The plaintiff won at first instance and the defendant requested a new trial, on the basis of misdirection of the jury.

The basis of the appeal was that at trial, the judge had instructed the jury that if they found the flow of water along the plaintiff’s land to have been stopped to any degree, they must find for the plaintiff. The defendant argued that that the plaintiff should also have had to show that the stoppage of water caused ‘sensible and appreciable injury’. Their honours found for the plaintiff, however, holding that:

Where the flow of water of a running stream in its natural course is interfered with, every person injured in any degree, however unascertainable, may maintain an action for the obstruction without proof of actual damage.

Stephen CJ drew on Mason v Hill to hold that 'no man can obstruct the "natural flow" of water'. The only diminution could come from 'necessary purposes' which his Honour suggested might be as limited as for the purpose of preserving life. He found that:

166 Howell v Prince (1869) 8 SCR (NSW) 316; see also ‘Supreme Court’, The Sydney Morning Herald (Sydney), 16 September 1869, 5.
167 Howell v Prince (1869) 8 SCR (NSW) 316.
168 Howell v Prince (1869) 8 SCR (NSW) 316; ‘Supreme Court’, The Sydney Morning Herald (Sydney), 16 September 1869, 5.
169 Howell v Prince (1869) 8 SCR (NSW) 316 at 318 per Stephen CJ.
170 Mason v Hill (1833) 5 B. & A.D. 2.
171 Howell v Prince (1869) 8 SCR (NSW) 316 at 318 per Stephen CJ.
The flow of water in its natural course had been interfered with. And every person injured in any degree, however unascertainable or perceptible, may maintain an action for the obstruction without proof of actual damage.

Hargrave and Faucett JJ both used similar reasoning to *Pring v Marina (2)*, once again holding that a riparian proprietor could not build on the bed of the stream.\(^{172}\) The case was reported at the time as standing for the principles that:

- all riparian proprietors had a right to the entire and uninterrupted flow of the stream in its natural channel;
- no riparian landholder could impose any obstruction or do anything to increase or diminish the ordinary flow of the stream;
- riparian proprietors could enjoy the stream for domestic purposes and for reasonable cultivation but not for irrigation; and
- any person whose right to the full enjoyment of the stream had been interfered with had, therefore, a right of action without showing that he had lost any special use of the water or had sustained any special damage.\(^{173}\)

### 6.6 Testing the riparian doctrine

By prohibiting all dams on flowing streams, the court's decisions in *Pring v Marina* and *Howell v Prince* intensified the disjunction between the law and pastoralists' actual water use and continuing construction of dams. It is interesting to speculate whether this was an inevitable operation of the riparian doctrine in the arid climate of inland New South Wales. Australian water law discourse suggests that riparianism, having evolved in the water-abundant landscapes of England and the eastern United States, was not well-suited to an arid climate with highly variable rainfall and riverflows.\(^{174}\)

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\(^{172}\) *Howell v Prince* (1869) 8 SCR (NSW) 316 at 318–319 per Hargrave and Faucett JJ.

\(^{173}\) *Howell v Prince* (1869) 8 SCR (NSW) 316; ‘Supreme Court’, The Sydney Morning Herald (Sydney), 16 September 1869, 5. Similar principles were applied in 1879 in *Lomax v Jarvis* (1885) 6 LR (NSW) 237. This was a complaint by a squatter (Lomax) that a miner (Jarvis) had obstructed and polluted the stream on which he relied for stock and domestic purposes. The key import of the case was the interaction between the common law and mining law. The Court held that a complete stoppage of the water would be a breach of the riparian doctrine and that the mining legislation did not act to override the common law in this regard.

\(^{174}\) See e.g. Janice Gray, ‘Legal approaches to the ownership, management and regulation of water from riparian rights to commodification’ (2006) 1(2) *Transforming Cultures eJournal* 64, 72; Poh-Ling Tan, ‘Legal issues relating to water use’ in *Property rights and responsibilities: current Australian thinking* (Land and Water Australia, 2002) 13, 15; Francine Rochford, “Private rights to water in Victoria: farm dams and the Murray
This thesis hypothesises that the discordance between the riparian doctrine and the actions of pastoralist water users in New South Wales could have been avoided, at least to an extent.\(^{175}\) In particular, the evidence presented in this case study suggests that the rejection by the Supreme Court of all dams on streams was not an inevitable interpretation of the riparian doctrine. Instead, the court's blanket prohibition arguably involved a shift in emphasis from the English doctrine. The approach of the Solicitor-General in *Pring v Marina* to stress 'material damage' was arguably well within the scope of the doctrine and could have allowed a more flexible approach to the construction of dams on New South Wales rivers and streams.

This thesis hypothesises that the negotiated settlements achieved between communities of riparian landholders effectively established a *de facto* riparian doctrine.\(^{176}\) These settlements relied on a social compact that shared water equitably among all riparian landholders. Disputes occurred when 'greedy' upstream landholders broke this social compact by constructing larger dams in order to establish more intensive production, expand into the arid back country or simply achieve greater water security.

There is a paradox at the heart of the riparian doctrine. The doctrine provides for all riparian landholders to have an equal use of the stream and suggests that no landholder should sensibly diminish another's use of the stream, while nevertheless recognising that most water uses will inevitably to some extent diminish the flow for downstream proprietors. This balancing act was recognised in New South Wales as early as Edward Lord's case, in which Stephen CJ held:

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\(^{175}\) This case study focuses on the operability of legal doctrine rather than procedure. Of course, however, one reason why water users often did not litigate disputes was the lengthy and uncertain process. If a grazier was experiencing acute water shortage, they could not afford to wait while litigation resolved the question. See Edwyna Harris, 'Disorder with law: a preliminary study of violence in response to water rights violation in colonial New South Wales' (2008) 27(2) *Economic Papers* 135, 142; see also more generally, Joshua Getzler, *A History of Water Rights at Common Law* (Oxford University Press, 2004) 343.

\(^{176}\) It is unclear the extent to which these compacts were influenced by the riparian doctrine — or whether they evolved independently.
In no event can a proprietor use water, flowing past or over his land to the injury of another proprietor, below or above him; for all have equally a right to its use, or to so much as is not required for the necessary purposes of the first taker.\textsuperscript{177}

It is possible that this reference to a 'first taker' was a hangover from the prior use doctrine, but a more likely interpretation is that landholders higher up the stream, who take first from the flow necessarily impact on the flow to those below them. Thus, upstream users are allowed to impact on other riparian users. The question that the court must decide is what impact is allowable and what is not.\textsuperscript{178} For example, \textit{Miner v Gilmour} (1858), the leading Privy Council decision on the riparian doctrine, had allowed all 'ordinary uses' (i.e. domestic and stock use) but only allowed 'extraordinary uses' (e.g. manufacturing or irrigation) where there was no sensible or material impact on other riparian landholders.\textsuperscript{179}

In \textit{Pring v Marina (2)} — the substantive decision — at least two approaches to the question of allowable use were mooted. The Solicitor-General argued that the crux of the doctrine was whether there had been 'sensible injury' to other riparian proprietors. This approach would have allowed unlimited dam-building and diversion of water as long as downstream landholders' interests were not damaged. Cheeke J took a different approach, which was later endorsed by the full court. He determined that there could be no permanent obstruction of a stream, whether or not there had been damage to downstream landholders.\textsuperscript{180} His primary authority for this finding was \textit{Bicket v Morris}, a Scottish case which had been decided by the House of Lords only the previous year in 1866.

\textsuperscript{177} Lord v Commissioners for the City of Sydney 7 NSWLR Eq. 10; Legge 912.
\textsuperscript{178} Joshua Getzler notes that the most difficult question for courts to resolve was what amounted to 'reasonable use' (Joshua Getzler, \textit{A History of Water Rights at Common Law} (Oxford University Press, 2004) 331).
\textsuperscript{179} \textit{Miner v Gilmour} (1858) 11 Moore 131.
\textsuperscript{180} This accords with Sandford Clark and Ian Renard's suggest that Australian courts tended to conduct a separate inquiry into reasonableness, independently of the impact on downstream owners (Sandford Clark and Ian Renard, \textit{The law of allocation of water for private use} (Australian Water Resources Council Research Project, 1972) 82). They note the common law's general shift away from mere reliance on the principle of material injury towards other tests such as 'reasonable use' and 'sensible diminution'. They suggest that 'had the common law maintained the early emphasis in cases like \textit{Embrey v Owen} on actual damage being the basis for relief, the [riparian] doctrine may have been more palatable [in an arid country]' (Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation', (1969) 7 \textit{Melbourne University Law Review} 475, 478–479).
In *Bicket v Morris*, the complaint was that the defendant had encroached on the property of the opposite landholder by building too far out on the bed of the stream (the *solum*).\(^{181}\) The case is precedent for the statement that a riverside proprietor is entitled to prevent an opposite proprietor\(^ {182}\) from building on a portion of the riverbed and thereby interfering with the channel of the river. Cheeke J's rationale for relying on *Bicket v Morris* seems relatively straightforward. It was a recent House of Lords decision which discussed the rights of riverside landholders to build on the bed of a stream — and, as such, appears to have direct relevance to the situation in *Pring v Marina*. Applied in the context of disputes between pastoralists along New South Wales watercourses, the most basic implication of the case is that it would prohibit a riparian landholder from building a dam or weir across a stream or even extending a race out into the stream to capture and divert water. However, *Bicket v Morris* was a Scottish case and was not centrally concerned with riparian rights to access and share the flow of water. The House of Lords did not indicate how their finding would impact on the construction of dams and millraces on manufacturing streams. Its later application was restricted to Scotland\(^ {183}\) and there is no evidence of the case having been applied to English water rights decisions after 1866.

Arguably, Cheeke J's reliance on *Bicket v Morris* introduced a new emphasis into the New South Wales riparian doctrine. While *Pring v Marina (1)* had suggested that it might be legal to construct a dam, *Pring v Marina (2)* made all dams constructed by riparian landholders on the streambed illegal. In so doing, the balance in the New South Wales doctrine shifted strongly against interference with the flow of the stream, re-emphasising the rights of riparian landholders to the undiminished or 'natural' flow

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181 *Bicket v Morris* (1866) 4 M. (H.L.) 44 at 47; see also *Morris v Bicket* (1864) 2 M. 1082.

182 There was some relatively marginal discussion in *Pring v Marina* as to whether *Bicket v Morris* could only apply to landholders on opposite sides of the banks or whether it also applied to landholders separated by distance along the course of the channel.

of running water. This was arguably a distinct shift from English and United States law in two ways.

Firstly, rather than applying blanket rules, the common law had allowed a high degree of judicial discretion. In *Embrey v Owen*, Parke B did not provide a definitive answer as to what would be allowed and what would not, stating that this was entirely a question of degree. Getzler similarly indicates that the doctrine did not provide any 'bright line' between acceptable encroachment and wrongful invasion of others' rights:

> Ultimately, the test rested on the criteria of 'reasonableness' or common sense — in other words, the text bestowed a strong judicial discretion, allowing courts to balance the interests and utilities of competitors.

Secondly, the common law precedents had allowed some obstruction of the stream within the bounds of reasonable use. In *Tyler v Wilkinson*, Story J appears at first to have argued that there could be no obstruction at all: each riparian landholder had 'a right to the use of the water flowing over it in its natural current, without diminution or obstruction'. Story J qualified this by stating:

> I do not mean to be understood [...] that there can be no diminution whatsoever, and no obstruction or impediment whatsoever, by a riparian proprietor, in the use of the water as it flows; for that would be to deny any valuable use of it. [...] There may be a diminution in quantity, or a retardation or acceleration of the natural current indispensable for the general and valuable use of the water, perfectly consistent with the existence of the common right.

According to Story J, the test to determine if an obstruction of the watercourse or diminution of flow would be actionable was whether or not it caused 'sensible injury' to other riparian proprietors. The Privy Council case, *Miner v Gilmour* (1858), took a similar approach. Dams were allowed as long as there was no material injury to others:

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184 Sandford Clark and Ian Renard suggest that the potential flexibility of the 'material injury' test was undermined by the propensity of the common law for 'elevating factual conclusions in particular cases to immutable propositions' (Sandford Clark and Ian Renard, *The law of allocation of water for private use* (Australian Water Resources Council Research Project, 1972) 78).

185 *Embrey v Owen* (1851) 6 Ex. 353.


187 *Tyler v Wilkinson* 4 Mason 397, 24 F.Cas. 472 at 474 per Story J [emphasis added].

He may dam up the stream for the purpose of a mill, or divert the water for the purpose of irrigation. But he has no right to interrupt the regular flow of the stream, if he thereby interferes with the lawful use of the water by other proprietors, and inflicts upon them a sensible injury.\(^{189}\)

This is akin to the approach argued by the Solicitor-General in *Pring v Marina* (2). Arguably, using 'material or sensible injury' to downstream riparian water users as the determinant of whether a dam was acceptable or not would have supported pastoralists in the construction of dams on watercourses. This could have allowed small, overshot dams with spillways to be legally constructed, while still protecting downstream landholders from larger dams that deliberately diverted the flow of water away from the river.

7. Conflict and cooperation: pastoralist water disputes in the 1870s and 1880s

Pastoralist water disputes had arisen first of all in the Riverina and then shifted to the Lachlan in the 1860s. As pastoral production intensified and spread across the colony, water disputes followed. There appear to have been scattered disputes during the 1870s on the Billabong and in the Lachlan and Barwon–Darling catchments. By at least the 1880s, water disputes had emerged in the western district, raising particular concerns as to how pastoral production was to be managed in these very arid areas of the colony if all dams were illegal. Despite resurgent conflicts, however, there is also evidence that the community of settlers in areas had at times reached a social compact in relation to dam-building. Disputes then arose when a landholder breached that social compact by taking more than their fair share of the water.

In 1872, it was reported that there was once again dam cutting in the Lachlan, described as 'one of the usual practical symptoms of scarcity of water'.\(^{190}\) Also in the Lachlan, there was a dispute in 1873 on the Merowie Creek,\(^{191}\) reported baldly in a telegram from Hay as:

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\(^{189}\) *Miner v Gilmour* (1858) 11 Moore 131.

\(^{190}\) 'Colonial Markets', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 4 May 1872, 3.

\(^{191}\) This is now known as the Merrowie Creek.
A Lower Merowie squatter is attempting, with armed men, to cut the upper dams, the owners of which are determined to resist. Life may be lost. Legislation is wanted badly.\(^{192}\)

There was evidence in the same report that some dams had already been destroyed on the Willandra Creek, another effluent of the Lachlan.\(^{193}\) In 1872, reportedly a dam on Mr Jennings' station near Tarryweenyha Lake was cut away.\(^{194}\)

In 1867, it was noted that there was a potential for disputes in the far north of the colony, on the Bree and Bokira creeks,\(^{195}\) tributaries to the Darling River near Brewarrina.\(^{196}\) In 1885, evidence was given to the Water Conservation Commission\(^{197}\) that there were successful timber dams on the Bree but that there had been resistance to large earthen dams on the Bokira, at least one of which had been cut.\(^{198}\) There are further indications of a water dispute or of a series of disputes at Goodooga on the Bokira in 1889:\(^{199}\)

*One squatter conserved water by dams. Some neighbours lower down, who were too careless to do the same, came up and threatened him with an action, or to cut it away. This has occurred on three local stations in the last three years, and has quite disheartened owners from further improvements at present.*\(^{200}\)

The two litigated water disputes in the 1880s were also from the western district: *Parker v MacGregor* from near Broken Hill and *Hallstrom v Brown*, a water nuisance

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\(^{192}\) 'Dam Cutting', *Wagga Wagga Advertiser and Riverine Reporter* (NSW), 9 April 1873, 2.

\(^{193}\) 'Dam Cutting', *The Sydney Morning Herald* (Sydney), 8 April 1873, 7.

\(^{194}\) 'Dam Cutting', *The Hay Standard and Advertiser for Balranald, Wentworth, Maude, Booligal, Wilcannia, Menindee, Bourke & c* (Hay), 24 April 1872, 2; 'Pastoral News', *Wagga Wagga Advertiser and Riverine Reporter* (NSW), 1 May 1872, 2.

\(^{195}\) Known today as the Birrie and Bokhara creeks respectively.

\(^{196}\) 'Water supply in the interior', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 11 April 1867, 2.

\(^{197}\) This Commission was established to investigate options for water conservation and reform. Discussed further in Chapter 5.

\(^{198}\) 'The Water Conservation Commission in the North-West', *The Sydney Morning Herald* (Sydney), 21 May 1885, 5.

\(^{199}\) 'Country News', *Sydney Morning Herald* (Sydney), 10 January 1889, 7.

\(^{200}\) 'Country News', *Sydney Morning Herald* (Sydney), 10 January 1889, 7.
case decided in 1888 at Coonamble in the north-west of the colony.201 *Parker v MacGregor*, argued before the New South Wales Supreme Court in 1886, was described as a 'case of great importance to squatters'.202 This case involved two runs on the Darling near the South Australian border. The plaintiff, Frederick Parker of the Buckalow run sued the defendants William Macgregor, George Drysdale and James Armstrong, who were the lessees of the adjoining Burta run.203 The defendants had erected 12 dams on two creeks which flowed into the plaintiff's run.204 The plaintiffs argued on the basis of *Howell v Prince* that all obstructions of streams were illegal.

The defendants argued that the rejection of all obstructions on a watercourse should not apply in the more arid areas of the colony. They contended that the damming of the stream was a reasonable use of water within the meaning of the authorities, considering the circumstances of the soil and the climate.205 The case was settled and the settlement was not made public206 so unfortunately there is no way of knowing how the court would have responded to this argument. It is noteworthy though that Windeyer J admitted evidence as to whether, considering the soil and climate, the run could be worked without damming the stream.207 This implies that he was at the very least willing to consider the argument that obstructions on streams in arid areas of the colony should be allowed.

This question arose again in 1896. In a sitting at Dubbo, the Land Appeal Court had to consider whether a dam that crossed a watercourse could be considered a beneficial improvement to Crown land and, if so, what value would be placed on it.208 The case concerned dams across the Warrego River and Irarra Creek209 that entirely blocked the

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201 'Supreme Court', *The Sydney Morning Herald* (Sydney), 12 December 1888, 5; 'Supreme Court', *The Sydney Morning Herald* (Sydney), 11 December 1888, 3–4.


204 'Law Report', *The Sydney Morning Herald* (Sydney), 22 June 1886, 3–4; These dams had been described as exemplary examples of water conservation in a letter written by engineer Mr John Wright to *The Sydney Morning Herald* in 1884 in favour of Mr Brodribb's Dams for Pastoral Purposes Bill ('The Conservation of Water', *The Sydney Morning Herald* (Sydney), 20 October 1884, 4).


208 Under s.44 *Crown Lands Act 1889* (NSW).

209 A tributary of the Warrego, near Enngonia, sometimes spelled Irara or Irrarra.
channel and prevented the natural flow of water. The Court spoke in favour of these dams, noting that:

in many parts of this colony and largely as a result of a small and precarious rainfall, the flow of water along [watercourses] is intermittent only [...] Unless conserved by artificial means such water will be lost for pastoral purposes and the capacity of the adjacent country for carrying stock will be reduced.\textsuperscript{210}

The Court characterised rivers such as the Warrego as 'flood watercourses', which were almost dry in dry seasons and only really flowed in times of heavy rainfall (when they would flood). In an argument similar to that which the defendants had attempted in *Parker v MacGregor*,\textsuperscript{211} the Land Appeal Court suggested that:

[the] position of riparian tenements on such watercourse differs [...] from that of riparian tenements on streams which have a regular and unintermittent flow, seeing that unless the 'frontagers' [riparian landholders] conserve flood-waters passing down these watercourses, he will generally be without water for the ordinary purposes of his tenement.\textsuperscript{212}

The Court suggested that in this situation, the 'systematic retention of flood-waters by means of dams' would be a distinct improvement to the land, legitimised by the acquiescence of riparian landholders. This acquiescence might have extended for a long enough period to support prescriptive rights (i.e. ancient use).\textsuperscript{213} The question would depend on whether other landholders had objected to the dam. The Land Appeal Court also suggested that the dams would need to be 'not of so serious a character as to deprive lands lower down of the value of the water absolutely or to any large extent'. They emphasised that dams would need to have spillways (by-washes) and allow surplus flood-waters to pass from one holding to another to supply the requirements of each. The Court opined that the question of the legal rights of riparian landholders on intermittent watercourses had not been definitively decided and

\textsuperscript{210} 'Land Appeal Court', *The Sydney Morning Herald* (Sydney), 11 March 1896, 4; see also 'Appeals', *The Dubbo Liberal and Macquarie Advocate* (NSW), 29 February 1896, 2.

\textsuperscript{211} 'Law Report', *The Sydney Morning Herald* (Sydney), 22 June 1886, 3–4.

\textsuperscript{212} 'Land Appeal Court', *The Sydney Morning Herald* (Sydney), 11 March 1896, 4.

\textsuperscript{213} In *Pring v Marina*, the New South Wales Supreme Court had not entirely ruled out the application of ancient use, only suggested that it would be unlikely to operate in such a young colony (*Pring v Marina* (1866) 5 SCR (NSW) 390).
decided that this question needed to be decided by a competent superior court. The case was returned to the Land Board with a series of factual questions concerning the nature of the watercourse, the impact of the dams on the natural flow, the age of the dams and whether there had been local objections.\footnote{The questions were: (1) Is the channel of the watercourse in question well defined at the locality of the dam and what is the character of the country in the vicinity of the dam? (2) What amount of rainfall, in inches, is required to cause water to flow down the channel of the watercourse and to supply water to the lower riparian proprietors and lessees (the frontagers)? (3) What, generally, was the character of the watercourse before its channel was dammed? Has that character been altered, and if so, how, in consequence of the construction of dams across its channel? (4) How long is it since dams across the channel of the watercourse have been constructed? (5) Has there been acquiescence in the construction and continuance of the dam on the part of lower 'frontagers' and if so, for how long? (6) Do other persons beside respondent occupy for pastoral purposes lands abutting on or watered by the dams? (7) Over what extent of country is stock watered from the dams? (8) Is the water retained by the dam used exclusively for station purposes, such as watering stocks, &c. or is it used for other purposes or diverted to other holdings not being those of 'frontagers'? (9) What is the average depth of water at the breast of the dam when water begins to flow through the bywash or bywashes? (10) How long would the water retained by the dam last without any further rainfall if the frontage holding or holdings be fairly well stocked up? ('Land Appeal Court', The Sydney Morning Herald (Sydney), 11 March 1896, 4).}

This line of questioning was overtaken by statutory reform, with the Water Rights Act being passed later in 1896. It is impossible to assess whether the New South Wales Supreme Court would have, either in \textit{Parker v MacGregor} in 1886 or in a putative later case arising from the Land Appeal Court discussion, decided to allow dams to be constructed on intermittent streams in the very arid areas of the colony. It seems unlikely, however. The judgments of Hargrave and Faucett JJ in \textit{Howell v Prince}\footnote{\textit{Howell v Prince} (1869) 8 SCR (NSW) 316 at 318–319.} did recognise that the prohibition on all dams was unhelpful for settlers. However, the Supreme Court had strictly applied what they believed to be the law of England. Moreover, in \textit{Blackwood v McCaughey} in 1898, Darley CJ emphasised that the English common law would apply to the Billabong and Yanko creeks, even though they ran dry from time to time.\footnote{\textit{Blackwood v McCaughey} per Darley CJ; cited in 'Law Report', The Sydney Morning Herald (Sydney), 2 June 1898, 4; his Honour stated that 'there were a large number of watercourses in the colony which ran dry from time to time but that did not prevent them from being watercourses, and when water flowed into them, they became running streams'.}

In the early 1880s, there was also at least one dispute in the Riverina.\footnote{Note that in 1884 there was also a dispute on the Murrumbidgee below the Yanko Creek. There was a large representative meeting of the people of Hay, protesting against scheme to deepen the Yanko Cutting ('The Yanko Cutting', The Riverine Grazer (Hay), 4 October 1884, 2). Their concerns were expressed to the Royal Commission on the Conservation of Water in November 1884 ('Royal Commission on the Conservation of Water', Official Report of the Royal Commission on the Conservation of Water, Sydney, 1886, 39).} The facts of the dispute tend to confirm that squatters in the Riverina had become adapted to a
social compact which regulated equality of access by limiting the size of the dams. In late 1883, the station manager of Booabula station, owned by John Blackwood, had visited David M'Caughey's station upstream in the company of the owners of two other stations.\(^{218}\) Together they had cut the two Coree dams on M'Caughey's property, 'allowing the water to run freely'.\(^{219}\) The major objection of the downstream station owners was not that the Billabong was dammed but that water was being diverted from the main channel into a reservoir near the Yanko Creek and was then being used to irrigate a large area of swamp land.\(^{220}\) At the time there was said to be a greater shortage of water downstream. For example, at the township of Wanganella, there was scarcely any water left.\(^{221}\) The dam-cutters were also concerned about other dams further up the Billabong that they considered were diverting water unfairly and preventing those lower down enjoying the benefits.\(^{222}\) Downstream landholders considered that the whole of the frontages of the Billabong had been rendered valueless owing to the stoppage of water at the Coree dams.

In 1885, the downstream station holders repeated their actions. The Coree dams had been rebuilt, causing water to be thrown over the flats with 'no possibility of it regaining the natural channel unless an extraordinary flood [...] occurred'.\(^{223}\) The owner of the dams, Mr McCaughey had pledged that the Billabong would no longer be interfered with at Coree and he would only save a 'summer supply' once the water reached Moulamein.\(^{224}\) However, when the water stopped before Moulamein, other landholders considered that his actions were an 'open violation of [his] pledge' and 'arrangements were immediately made to remove all obstructions to the water

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\(^{218}\) Mr William Officer, a Mr Franks (manager for Dalgety and Blackwood's station) and Mr James Dickson (of Coorooboon who had already been involved in dispute in 1868)


\(^{220}\) 'Deniliquin', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 1 January 1884, 6.

\(^{221}\) 'Deniliquin', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 1 January 1884, 6.

\(^{222}\) 'Deniliquin', *The Maitland Mercury and Hunter River General Advertiser* (NSW), 1 January 1884, 6.

\(^{223}\) 'The Coree Dams', *The Riverine Grazier* (Hay), 14 October 1885, 4.

\(^{224}\) 'The Coree Dams', *The Riverine Grazier* (Hay), 14 October 1885, 4.
flowing in its natural course'. The dams were cut and by afternoon 'the Billabong was running in its proper channel'.

Their 'self-help' in 1885 was once again followed by an agreement and an injunction, which required that dams be overshot dams (with spillways) and no higher than seven feet. All the disputants had dams and it would seem that property owners had no objection to dams that allowed water to flow freely along the creek. Their objection was with dams which attempted to monopolise the entire water supply. Mr McCaughey's dams in 1883 and 1885 were larger and built so as to retain the entire flow of the stream. Hence the charge of the multiple downstream landholders was not that McCaughe had built a dam but that by building a larger dam, he had shifted the balance of access to water away from the negotiated social compact which entitled all landholders along the river to a share in the water.

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225 'The Coree Dams', The Riverine Grazier (Hay), 14 October 1885, 4.
226 'The Coree Dams', The Riverine Grazier (Hay), 14 October 1885, 4.
227 'Law Report', The Sydney Morning Herald (Sydney), 17 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 16 March 1898, 4. In this regard, see also an opinion that was conveyed to the Royal Commission on the Conservation of Water by Evelyn Manning in that the people in the vicinity of the Bokhara and Birrie creeks 'never objected to overshot dams' ('The Water Conservation Commission in the North-West', The Sydney Morning Herald (Sydney), 21 May 1885, 5).
228 see e.g. reference to James Dickson, grazier from the Carranboon run stating before the Land Board that 'it would be an advantage to have dams all down the creek' ('Law Report', The Sydney Morning Herald (Sydney), 18 March 1898, 3).
229 'The Coree Dams', The Riverine Grazier (Hay), 14 October 1885, 4.
230 This conflict re-emerged in 1898 when Blackwood brought an action against McCaughey in the Supreme Court for two dams on the Coree station (five-mile dam and eighteen-mile dam) (Blackwood v McCaughey). The original pleadings claimed this was a case partly under the Water Rights Act 1896 — for breach of s.2 of the Act — but the Court's summing up for the jury did not mention this claim. Blackwood also sought to enforce the agreement and injunction from 1886, and claimed that his common law rights (at least as they existed before the commencement of the Act) had been breached. Darley CJ applied Miner v Gilmour (1858) 11 Moore 131 and Wood v Waud (1849) 3 Ex. 748, stating that the key questions for the jury to determine were whether the creeks were natural streams and whether the dams obstructed and diverted the flow of water. The implication is that if the streams were found to not be natural streams — by virtue of the Yanko Cutting — then Blackwood would have no case. The jury found in favour of Blackwood, with damages for £2000. See 'Law Report', The Sydney Morning Herald (Sydney), 16 March 1898, 4; 'Law Report', The Sydney Morning Herald (Sydney), 17 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 18 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 19 March 1898, 7; 'Law Report', The Sydney Morning Herald (Sydney), 21 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 22 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 23 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 24 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 25 March 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 26 March 1898, 7; 'Law Report', The Sydney Morning Herald (Sydney), 31 May 1898, 3; 'Law Report', The Sydney Morning Herald (Sydney), 1 June 1898, 7; 'Law Report', The Sydney Morning Herald (Sydney), 2 June 1898, 4.
8. Conclusion: riparianism and pastoralist water use

The pastoralist water disputes in the second half of the nineteenth century were the first and only chance to test the riparian doctrine in New South Wales. However, this era was defined by a disjuncture between law and the actual practice of pastoralist water users. In what was arguably a shift in emphasis away from the origins of riparianism, the New South Wales Supreme Court declared all obstructions on permanent and ephemeral watercourses illegal. This resulted in a divide between the law and practice on the ground, as pastoralists defied the law and continued to construct hundreds of illegal dams. Instead of resolving disputes through court action, aggrieved downstream landholders would undertake violent self-help by destroying the dams of offending parties. This thesis argues that the riparian doctrine could nevertheless have operated successfully during the pastoralist era. This is demonstrated in particular by the quasi-riparian social compact reached between the community of landholders along streams such as the Billabong. From this history can be drawn two broad lessons.

Firstly, riparianism — whether the common law riparian doctrine or the quasi-riparianism applied by the pastoralists — was located strongly within concepts of community. The pastoralist social compacts were agreed in public forums and enforced by the community of landholders as a whole, and were expressly built around concepts of fairness. We should not romanticise the nature of community in nineteenth-century pastoralist New South Wales. Social relations in the inland were fractured and strained, while all landholding was based on the dispossession of the Indigenous people. Moreover, the riparian community was what Getzler has termed a 'closed community of riparian proprietors', with access to water limited to the

231 This aligns with Getzler's characterisation of the riparian doctrine as centred around norms 'set by the interacting parties', in which the law depended on the parties' monitoring of each others performance (Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004) 349).

232 As Cameron Muir notes, 'It was a divided society of gaping inequities and class warfare, of extreme economic and environmental pressures, of uncertainty and instability [...] (Cameron Muir, The Broken Promise of Agricultural Progress: an environmental history (Routledge, 2014) 31). Indeed, a further reason for the disjuncture between law and pastoralist practice may also be found in the lawlessness of squatter society more broadly — e.g. squatters' occupation of land was based on mass disobedience of the law (Bruce Kercher, An Unruly Child: a history of law in Australia (Allen and Unwin, 1995) 118–122).

233 Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004) 349. See also on the private property nature of riparian rights: Samantha Hepburn, 'Statutory verification of water rights: the
powerful landholding class. Riparianism was based on a contradiction: common property in water alongside private property in land. Thus, riparianism’s common property was a pale shadow of the traditional common property relations espoused by critical authors such as Vandana Shiva. Shiva describes a close and integral relationship between humans and ecology, a relationship upon which human survival depends:

*Water rights have been shaped by both the limits of ecosystems and by the needs of people [...] Water rights as natural rights do not originate with the state; they evolve out of a given ecological context of human existence.*

There is, however, still value in recognising the communal values that defined both the riparian doctrine and pastoralists’ social compacts, and working towards water access regimes that embody concepts of community and fairness.

Secondly, this case study highlights the 'in-stream' or 'in-landscape' nature of the riparian doctrine. The relationship between riparianism and the natural landscape is complex. The doctrine emphasised 'water flowing in its natural current'. New South Wales courts tended to assume that 'natural flow' was equivalent to continuous, regular or perennial flow. Thus, the doctrine appears to normalise an average, continuous and in-stream flow as natural flow rather than protecting the real flow patterns of the river.

Nevertheless, while this was by no means an environmentalist doctrine (nineteenth century riparian landholders caused major degradation of river systems), it did conceptualise a close relationship between water, water use and land. The real ‘failure’ of the riparian doctrine could be seen as its inability to enable

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235 This may have arisen as a result of English and eastern United States rainfall and river flow patterns, which do not exhibit the same extremes as in Australia. Conversely, the normalisation of even flow patterns may have arisen as a result of the needs of water milling, which required a steady supply of water all year round. The concept of ‘natural flow’ in the Australian landscape arises again in Chapter 6, in relation to rights to floodwaters and ‘out-of-stream’ flows.

236 Concepts of ‘success’ and ‘failure’ are highly subjective. This thesis focuses on end user perspectives and assesses riparianism on the basis of the capacity of the doctrine to meet the needs and aspirations of pastoralist and other water users from the nineteenth century. Other perspectives can also be used — for example, Poh-Ling Tan has assessed the riparian doctrine expressly from the perspective of ecological needs.
development. The connection of water access to riparian landholding constrained water use within the confines of the landscape and the emphasis on 'natural flow' prohibited extensive human modification of river flow patterns. In industrial England, capital intensive modifications of rivers were allowed within the structure of riparian correlative rights. In arid inland New South Wales, there was arguably less room to manoeuvre. The doctrine could have authorised scattered small dams along the inland waterways but larger dams, especially dams on the headwaters, would be prohibited. While a flexibly applied riparianism could have operated successfully to resolve disputes among pastoralists in a situation of limited development, riparianism could not enable the landscape-wide modification of river flows that occurred in the early twentieth century.

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238 Harris has suggested that riparian approaches were best suited to non-capital intensive production (Edwyna Harris, The persistence of correlative water rights in colonial Australia: a theoretical contradiction? (Monash University Department of Economics discussion paper, 2008)).
Chapter 4

Water disputes and law on the New South Wales goldfields: precursor to state administration (1851 – 1867)

1. Introduction

The New South Wales goldrush began in 1851.¹ Access to water was critical on the goldfields, for obtaining and processing gold as well as for personal use.² Rights to access water were provided for in regulations and legislation, administered by goldfields commissioners. As such, mining water law evolved as a distinct and separate discipline of water law, and can be viewed as a 'test run' for the statutory water reforms of 1896.³ Water regulation on the goldfields was not identical to public administration, however, in that the goldrush brought its own complexities and dynamic, especially in the form of class tensions.

This case study documents the major rules and regulations governing access to water on the goldfields, alongside public debates and disputes between miners over water. The chapter first examines the earliest water laws, introducing the administrative role of the state as well as discussing some early water-sharing disputes. The chapter then explores the sophisticated system of water privileges and prioritisation that was enacted between 1858 and 1866. These regulations enabled substantial human modification of river flows and landscapes, thereby establishing a much more instrumentalist relationship between water users and the natural ecology. The chapter

³ Lloyd sees the state government’s acceptance of limited state granted rights in this context as a signpost to the Water Rights Act 1896: C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988) 72 and 80.
discusses tensions and conflict over access to water in accordance with three broad themes:

1. working class miners' interests in in-stream flows and a public right to water;
2. the role of government and the miners' resentment of regulation; and
3. capitalist miners' interest in private property in water and the operation of water trade on the goldfields.

2. The first goldfields water laws (1851 – 1857)

2.1 Colonial government administration

The New South Wales colonial government exercised strict control over the goldfields from the start of the goldrush, with significant implications for water management. New South Wales benefited from the example of the Californian goldrush, which had operated for two years without governance from a civil authority. On 23 May 1851, barely three months after the public announcement that gold had been found at Bathurst, the government proclaimed that all natural deposits of gold in New South Wales were the property of the Crown and that any persons who took gold from any lands without authorisation would be prosecuted. On the same day, the government issued provisional regulations establishing a licensing scheme for goldmining with a monthly fee of £1 and ten shillings. The first piece of primary goldfields legislation, the Gold Fields Management Act 1852 (the Gold Fields Act 1852), forbade any person

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4 Geoffrey Blainey suggests that government control over the goldfields was assisted by English water law which held that all gold was the property of the Crown (Geoffrey Blainey, A land half won (Sun Books Pty Ltd, 1982) 157). See also generally on goldmining laws, Clark, Sandford and Renard, Ian, The law of allocation of water for private use (Australian Water Resources Council, 1972) 146–150.


6 'Proclamation', Bathurst Free Press and Mining Journal (Bathurst), 28 May 1851, 3.

7 'Licences to dig and search for gold', Bathurst Free Press and Mining Journal (Bathurst), 28 May 1851, 2. See also generally: Sumner La Croix, ‘Property rights and institutional change during Australia’s gold rush’ (1992) 29 Explorations in Economic History 204, 206; Anthony Scott, ‘Free mining from medieval Europe to the gold rushes’ in Anthony Scott (ed.), The Evolution of Resource Property Rights (Oxford University Press, 2008) 208, 222–223. Licences would only be granted upon the payment of a fee (ss.5–10 Gold Fields Management Act 1852).
mining for gold or carrying out 'any trade, business, calling or occupation' except for pastoral and agricultural activities or even residing\(^8\) on a goldfield without a licence.\(^9\)

Scott suggests that there were four broad reasons driving Australian colonial governments' regulation of the goldfields:

(1) to stem the migration from farm and town jobs and to reduce congestion in the field in keeping with their own basic distaste for anarchy and with landowners' fears of the disruption of their industries;

(2) to raise a revenue for the Crown or colonial intermediaries through newly valuable disposal rights;

(3) to assist the gold industry by matching claim size to technology; and

(4) to extend somehow the Wakefieldian compact-settlement goal to mining in order to achieve an efficient and orderly parcelling out of land.\(^10\)

A major driver of the regulation was the desire to control the formative working class. The goldrush caused social instability and an increase in population.\(^11\) Internal migration to the goldfields led to a shortage of wage labour and increased wages. The government responded by imposing fees on goldmining, in a Wakefieldian attempt to limit the accessibility of the goldfields to the mass of the working class.\(^12\) In order to prevent workers from abandoning their employers, licences were also not to be granted to 'runaway servants and apprentices'.\(^13\)

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\(^8\) Women and children under fourteen years could live on a goldfield without paying a fee: s.4 Gold Fields Management Act 1852.

\(^9\) s.4 Gold Fields Management Act 1852.


\(^12\) Edward Gibbon Wakefield, a British land reformer, had argued that a price must be placed on land in the colonies, otherwise the working class would be able to obtain land and would no longer need to work for a wage to survive. See generally Stephen Roberts, *History of Australian Land Settlement: 1788–1920* (Macmillian of Australia, 1924) 83–95; J.M. Powell, 'Patrimony of the people: the role of government in land settlement', in R.L. Heathcote (ed.), *The Australian experience: essays in Australian land settlement and resource management* (Longman Cheshire Pty Ltd, 1988) 14, 15–16.

\(^13\) E.g. A licence would not be granted unless the applicant could produce a certificate of discharge from their last employer (cl.1(1)(4) Gold Regulations 1852; e.g. s.12 Gold Fields Management Act 1852); see also Sumner La Croix, *Government regulation and the development of property rights during Australia's gold rush* (Working Paper, 7 July 1989) 2.
The tenor of the regulations placed the colonial government on an immediate collision course with the mass of miners. One of the key tensions that would emerge on the goldfields over water was working class miners' opposition both to regulation by the colonial government and to the establishment of larger-scale corporate mining operations. As such, the history of water management on the goldfields demonstrates unprecedented colonial government regulation of water access rights, alongside a substantial 'push back' from the community of miners who wanted greater democratic control. Miners' opposition to the government regulation took two broad forms within water conflicts:

1. working class miners agitated for gold regulations to protect domestic water uses and in-stream alluvial diggings; and

2. miners also objected to the government interfering with what they considered to be their private property gained by virtue of their own enterprise.

Goldfields regulation operated on a local basis, with local goldfields commissioners holding a large degree of discretion. Water supply questions were in some respects even more strongly localised, as each goldfield had its own specific topography, climate and nature of mining being undertaken. The broad discretions given to local commissioners in relation to water were sometimes the cause of contention, despite the over-arching legislation and regulations governing water privileges.

2.2 The first water access rights for goldminers

The first statutory water rights on the goldfields were provided in regulations. Gold regulations were issued on 7 October 1851 (the October 1851 Regulations),

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14 This chapter's discussion of miners focuses on white miners, from Australian, British and American backgrounds. There were a substantial population of Chinese miners on New South Wales goldfields and there is evidence of disputes between Chinese and white miners over water (see C.J. Lloyd, *Either drought or plenty: water development and management in New South Wales* (Department of Water Resources New South Wales, 1988). The Chinese used water for mining and would later with the innovation of market gardens become the first systematic irrigators on the Australian continent. The thesis research did not find any evidence of systematic or substantial disputes between Chinese and European miners specifically over water.

15 This was especially the case in New South Wales, in contrast to Victoria where the topography and location of the goldfields made centralised supply much more practical (C.J. Lloyd, *Either drought or plenty: water development and management in New South Wales* (Department of Water Resources New South Wales, 1988) 76).

25 November 1851 (the November 1851 Regulations) and on 2 April 1852 (the April 1852 Regulations). In December 1852, the *Gold Fields Management Act 1852* (NSW) (the Gold Fields Act 1852) was enacted. These first enactments created a rudimentary water access regime, which would remain in force until 1858. This regime covered four broad areas:

1. implicit rights for alluvial miners to access waters of the rivers and streams as part of their claim to portions of the creek bed;
2. express, generous and exclusive water access rights for quartz miners;
3. a basic permit process to build dams and reservoirs; and
4. a process for miners to acquire rights to drain waterholes and other surplus water from goldfields.

The alluvial and quartz mining claims provided that the claim would be voided by the holder upon abandonment. This 'use it or lose it' rule became one a key feature of later water laws.17

Gold regulations applied distinct rules to alluvial and quartz miners. Alluvial miners extracted water from the sand and gravel of the river and creek beds, using relatively non-capital intensive techniques such as panning. Their right to access water was implicitly provided for within their claims to sections of creek and river frontages and beds:

> **Persons desirous of establishing claims to new and unoccupied ground by working in the ordinary method for alluvial gold may have their claims marked out on the following scale, namely:**

1. **Fifteen feet frontage to either side of a river or main creek to each person.**
2. **Twenty feet of the bed of a tributary to a river or main creek, to each person.**
3. **Sixty feet of the bed of a ravine or water-course to each person.**
4. **Twenty feet square of table land or river flats to each person.**18

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17 Emily O'Gorman suggests that this was in order to guard against hoarding (Emily O'Gorman, *Flood country: an environmental history of the Murray-Darling Basin* (CSIRO Publishing, 2012) 67).
Miners paid a licence fee and their claim would be voided if they left it unworked for a ten day period. Alluvial miners' implicit water right appears to have been a basic form of statutory land-based water access right, where the right to occupy and use the land inherently entailed a right to take and use water.

Quartz mining was a more large-scale and capital intensive process than alluvial panning, the parameters of which were set by the October regulations, then altered significantly by the November regulations. The November regulations required miners to pay a bond of £1000 before commencing. Claimants acquired a right to half a mile of land in length and breadth following the vein (160 acres) for three years. These miners needed to employ at least 20 men within six months. The November 1851 Regulations created a water access right for quartz miners, which appears to have been the first express right to access water on the New South Wales goldfields:

*The person or company working any such claim will be allowed access to convenient water, should there not be sufficient on the one hundred and sixty acres; and where the public convenience will not suffer by it, the exclusive right to necessary water will be conceded.*

This right entitled quartz miners to take water from lands near their claim if they did not have sufficient water on their claim itself. The right was provided exclusively and was apparently limited only by the miner's own need for water, as long as the 'public convenience' was not adversely affected. This right was repeated, effectively unchanged, in the April 1852 Regulations. The creation of a distinct water access right for quartz miners may have been considered necessary because of the different landscape in which these miners operated. Unlike alluvial diggers who operated within the creeks and watercourses, quartz miners tracked the quartz veins across the landscape, retrieving gold-bearing rock and crushing it to obtain the gold.

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19 cl.1 *Gold Regulations* (released 7 October 1851).
20 cl.4 *Gold Regulations* (dated 25 November 1851); cl.6 *Gold Regulations* (released 7 October 1851).
21 cl.2 *Gold Regulations* (dated 25 November 1851); one horse power of steam machinery could replace seven men.
22 cl.2(1)(3) *Gold Regulations 1852; ‘Gold Regulations’, The Maitland Mercury and Hunter River General Advertiser* (Maitland), 7 April 1852.
The April 1852 Regulations also allowed for miners to build dams and reservoirs:

_Persons desirous of constructing reservoirs or dams in the gold fields, for the purpose of washing gold, should make application to the Local Assistant Commissioner, who will if the same should appear to him unobjectionable, grant the requisite permission._24

The reservoir or dam would be reserved for the exclusive use of the person who constructed it, unless the commissioners considered that such a reservation would be detrimental to the public interest.25 The regulation gave a high degree of discretion to the commissioners. For example, there were no guidelines given as to how 'unobjectionable' should be interpreted. The _prima facie_ position would seem to have been that permission should be granted unless the commissioner had an objection. The Gold Fields Act 1852 also enabled the construction of water races and tunnels for the diversion of watercourses.26 These provisions contrast with the application of the common law to pastoralist water users, whose construction of dams was illegal.27 These enactments indicate the first steps in a radically new approach to managing New South Wales' waters. Firstly, they authorised licensed miners to interfere with the natural flow of water. This was an early indication of the intensive human intervention with the natural ecology that would occur during the goldrush. Secondly, the enactments established a role for the Crown to determine end users' rights to access water.

It is unclear the extent to which there was conflict among miners over water in the early 1850s. These early regulations do not indicate how disputes between gold miners over water or in relation to the prioritisation of access to water would be resolved. Quartz miners' right to take 'convenient water' where 'necessary' was granted exclusively but it is unclear what principles would have operated if there had been a dispute between two quartz miners over the same source of water. Possibly the

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24 cl.4(1) Gold Regulations 1852.
25 cl.4(2) Gold Regulations 1852.
26 cl.11 Gold Fields Management Act 1852 (NSW).
27 Emily O'Gorman suggests that by regulating water access on the goldfields and leaving pastoralist water use relatively unregulated, Australian colonial governments perpetuated two systems with distinct kinds of knowledge around water and water management (Emily O’Gorman, _Flood country: an environmental history of the Murray–Darling Basin_ (CSIRO Publishing, 2012) 74).
first-in-time, first-in-right principle, which regulated access to claims, could have operated. Alluvial miners also had exclusive rights to their claims and the builders of dams had exclusive rights to use the water retained, however, it is unclear what principles would have applied if there had been a dispute between mining water users along the same stream over the flow of water. The provision allowing construction of dams did not specify the location of the dam, implying that, unless the relevant commissioner had an objection, dams could be constructed on regularly flowing streams as well as dry or ephemeral gullies.

The October 1851 Regulations also provided for the drainage of waterholes. Persons who wished to drain ponds or waterholes could apply to the commissioners. This regulation was repeated, with some modifications, the April 1852 regulations. The Gold Fields Act 1852 also provided for 'carrying away superfluous water from auriferous lands', including allowing miners to build races and tunnels to drain off excess water. Water drainage was a large-scale process. The October 1851 Regulation required the applicants to employ at least 40 people and to take out mining licences for each person employed.

Unlike the rights to access water, these drainage provisions did provide for the possibility of conflict between miners. The October 1851 Regulations established a tender process if there was more than one claimant to any particular waterhole. The April 1852 Regulations removed the tender process and stated that the right to drain a waterhole would be decided by priority — i.e. a first-in-time, first-in-right rule. The April 1852 Regulations also provided for the interests of other parties who might be affected by the drainage.

28 cl.9 Gold Regulations (dated 25 November 1851).
29 cl.3 Gold Regulations; The Goulburn Herald and County of Argyle Advertiser (NSW), 10 April 1852, 6.
30 s.11 Gold Fields Management Act 1852 (NSW).
31 cl.9 Gold Regulations 1851; 'Additional Gold Regulations', Bathurst Free Press and Mining Journal (Bathurst), 11 October 1851, 6).
32 cl.10 Gold Regulations (dated 25 November 1851).
33 cl.3(1) Gold Regulations (dated 2 April 1852).
34 cl.3(1) Gold Regulations (dated 2 April 1852).
If there should be no valid objection to the application, from interference with alluvial digging, or other sufficient cause, the right to drain the waterhole will be conceded to the applicant on payment [...]

This provision protected alluvial digging to an extent from waterhole drainage, though it is unclear whether the key concern of diggers would have been the removal of a water source on which they relied or the flooding of their diggings with the drained water. The parameters of 'sufficient cause' were not defined, leaving the discretion with the commissioners. The regulations also provided an overall discretion to the commissioners to 'make such temporary regulations as may be necessary to prevent inconvenience to other licensed persons'. The provision allowing for licences to drain waterholes was not repeated in later enactments.

3. Water sharing on the goldfields

Water-sharing disputes on the goldfields were complex, involving three broad categories of protagonists: individual miners with little or no capital backing, larger-scale mining operations undertaken by syndicates or corporate miners, and the colonial government, represented by the goldfields commissioners. The individual miners largely undertook alluvial panning, whereas the larger enterprises who could employ workers undertook the more intensive processes such as quartz mining. Water conflicts contained distinct class elements. Individual miners resented the influx of syndicate miners onto the goldfields and the priority given to those miners by the colonial regulations and commissioners. Miners more generally also disliked the regulation by the colonial government of the goldfields. This section first introduces the class tensions on the goldfields by examining an early conflict at Tambaroora in 1852, then discusses an early dispute between a pastoralist and a gold-mining company near the Hanging Rock goldfield at Maitland.

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35. cl.3(2) Gold Regulations (dated 2 April 1852).
36. see for example Geoffrey Blainey, The rush that never ended: a history of Australian mining (Melbourne University Press, 1963) 67 discussing disputes between individual miners and mining companies. For example, at Rocky River gold field near Maitland in 1856, the miners held a large meeting to protest the granting of a large tract of gold-bearing land to the Messrs Buchanan: 'all seemed determined to uphold their right to dig and that it is both unjust and unpolitic to place a large portion of the goldfields in the hands of one or two individuals' ('The goldfields: Rocky River', Empire (Sydney), 1 September 1858, 2). Similar protest arose again at Rocky River, twelve years later in 1868: 'The Gold Fields', Sydney Morning Herald (Sydney), 25 November 1868, 2; 'Northern Goldfields', The Maitland Mercury and Hunter River General Advertiser (Maitland) 24 November 1868, 2.)
3.1 Conflict over waterholes at Tambaroora in 1852

In 1852, a dispute arose at Tambaroora between working class miners and the colonial government over water regulations and decisions made with respect to waterhole drainage. The miners of the district opposed the commissioners' decision to grant licences to drain waterholes which were relied on for public drinking water and mining uses. This dispute introduces key concepts in relation to water regulation that would recur throughout the goldrush:

- the concept of a public right to water;
- the desire of working class miners to have a democratic voice over the management of the goldfields; and
- the rejection by the majority of working class miners of the granting of rights to mining companies or syndicates that adversely affected the majority.

This conflict highlights the class nature of goldfields water disputes and especially working class miners' resentment of the government's encouragement of larger enterprises.

Australian miners were predominantly working class and often associated themselves with the formative Australian labour and union organisation. The association of the ordinary diggers with labour and the working class was sustained into the 1860s and was evident in their protests. For example, at the launch of the Miners' Protective League at Burrangong (near Young) in 1861, it was pledged that the league would extend its protective influence not only to gold miners but to every working man in Australia: 'labour being the only wealth of any country, it must and it shall have its corresponding power'.37 Two key concerns of miners were with the license fee38 and

37 'Burrangong Diggings', Empire (Sydney), 26 February 1861, 2.
38 For example, a large meeting (1400 miners) was held at Sofala on the Turon Goldfield in 1853 to complain about the monthly license fee. Some miners threatened armed conflict. There were indications that miners at Turon and Tambaroora were forming a league together, in order to carry out passive resistance to the license fee: 'The gold fields: the Turon', The Maitland Mercury and Hunter River General Advertiser (Maitland) 16 February 1863; 'The Gold Fields', The Maitland Mercury and Hunter River General Advertiser (Maitland) 2 March 1863, 4. There were also protests against the license fee at Ophir (near Orange) and a petition on behalf of 2000 miners was signed on the Turon in 1851: 'Debate on the Gold Regulations', Bathurst Free Press and Mining Journal (Bathurst), 10 December 1851, 2.
with mining companies acquiring monopoly leases over large tracts of gold-bearing land — both of which were seen as depriving ordinary working men of the goldfields.

Miners' concern with large capital was very real. The social composition and economic structure of the goldfields changed over time and, as goldmining matured, the goldfields came to be dominated by mining companies and partnerships rather than individual miners. Individual diggers could no longer compete, particularly once surface alluvial gold was exhausted and gold extraction from quartz and underground required large capital inputs. A small minority of miners became mine owners, while the bulk of remaining miners were reduced to wage labourers. As alluvial gold was exhausted, even individual miners were driven to mine in areas where water was less accessible — a situation in which they were reliant on cooperative or company endeavours to build water diversions. The development of water resources, essential for large-scale extraction of gold from soil and rock, for motive power and to allow the expansion of goldmining onto the arid uplands, was beyond the means of individuals.

The tension between individual miners and larger enterprise was visible in 1852 at Tambaroora. The gold commissioners had granted licences to drain a series of waterholes. The Tambaroora Miners' Association, voiced largely by Mr James McEachern, organised and led the protest against these waterholes being handed over to private individuals. Mr McEachern argued that, considering the 'nature of the public interests at stake', the government was acting unwarrantably in 'alienating to

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39 For example, there was a meeting of diggers at Tambaroora in 1852 to protest against companies occupying a large amount of land ('The Western Gold Fields', *Empire* (Sydney), 23 August 1858, 2). There were similar protests at Rocky River (near Maitland) in 1856 and again in 1868 ('The goldfields: Rocky River', *Empire* (Sydney), 1 September 1858, 2; 'Northern Goldfields', *The Maitland Mercury and Hunter River General Advertiser* (Maitland) 24 November 1868, 2; 'The Gold Fields', *Sydney Morning Herald* (Sydney), 25 November 1868, 2).


42 Sometimes spelled 'M'Eachern'.

private uses any of the permanent sources of the public water supply'. A meeting of more than 100 people resulted in a petition signed by 60 or 70 people:

*Protest of the undersigned, miners and inhabitants of Tambaroora, against the spoliation of the Water Privileges hitherto reserved for public use, and now threatened with destruction by the alienation of certain water holes for mining purposes to private individuals.*

Similar concerns were raised on other goldfields at the time. For example, there was a call in the *Sydney Morning Herald* in December 1851 for regulation to protect waterholes for public water use at the diggings. In Bathurst in 1851, a commentator noted that it was 'highly impolitic and injudicious' to drain waterholes in the summer.

The Assistant Commissioner justified the drainage of the waterholes at Tambaroora by arguing that the 'reckless and careless manner in which they [had] been used for gold washing' had caused them to become unfit for that purpose and for domestic purposes. He argued that it was better to drain them and wait for a thunderstorm to re-fill them. In response, Mr McEachern noted that if the waterholes had been abused, it was the goldfields commissioners who were to blame for having allowed such abuses contrary to the public interest. He also expressed a degree of disbelief in the genuineness of the Commissioner’s motives. In particular, he noted the lack of guarantee in the drainage licences that the waterholes would be restored to a purified state, the licensees would not pollute the rest of the reservoirs, or the waterholes would be cleaned out successively, to leave a public water supply available throughout the cleaning process.

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43 First letter from J. M’Eachern: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2–3.
44 Second letter from J. M’Eachern: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 3; Mr McEachern claimed that following the meeting, hundreds more people in the district had indicated their agreement with the petition.
45 Response of Assistant Commissioner: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2.
46 ‘Sanitary regulations at the diggings’, *Sydney Morning Herald* (Sydney), 6 December 1851, 2.
48 Response of Assistant Commissioner: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2.
49 Response of Assistant Commissioner: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2.
50 First letter from J. M’Eachern: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2–3. ‘If these waterholes were formerly abused in a reckless and careless manner, you, sir, were to blame and are severely censurable in having known and tolerated such abuses. This [...] shows your indifference to the public interests entrusted to your control and your unfitness for so important a charge.’
51 First letter from J. M’Eachern: *Bathurst Free Press and Mining Journal* (Bathurst), 6 November 1852, 2–3.
The concern appears to have been primarily with the protection of domestic water use. Miners were living on the goldfields and if the drinking water supply was destroyed, they would have to leave. The letters and petitions also connected public use with the need to protect the small miners against the large private mining operations. The petition noted that the waterholes had previously been reserved or used primarily for gold washing and other purposes of 'public convenience' such as domestic uses, and were in fact the main or only source of water for the entire district. The decision to allow drainage of the waterholes was described as:

\[ \text{the alienation or abuse of the water-holes to any extent as a spoliation of public privilege, as flagrantly injurious to the common interests of the mining population of the district [...]} \]

The inclusion of mining water use within the definition of 'public use' as well as the reference to the 'common interest' indicates how the complaint pitted the interests of the working class miners against the goldfields commissioners and the more capital intensive mining interests. These miners apparently did not see their rights to mine as purely private rights but instead believed that access to the goldfields should be applied equally and fairly to the community of miners as a whole.

Related to this, the dispute touched on the question of who among the local community could have say about the operation of the goldfields. The Assistant Commissioner had, in his response to the protest and petition, argued firstly that 'the unlicensed persons who have signed the protest must be aware that they can have no voice in the matter' and secondly that 'it would have been as well to have omitted the signatures of habitual and convicted drunkards'. Mr McEachern upheld the rights of 'every man, woman and child on the diggings' to a voice in a matter of such vital public interest: 'an equal right to protest against so flagrant and unwarrantable spoliation of the main necessary of life'.

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52 Second letter from J. M’Eachern: Bathurst Free Press and Mining Journal (Bathurst), 6 November 1852, 3.
53 Response of Assistant Commissioner: Bathurst Free Press and Mining Journal (Bathurst), 6 November 1852, 2.
54 Response of Assistant Commissioner: Bathurst Free Press and Mining Journal (Bathurst), 6 November 1852, 2.
55 First letter from J. M’Eachern: Bathurst Free Press and Mining Journal (Bathurst), 6 November 1852, 2–3; McEachern also upheld the rights of the 'habitual and convicted drunkard', John Deane, that 'unhappy and degraded wretch' to his right to protest.
Barely one month later, in December 1852, the miners of Tambaroora sent a petition to Sir Charles Fitzroy, Governor of New South Wales and Governor-General of the colonies, protesting against the Gold Fields Act 1852. Their concerns were again distinctly working class, complaining that the law prescribed:

\[ \textit{pains, penalties, and restrictions on the freedom, rights, action, enterprise of the working classes, of the most tyrannical and oppressive character, and utterly at variance with the spirit und provisions of British life and with the principles and guaranties of the British Constitution.} \]

The petitioners argued that the law was calculated to 'encourage monopoly and crush independent industry in the mines'. Miners protested against the proposed bill for the management of the goldfields — for example, by regulating non-mining activity in goldfields districts and by giving broad discretions to the local commissioners.

The Australian goldfields raised a challenge for individual miners. In contrast to the Californian goldfields, gold was found less readily on the surface of soil. Miners had to work together as partners or even in employer–employee relationships, with one miner taking the risk of providing the capital investment in the enterprise and hiring other miners to work for wages. As an alternative to large capital, the Tambaroora miners suggested cooperative enterprise to undertake tasks which were too great for an individual miner. The miners' petition specifically requested that a law be made respecting water privileges to protect both the public use and reservation of waters

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56 ‘Miners’ protest against the proposed bill for the management of the gold fields’, Empire (Sydney) 4 December 1852, 1.
57 ‘Miners protest against the proposed bill for the management of the goldfields’, Empire (Sydney) 4 December 1852, 1.
58 ‘Miners protest against the proposed bill for the management of the goldfields’, Empire (Sydney) 4 December 1852, 1.
59 ‘Miners protest against the proposed bill for the management of the goldfields’, Empire (Sydney) 4 December 1852, 1.
and the appropriate of water to private uses.\textsuperscript{62} This law would allow for the establishment of goldfields drainage trusts rateable on all holders of river diggings to 'meet the expense of a system of drainage, without which all the claims assessed would be unworkable'.\textsuperscript{63} This cooperative system would have enabled the diggings to be worked without need for larger enterprise or monopoly.

The concerns at Tambaroora in relation to monopoly and large capital were not isolated. In October 1851, the Bathurst press had complained that the requirement to employ 40 men to drain waterholes appeared quite arbitrary and would prevent the draining of small waterholes.\textsuperscript{64} The April 1852 Regulation slightly modified the requirement for 40 men to be employed. Instead, the number of licenses which would need to be taken out was calculated proportionately to the area of the waterhole, 'calculated at the rate of twenty-live feet square for every license'.\textsuperscript{65} This too was the subject of complaints: that a licence fee should not be payable on such a speculative enterprise (given that miners would not know if there was gold available until the waterhole had been drained);\textsuperscript{66} and that these regulations still kept the 'appropriation of waterholes' out of the reach of the mass of diggers.\textsuperscript{67}

\textbf{3.2 Pastoralists versus miners: Dr Jenkins and the American Water Company in 1854}

The Tambaroora dispute indicates the beginnings of conflict between working class miners and corporate miners on the goldfields. There were also sporadic, uneasily settled disputes between miners and pastoralists. In general, the goldfields enactments gave miners priority over pastoralists. For example, the April 1852 gold regulations cancelled Crown leases to the extent of any conflict between a goldfield and a Crown tenant, in order to secure 'undisturbed possession' to licensed miners.\textsuperscript{68}

\textsuperscript{62} 'Miners' protest against the proposed bill for the management of the gold fields', \textit{Empire} (Sydney) 4 December 1852, 1.

\textsuperscript{63} 'Miners protest against the proposed bill for the management of the goldfields', \textit{Empire} (Sydney) 4 December 1852, 1.

\textsuperscript{64} 'The new gold regulations', \textit{Bathurst Free Press and Mining Journal} (Bathurst), 11 October 1851, 4.

\textsuperscript{65} cl.1(3) \textit{Gold Regulations 1852}; 'Gold Regulations', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 7 April 1852.

\textsuperscript{66} 'The consolidated gold regulations', \textit{Sydney Morning Herald} (Sydney), 3 September 1852, 2.

\textsuperscript{67} 'License to dig gold', \textit{Sydney Morning Herald} (Sydney), 25 August 1853, 8.

\textsuperscript{68} cl.4 \textit{Gold Regulations} (April 1852); see also s.3 \textit{Gold Fields Management Act 1852}. 
In 1854, a dispute arose between a pastoralist cattle farmer, Dr Jenkins, and the American Water Company at Hanging Rock. In February 1854, *The Sydney Morning Herald* correspondent at Hanging Rock wrote:

*We hope the Government will not support Dr. Jenkins in his opposition to the American Water Company. If water for sluicing purposes should not be granted, these diggings will soon be of very little importance.*

The company applied for permission to take water from Dungowan’s Creek for the Peel’s River Diggings. Once again, the *Herald* correspondent was extremely supportive of this application, suggesting that the colonial government should grant the permission without delay as 'as a great many interests are involved and losses to a large amount will be sustained if a refusal be given'.

The approach of the colonial government was to try to meet everyone’s needs. By early March, the government made a decision in relation to this dispute that, according to *The Sydney Morning Herald* at least, was:

*most fair and impartial; for whilst it grants permission for water to be taken from [Dungowan Creek] for gold washing, it guarantees Dr. Jenkins a sufficient supply of water for his cattle.*

The *Herald* noted, however, that the government decision did not state how much water was a 'sufficient supply'. In opposition to its earlier statements, it also suggested that if there was only enough water for the cattle run or for the goldfields, the water would be far more valuable to the proprietor of the run than to the gold miners. The government decision would appear to not, however, have fully resolved the dispute. In March, it was reported that the company intended to take water from Duncan’s

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69 ‘The Northern Gold Fields’, *The Sydney Morning Herald* (Sydney), 1 February 1854. Sluicing was a more capital intense form of gold-washing which took water from the river.

70 The media reports do not specify the precise nature of the permission sought or the legislative source of the government's authority to grant the permission. It was most likely an application to divert water via a tunnel or race (e.g. cl.11 Gold Fields Management Act 1852 (NSW)).

71 ‘Hanging Rock’, *The Sydney Morning Herald* (Sydney), 22 February 1854, 4.

72 ‘The Hanging Rock’, *The Sydney Morning Herald* (Sydney), 6 March 1854, 5; see also ‘The Hanging Rock’, *The Maitland Mercury & Hunter River General Advertiser* (Maitland), 4 March 1854, 2.

73 ‘The Hanging Rock’, *The Sydney Morning Herald* (Sydney), 6 March 1854, 5.
Creek and that that Dr Jenkins would likely seek redress if this resulted in an insufficient supply of water for his cattle.\textsuperscript{74}

Some degree of tension between pastoralists and miners was inevitable. Pastoralists had established runs and relied on the water sources within those runs.\textsuperscript{75} By making claims on Crown land, goldmining directly challenged the pastoralists' water security. This research only located sporadic disputes, however, suggesting either that the statutory enactments worked well to resolve those conflicts that did arise or that conflicts were not reported or publically debated. Of key interest is the role that the state played in mediating the dispute between Dr Jenkins and the American Water Company. Unlike the disputes between pastoralists, which were managed almost entirely outside the law, by giving itself authority to grant water permissions, the Crown had taken the first steps to establish a role of arbiter of end users' access to water.\textsuperscript{76}

4. Water privileges in regulations and local court rules: 1858 – 1866

In 1858, new gold regulations created sophisticated water privileges. These provisions were repeated with some alterations in regulations in 1866. Simultaneously, between 1859 and 1863, local court rules also provided principles for water management and access on certain goldfields. These rules were developed and adopted democratically by the community of miners. Thus, as the goldfields matured, water came to be managed by a complex web of regulations and principles providing for the prioritisation of water access and water sharing.\textsuperscript{77} Australian goldmining water laws

\textsuperscript{74} 'The Northern Gold Fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 29 March 1854.

\textsuperscript{75} Also note that pastoralists lobbied hard against the expansion of the goldrush and accommodation of miners' demands (Anthony Scott, 'Free mining from medieval Europe to the gold rushes' in Anthony Scott (ed.), \textit{The Evolution of Resource Property Rights} (Oxford University Press, 2008) 208, 223).


\textsuperscript{77} This section focuses on the following instruments: \textit{General Regulations 1858}; \textit{Gold Fields Regulations 1866}; \textit{Araluen Local Court Rules 1859}; \textit{Nundle Gold Fields Local Court Rules 1859}; and \textit{Burrangong Local Court Rules 1863}. Gold regulations after 1866 were substantially similar but mining law acquired a new direction and maturity with the enactment of the \textit{Mining Act 1874} (NSW). This case study focuses on the water disputes of the goldrush and therefore does not examine the development of water rights within general mining law from the 1870s onwards.
are sometimes considered to have provided for a prior appropriation system.\footnote{see e.g. Edwyna Harris, \textit{Scarcity and the Evolution of Water Rights in the Nineteenth Century: the Role of Climate and Asset Type} (Monash University Department of Economics discussion paper, 2010) 4.} Prior appropriation 'first-in-time, first-in-right' principles certainly operated within the regulations and local court rules. However, other water-sharing principles also operated, especially public rights to water, quasi-riparian rights to in-stream water, and regulations concerned to use water efficiently and to avoid waste. This section first details the key provisions of regulations enacted in 1858 and 1866, then examines each of the local court rules in turn.

\section*{4.1 The General Regulations 1858 and Gold Fields Regulations 1866}

The \textit{General Regulations 1858} (General Regulations) and \textit{Gold Fields Regulations 1866} (the 1866 Regulations) both provided for water access rights and protection of water supplies, in particular:

- the protection of the public water supply;
- a general prohibition against draining water to the nuisance of others;
- defined water privileges, including the right to divert water from the stream; and
- permissions to build dams and reservoirs.\footnote{The 1866 Regulations also provided for the passage of mining water via races through freehold and leasehold land (cl.35–43 \textit{Gold Fields Regulations 1866} (NSW)).}

Each goldfield can be seen as a 'mini-colony' with its own distinct social norms and a diverse range of participants. The gold regulations needed to manage water resources for an entire community. As a result, the goldfields regulations embodied a complex statutory balancing act between groups of individuals with distinct interests.

\subsection*{a. Protection of the public interest and against nuisance}

The General Regulations provided for the protection of the public water supply. The commissioners had broad powers to make rules or orders they considered necessary for regulating gold washing at streams and waterholes in order to prevent 'injury of a
public nature, by the deposit of tailings or refuse'. Miners were also prohibited from establishing ground claims in locations where they would interfere with public water supply. Claimaints' water privileges and rights to construct dams were limited by the need to protect the public water interest. 'Public interest' was defined either as the protection of the 'general interests' or expressly as the protection of domestic water supplies.

The General Regulations also contained a general clause protecting against nuisance. Miners were prohibited from digging into the banks of holes or excavations containing water or sludge if their actions would cause damage to waterholes or other miners' property, including other miners' claims and dams. This reference to excavations containing sludge indicates the extent to which the goldfields had, by the late 1850s, become extensively modified from their natural state and recognises that mining refuse could cause a nuisance to other water uses.

b. Water privileges: rights to use and divert a quantity of water

The General Regulations and the 1866 Regulations contained well-defined permissions to construct water races and rights to a certain quantity of water. These regulations also specified priority rules to facilitate water sharing among mining users, apparently using three broad principles to identify priority of access to water: first-in-time, first-in-right; prioritisation of in-stream workings; and mitigation against waste.

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80 cl.6 General Regulations 1858 (NSW); the 1866 Regulations had a similar provision but gave the regulatory power to the justices of the peace (cl.11 Gold Fields Regulations 1866 (NSW)).
81 cl.13 General Regulations 1858 (NSW); see also cl.15 Gold Fields Regulations 1866 (NSW).
82 cl.13 General Regulations 1858 (NSW).
83 cl.21 General Regulations 1858 (NSW).
84 cl.15 General Regulations 1858 (NSW).
The General Regulations established rights to use a water race to convey a specified quantity of water to any locality.\textsuperscript{86} These water privileges were flexible entitlements, held separately from the ground claims and able therefore, with the commissioners' consent, to be transferred to a new ground claim.\textsuperscript{87} There was also no necessary requirement that the holder of a water privilege use the water themselves. This would theoretically enable water users to construct reservoirs and races to supply others with water.\textsuperscript{88} The water privileges were limited by:

- a requirement to actively use the entitlement — water privileges would be voided after seven or 14 days non-use or abandonment (depending on the nature of the working);\textsuperscript{89}
- a protection on the public interest — the privilege would not be granted if it would injuriously affect the public interest,\textsuperscript{90} although this protection was removed from the 1866 Regulations; and
- a requirement to return water to the main channel at the direction of the commissioners.\textsuperscript{91}

The commissioner could also approve the construction of dams.\textsuperscript{92} The terms of this provision were generally similar to the right which had already been enacted under the April 1852 Regulations, providing an exclusive right to the dam-builder to use the water. The commissioner could also direct that the dam be lowered if it interfered with the working of the creek or obstructed the supply of water for domestic purposes.\textsuperscript{93}

There was no express statement of a prior use 'first-in-time first-in-right' principle in the General Regulations. Nevertheless, the water access rights contained in the General Regulations demonstrate three of this thesis' four proposed key indicia of a prior use right: a right to a distinct volume of water, the need for active use, and no

\textsuperscript{86} cl.19 General Regulations 1858 (NSW).
\textsuperscript{87} cl.19 General Regulations 1858 (NSW); see also cl.25 Gold Fields Regulations 1866 (NSW).
\textsuperscript{88} Miners questioned how operable these provisions were ('The new gold field regulations', Empire (Sydney) 26 August 1858, 5).
\textsuperscript{89} cl.19 General Regulations 1858 (NSW); see also cl.25 Gold Fields Regulations 1866 (NSW).
\textsuperscript{90} cl.20 General Regulations 1858 (NSW).
\textsuperscript{91} cl.20 General Regulations 1858 (NSW); this protection was not in the Gold Fields Regulations 1866 (NSW).
\textsuperscript{92} cl.21 General Regulations 1858 (NSW); see also cl.31 Gold Fields Regulations 1866 (NSW).
\textsuperscript{93} cl.21 General Regulations 1858 (NSW); see also cl.30 Gold Fields Regulations 1866 (NSW).
necessary connection with landholding. It is possible that first-in-time first-in-right principles were applied implicitly, such that a water user who came later could only use what water remained after the existing users had taken their water privileges. Other principles were being applied as well, however, in particular protection of in-stream workings and principles that mitigated against waste of water.

Firstly, the requirement that users of water privileges allow water to return to the watercourse, as well as the requirement that dams be lowered temporarily if alluvial workings were being affected, indicate a desire to protect in-stream water uses. Secondly, the General Regulations were concerned to protect against waste and ensure effective use of water supplies. The commissioners could allow third parties to take water from races, if the amount of water in the race was in excess of the water privilege held by the owner of the race.\(^\text{94}\) This proved somewhat contentious with miners and possibly for that reason was not repeated in the 1866 Regulations.\(^\text{95}\)

The 1866 Regulations provided more clear guidance for the prioritisation of water users’ rights, establishing two key priority rules:

1. in-stream users were prioritised over out-of-stream users; and
2. earlier users had priority over later users.

The 1866 Regulations were also still concerned to prevent waste of water. They gave more strict guidance as to the measurement of water, including requiring raceholders to keep a permanent gauge at the head of each race.\(^\text{96}\) The 1866 Regulations also provided that if a water user who would otherwise have priority could not obtain at least one half of the quantity of water to which they were entitled by reason of 'waste of water or otherwise' then they would lose their priority.\(^\text{97}\) The protection against waste could be seen as a limitation to prior use — i.e. limiting unrestrained private appropriation of water rights — or alternatively as the 'flip-side' of prior use's requirement that water be used actively or beneficially. That is, a water user who

\(^{94}\) cl.20 *General Regulations 1858* (NSW).

\(^{95}\) ‘The new gold field regulations’, *Empire* (Sydney) 26 August 1858, 5.

\(^{96}\) cl.28 *Gold Fields Regulations 1866* (NSW).

\(^{97}\) cl.27 *Gold Fields Regulations 1866* (NSW).
would otherwise have had a prior right but whose entitlement to water was not put to effective use would lose their entitlement.\footnote{98}

The requirement that race water be returned to the channel was removed from the 1866 Regulations. The 1866 Regulations still protected in-stream water users, possibly even more so than the General Regulations. The General Regulations had defined the water privilege as a right to convey water from the stream. Hence, only diversionary water users actually held water privileges. The 1866 Regulations, by contrast, provided a right to either convey a quantity of water from the channel or to use a quantity of water in the natural channel.\footnote{99} Moreover, the holder of an in-stream water privilege was entitled to a prior right over the holder of a privilege who would divert water, to the volume of three box-sluice heads.\footnote{100} The 1866 Regulations also protected in-stream flow in another provision:

\begin{quote}
Every holder of a claim or lease in a river or creek shall form and maintain a sufficient flood race through or past such claim, and shall be entitled to maintain the natural level of the water at the head of his claim provided that no prior right be injured thereby.\footnote{101}
\end{quote}

This provision protected claims and the in-river workings as a whole from floods or high river flows. By allowing miners to retain a 'natural level' of water at the head of their claim, the provision provided in-stream users with further water security. Moreover, the dual operation of flood races to divert high flows and the maintenance of a base 'natural' water level at the head claims was a simple means of regulating river flow. Indeed, the reference to the 'natural level of the water' contains a value judgement, implicitly normalising an even or regular flow of water.

\footnote{98}{The United States prior appropriation doctrine included protection against waste as part of the definition of beneficial use: 'the basis of the prior appropriation doctrine is the taking of water from a "natural stream" and its application to a beneficial use within a reasonable period of time and in a non-wasteful manner (Alex Gardner, Richard Bartlett and Janice Gray, \textit{Water Resources Law} (2009, LexisNexis Butterworths) 30).}

\footnote{99}{cl.24 \textit{Gold Fields Regulations 1866} (NSW).}

\footnote{100}{cl.26 \textit{Gold Fields Regulations 1866} (NSW). Box-sluices with strict dimensions (e.g. 'a sectional area of twelve inches by one with a fall of one in twenty-four' \cite{19 General Regulations 1858 (NSW)}\footnote{101}{cl.19 \textit{General Regulations 1858 (NSW)}}\footnote{102}{cl.52 \textit{Gold Fields Regulations 1869}.}) were a standard means of measuring water volumes on the goldfields. By 1869, only one sluice-head of water was required to be left flowing in the stream, if it was required for mining purposes, indicating the declining importance of alluvial diggings \cite{52 Gold Fields Regulations 1869}.}

\footnote{101}{cl.13 \textit{Gold Fields Regulations 1866} (NSW).}
The 1866 Regulations also enacted a first-in-time first-in-right rule, giving priority from the date of registration.\textsuperscript{102} Presumably in order to facilitate the operation of the prior use principles, the 1866 Regulations allowed other miners to raise objections before permission was granted to build a race\textsuperscript{103} and made it trespass for a junior entitlement holder to take the water of a prior claim.\textsuperscript{104}

4.2 The Local Court rules

Colonial government enactments were not the only source of water law on the goldfields. At times, democratic organisation of the miners among themselves agreed by-laws to regulate miners' conduct. Miners' self-organisation had appeared first in California. Unlike in Australia, the Californian goldrush was unregulated by the United States Federal Government from 1848–1850 and goldminers worked entirely without outside regulation. Rules as to ownership of claims were determined democratically by the collective group of miners themselves.\textsuperscript{105} Communities of Californian miners developed collective contracts establishing exclusive individual claims and worked together to exclude outside claim jumpers\textsuperscript{106} and distribute claims equitably.\textsuperscript{107}

In New South Wales, the colonial government regulated the goldfields from the beginning. However, miners' political organisation was nevertheless substantial and included collective actions of miners to establish rules for the management of the goldfields. In Ballarat in Victoria in 1852, meetings of miners established rules and

\textsuperscript{102} cl.26 Gold Fields Regulations 1866 (NSW).

\textsuperscript{103} cl.26 Gold Fields Regulations 1866 (NSW).

\textsuperscript{104} cl.29 Gold Fields Regulations 1866 (NSW).


resolved disputes.\textsuperscript{108} The creek edge was apportioned equally and by mutual consent between more than a hundred miners.\textsuperscript{109} After the Eureka Stockade in 1854, the Victorian government returned a great deal of control to the miners by establishing local courts,\textsuperscript{110} composed of and elected by miners and presided over by the local commissioner.\textsuperscript{111} Local courts also operated in New South Wales, although their influence and duration was much less than in Victoria.\textsuperscript{112}

At least three local court rules established in the late 1850s and early 1860s discussed rights to water:

- Araluen Local Court Rules 1859;
- Nundle Gold Fields Local Court Rules 1859; and
- Burrangong Local Court Rules 1863.

There were differences and similarities between these three districts in relation to management of water, which indicates that some principles applied across the goldfields as a whole and some developed as a result of local circumstances. The local court rules either repealed or held priority over the general gold regulations within that goldfield.\textsuperscript{113} The parallel operation of local court rules alongside gold regulations and legislation highlights some of the key defining factors of goldfields water law and conflict. The statutory provision of water privileges was a first in New South Wales and, as such, the goldfields can be seen as a precursor of public administration. However, the colonial government's rule on the goldfields was continually questioned and challenged by the miners themselves, highlighting the class tensions that defined much of the goldfields' water conflicts.

\textsuperscript{108} Sumner La Croix, ‘Property rights and institutional change during Australia’s gold rush’ (1992) 29 Explorations in Economic History 204, 207.
\textsuperscript{109} Sumner La Croix, ‘Property rights and institutional change during Australia’s gold rush’ (1992) 29 Explorations in Economic History 204, 207.
\textsuperscript{112} Geoffrey Blainey, The rush that never ended: a history of Australian mining (Melbourne University Press, 1963) 57.
\textsuperscript{113} see e.g. cl.13 Nundle Gold Fields Local Court Rules 1859; cl.1 Burrangong Local Court Rules 1863.
a. The *Nundle Local Court Rules 1859*

In March 1859, the Nundle Goldfield near Hanging Rock adopted local court rules (the Nundle Rules), which had two major provisions in relation to water. The rules contained a provision to force claimholders to cooperate with other claimholders to improve goldfields, including removing excess water.\(^{114}\) The rules also regulated the actions of miners in relation to the American Water Company, which was a major source of water for most miners. Firstly, the rules set a fixed price to be charged by the company for water (ten shillings per day, for a certain amount of water).\(^{115}\) Secondly, the rules protected the works of the company, providing that '[no] person shall damage or otherwise interfere with any reservoir or ditch belonging to the [American Water Company].'\(^{116}\) Thirdly, any disputes over priority of water supply from the company were to be referred to the Local Court.\(^{117}\)

b. The *Araluen Local Court Rules 1859*

In September 1859, local court rules were established for the Araluen goldfield in the south-east of the colony (the Araluen Rules). The formation of the water access rights within the Araluen Rules may have been driven by a contemporaneous shortage of water. In August 1859, it had been reported that there were many disputes over water rights, which were successfully resolved by the Araluen Local Court.\(^{118}\) In September of the same year at Crown Flat, near Braidwood in the same general area, it was reported that:

> Mining operations are sadly impeded for want of water and many disputes arise, which are settled by reference to the Local Courts. It is to be hoped that a copious fall of rain will shortly descend and that these existing differences as to the right of water will be removed.\(^{119}\)

\(^{114}\) cl.7 *Nundle Gold Fields Local Court Rules 1859*

\(^{115}\) cl.10 *Nundle Gold Fields Local Court Rules 1859*; in 1853, the price had been reported to be five shillings per day ("The Hanging Rock", *The Sydney Morning Herald* (Sydney), 23 May 1857, 6).

\(^{116}\) cl.11 *Nundle Gold Fields Local Court Rules 1859*.

\(^{117}\) cl.11 *Nundle Gold Fields Local Court Rules 1859*.

\(^{118}\) ‘Braidwood’, *The Sydney Morning Herald* (Sydney), 17 August 1859, 2–3.

\(^{119}\) ‘Gold News’, *The Sydney Morning Herald* (Sydney), 6 September 1859, 3.
In relation to access to water, the Araluen Rules provided that:\(^{120}\)

> Any party taking possession of a portion of a creek or running stream, and placing a wheel or machinery thereon, or otherwise working it, shall have a priority of right to water, except one sluice head of twelve square inches, if required by any miner or party working on such creek or running stream; successive rights of water to follow in order of application to the clerk of the local court.

The reference to creeks and running streams suggests that the provision only applied to permanent streams of running water. In relation to water sharing, the provision provided a hybrid of prior use and in-stream rights. The provision gave a prior use right to miners (or potentially other parties such as a water supply company) who:

- took possession of a portion of a creek or running stream; and
- built a wheel or machinery on the creek or otherwise worked the creek.\(^{121}\)

Priorities were clearly judged on a prior appropriation basis, with the chronology of claims to be determined by date of application court. The clause refers both to actual possession of the water source as well as the application, and it would seem that both were necessary in order to claim a prior right. It is not clear what would have be required to prove possession or indeed what the drafters required the miner to possess — whether the creek bed or the stream of water. The requirement for taking possession may simply have referred to occupying a creek claim.\(^{122}\) The right also does not specify a volume which the party holding the prior right might take, although there clearly needed to be some way of establishing what earlier parties’ rights were so that later parties might not interfere with them. Possibly their right would have been considered to be limited to the water they needed to work their wheel, machinery or mine their claim more generally.

\(^{120}\) cl.4 Araluen Valley Local Court Rules 1859.

\(^{121}\) The Araluen Rules also gave miners the right to cut races through other miners’ claims, provided that the interests of those claimholders were not impeded (cl.10 Araluen Valley Local Court Rules 1859).

\(^{122}\) cl.1 provided that all creek claims would be 30 yards stream frontage by 75 yards measured from the centre of the stream.
The provision also had an in-stream element. It required a party with a prior right to leave a certain volume of water in the stream if required by any miner working on that creek. The intention of the rules would seem to be to balance the needs of users of the stream (by allowing them a set volume of one sluice head), while simultaneously allowing existing users to take more water if they needed. The provision therefore established a base flow of one sluice head and allowed miners to take water above that baseflow to the extent of their prior right.

c. The Burrangong Local Court Rules 1863

On 23 February 1863, the Burrangong Local Court Rules 1863 (the Burrangong Rules) were framed by the Burrangong Local Court. Similar to the General Regulations, the Burrangong Rules provided for water privileges and for the right to construct races and dams. The rules showed a clear desire to balance the needs of all parties, in particular those with pre-existing rights. A miner who wished to construct a race or a dam needed to apply to the commissioner.123 Other parties could object, in which case the application would be decided by the commissioner and assessors.124

In relation to races, there were provisions that protected against the 'prejudice of existing rights'.125 Dams and races were also protected from damage or destruction — for example, no person could occupy land within 12 feet of a dam and it was prohibited to 'damage, destroy or otherwise interfere' with dams.126 The rules also allowed dams to be supplied by means of stormwater races upon application to the Commissioner,127 a provision which effectively allowed users to extract rainwater from the watershed. Rights to dams were transferable to others upon application128 but other rights do not appear to have been.

123 cl.8(2) Burrangong Local Court Rules 1863; cl.9(1) Burrangong Local Court Rules 1863.
124 cl.8(2) Burrangong Local Court Rules 1863; cl.9(1) Burrangong Local Court Rules 1863
125 cl.8(4) Burrangong Local Court Rules 1863.
126 cl.9(2) Burrangong Local Court Rules 1863; see also cl.8(6) Burrangong Local Court Rules 1863.
127 cl.9(3) Burrangong Local Court Rules 1863.
128 cl.9(4) Burrangong Local Court Rules 1863.
The Burrangong Rules provided for a right to use water, either diverted from the stream or in-stream. The water right was defined as a right to 'convey by means of a race a specified quantity of water to any locality, or the right to a specified quantity of water in its natural channel'. This is effectively the same wording that would occur later in the 1866 Regulations. The Rules provided for two priority rules:

1. users in the bed of a stream had priority over users diverting water from the natural channel; and
2. otherwise, users had priority according to the date of registration — i.e. a first-in-time first-in-right rule.

The holders of later rights were required to check that those with a prior right had taken their water before taking their own. It was a trespass to take water allotted to others. The right to construct a race was also forfeit if the right-holder did not start work within one month — a necessary provision, given the first-in-time first-in-right nature of the right.

5. Understanding the rules and regulations in the context of conflicts over water

In the late 1850s and early 1860s, there appear to have been three broad and at times contradictory dynamics driving conflict over water as well as setting the parameters of water access regimes more generally. Firstly, the increasing development of water resources, undertaken largely by the syndicate or corporate miners, required water access rights that allowed water to be diverted from the main channel and a water access regime that supported capital investment in races, reservoirs, water-wheels, aqueducts and other works. Secondly, the colonial government attempted to protect its own interests (e.g. in obtaining revenue) and to encourage capital investment and enterprise. This led to conflict between the state and both working class miners and capitalist miners. Thirdly, the working class miners resisted both the operations of large capital on and the management by the colonial government of the goldfields, and

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129 cl.8(1) Burrangong Local Court Rules 1863.
130 cl.8(7) Burrangong Local Court Rules 1863.
131 cl.8(8) Burrangong Local Court Rules 1863.
132 cl.8(9) Burrangong Local Court Rules 1863.
133 cl.8(9) Burrangong Local Court Rules 1863.
134 cl.8(2) Burrangong Local Court Rules 1863.
pushed for protections of the public interest and the interests of smaller mining concerns for an equal access to the goldfields.

This section examines these tensions alongside a series of diverse water conflicts between 1854 and 1867:

1. the class tension between working class or individual alluvial miners who wished to use water in-stream and larger, corporate mining operations who wished to divert water for use outside the river channel or valley;

2. the claim by capitalist miners for greater private property in water and the rejection by capitalist and working class miners alike of government regulation; and

3. the development of water trade and disputes over access to the water supply of the American Water Company at Hanging Rock.

5.1 The development of water resources on the goldfields

Compared to contemporaneous pastoralist water use, water management on the goldfields was characterised by a high level of development. Over-supply and under-supply of water were both problematic. The water regulations enabled significant human modification of the natural landscape and river flows, both to remove excess water and divert water to areas without a sufficient natural supply.

Over-supply of water was partly a geographic question but it was also a particular problem for the early goldrush. During these years, individual diggers were focused on alluvial gold, and high river flows would often prevent mining within the watercourse. Even when rivers were not in flood, ordinary river flow could prevent mining of the riverbed. In the early days of the goldrush, miners could do little about high river


136 For example, a report from the Turon goldfield in 1851 complained that the river was too high to be able to pan for alluvial gold. The writer clamoured for 4–6 weeks’ dry weather (‘The Gold Fields’, *The Sydney Morning Herald* (Sydney), 25 November 1851, 2; see also ‘Mining intelligence’, *Bell’s Life in Sydney and Sporting Reviewer* (Sydney), 9 August 1851, 2). There were further floods at Turon in 1852 (e.g. ‘Mining intelligence: the Turon’, *Empire* (Sydney), 29 May 1852, 3). In 1853, ‘the river rose with terrific force and destroyed not only all the bed claims [...] but the Bathurst Point race system as well. Pumps and scaffolding were swept away and twenty foot excavations filled in’ (Matthew Higgins, ‘Near-rebellion on the Turon goldfields in 1853’ (1983)
flows except wait for the river flow to drop so that mining could recommence. As the goldfields developed, rivers and watersources were increasingly modified and diverted to allow mining to take place. Sometimes smaller rivers were dammed and the stream was diverted so that miners could prospect in the dry bed. Horseshoe bends were also cut through to divert water. At the diggings near Bathurst, races were cut in 1852 to drain off the excess water.

Substantial investment was also undertaken to retain water in dams and reservoirs, and divert it out of the river and creek valleys. Substantial investment in modification and diversion of watercourses started in 1853. Between 1853 and 1855, there was an increase in the number of water races, reservoirs and water-wheels, mostly built and managed by mining companies. The Hanging Rock goldfield near Maitland was particularly well developed, with construction works led by a party of ex-Californian miners. The Californians, who would form the American Water Company, constructed a large reservoir fed by races and introduced sluicing. In 1854, two other companies had also built water supply works at Hanging Rock. At least two water-wheels had been constructed to lift and pump water, one by the Cox’s company and another by a company on the lower Oakanville Creek. Cox’s company was described as having 50 water licences and half a mile of ground.


137 e.g. there was too much water at Araluen in October 1851 to work the bed of the creek; miners downed tools and waited for the river level to drop (‘The southern gold fields’, Bell’s Life in Sydney and Sporting Reviewer (Sydney), 18 October 1851, 1).

138 C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988) 79; for example, watercourses were dammed to access the riverbed at Ophir (Tambaroora) in 1852 (‘The western gold fields’, Empire (Sydney), 12 November 1852, 2).

139 C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988) 79.

140 ‘Scenes at the western diggings’, Empire (Sydney), 12 October 1852, 3.

141 ‘The northern gold fields’, The Maitland Mercury and Hunter River General Advertiser (Maitland), 17 September 1853, 2. One race of five miles was praised as a great innovation (‘The Hanging Rock’, Empire (Sydney), 8 November 1853, 3).

142 ‘The northern gold fields’, The Maitland Mercury and Hunter River General Advertiser (Maitland), 3 September 1853, 2; see also ‘The northern gold fields’, The Maitland Mercury and Hunter River General Advertiser (Maitland), 9 May 1854, 3.

143 ‘Mining Extracts’, Bell’s Life in Sydney and Sporting Reviewer (Sydney), 18 November 1854, 1.
These water supply works were mostly undertaken by syndicates or miners with capital backing. For example, the proposed race from Swamp Creek at Happy Valley was not built until 1858, by a Mr Dane, a miner who expended 'great outlay' on the endeavour.\textsuperscript{146} It was recognised in 1857 that capital was required to mine at Black Range near Albury, as a two-mile race needed to be cut from the Murray.\textsuperscript{147} Similar developments on other goldfields were led by companies and cooperatives:

- a reservoir fed by steam pumps was built by Messrs Boyd, Lestage and Company on the Turon in 1854;\textsuperscript{148}
- a large dam connected to alluvial works and quartz crushing, described as a 'remarkable piece of work', was built by the Colonial Goldmining Company at Louisa Creek in 1854;\textsuperscript{149}
- a Bathurst mining company engaged in quartz crushing was employing 30 men and had built a 'large and capacious dam' in 1855;\textsuperscript{150}
- at least three companies (Jennings and Party, Watt and Co and a 'German party') had erected waterwheels and race structures at Araluen between 1857 and 1858;\textsuperscript{151} and
- at Oban near Armidale in 1857 a party of miners spent £700 in cutting a race\textsuperscript{152} and substantial works, including water-wheels, had been built by several parties.\textsuperscript{153}

The same dynamic was evident in the American goldrushes. Where at first 'capital had become nothing and labour was everything', as early as 1851, only three years after the start of the Californian goldrush, the goldfields were dominated by companies with

\textsuperscript{144} 'The northern gold fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 17 October 1854, 3; 'The northern gold fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 30 June 1855, 2.

\textsuperscript{145} 'The northern gold fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 12 May 1855, 2. It is unclear what these water licences were, as water privileges were only introduced in regulations in 1858, but they may have been referring to permissions under the April 1852 regulations.

\textsuperscript{146} 'Happy Valley and Peel River gold fields', \textit{The Sydney Morning Herald} (Sydney), 22 September 1858, 3.

\textsuperscript{147} 'Albury', \textit{Empire} (Sydney), 25 December 1857, 5.

\textsuperscript{148} 'Council Paper', \textit{Empire} (Sydney), 1 July 1854, 3.

\textsuperscript{149} 'Louisa Creek', \textit{Bathurst Free Press and Mining Journal} (Bathurst), 24 June 1854, 2.

\textsuperscript{150} 'Mining intelligence: Tambarooro', \textit{Bathurst Free Press and Mining Journal} (Bathurst), 17 February 1855, 2.

\textsuperscript{151} 'Gold circular', \textit{Empire} (Sydney), 27 October 1855, 5; 'Braidwood', \textit{Bell's Life in Sydney and Sporting Reviewer} (Sydney), 3 October 1857, 1; 'Araluen', \textit{The Sydney Morning Herald} (Sydney), 5 September 1857, 5; 'Our gold fields', \textit{The Sydney Morning Herald} (Sydney), 5 July 1858, 2.

\textsuperscript{152} 'Oban diggings', \textit{Empire} (Sydney), 24 April 1857, 6.

\textsuperscript{153} 'Our gold fields: Oban diggings', \textit{The Sydney Morning Herald} (Sydney), 23 May 1857, 5.
heavy capital.\textsuperscript{154} The gold regulations assisted this capitalisation of water by defining water privileges that legalised the construction of dams and diversionary works. Development of water resources was also assisted by the definition of a water privilege as a right to a volume of water, which could be diverted via a water race to the diggings. These water privileges defined water access separately to the natural landscape and river flow patterns.

a. Class interests in the conflict between in-stream and out-of-stream water uses

The construction of water supply works was beyond the means of individual miners. These miners tended to work small claims in the creek bed and were reliant on in-stream flows. One way to increase water supply and to divert water from permanent water sources would be by cooperation of groups of individual miners. This possibility had been suggested by Tambaroora miners in 1852, when they requested that drainage trusts be established to allow miners to collectively achieve tasks that were greater than any individual miner could achieve. A substantially similar mechanism operated within the Nundle Rules, enforcing the cooperation of minority claimholders to assist in undertaking works agreed by the majority. At Braidwood in 1859, individual miners worked together to provide a water supply to diggings:\textsuperscript{155}

\begin{quote}
The want of freshness in the stream causes several parties to be nearly idle [...] Where people practise the old saying, 'union is strength,' many work together in opening a head-race; then, in turn, they have the use of the stream for washing operations.\textsuperscript{156}
\end{quote}

The local press suggested at least twice in 1854 that want of water at Happy Valley (at Hanging Rock) could be overcome by miners uniting to dig their own two-mile race

\textsuperscript{154} Andrea McDowell, ‘From Commons to Claims: property rights in the California gold rush’, (2002) 14\ Yale\ Journal\ of\ Law\ and\ Humanities 1, 9–10.

\textsuperscript{155} ‘Braidwood’, Sydney Morning Herald (Sydney), 17 August 1859, 2–3.

\textsuperscript{156} ‘Braidwood’, Sydney Morning Herald (Sydney), 17 August 1859, 2–3; Contrary to claims that the goldfields were dominated by competition over private interests, there is evidence that miners endorsed ideas of equal distribution and fairness (see e.g. ‘Gold News’, The Sydney Morning Herald (Sydney), 23 February 1858, 5: miners uniting to ensure that the discovery of a new gold field was attributed to the correct man). More generally, in relation to cooperation on the American goldfields, see David Schorr, ‘Appropriation as agrarianism: distributive justice in the creation of property rights’, (2005) 32\ Ecology\ Law\ Quarterly 3; Richard Zerbe and Leigh Anderson, ‘Culture and fairness in the development of institutions in the California gold fields’ (2001) 61(1)\ Journal\ of\ Economic\ History 114.
from Swamp Creek.\textsuperscript{157} This cooperation was an alternative approach to the increasing capitalisation of the goldfields.

However, the colonial government increasingly favoured the development of mining companies and syndicates. For example, in response to diggers' concerns about companies taking over large tracts of land at Rocky River in 1868, the government refused the objections, as entirely in opposition to the main principle of the regulations.\textsuperscript{158} Nevertheless, the General Regulations, the Araluen Rules and the Burrangong Rules all attempted to protect the needs of individual in-stream users. The in-stream protections may have been greater where working class organisation on the goldfields was stronger. For example, the Burrangong Rules, one of the more militant of the goldfields districts with stronger miners' organisation,\textsuperscript{159} gave greater value to in-stream flows.

It is also interesting here to refer to the \textit{Beechworth Local Court Rules}, established for the Victorian Beechworth goldfield in October 1855 (the Beechworth Rules).\textsuperscript{160} These Rules established four priorities of water use: public rights to water, in-stream water uses, water users who diverted water for sluicing, and use of water for water-wheels.\textsuperscript{161} The working of beds of creeks or water-holes was only allowed at all if there would be no injury to the public.\textsuperscript{162} Sluice washing and other water privileges — which would have diverted water from the stream — would only be granted where

\begin{footnotes}
\item[157] 'The northern gold fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 21 October 1854, 2; 'The northern gold fields', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 18 November 1854, 2.
\item[158] 'The Gold Fields', \textit{Sydney Morning Herald} (Sydney), 25 November 1868, 2.
\item[159] 'Burrangong Diggings', \textit{Empire} (Sydney), 26 February 1861, 2. Burrangong had an active Miners' Protection League, which campaigned for example for a mutual aid society, 'by which we can support those amongst us who, by accident or otherwise, become helpless'. Ideas of solidarity did not extend, however, to the Chinese, whom the Burrangong league was determined to remove from the goldfields. Note that in 1861, water was one cause of disputes between white and Chinese miners (C.J. Lloyd, \textit{Either drought or plenty: water development and management in New South Wales} (Department of Water Resources New South Wales, 1988) 73.) However, white miners' enmity against Chinese miners does not appear to have cause generalised water conflict on the goldfields, even though the Chinese made extensive use of water, both for mining and for horticulture.
\item[160] 'Beechworth Local Court Rules', \textit{The Sydney Morning Herald} (Sydney), 11 October 1855, 3; 'Beechworth Local Court Rules', \textit{The Argus} (Melbourne), 5 October 1855, 6.
\item[161] cl.5 \textit{Beechworth Local Court Rules 1855}; there was also a division of water into 'night water' and 'day water' (cl.7 \textit{Beechworth Local Court Rules 1855}).
\item[162] cl.1 \textit{Beechworth Local Court Rules 1855}.
\end{footnotes}
the permanent supply of water would not be injured.\textsuperscript{163} The rules also prioritised in-stream flow, the rules stating that '[the] whole body of water if required to be allowed to flow in the bed of the creek'.\textsuperscript{164} Moreover, provision was made for sluicing races to be cut through to allow water to return to the creek in times of water scarcity.\textsuperscript{165} Races would have been cut in order of reverse priority — i.e. the last built would have been cut first.\textsuperscript{166} Generic Victorian local court rules enacted to apply to all goldfields without their own local court rules contained a similar concern to protect public rights to water and the permanent flow of the stream but were otherwise far less extensive.\textsuperscript{167} Working class miners’ agitation and organisation was far stronger in Victoria than in New South Wales and it is unsurprising therefore that Victorian local court rules would have placed greater emphasis on in-stream and public water rights.

Goldfields enactments struck a balance between in-stream and diversionary uses of water. While containing strong prior use principles, the regime enacted by the General Regulations and the 1866 Regulations was not a pure prior use water access regime. Despite the protection of in-stream flows, neither was it a riparian regime. Lloyd suggests that goldfields regulations were influenced by traditional riparian law.\textsuperscript{168} It is certainly possible that the common law did influence the goldfields water law, especially given the contemporaneous incorporation of the riparian doctrine into New South Wales law and the debates among pastoralists over the flow of water in creeks and streams.

However, the approach taken by the gold regulations to water and water sharing was quite different to riparianism. The riparian doctrine protected and gave rights to use water 'flowing in its natural current'. Riparian landholders did not hold rights to a specific quantity of water. Instead, the quantum available for use at any one time was dependent upon the level of flow in the stream and the equal use rights of all other riverside landholders. The goldfields water privileges, by contrast, defined water as a

\textsuperscript{163} cl.2 Beechworth Local Court Rules 1855.
\textsuperscript{164} cl.2 Beechworth Local Court Rules 1855.
\textsuperscript{165} cl.2 Beechworth Local Court Rules 1855.
\textsuperscript{166} cl.2 Beechworth Local Court Rules 1855.
\textsuperscript{167} 'Local Court Rules', The Argus (Melbourne), 5 October 1855, 6.
\textsuperscript{168} C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988) 75.
quantifiable resource. The right to water for in-stream workings — as well as the right to divert water — was not defined by reference to natural flow but as a right to a certain, measurable quantity of water. Compared to common law riparianism, this approach to allocating water resources among end users was much more closely aligned with Linton's definition of 'modern water' as a quantifiable and abstract resource, defined separately from the natural ecology.

It is hard to judge the extent to which there were open disputes between in-stream users and those miners who wished to divert water, particularly because the interests of the miners involved in conflicts were often not reported. Two substantial water disputes, one at Kiandra in 1860 and another at Araluen in 1867, appear to have been disputes over in-stream versus diversionary users of water.

At Kiandra in 1860, water rights were cancelled by the commissioner upon complaints that sluicing was filling the river with sludge and destroying the claims of many other miners. A J.J. MacDonald and party had obtained permission from the commissioner, Mr Lockhart, to cut a race for ground sluicing. They built the race, which cost them £400, but complaints were made that:

the operations of ground sluicing were filling the river bed with from 12 to 18 inches of sludge and completely destroying the claims of those who had been at work for months before Mr. McDonald and his party.

The Commissioner ordered Mr MacDonald to cease working and to allow the water to revert into its natural channel. The basis of the decision was cl.20 of the General Regulations, that even where a permit to cut a water race for sluicing has been granted, the commissioner may nevertheless order the water to be returned to the ordinary channel.

169 Other disputes: (1) Braidwood 1859: dispute between miners Fowles and Biles over a water privilege: Fowles claimed to have bought the right from Spence, but Biles claimed to be in lawful possession of the right with Spence's consent. Case decided by the Local Court in favour of the defendant (‘The southern gold fields’, Empire (Sydney), 25 June 1859, 2); (2) Araluen (Braidwood) 1867: A dispute between two miners over a ground claim, in which the defendant had cut away the plaintiff's dam, was decided in the Araluen Mining Court (Hunt v Heeger and ors; reported in ‘Araluen Mining Court’, Braidwood Independent (Braidwood), 25 September 1867, 4).

170 ‘Later from the Snowy River’, Empire (Sydney), 30 July 1860, 4.

171 ‘Later from the Snowy River’, Empire (Sydney), 30 July 1860, 4.

172 cl.20 1859 regulations.
At Araluen in 1867, there was a water rights dispute in which the complainants argued that they had a prior right to water on the basis that they were working the stream and that the defendants were diverting water.\textsuperscript{173} The basis of their action was cl.27 of the 1866 Regulations, which entitled the holder of a water privilege in the stream to a prior right to water over the holder of a water privilege who intended to divert water from the natural channel.\textsuperscript{174} The dispute was decided first by the Araluen Police Magistrate, then appealed to the Braidwood Police Court. The focus of the case was to ascertain factual questions: the defendants claimed they were working the bed of the stream, while the plaintiffs brought witnesses to give the evidence that the defendants claim was ten feet above the bed and was not even inundated during floods.\textsuperscript{175} The case was deferred awaiting a government survey of the stream.

### 5.2 Miners’ private property and opposition to government regulation

While working class miners and their advocates stressed the need for public rights to water and to protect in-stream alluvial water uses, the corporate or capitalist miners tended to agitate for stronger private property in water and for a removal of government regulation. Unsurprisingly, conflicts between miners and the state appear to have arisen most often when goldfields commissioners abused their discretions and treated miners unfairly.

In 1858, Mr Samuel Hawkins, who would later form the Homeward Bound Mining Company with two other miners, wrote a letter from Sofala on the Turon goldfield protesting the General Regulations. In relation to water, his complaints were underpinned by a concern to protect the private rights of miners against government regulation. At times, concerns about the discriminatory, arbitrary or even despotic actions of the goldfields commissioners came from both working class and capitalist miners. The Tambaroora miners in 1852 had complained about the discretions given to the commissioners, suggesting that they were tyrannical and oppressive. Unlike the Tambaroora miners who had expressly strongly working class sentiments, Mr Hawkins'
letter relies much more heavily on capitalist rationales such as individual enterprise and protection of private property. This indicates his own position as a miner with larger, more corporate operations.

Mr Hawkins represented those miners who were forming partnerships and cooperatives that would evolve into more large-scale capital. He was interested in establishing private property in the water diverted by water races and was especially concerned to protect miners' capacity to build races in order to supply and sell water. Hawkins argued against:

1. the 'use it or lose it' nature of the water privileges; and
2. the permission to allow third parties to use 'excess water' from races.

The General Regulations provided that water privileges would be forfeit for abandonment if they were not worked for seven days for river working and 14 days for alluvial working. Hawkins argued that this impacted harshly on those who constructed water races in order to supply others with water, as those races would often be unused for longer than 14 days. Mr Hawkins also rejected the discretion given to the commissioners to allow third parties to use excess water from the races at a price determined by the commissioners and assessors. Hawkins argued that the water transported in the race should be left to the race holder to dispose of:

[W]ith regard to the surplus water, why, in the name of justice, should any official be permitted to meddle with the results of any man's labour? If the Commissioners are to be entrusted with these powers, it will be fatal to many an enterprise of this class, for no man will be found fool enough to risk his time and capital upon such an insecure basis.

Hawkins' language bears a strong resemblance to that of pastoralists arguing that they had an absolute right to the 'artificial water' stored in their dams. Hawkins was arguing in effect that in constructing a water race, the miner created private property in that

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176 cl.19 1858 regulations.
177 'The new gold field regulations', *Empire* (Sydney) 26 August 1858, 5.
178 'The new gold field regulations', *Empire* (Sydney) 26 August 1858, 5.
race and should be entitled to do with it as he willed. Hawkins was rejecting the authority of the state to regulate water use, suggesting that a miner who constructed a water race should be entitled to the full flow of water along that race. According to his view, miners should obtain rights to water by their enterprise and investment, unimpeded by government interference or regulation. As such, Hawkins impliedly suggested that a prior right to use water should be obtained by altering or 'improving' the water source rather than continual, active use of the water.

Mr Hawkins was involved again in a dispute with government representatives, amidst a concentration of disputes in the Snowy Mountains. Between 1859 and 1863, there was a cluster of disputes between miners and gold commissioners at Adelong and Kiandra goldfields over the actions of commissioners in deciding water rights questions. Many of these disputes involved Commissioner Cooper, who was also the subject of a diverse range of other complaints from miners. The first two disputes, however, involved respectively, Commissioner Lynch (in 1859 at Adelong) and Commissioner Scott (at 1860 in Kiandra).

At Adelong in 1859, the actions of the local commissioner, Mr Lynch, in resolving a water dispute at Adelong in 1859 were the subject of intense complaint. The case was between two mining parties, Messrs Edwards, Brothers and Channon, and Hayes and Company and involved a 'disputed water right and dam'. The major grievance against the commissioner was that he had refused to allow the matter to be decided by a local court. This caused dissatisfaction to the resident miners of the field, who drew up a petition which was presented to parliament in January 1860, which

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179 'The new gold field regulations', Empire (Sydney) 26 August 1858, 5.
180 It is unclear the extent to which miner discontent with gold commissioners actions in relation to water were generalised across the colony.
181 see also 'Legislative Assembly', The Sydney Morning Herald (Sydney), 2 October 1860, 8; 'Legislative Assembly', The Sydney Morning Herald (Sydney), 2 June 1860, 4–6.
183 'Adelong—Corresponce', The Sydney Morning Herald (Sydney), 17 December 1859, 7–8
185 The petition was presented to parliament on 27 January 1860, but the text of the petition was not recorded ('Parliamentary Intelligence', Empire (Sydney), 28 January 1860, 5); see also 'Legislative Assembly', Sydney Morning Herald (Sydney), 30 January 1860, 5; 'Legislative Assembly', Empire (Sydney), 2 February 1860, 5.
prayed for the removal of Commissioner Lynch.\textsuperscript{186} Mr John Bowie Wilson, the member for the Southern Gold Fields supported their petition in parliament, suggesting that decision complained of was one which involved circumstances of great injustice.\textsuperscript{187} The government justified the actions of the commissioner by noting that there was no local court which could have tried to the matter.\textsuperscript{188}

A further dispute arose at Kiandra in 1860.\textsuperscript{189} Miner Thomas Moriarty had refused to give up a race of water after Commissioner Scott judged that the race belonged to another miner. The dispute was taken to the local gold court, which confirmed the decision of the commissioner and levied a fine of £5 on the defendant. Both of these cases indicate the importance of the local courts for resolving water disputes on the goldfields and that miners preferred the rule of the local courts to that of the commissioners.

Between 1861 and 1863, disputes involving the commissioners arose again at Kiandra. The actions of the local commissioner, Mr Frederick Cooper, in relation to water rights at Kiandra goldfield became the subject of complaints by miners. Miners accused Mr Cooper of behaving in an arbitrary, despotic and nepotistic fashion.\textsuperscript{190} Grievances with Mr Cooper were first set out in a letter written by miner Samuel Hawkins, by now part owner of the Homeward Bound Mining Company, to the \textit{Sydney Morning Herald} in August 1861. The essence of the complaints were that Mr Cooper was misusing his powers, to privilege certain miners over others. Mr Hawkins detailed three instances:\textsuperscript{191}

\begin{itemize}
\item \textsuperscript{186} 'Snowy River', \textit{Empire} (Sydney), 7 March 1860, 2.
\item \textsuperscript{187} 'Water rights: Adelong', \textit{Sydney Morning Herald} (Sydney), 3 October 1860, 3–4.
\item \textsuperscript{188} 'Water rights: Adelong', \textit{Sydney Morning Herald} (Sydney), 3 October 1860, 3–4.
\item \textsuperscript{189} 'Kiandra', \textit{The Sydney Morning Herald} (Sydney), 24 September 1860, 5.
\item \textsuperscript{190} Complaints relating to water were not the only complaints against Cooper. The more serious complaints related to repeated instances of decision-making against the laws of natural justice; using police as spies; organising thugs to beat miners; and imprisoning Chinese miners for two days without food (\textit{The Empire} (Sydney), 9 December 1862, 4). Cooper’s actions were the subject of enquiry by Commissioner James Harrop Griffin in January 1862. Cooper was not removed from office, but instead allowed to transfer to Eden and later became a barrister and was elected to the Queensland parliament in 1879 (generally see, 'The charges against Commissioner Cooper', \textit{Empire} (Sydney), 22 January 1862, 8; \textit{The Scandalous Behaviour of Gold Commissioner Cooper}, Kiandra Historical Society, <www.kiandrahistory.net/cooper.html>).
\item \textsuperscript{191} 'Justice on the Gold Fields', \textit{Sydney Morning Herald} (Sydney), 17 August 1861, 7 (written on 12 August 1861).
\end{itemize}
1. A party of miners had held an official water permit to take a specified quantity of water from a creek for 15 months. They wished to obtain more water and applied to the Commissioner, arguing that they had originally applied for twice the amount of water and had assumed that they had obtained this larger amount. Commissioner Cooper chose to support this claim of an informal right — despite a written document to the contrary — and ordered Hawkins’ party to stop using their water race for which he had a ten-month old right.

2. The same party of miners later complained that their water supply was still deficient and argued that Hawkins’ party should also have handed over rights to springs. Hawkins claimed that these springs had never before been mentioned but nevertheless the commissioner and two assessors ordered the springs to be handed over and fined Hawkins’ party for not having surrendered them earlier.

3. Another party of miners, of whom the bank manager was also the chief, complained of a deficiency of water and demanded that Mr Hawkins’ party should supply them, as Hawkins’ water right was a later right. Mr Hawkins noted that this supply was in fact impossible, because the banker’s party’s race was uphill of Hawkins’ race.

Hawkins complained that his party’s water-race 'constructed at a cost of nearly £2000, has been rendered utterly valueless' as a result of Mr Cooper's actions. The primary result of Hawkins’ appeal to the press was to intensify the actions of Cooper against Hawkins and his party, including being summoned to an illegal trial and subjected to organised beatings. Hawkins petitioned parliament in June 1863 for redress, claiming that his company had lost up to £8000 as a result of inability to use their race or water privileges. Hawkins never received any compensation.

192 Hawkins complained that there was nepotism involved: one of the assessors was the partner of the chief complainant and also a bank manager in the Bank of New South Wales.

193 see also ‘Mr Sub-Commissioner Cooper’, Empire (Sydney), 8 January 1863, 5.

194 ‘Justice on the Gold Fields’, Sydney Morning Herald (Sydney), 16 December 1861, 3 (written on 7 December 1861).

195 ‘Justice on the Gold Fields’, Sydney Morning Herald (Sydney), 3 September 1861, 3 (written on 26 August 1861); see also ‘Justice on the Gold Fields’, Sydney Morning Herald (Sydney), 16 December 1861, 3 (written on 7 December 1861).


A Mr George Wallace also raised charges against Mr Cooper in January 1862 that Cooper had acted partially towards a Mr Timothy Collins. Mr Wallace’s complaints included two charges in relation to water: firstly that Mr Cooper had given Mr Collins part of a river claim (including wheel, pump and tail-race) to which another miner already held a permit and secondly that he had allowed Collins to use another miner’s water privilege.

As the goldfields developed, the power of commissioners was reduced substantially. Evidence of this can be found in relation to water. Early regulations gave wide discretion to the commissioners to approve or disapprove applications for water privileges and water diversions and storages. Later provisions, however, reduced this discretion, with decisions to be referred to local courts, to be made by assessors operating in conjunction with commissioners or by reference to justices of the peace. The evolution of mining wardens’ courts can also be placed within this history: wardens’ courts were introduced in 1874 and took over many of the duties of commissioners, such as the granting of licences and hearing of appeals.

The goldfields water regulations were an early, but incomplete, step towards public administration. Both Clem Lloyd and J.M. Powell have suggested that water regulations during the goldrush had a great impact on broader water regulation. This was an immature or incomplete public administration system. Water was not

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198 ‘The charges against Commissioner Cooper’, Empire (Sydney), 22 January 1862, 8.
199 Wallace also alleged that Cooper had refused to arrest Collins for at least two assaults, one of which occasioned grievous bodily harm.
200 ‘The charges against Commissioner Cooper’, Empire (Sydney), 22 January 1862, 8.
201 See e.g. General Regulations 1858.
202 cl.20 General Regulations 1858; s.2 Burrangong Local Court Rules 1863; cl.30 Gold Fields Regulations 1866 (NSW); cl.4 Araluen Local Court Rules 1859.
203 ss.67–84 Mining Act 1874 (NSW).
204 In 1879, a water dispute between a mining warden and a miner was litigated to the Supreme Court (Johnston v Robinson (‘Supreme Court’, The Sydney Morning Herald (Sydney), 9 May 1879, 6). The defendant was a mining warden and had entered the plaintiff’s land and destroyed his dam. He made a mistake as to the parcel of land, however and ordered the destruction of a dam for which the plaintiff had a valid right. The plaintiff succeeded.
vested in the Crown and the state did not undertake water conservation or water supply works. The state did, however, enact a system of statutory and administrative water privileges regulating end user access to water. The concerns raised by Samuel Hawkins indicate a line of tension on the goldfields: between *laissez-faire* encouragement of private property and private enterprise, and a state-administrative regulatory scheme. Nevertheless, the state also endorsed the capitalisation of the goldfields and — as part of that — the development of water resources.

### 5.3 Water trade and disputes relating to the American Water Company

During the goldrush, water trade appears to have been considerable and many water races were constructed purely for the purposes of the sale of water. At least one thriving water supply company operated in New South Wales: the American Water Company established by the Californians at Hanging Rock. In December 1853, the Chief Commissioner for Crown Lands visited the Hanging Rock goldfield and wrote enthusiastically about the company:

> This enterprising company have been permitted to load two or three streams to different localities about the field where there was an absence of water and thus afforded a numerous class of persons an opportunity of working claims by means of sluicing, which before were unavailable.

The company sold the water for an ounce of gold each week and also worked its own claims. The Chief Commissioner, Mr Durbin, was enthusiastic and supportive of the company’s enterprise: ‘[they] are deserving of every encouragement [...] so long as by their system of sluicing they do not obstruct the work of other miners.’

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207 In this regard, Emily O’Gorman suggests that commissioners allocated quantities of water based on expectations about the total amount of water that rivers carried (Emily O’Gorman, *Flood country: an environmental history of the Murray–Darling Basin* (CSIRO Publishing, 2012) 69); however, in the mid-nineteenth century, these decisions were based on necessarily imperfect knowledge.

208 ‘The new gold field regulations’, *Empire* (Sydney) 26 August 1858, 5.

209 The company was reportedly in the process of applying to take water from Iron Bark Creek or the Namoi River to the Bingera goldfield (‘Hanging Rock and Peel River Goldfields’, *The Sydney Morning Herald* (Sydney), 20 December 1853, 7; see also ‘Hanging Rock and Peel River Goldfields’, *The Maitland Mercury and Hunter River General Advertiser* (Maitland), 21 December 1853).

210 ‘Hanging Rock and Peel River Goldfields’, *The Sydney Morning Herald* (Sydney), 20 December 1853, 7; see also ‘Hanging Rock and Peel River Goldfields’, *The Maitland Mercury and Hunter River General Advertiser* (Maitland), 21 December 1853.

211 ‘Hanging Rock and Peel River Goldfields’, *The Sydney Morning Herald* (Sydney), 20 December 1853, 7.

212 ‘Hanging Rock and Peel River Goldfields’, *The Sydney Morning Herald* (Sydney), 20 December 1853, 7.
In 1854, the company's water supply was the subject of a dispute over water. At Hanging Rock in 1854, miners had just started working at a new field, Happy Valley. Water was scarce and obtained solely from the company reservoir. There were two broad groups of water users: 70–100 individual miners and some sluicing parties. The sluicing parties considered that they had priority, as they were the 'first to pay for water'. The *Maitland Mercury* correspondent proposed *contra* that the Happy Valley miners should have first rights to the water, because the stream of water was sufficient for all of them but only sufficient for 4–6 in a sluicing party. It is unclear how this dispute was resolved. It seems like that disputes such as these led the community of miners at Nundle to provide regulations for the company's water supply in the local court rules.

The American Water Supply company was still in operation in 1857. A correspondent reported that he passed 'a lofty aqueduct which the American Water Company are erecting for the purpose of supplying the diggers on the western side of the stream [Peel River] with water'. The correspondent noted that the 'steady and continuous' water supply offered by the company was a great advantage to miners at Hanging Rock compared to elsewhere in the country. In 1857, the company had approximately 42 miles of ditch and a number of reservoirs. The charge was five shillings per day, for as much water as would flow through a one inch pipe.

While the construction of water supply works for the sale of water to the goldfields was clearly possible, it would appear that the American Water Company at Hanging Rock

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221 ‘The Hanging Rock’, *The Sydney Morning Herald* (Sydney), 23 May 1857, 6; in 1859, the Nundle Rules would set the price at ten shillings per day (cl.10 *Nundle Gold Fields Local Court Rules 1859*).
Rock was for a time the only such company in New South Wales. In 1854, there was a call in an article on the Turon goldfield north of Bathurst and Orange for more water companies to be established in order to supply the 'dry diggings' with a 'plentiful supply of water'. In 1861, a water company was established at Delegate (Bombala) in the state's south. It was launched with much fanfare but appears to have failed before the end of the year. In July, the *Herald* wrote that the fate of the Delegate goldfield depended on the success of the water supply works. The company, promoted by a Dr Otway, had built:

> [a] substantial river dam, which forces the water through a flume or wooden trough on to a large wheel; this wheel sets in motion a forcing pump, which is estimated to drive the water through pipes up a hill side to the height of 128 feet, on to the auriferous tableland of Nelbothery. [...] [Dr Otway] has constructed several large reservoirs and dug upwards of six miles of races.

The hope was that approximately three square miles would be opened up for ground sluicing. However, a despondent newspaper report from 31 December 1861 reported that the 'Nelbothery Water Company' had failed and that the prospect of developing the goldfield was considerably retarded. Later newspaper reports indicate the establishment of at least two more water companies: the Grenfell Water Company at Emu Creek in March–May 1867 and another company at Gulgong (near Mudgee) in July 1871.
Water trade was possibly not an intentional policy outcome from the perspective of colonial governments.\textsuperscript{229} Nevertheless, the formulation of water privileges in the regulations enabled water trade. Water permissions could be held both by miners themselves and by third parties wishing to supply the goldfields with water.\textsuperscript{230} Akin to modern 'unbundled' water entitlements, water privileges were defined distinctly from ground claims and could often be transferred to a new ground claim with the commissioner's consent.\textsuperscript{231} Water trade is a further indicator that the goldfields water access regime defined water separately to the natural landscape. Water storages and diversions had enabled a break with the landscape and climate necessary to intensify industrialisation of the goldfields and created water as a product separate from the rhythms of the natural ecology. The American Water Company at Hanging Rock facilitated this process, increasing the capacity of miners to operate at distances removed from natural water sources of water.

6. Conclusion

The goldfields can be seen as a microcosm or mini-colony, a world of their own constrained within the boundaries of the gold districts. The gold regulations were in many ways in advance of the general water law and can be seen as a precursor of the public administration system. Water access was governed by a complex system of permissions and privileges granted by the executive arm of the state. This was the first enactment by the New South Wales colonial government of a system of statutory water access rights. The power to build dams and to divert water was ahead of the general water law and there is evidence that pastoralists were envious of the rights


\textsuperscript{230} s.11 \textit{Gold Fields Management Act 1852} (NSW).

\textsuperscript{231} cl.19 \textit{General Regulations 1858}. This was a constant feature of earlier but not necessarily later regulations (see e.g. cl.25 \textit{Gold Fields Regulations 1866}). Water rights could also be transferred to new holders (e.g. s.4 \textit{Burrangong Local Court Rules 1863}). Water rights could still be traded into the 20th century. For example, there is a reference in an article in 1902 to a mining company buying additional water rights ('Cassilis G.M. Company', \textit{The Sydney Morning Herald} (Sydney), 3 September 1902, 11). In 1906, a claim was made in the Mining Warden's Court that a mining water right ought to be reconveyed to the applicant, because consideration had not been carried out ('Transfer of water rights', \textit{Barrier Miner} (Broken Hill), 9 August 1906, 3)).
given to miners. Arguably, the gold regulations represented water as a manageable, abstract resource. The law's approach to water enabled a much greater degree of human intervention with the environment and devalued water's connections to the landscape. Gold regulations enabled substantial, although localised modification of the environment, in a precursor of the landscape-wide human intervention into river flows that would occur in the twentieth century.

While goldfields water law can be seen as a precursor of later, general water management decisions, water sharing on the goldrush also had specific dynamics of its own. The class tensions on the goldfields meant that goldfields water law was a complex dance between government administration and miners' democratic administration. The protection of in-stream water flows as well as public rights to water should be understood primarily within the context of political agitation to protect the interests of working class miners and the goldfields community. At times, especially miners with capital backing would also argue for greater private property in water.

The gold regulations systematically applied prior use principles but should not be characterised as an unmitigated prior appropriation system. Instead, the regulations established a complex administrative regime, which provided priority protection for public water needs and in-stream water uses, as well as principles mitigating against waste, alongside a first-in-time first-in-right approach. The defining elements of this regime were:

1. the role of state administrators to determine end users' rights to access water; and
2. the definition of water and water access rights in quantifiable, abstract terms.

Water management on the goldfields was a significant step towards the public administration regime of the twentieth century.

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232 C.J. Lloyd, *Either drought or plenty: water development and management in New South Wales* (Department of Water Resources New South Wales, 1988) 74; although Emily O'Gorman suggests that the unregulated nature of pastoralist water access (compared to the goldfields) enabled greater experimentation and capacity for innovative development of water resources (Emily O'Gorman, *Flood country: an environmental history of the Murray–Darling Basin* (CSIRO Publishing, 2012) 75).
This case study is concerned largely with the consequences of early public administration on water access rights on the goldfields. As a result, it focuses on disputes between miners. The intrusion of the goldfields onto pastoralist lands also caused scattered water-sharing disputes between miners and pastoralists over water throughout the decades following the end of the goldrush, throughout the second half of the nineteenth and into the twentieth century.

At first, legislation prioritised mining over pastoralism. For example, the Gold Fields Management Act 1857 (NSW) (the Gold Fields Act 1857) gave miners priority over pastoralists for access to water on Crown lands: 'When any Gold Mine or Gold Field shall have been discovered upon any Crown Lands then under lease or license for pastoral purposes it shall be lawful for the Governor [...] to suspend the said lease or license [...] for the supply of water to the said Gold Field [...]’ (s.10 Gold Fields Management Act 1857 (NSW)). Compensation was to be paid to pastoral lessees.

These provisions or similar were maintained in gold mining legislation and miners' rights to use water on Crown lands remained strong at least into the 1870s (e.g. s.13 Mining Act 1874 (NSW)). For example, the Gold Fields Regulations 1872 regulations give miners a very broad right to take water from Crown lands and to modify watercourses: 'A miner or party of miners may [...] cut, construct and use races, dams and reservoirs for gold-mining purposes through and upon any Crown lands and may take or divert water from any spring, lake, swamp or stream situate on or flowing through or adjoining Crown Lands and use such water for gold-mining purposes or for general public use. And the right to cut, construct and use races, dams and reservoirs and to take and divert water as aforesaid shall be termed a water right' (cl.70 Gold Mining Regulations 1872; The Sydney Morning Herald (Sydney), 27 March 1872, 5–6).

The Gold Fields Regulations Act 1861 had also extended miners' priority over other land users, giving miners the rights to pass water for gold mining purposes through freehold land, with compensation to be paid to freehold owners for any loss (s.12 Gold Fields Regulations Act 1861 (NSW)). This provision was re-enacted in 1866 (s.11 Gold Fields Act 1866 (NSW)) but did not appear in the Mining Act 1874, possibly indicating the growing importance of freehold land.

In 1879, well after the end of the goldrush, the New South Wales Supreme Court held in Lomax v Jarvis that rights given to miners to use water did not override the common law. Lomax v Jarvis (1885) 6 LR (NSW) 237 was a dispute between a pastoralist and a miner. The plaintiff, Lomax, was a pastoralist with a creek running through his run. He argued that the defendant miner had erected a dam which interrupted the flow of water and deprived him of the use and enjoyment of the water and that the defendant had fouled and polluted the water. The defendant pleaded that the plaintiff’s lands were Crown lands and that the defendant, who was a holder of a miner’s right, had constructed and used certain water races for gold-mining in accordance with s.13 of the Mining Act 1874. The legislation did not show a clear and distinct intention to deprive the plaintiff of his common law rights. As a result, both the stopping and the pollution of the stream were an infringement of the plaintiff’s common law rights.

There was ongoing interaction between mining water law and the general water law into the twentieth century (e.g. Hanson v The Grassy Gully Mining Company [1900] NSWLawRp 91; (1900) 21 LR (NSW) 271 (20 November 1900) and Dougherty v Ah Lee (1902) 19 WN (NSW) 8 are both mining disputes decided under the general law) as well as scattered water disputes between miners and pastoralists and farmers in the twentieth century.

Given the modern-day tensions between farming and mining (e.g. surrounding coal mining and coal seam gas), it would be valuable to explore historical water conflicts between mining and agriculture in more depth. For example:

- Between 1899 and 1902 substantial concerns arose that the development of river dredging would have an adverse impact upon landholders and would interfere with their ‘riparian rights’ (e.g. ‘A mining scandal’, The Dubbo Liberal and Macquarie Advocate (Dubbo), 3 June 1899, 5).
- In 1912, dairy and fruit farmers at Tumbarumba complained of the priority given to miners in terms of access to water. Because water was tied up in mining, irrigation was very hard, with farmers having to ‘beg, borrow or steal’ water from races (‘Miners’ Water Rights’, The Sydney Morning Herald (Sydney), 28 October 1912, 4).
- In 1913, the Adelong Creek Dredging Company had lodged appeals against applications for overshot dams on Adelong Creek (‘Land Appeal Court’, The Sydney Morning Herald (Sydney), 26 June 1913, 5).
- Concerns arose again in 1935, when dairy farmers complained about miners polluting Adelong Creek (‘Pollution of Adelong Creek’, The Sydney Morning Herald (Sydney), 1 February 1935, 9).
There were other water disputes involving mining outside the parameters of this case study. For example, in 1906, the Full Court of the Supreme Court had to decide the case of *In Re Godkin*: John Godkin, a miner, had applied for the registration of a water race on land which was claimed to be vested in the Borough Council of Temora. Alexander Davidson Ness of Temora (miller) issued a summons against him to show cause before John Hyde Nesbitt (Warden) why he should not be precluded from obtaining registration of such water race on the grounds, among others, that it interfered with the water rights of the residents of the borough. Godkin applied to the SC to prevent Ness taking action, on the grounds that the Warden had jurisdiction to hear the case. Court agreed, but given that Ness had acted in the interests of the borough, did not allow costs against him ('Question of a water race', *The Sydney Morning Herald* (Sydney), 22 August 1906, 6).
Chapter 5

Debates over water reform and disputes arising from the Water Rights Act 1896 (1858 – 1902)

1. Introduction

The second half of the nineteenth century saw a public and political debate about water reform. Proposals for reform came from two broad sources. Firstly, some pastoralist and agricultural landholders sought legislation which would protect their dams and enable them to undertake more settled and water-intensive agriculture. These proposals focused on the legalisation of private dams and diversions, and development via decentralised, cooperative endeavours such as local water trusts. Secondly, there was a growing movement towards state control over rivers and the landscape-scale development of water resources. The reforms were intended, at least in part, to prevent conflict. However, the desire to promote development of water resources was a more critical driving factor.

This chapter focuses on the impact of the reforms on end user rights to access water, examining in particular the attitudes of pastoralists and other settlers. The case study first discusses the reform proposals of the 1870s and 1880s, then examines the movement that led towards the enactment of the Water Rights Act 1896 (NSW) (the Water Rights Act). Water reforms were not universally endorsed. In particular, there were tensions between small-scale and localised approaches to development favoured by many pastoralists and the emerging public administration system. Some landholders also raised concerns that legislation, by disturbing the status quo, would re-ignite slumbering water conflict. This was a critical turning point in New South Wales water law history, as the 'pioneering' phase gave way to a 'development' phase in which water management became a state project, assisted by modern science and
engineering. Finally, this chapter discusses the conflicts over the legalisation of dams and granting of water licences that followed the Water Rights Act. Perhaps unsurprisingly, many riparian concepts continued to be relied on by landholders and even state representatives. However, these disputes also demonstrate the new role of the state as mediator of end users' water access.

2. Debates over legislative reform

2.1 Calls for reform and early legislative proposals

In 1858, the Sydney Morning Herald's Edward River commentator suggested that 'the matter for water supply to this great district must soon become a serious consideration for the Legislature as well as for the public'. In March 1858, he called for a parliamentary inquiry into methods to enable greater storage of water and, in December, he suggested that someone should apply to the legislature for an 'Act to protect the dams'. His primary concerns were to increase cattle and sheep production on the back country behind the Murrumbidgee, Murray, Lachlan and Darling rivers, which according to his opinion was 'lying waste' or 'useless', as well as to remove the conflict over dam-building.

Mr Lockhart, Commissioner for Crown Lands in the Murrumbidgee district was sent to the Billabong region in response to the conflict in 1858. He suggested that parliament should enact legislation to empower local regulations to be issued. In September 1859, the government announced that it would regulate construction of dams on the Billabong. At least three legislative measures were proposed in 1862 but not implemented:

1. legislation to regulate dam construction;

1 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5.
2 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5.
3 'Edward River District', The Sydney Morning Herald (Sydney), 4 December 1858, 5.
4 'Edward River District', The Sydney Morning Herald (Sydney), 9 March 1858, 5; 'Edward River District', The Sydney Morning Herald (Sydney), 15 November 1858, 2.
5 'Sydney News', The Maitland Mercury & Hunter River General Advertiser (Maitland), 26 April 1859, 2.
6 'Sydney News', The Maitland Mercury & Hunter River General Advertiser (Maitland), 26 April 1859, 2.
7 'Billabong', Sydney Morning Herald (Sydney), 21 September 1859, 3–4; Sydney Morning Herald (Sydney), 21 September 1859, 4–5.
2. legislation to legalise the construction of dams on all intermittent streams; and

3. oversight provisions on dam construction in local government legislation.  

Calls for water reform would continue for nearly four decades until the Water Rights Act was enacted in 1896, extending geographically as pastoralism expanded westwards. For example, in 1887, an enthusiastic water conservation and irrigation league developed among squatters, station managers and townspeople at Walgett in far north New South Wales. In 1889, landholders at Forbes in the Lachlan catchment expressed a desire for legislation that would enable water frontage holders to conserve water along the stream. In the same year, there were calls for legislation to settle the question of riparian rights at Bourke and from the Brewarrina Pastoral Lessees Association both in the far north of the colony.

In 1874, Mr James Squire Farnell, Secretary for Lands, introduced a water conservation bill into the New South Wales parliament. In the 22 years between 1874 and 1896 at least eleven more water bills were introduced or discussed:

- in 1874, Mr Farnell’s first water conservation bill;  

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8 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988) 59.
9 see e.g. 'The Lachlan Dam Cutting', The Sydney Morning Herald (Sydney), 13 January 1866, 8; 'The Pastoral Interest in New South Wales', The Darling Downs and General Advertiser (Toowoomba, Queensland), 8 November 1866, 3; 'General News', The Maitland Mercury and Hunter River General Advertiser (NSW), 25 September 1866, 6; 'Country News', Sydney Morning Herald (Sydney), 10 January 1889, 7; 'Dam Cutting', The Hay Standard and Advertiser for Balranald, Wentworth, Maude, Booligal, Wilcannia, Menindee, Bourke &c (Hay), 24 April 1872, 2; 'Pastoral News', Wagga Wagga Advertiser and Riverine Reporter (NSW), 1 May 1872, 2; 'Water supply in the interior', The Maitland Mercury and Hunter River General Advertiser (Maitland), 11 April 1867; 'Water Conservation', Sydney Morning Herald (Sydney), 23 July 1888, 9.
10 In Howell v Prince in 1869, the New South Wales Supreme Court had also called for legislation, Hargrave J suggesting that land would not able to be 'properly improved' until the rights of persons who had enjoyed the water for many years could be protected and Faucett J suggesting that there was a need to 'settle' the rights of riparian proprietors especially in relation to intermittent streams (Howell v Prince (1869) 8 SCR (NSW) 316 per Hargrave and Faucett JJ at 318–319).
11 'Water Conservation League at Walgett', The Sydney Morning Herald (Sydney), 4 February 1887, 4; 'Country News', The Sydney Morning Herald (Sydney), 16 March 1887, 10; 'Walgett', The Maitland Mercury & Hunter River General Advertiser (Maitland), 5 April 1887, 6; 'Walgett Water Conservation and Irrigation League', The Maitland Mercury & Hunter River General Advertiser (Maitland), 5 May 1887, 3.
13 Sydney Morning Herald (Sydney), 1 April 1889, 6.
15 This chapter’s discussion focuses on those bills which were most debated at the time.
16 'Legislative Assembly', The Sydney Morning Herald (Sydney), 20 February 1874, 2–4; 'Parliamentary', Queanbeyan Age (Queanbeyan), 28 February 1874, 2.
• in 1878, Mr Farnell’s second water conservation bill;\(^{17}\)
• in 1882, the Public Watering Places Bill,\(^{18}\) which became the Public Watering Places Act 1884 (NSW);\(^{19}\)
• in 1884, Mr William Brodribb’s Dams for Pastoral Purposes Bill;\(^{20}\)
• in 1886, the Water Frontages Bill, which dealt with the question of alienating the water frontage to freehold;\(^{21}\)
• in 1886, a government Water Conservation Bill was discussed;\(^{22}\)
• in 1889, a Riparian Rights Bill was prepared by the government with the direction of Mr McKinney, an ardent supporter of the development of water resources;\(^{23}\)
• in 1889, a private member’s bill, the Inland Water Conservation Bill was proposed by Mr Allen Lakeman, member for Balranald;\(^{24}\)


\(^{19}\) see e.g. ‘Legislative Assembly’, The Sydney Morning Herald (Sydney), 14 August 1884, 7.


\(^{21}\) This bill related specifically to water frontage reservations, similar to the earlier water reserves aiming to allow for Crown reserve of water frontage land from freehold grants. See e.g. ‘Water Frontage Reserves’, Australian Town and Country Journal (NSW), 13 March 1886, 11; ‘Special Telegrams: Sydney’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 1 April 1886, 5; ‘Legislative Assembly’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 17 July 1886, 5. See also the proposed Land Bill in October 1886 (‘The New Land Bill’, Australian Town and Country Journal (NSW), 30 October 1886, 44; ‘Assembly’, Australian Town and Country Journal (NSW), 24 July 1886, 13).

\(^{22}\) It is unclear if this Bill was ever introduced into Parliament or if there was simply discussion about the Government’s intention to bring in a water conservation bill. See e.g. ‘Legislative Assembly’, The Sydney Morning Herald (Sydney), 14 July 1886, 5–6; ‘Water Conservation’, Australian Town and Country Journal (NSW), 27 November 1886, 12; The Sydney Morning Herald (Sydney), 2 December 1886, 8; The Sydney Morning Herald (Sydney), 22 November 1886, 6.

\(^{23}\) This bill does not seem to have ever been introduced into parliament. See e.g. ‘Friday’s parliamentary proceedings’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 25 June 1889, 7; ‘Latest Telegrams’, Northern Star (Lismore), 2 March 1889, 2; ‘Opening of parliament’, Bathurst Free Press and Mining Journal (Bathurst), 2 March 1889, 3; Sydney Morning Herald (Sydney), 22 June 1889, 10; ‘Parliament of New South Wales’, Sydney Morning Herald (Sydney), 22 June 1889, 9; ‘Parliament in session’, Australian Town and Country Journal (NSW), 9 March 1889, 12.

\(^{24}\) This bill made it to second reading, but was withdrawn before it could be debated. The bill favoured damming, Mr Lakeman aiming at preventing dams across rivers and streams from being cut. Some members opposed the bill on the grounds that it should be left to the government to introduce a bill of more comprehensive character. See e.g. ‘Review of the session’, Sydney Morning Herald (Sydney), 11 October 1889, 3; ‘Parliament of New South Wales’, Sydney Morning Herald (Sydney), 10 August 1889, 13; ‘Parliamentary’, The Braidwood Despatch and Mining Journal (NSW), 14 August 1889, 2.
• in 1890, a government Water Conservation Bill was introduced by Mr Sydney Smith, Secretary for Mines and Minister for Agriculture;25

• in 1891, a second government Water Conservation Bill was introduced by Mr Smith;26

• in 1892, a third government Water Conservation and Irrigation Bill27 was introduced by Sir William John Lyne, the Secretary for Public Works,28 and

• in 1895, the Water Rights Bill was introduced by Mr Smith and passed in 1896 to become the Water Rights Act 1896 (NSW).29

While often phrased as being intended to reduce conflict, proposed legislative schemes were generally designed to shift the balance of the law more in favour of development.30 In the Riverina in 1866, there were at least 300 dams erected on river channels, nearly 2000 small dams, at least 200 wells and three 'great works' (the Yanko

25 'Water Conservation Bill', The Sydney Morning Herald (Sydney), 13 December 1890, 7; 'Parliamentary Pips', Bathurst Free Press and Mining Journal (NSW), 15 December 1890, 2; 'The bill for promoting water conservation', The Maitland Mercury and Hunter River General Advertiser (NSW), 16 December 1890; 'Water Conservation Bill', Clarence and Richmond Examiner (NSW), 20 December 1890, 2; see also reference in May 1890 to a 'Water Conservation and Drainage Bill' which the Minister intended to introduce to Parliament as soon as he could and which dealt with the drainage of swamp lands ('Drainage of Swamp Lands', The Sydney Morning Herald (Sydney), 9 May 1890, 10).

26 'Water Conservation Bill', The Sydney Morning Herald (Sydney), 14 October 1891, 3; 'Legislative Assembly', The Sydney Morning Herald (Sydney), 14 October 1891, 3; 'The Water Conservation Bill', Bathurst Free Press and Mining Journal (NSW), 14 October 1891, 2; 'Neglected Legislation', Illustrated Sydney News (Sydney), 7 November 1891, 4; 'Wednesday's Parliamentary Proceedings', The Maitland Mercury and Hunter River General Advertiser (NSW), 21 November 1891.

27 'Water Conservation in New South Wales', The Maitland Mercury and Hunter River General Advertiser (NSW), 6 September 1892; 'In Parliament', Bathurst Free Press and Mining Journal (NSW), 13 October 1892, 2; 'The Water Conservation Bill', The Sydney Morning Herald (Sydney), 14 October 1892, 13; 'Water Conservation Bill', The Maitland Mercury and Hunter River General Advertiser (NSW), 15 October 1892; 'Water Conservation and Irrigation Bill', Clarence and Richmond Examiner (Grafton), 18 October 1892, 8; 'The Water Conservation Bill', The Maitland Mercury and Hunter River General Advertiser (NSW), 18 October 1892. This bill was also referred to as the 'Water Conservation and Utilisation Bill' and 'Water Conservation and Irrigation Bill'.


29 This bill was introduced on the 14 November 1895: 'Public Bills in Assembly', The Sydney Morning Herald (Sydney), 21 December 1895, 5.

30 Joshua Getzler suggests that nineteenth-century English water users turned to private legislation to 'achieve the re-ordering of interests necessary to enable rapid industrialization and modernization' Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004) 351. See also the case of R v Kentmere ([1851] SC 21 LMC 13; 16 Jur. 265) in which a group of mill occupants on the River Kentmere established a commission to jointly construct reservoirs on the river for the 'purpose of affording a more regular supply of water to the mills on its banks'; an example of where it made more sense for large-scale cooperative development than individual, private development.
cutting, the Willandra cutting and Tyson's cutting). The expense of all these works was estimated at £185,000. It was argued in the *Sydney Morning Herald* that given this large amount spent by pastoralists without any security of tenure, if a law was passed which provided 'for security to pastoral tenants in the full use of improvements so made, or full compensation in case of their being deprived of them', then enterprise and expenditure would be stimulated. Especially towards the end of the century, it became clear that the purpose of legislative reform would not be simply to legalise the existing mass of relatively small dams built by pastoralists. Instead, legislative reform would provide a comprehensive water conservation scheme, allowing what the riparian doctrine would not: large-scale development of water resources.

### 2.2 Mr Farnell's water conservation bills

Mr Farnell's first Water Conservation Bill in 1874 proposed three key means of regulating development of water resources and access to water: the establishment of local water trusts, authorisation of the Crown to construct water supply works and the legalisation of private dams. The creation of water trusts upon a 'municipal principle' was the bill's primary purpose. The bill would have empowered 'a number of persons in different localities to form themselves into water trusts, with machinery to carry out the business of water conservation'. The bill also authorised the Crown to construct wells, dams and tanks, as well as empowering the Minister to 'grant permission to private individuals to construct dams'. Mr Farnell stated that his bill was directed towards removing conflict:

> There had been a good deal of quarrelling in the interior, and in some cases bloodshed had followed. Persons were not entitled to construct dams across a

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31 This was an early (unsuccessful) attempt to start irrigated agriculture and provide a permanent water supply (Barry Gray, *The Riverina Story: water, wine and wealth* (Rosenberg Publishing Pty Ltd, 2009) 23).

32 'The conservation of water and the legislation affecting it', *Sydney Morning Herald* (Sydney), 28 May 1866, 5.

33 'The conservation of water and the legislation affecting it', *Sydney Morning Herald* (Sydney), 28 May 1866, 5.

34 'The conservation of water in Riverina', *Sydney Morning Herald* (Sydney), 8 August 1866, 3.

35 'Legislative Assembly', *Sydney Morning Herald* (Sydney), 20 February 1874, 2–4.

36 James Farnell, Secretary for Lands, committee discussion on the *Water Conservation Bill 1874* (19 February 1874, Legislative Assembly); 'Legislative Assembly', *Sydney Morning Herald* (Sydney), 20 February 1874, 2–4.
watercourse under the common law; and he himself knew of two cases in which legal proceedings had been instituted.37

Mr Farnell's intention is best expressed not simply as the resolution of conflict but towards shifting the balance of power in the conflict towards the side of the dam-builders. His legislation would have limited the riparian doctrine within water trust areas and limited the capacity of downstream landholders to object to private upstream dams in non-water trust areas. Mr Farnell argued that his legislation would ensure that ample provision was made ‘for the storing up of a supply of water in the rainy seasons, to meet the wants of the people of the interior in dry seasons’.38

The 1874 bill did not become law and in 1878, Mr Farnell introduced a second, substantially similar measure. Once again it had three key proposals. Mr Farnell still favoured local water trusts:39

Owners or occupiers — not less than fifty in number— within a tract of land outside municipal boundaries, and bordering a water course, may, on petition to the Governor, have it declared a water trust.40

The board of the trust was to have strong powers to construct water conservation works in any ‘river, stream creek or water-course’ within the trust area and to take possession of pre-existing works.41 The bill did not differentiate between permanently flowing watercourses and intermittent streams, and would have applied to all major surface water resources in the trust area. The Maitland Mercury supported this approach, suggesting that these terms should be interpreted liberally to apply to 'dry creeks', which it considered might 'with due art be made the bed of a lake'.42

37 ‘Legislative Assembly’, Sydney Morning Herald (Sydney), 20 February 1874, 2–4.
38 James Farnell, Secretary for Lands, committee discussion on the Water Conservation Bill 1874 (19 February 1874, Legislative Assembly); ‘Legislative Assembly’, Sydney Morning Herald (Sydney), 20 February 1874, 2–4.
39 See also call for local water irrigation trusts to be established in 1889: ‘Irrigation in the South’, Australian Town and Country Journal (NSW), 28 February 1889, 16.
40 cl.1 Water Conservation Bill 1878; see also ‘The Water Conservation Bill’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 19 November 1878; see also ‘Water Trusts and Conservation of Water’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 16 November 1878.
41 cl.14 Water Conservation Bill 1878.
The bill envisaged substantial alteration of the natural environment within the area of the trust, including constructing 'locks, dams or embankments for retaining water' and 'cutting, excavating or constructing water channels or tanks'. The bill also proposed that the trusts would regulate the flow of water:

[From] time to time to alter, vary or regulate according to the natural seasons or at such times and seasons and in such manner as may be authorized or directed by any by-laws [...] the level or flow of the water retained or held by any locks or dams or other works.

This can be seen as an early proposal for river regulation.

Each landholder within a district would have been a member of the trust, required to pay rates. The power of each landholder would have been proportionate to the value of their landholding, raising concerns that the bill would inflame the tension between pastoralists and selectors. Trusts would hold a large discretion to make decisions about the flow of water. Individual water users or landholders were not given specific rights to access water, the board instead being authorised to make by-laws:

[for] determining the times and seasons at which it may be expedient to permit or prevent the flow of water throughout the whole or any portion of any river, stream, creek or watercourse in which locks, dams or other works [...] have been placed or commenced or constructed and for regulating the use of the water in any tanks constructed under their directions [...]

The trust would have been authorised to take control of existing private dams or works, subject only to a requirement to pay compensation.

In areas where there was no water trust, the bill would have authorised private individuals to construct dams. Landholders would need to apply to the Minister for

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43 cl.14 Water Conservation Bill 1878.
44 cl.14 Water Conservation Bill 1878.
45 cl.6-7 Water Conservation Bill 1878.
46 cl.7 and cl.10 Water Conservation Bill 1878.
47 'The Water Conservation Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 19 November 1878; see discussion in Chapter 3.
48 cl.16 Water Conservation Bill 1878.
49 cl.14 and cl.19 Water Conservation Bill 1878.
Lands for permission, detailing the height of water which would be raised by the dam and how far water would be backed up the watercourse. Landholders would receive a water privilege: an entitlement to the 'exclusive use and enjoyment of and access to the water preserved by such dam'. The water privilege could extend a mile above the head of the dam and 200 yards below. Any other persons using the water would be liable to pay rates to the constructor of the dam. The bill would also have given the Crown the power to construct dams for travelling stock or 'other public use'. The bill was discharged in January 1879.

Mr Farnell's proposed legislation endorsed cooperation between private property interests in managing water resources. Mr Farnell's bills demonstrate three broad categories of governance structure that could have enabled more systematic and broad-scale development of water resources:

1. cooperation among groups of private landholders in a district (e.g. local water trusts);
2. authorising individual private enterprise with Crown oversight; and
3. intervention by the colonial government.

The suggestion that water trusts be formed was popular at the time and there were widespread calls for local water trusts to be established as the principle bodies responsible for decisions about dam construction and water diversions. There had already been a deal of cooperation among landholders, both in formulating publically

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50 cl.22–23 Water Conservation Bill 1878.
51 cl.28 Water Conservation Bill 1878.
52 cl.27 Water Conservation Bill 1878.
53 cl.28 Water Conservation Bill 1878.
54 cl.32 Water Conservation Bill 1878.
55 'Legislative Assembly', The Sydney Morning Herald (Sydney), 23 January 1879, 3.
56 see e.g. 'Messrs Desailly's Dam', The Goulburn Herald and Chronicle (Goulburn), 4 November 1865, 3 suggested that there should be 'water councils elected by lessees on the respective watersheds'; 'The Yanko Cutting', The Riverine Grazier (Hay, 4 October 1884, 2 reported a meeting on the Murrumbidgee calling for legislation to create 'local river trusts for the conservation of the waters of the rivers and creeks of the western district', indicating the Clyde River Trust at Glasgow as an example; 'Edward River District', The Sydney Morning Herald (Sydney), 4 December 1858, 5 suggested that the landholders along the Billabong should invest in a steam engine to pump water from the Murrumbidgee River into the Yanko Creek to supply the Billabong. On water trusts in Victoria, see J.M. Powell, Watering the Garden State: water, land and community in Victoria 1834–1988 (Allen and Unwin, 1989), 100; Peter Davis, Australian Irrigation Law and Administration (PhD thesis, University of Wisconsin, 1971) 324.
negotiated agreements and in building larger works such as the Yanko Cutting.\textsuperscript{57} Suggestions for legislative reform ranged from simply enabling the majority of landholders on streams to determine local regulations for water management\textsuperscript{58} to the establishment of water councils which would have levied all landholders to construct joint works.\textsuperscript{59} Thus local water trusts could have performed two purposes. Firstly, by regulating the construction of private dams according to agreed principles, water trusts could have minimised conflict and the need for groups of landholders to take matters into their own hands and cut dams. Secondly, by combining forces to build water storages and supply works, water trusts would have enabled the construction of substantially larger works than individuals could construct on their own.

Mr Farnell's bill would have had a substantial impact on water access rights, and in turn, on the relationships between water users and the landscape. The bill limited the application of the riparian doctrine, expressly providing that landholders could not complain about a dam authorised under the legislation obstructing the 'unimpeded flow of water'.\textsuperscript{60} The bill would also have created a criminal offence of dam-breaking and an offence to build a dam without permission.\textsuperscript{61} As such, the legislation would have significantly limited riparian landholders' common law rights to the natural flow of water. However, the bill did not regulate landholders' use of water, only their construction of dams, and landholders would most likely have retained any common law rights to use water in ways that did not involve damming or diverting the water. These provisions, read alongside the provisions empowering water trusts to alter the natural flow regimes of watercourses, would have authorised a shift in the relationship between water users and the landscape. Whereas the riparian doctrine effectively 'tied' the community of water users to water management practices within natural flow regimes, the bill would have allowed water to be managed much more outside the rhythms and geography of the natural landscape and seasons.

\textsuperscript{57} for a contemporary description of the Yanko Cutting, see 'Edward River District', \textit{The Sydney Morning Herald} (Sydney), 9 March 1858, 5. See \textit{R v Kentmere} ([1851] SC 21 LMC 13; 16 Jur. 265) for an example of similar cooperative trust arrangements in England.

\textsuperscript{58} see e.g. 'Dam Cutting', \textit{The Sydney Morning Herald} (Sydney), 8 April 1873, 7.

\textsuperscript{59} see e.g. 'The Water Conservation Commission in the North-West', \textit{The Sydney Morning Herald} (Sydney), 21 May 1885, 5.

\textsuperscript{60} cl.34 Water Conservation Bill 1878.

\textsuperscript{61} cl.35 Water Conservation Bill 1878.
The concept of cooperative or centralised control over water access and water management into water trusts was critical to this shift. The formation of water trusts would have enabled the construction of more systematic water conservation works and a coordinated approach to water distribution.62 Whereas the riparian doctrine shared the flow of the water among individual landholders within the naturally defined landscape of the river valley, water trusts would have allowed all the significant surface water resources of the water trust area to be defined as a single resource which could be manipulated and distributed at the trust's discretion.

2.3 Public watering places legislation

Four years later, in 1882, the Crown introduced relatively minor legislation giving effect to the third pillar of Mr Farnell's bill: legislation to allow the Crown to build water reserves for travelling stock. This legislation was finally passed in 1884. The Public Watering Places Act 1884 empowered the Crown to construct water supplies at travelling stock reserves, establishing a role for the state in building water supply works for the use of the pastoralist class. These water supplies were seen as crucial to prevent the death of thousands of stock on travelling stock routes.63 Described by Lloyd as 'death tracks', these routes were essential to move stock from pastoral districts to the consumer and from one pastoral district to another.64 The Act demonstrates the state's capacity to construct works for the 'general' good.

Squatters and selectors along the stock routes had petitioned for public water supplies, in order to prevent inroads on their private tanks and dams by travelling stock.65 This is New South Wales's only significant example of a statutory 'public right' to access water — and it was a limited public right, given that only registered travelling

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62 see e.g. Sandford Clark and Ian Renard, who see the major importance of the local trusts in Victoria as the recognition of 'the need to confer sufficient power on an appointed authority to control and distribute water without interference from riparian owners' (Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation' (1970) 7(4) Melbourne University Law Review 475, 484).


64 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988) 96.

65 Clem Lloyd, Either drought or plenty: water development and management in NSW (Department of Water Resources NSW, 1988) 96.
stockmen could use the reserves. It is, however, evidence that the concept of a public interest in water had emerged into the political debate. Concepts of public use of water had also arisen in relation to Mr Farnell's bills. The Minister for Lands would have been given the capacity to construct water works for 'public use' and private dams could be resumed by the Crown 'for public use'. At the time, The Maitland Mercury had also expressed concerns with 'present and future public riparian rights', suggesting that ministerial oversight be increased to give security to the interests of the public against the board of water trust. It is unclear precisely to whom this 'public' was intended to refer, however, it does indicate a concern at the time that the boards of Mr Farnell's proposed trusts might not have always acted in the best interests of the public as a whole.

2.4 Mr Brodribb's Dams for Pastoral Purposes Bill

In 1884, Mr William Brodribb's Dams for Pastoral Purposes Bill was introduced as a private member's bill. Mr Brodribb's intentions were explicitly on the side of those pastoralists who had constructed and wished to construct dams. Brodribb's interest was personal: he had himself been the victim of dam-breakers. Mr Brodribb argued that:

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\text{It was very necessary to legalise the construction of dams. Some persons had spent thousands of pounds in the construction of dams which other people had willfully destroyed. At present any person could go and destroy dams, and the owners would have no remedy whatever.}
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Brodribb claimed that the was developed in consultation with 'country gentlemen, squatters and free selectors', who had endorsed the principles of the bill that there

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66 s.11 Public Watering Places Act 1884 (NSW).
67 cl. 30 Water Conservation Bill 1878.
71 'The Pastoral Dams Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 3 June 1884, 6.
should be some law to 'legalise the construction of dams and weirs and prevent their being destroyed'. 72 The bill would have made it lawful for:

one or more proprietors or lessees of Crown land, having frontage either on one side or both of any river, creek, or watercourse, to construct dams across such river, creek, or watercourse, for the purpose of collecting water. 73

Existing dams could also be legalised, so long as they met the requirements of the legislation. 74 Similarly to Mr Farnell's bill, the dam's structure would have needed to be approved by the Crown, in this case by an officer representing the Minister for Mines. 75 The bill did not seek to create water trusts but did provide that a water user who benefited from the construction of a privately built dam was required to contribute towards the expense. 76

The bill provided penalties for the wilful destruction of dams or the pollution of water, 77 thereby limiting the capacity of downstream landholders to object to dams.

The original draft of the bill had attempted to moderate the interests of all water users along a stream by regulating dam structure, size and location. The bill had provided, for example, that dams:

- must be 'overshot' dams that permitted the passage of water to overflow the dam wall;
- could not be constructed so as force 'any considerable quantity of water over the banks';
- could be no higher than four feet (but could be temporarily increased by two feet when there was a continuous flow of water along the entire length of the channel);
- could not extend more than 50 feet to either side of the watercourse; and

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73 cl.1 Pastoral Dams Bill 1884; see also 'Pastoral Dams Bill', *The Sydney Morning Herald* (Sydney), 25 March 1884, 5.
74 cl.3 Pastoral Dams Bill 1884.
75 'Pastoral Dams Bill', *The Sydney Morning Herald* (Sydney), 25 March 1884, 5.
76 'Pastoral Dams Bill', *The Sydney Morning Herald* (Sydney), 25 March 1884, 5.
77 cl.14 Pastoral Dams Bill 1884.
could not be constructed at a less distance than four miles in a straight line except with the written consent of all persons interested.\textsuperscript{78}

This aspect of the bill was shortened by parliamentary committee, to provide simply that the dam must include a bywash or spillway in order to carry all 'surplus water' back to the watercourse except in times of flood.\textsuperscript{79} This was supported by Mr Brodribb, who agreed that 'there should not be any hard and fast rules laid down for the construction of dams'.\textsuperscript{80} For example, he exhibited the diagrams of a 14 foot dam that threw water back 54 miles.\textsuperscript{81}

The bill was debated in the New South Wales Legislative Council on 29 May 1884.\textsuperscript{82} Many members spoke in favour of the bill, arguing strongly for the need to encourage construction of dams in order to increase productivity. Mr James White\textsuperscript{83} argued that Mr Brodribb's bill would encourage construction of dams and open up the country to stock:

\begin{quote}
there was considerable urgency for the passing of such a measure. There was strong evidence that many persons were deterred from constructing dams for fear that they would be cut down, and for that reason a great extent of country was left unavailable for stock.\textsuperscript{84}
\end{quote}

Mr John Stewart argued similarly, that the construction of dams would 'make millions of acres of their territory fruitful for pastoral purposes', suggesting that the law against the obstruction of running water was a 'bad one', which had prevented large quantities of their land being stocked.\textsuperscript{85}

\textsuperscript{78} 'Pastoral Dams Bill', \textit{The Sydney Morning Herald} (Sydney), 25 March 1884, 5.
\textsuperscript{79} 'Legislative Council', \textit{The Sydney Morning Herald} (Sydney), 30 May 1884, 4.
\textsuperscript{80} William Brodribb, second reading speech on the \textit{Pastoral Dams Bill 1874} (29 May 1884, Legislative Council).
\textsuperscript{81} William Brodribb, second reading speech on the \textit{Pastoral Dams Bill 1874} (29 May 1884, Legislative Council).
\textsuperscript{82} see 'Legislative Council', \textit{The Sydney Morning Herald} (Sydney), 30 May 1884, 4; 'The Pastoral Dams Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 3 June 1884, 6.
\textsuperscript{83} James White (1828–1890) was a pastoralist and landowner (Martha Rutledge, \textit{White, James (1828–1890)}, Australian Dictionary of Biography, <adb.anu.edu.au/biography/white-james-4837/>; Mr James White (1828–1890), Parliament of New South Wales, <parliament.nsw.gov.au>.
\textsuperscript{84} 'The Pastoral Dams Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 3 June 1884, 6.
The debates over the bill highlight the tension at the time between the desire to legalise the construction of dams and the need to protect the interests of downstream landholders to their share of the water. The Attorney-General, Mr William Bede Dalley\(^86\) argued that the bill struck the correct balance between the owners of dams and downstream landholders:

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\text{The two main objects [of the bill] were to facilitate and protect the conservation of water: to guarantee such improvements to the proprietors and yet to prevent any exclusive enjoyment of flowing water to the prejudice of those who might have received it but for its interception by others.}^{87}\]

By contrast Mr Suttor argued that the bill did not adequately protect downstream landholders, because ‘persons might erect dams which would prevent water flowing to those living below them’.\(^88\) Mr John Macintosh similarly said that he would strongly support ‘a system for the proper irrigation of the arid parts of the colony' but that:

\[
\text{He objected to any persons having the power to construct dams when and where they liked, and he thought that if the bill were passed they would have a revival of the litigation which was once so distressing to those who lived along the banks of their creeks.}^{89}\]

Mr Macintosh was a Sydney manufacturer\(^90\) and appears to have opposed the bill on the grounds that it would increase the power of the pastoralist class. He rejected ‘ad hoc private construction of dams by pastoralists', arguing that this would 'give to a certain class a monopoly over large portions of their territory'.\(^91\) Mr Suttor and Mr Macintosh both suggested that the government should bring in a more comprehensive bill, including placing the dams under the direction of local boards.\(^92\)

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\(^{89}\) ‘The Pastoral Dams Bill’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 3 June 1884, 6.

\(^{90}\) John Macintosh was an ironmonger and alderman in Sydney; he had strong interests in city and municipal water supplies, and was concerned about the position of the unemployed (Martha Rutledge, Macintosh, John (1821–1911), Australian Dictionary of Biography, <adb.anu.edu.au/biography/macintosh-john-4100/>).

\(^{91}\) ‘The Pastoral Dams Bill’, The Maitland Mercury & Hunter River General Advertiser (Maitland), 3 June 1884, 6.

Sir Alfred Stephen, who had been the Chief Justice of the New South Wales Supreme Court for Pring v Marina and Howell v Prince, appears to have been generally in favour of the principles of the bill. He stressed the need to protect the interests of all riparian landholders, suggesting that dams should be encouraged as long as they did not do 'needless damage or injury to any person above or below'. He emphasised that there was 'no doubt that every person situated on the banks of a stream, whether it was continuous or intermittent, should be allowed to have the use of the water'.

The counter-argument was that water users who constructed dams should acquire exclusive rights in the water. Mr George Henry Cox, a pastoralist with extensive landholdings, suggested that it was 'unreasonable to affirm that if a man constructed a dam he should not have the water it collected'. The Maitland Mercury commented even more strongly, that the water contained by a privately built dam ought to be considered private property. Despite the fact that the dams had been constructed without 'legal or Ministerial sanction' the newspaper argued that from an 'equitable' point of view:

the water thus impounded, by the exercise of skill and forethought, is as much private property as the corn which Joseph, divinely forewarned, stored against the famine in the land of Egypt. It is as properly and justly the property of the person who made the dam as a thrifty and careful man's house is his property.

The actions of those people who destroy or threaten to destroy dams, the paper picturesquely argued was 'akin to the action of the spendthrift who has wasted his substance in riotous living, and who demands of their store from his saving neighbours'.

93 'The Pastoral Dams Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 3 June 1884, 6.  
96 'Legislative Council', The Sydney Morning Herald (Sydney), 30 May 1884, 4  
97 'The Dams for Pastoral Purposes Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 25 March 1884.  
98 'The Dams for Pastoral Purposes Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 25 March 1884.  
99 'The Dams for Pastoral Purposes Bill', The Maitland Mercury & Hunter River General Advertiser (Maitland), 25 March 1884.
Debates over Mr Brodribb's bill therefore contained a tension between two categories of water access right: equitable access by all riparian landholders to the flow water (in effect, the riparian doctrine) versus the principle that capital investment in water storages should create an exclusive right to water (akin to a prior use right). In these debates, this binary thinking that pitted the 'upstream' right to conserve water against the 'downstream' right to the natural flow appeared irreconcilable. Pastoralists' water disputes had showed that if dams and diversions were constructed by private landholders on watercourses, then the size and structure of the dams needed to be strictly controlled. Otherwise, downstream landholders would inevitably 'miss out' as upstream landholders built larger dams that took an inequitable share of the water.

By contrast, Mr Farnell's proposed 'municipal' approach, which would have removed landholders' individual rights to water and placed the construction of works in the hands of a local board representing all landholders' interests, attempted to overcome this water conflict. The distribution of access to water, instead of being decided as a dispute between individual water users, would have been managed cooperatively in a centralised fashion. In the mid–late 1880s and the 1890s, water reform proposals moved in a similar direction to Mr Farnell's approach but instead of centralising control over water in the hands of municipal water trusts, flowing water resources were instead vested in the Crown and the colonial government started to play a much greater role in the management of water resources.

3. The Water Rights Act 1896 (NSW) and public administration

3.1 The genesis of public administration

From the 1870s onwards, parliamentary and public debates at times proposed that the colonial government take a greater role in managing water. Establishment of public administration in New South Wales was preceded by developments in the 1880s in Victoria, including the enactment of the Irrigation Act 1886 (Vic), which was

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This Act provided that 'The right to the use of all water at any time in any river, stream, watercourse, lake, lagoon, swamp or marsh shall for the purposes of this Act in every case be deemed to be vested in the Crown until the contrary be proved [...]’ (s.4 Irrigation Act 1886 (Vic)). The intention of the Act’s sponsor, Sir Alfred Deakin, was that the Act would enable 'national' development of water resources, although Clark and Renard note that the wording of this provision caused a degree of uncertainty as to whether riparian rights had in fact
intended to 'nationalise' the waters of the colony.\textsuperscript{101} The Victorian reforms, led by Alfred Deakin, proposed a new 'state socialist' paradigm for Australian water management.\textsuperscript{102} Abandoning decentralised irrigation based on local water trusts, Deakin believed that only state-wide control over the whole watershed would achieve effective development of water resources.\textsuperscript{103} Nationalisation was intended to also avoid conflicts over water rights.\textsuperscript{104}

New South Wales followed Victoria's lead. In 1884, a Royal Commission on the Conservation of Water was established to investigate and recommend options in relation to management and development of water resources in the colony.\textsuperscript{105} The Commission undertook substantial scientific and engineering research into water conservation, as well as consulting widely with landholders.\textsuperscript{106} While the Commission did not have an immediate tangible impact on public policy, its recommendations highlight the landmark change that would occur in relation to agricultural and pastoral production in New South Wales from the turn of the century onwards.

Compared to the pastoralist era, the water conservation agenda suggested by the Commission envisaged far greater human alteration of the natural environment. Noting that pastoral and agricultural interests were 'wholly at the mercy of the

\textsuperscript{101} See in general, Davis, Peter, "'Nationalisation' of Water Use Rights by the Australian States', \textit{The University of Queensland Law Journal} 9(1) (1975), 1;


\textsuperscript{105} Royal Commission on the Conservation of Water, \textit{First Report of the Commissioners} (Government Printer, 1885). The report and the Commission's hearings were also published in the major newspapers at the time. For a general discussion of the Commission, see Emily O'Gorman, \textit{Flood country: an environmental history of the Murray–Darling Basin} (CSIRO Publishing, 2012) 110–111; Cameron Muir, The broken promise of agricultural progress: an environmental history (Routledge, 2014) 28. The Commission was also often referred to as the Lyne Royal Commission after its president, Sir William John Lyne.

\textsuperscript{106} see e.g. 'Conservation of Water Commission', \textit{The Sydney Morning Herald} (Sydney), 23 August 1884, 9.
vicissitudes of the weather’, the Commission proposed large storage reservoirs on
the headwaters of the principal rivers, which could both ease floods and 'control' the
streams of the rivers. The abolition of riparian water access rights was critical to this
vision. The Commission implicitly recognised that the riparian doctrine did not allow
water users or managers to modify the natural landscape to any great extent:

[The] position with which we have to deal is not so much with flowing water as
with dry channels through which water flows only at long and irregular
intervals. It is required that these watercourses should be made to hold water
— to be in effect converted into inundation canals.

The Commission called for legislation to 'establish the ownership of the state over all
rivers and watercourses'. This did not meant that Commissioned reject private
interests in water. On the contrary, they emphasised that:

we do not propose to prohibit speculative enterprise by capitalists or syndicates
for the purpose of undertaking work for the irrigation of land, for the water
supply of farms and for the promotion of the manufacturing industries.

The Commission did not propose that the state construct water supply works or
manage irrigation schemes itself. They considered that local trusts composed of
persons interested in the creeks or rivers would be better suited than central
government to decide the location and design of works. Instead, the Commission
envisioned that the Crown would have an oversight role:

107 'The Water Conservation Commission's Report: VI Storage of Water', The Sydney Morning Herald (Sydney),
24 December 1885, 6.
24 December 1885, 6.
January 1886, 10.
110 'The Water Conservation Commission', The Maitland Mercury & Hunter River General Advertiser (Maitland),
22 December 1885; see also 'The Water Conservation Commission's Report: XV Riparian Rights', The Sydney
Morning Herald (Sydney), 9 January 1886, 10.
111 'The Water Conservation Commission's Report: XV Riparian Rights', The Sydney Morning Herald (Sydney), 9
January 1886, 10.
112 'The Water Conservation Commission', The Maitland Mercury & Hunter River General Advertiser (Maitland), 22
December 1885.
113 'The Water Conservation Commission', The Maitland Mercury & Hunter River General Advertiser (Maitland), 22
December 1885.
[deciding] equitably upon conflicting applications, [ensuring] that the water available for the supply of a certain area of country was not monopolised by the residents in a particular portion of it, [resolving disputes between] conterminous trusts drawing their supply from the same source, [and ensuring that] the works proposed were sufficiently stable and valuable to the general community to justify the expenditure.\textsuperscript{114}

This role demonstrates some of the key elements of public administration: to protect the general interest, to ensure fair and equitable access to the waters of the colony, and to mediate conflict between water users.

3.2 The government’s water conservation bills

In 1890, the government introduced a Water Conservation Bill which would have vested the water in all rivers and lakes (and all underground water upon Crown land) in the Crown.\textsuperscript{115} Landowners and Crown tenants would have been allowed to use any water to which they had access for domestic and stock watering purposes but interference with river flow would have been prohibited without government permission.\textsuperscript{116} The bill provided for new and existing private dams to be licensed and allowed for the establishment of water trusts.\textsuperscript{117} The bill did not progress and in May and July 1891, the government promised that a bill would be introduced to deal with the urgent need for an efficient system of water conservation in the interior.\textsuperscript{118} The new bill was finally introduced into parliament in mid-October 1891 with substantially similar terms to the 1890 bill.\textsuperscript{119} By November 1891, no progress had been made\textsuperscript{120} and the government promised to bring in another bill the following year.\textsuperscript{121}

\textsuperscript{114} ‘The Water Conservation Commission’, \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 22 December 1885.

\textsuperscript{115} ‘Water Conservation Bill’, \textit{The Sydney Morning Herald} (Sydney), 13 December 1890, 7.

\textsuperscript{116} ‘Water Conservation Bill’, \textit{The Sydney Morning Herald} (Sydney), 13 December 1890, 7.

\textsuperscript{117} ‘Water Conservation Bill’, \textit{The Sydney Morning Herald} (Sydney), 13 December 1890, 7.

\textsuperscript{118} ‘Opening of Parliament’, \textit{Barrier Miner} (Broken Hill), 19 May 1891, 3; ‘The Opening of Parliament’, \textit{The Maitland Mercury and Hunter River General Advertiser} (NSW), 16 July 1891; noting that by the beginning of October 1891, there had been no progress (‘What the Parliaments are doing’, \textit{Barrier Miner} (Broken Hill), 2 October 1891, 2).

\textsuperscript{119} ‘Legislative Assembly’, \textit{The Sydney Morning Herald} (Sydney), 14 October 1890, 3; ‘Water Conservation and Irrigation Bill’, \textit{Cootamundra Herald} (NSW), 17 October 1891, 5.


\textsuperscript{121} ‘In Parliament’, \textit{Bathurst Free Press and Mining Journal} (NSW), 1 December 1891, 3.
A year later, in October 1892, William Lyne introduced a Water Conservation and Irrigation Bill, which would also have vested water in the Crown:

The right of the Crown is asserted, with certain specified exceptions, to the water flowing or contained in every river, stream, creek, watercourse, spring, lake, lagoon, swamp and underground supply, whether such water be permanent or intermittent.\[122\]

The bill contained four exceptions, providing landowners and occupiers with rights to use:\[123\]

1. the whole of the rain which falls on such land;\[124\]
2. riparian landholders were allowed to use river and lake water for domestic and stock use;\[125\]
3. spring water, subject to 'any acquired rights by other parties arising from an uninterrupted use extending over not less than 20 years'; and
4. underground water.\[126\]

The bill had 211 clauses and was described as being 'highly comprehensive'.\[127\] In some respects, it was similar to bills which had gone before. For example, it allowed existing private works to be licensed for a limited term (as long as they were deemed not to be detrimental to public interests\[128\]) and it would have enabled local water trusts to be established. However, it also embodied a more centralised, bureaucratic approach to water management. The bill would have established a Crown 'Board of Water Conservation and Utilisation'\[129\] with the power to carry out 'national works' and regulate any privately constructed works which could affect the rights of the Crown.\[130\]

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\[122\] 'Water Conservation and Irrigation Bill', Clarence and Richmond Examiner (Grafton), 18 October 1892, 8.
\[123\] 'Water Conservation and Irrigation Bill', Clarence and Richmond Examiner (Grafton), 18 October 1892, 8.
\[124\] This right was limited by certain exceptions.
\[125\] This was subject to a maximum amount per day, calculated with reference to the property water frontage.
\[126\] This right was limited by certain exceptions.
\[127\] 'In Parliament', Bathurst Free Press and Mining Journal (NSW), 13 October 1892, 2.
\[129\] On the tendency of late nineteenth-century Australia colonial governments to delegate powers to statutory boards, see Paul Finn, Law and Government in Colonial Australia (Oxford University Press, 1987) 58–61.
\[130\] 'The Water Conservation Bill', Cootamundra Herald (NSW), 19 October 1892, 5; 'The Water Conservation Bill', The Sydney Morning Herald (Sydney), 15 October 1892, 13.
Water trusts would have been established by the board rather than originating from local landholders.131 Both the board and the trusts would have had wide-ranging powers to alter the natural riverine landscape, including diverting water from any river or lake and constructing weirs, locks or dams in any river.132 The bill did not pass through parliament.133

The suggestion that the Crown regulate private access to water and even develop water conservation schemes qualitatively changed the nature of debates over access to water. The key tension within water disputes among pastoralists had been largely between the community of downstream water users and those individual upstream water users who were considered to be unfairly monopolising or wasting the flow of water. The proposed vesting of water resources in the Crown indicated the emergence of a new tension within the water debates of the late nineteenth century: between the class of pastoralist water users on the one hand and the 'national' or 'public' interest in water conservation on the other.

Squatters were not necessarily interested in the large water conservation schemes and the consequent modification of the landscape and commencement of irrigation envisaged by the Water Conservation Commission and the government water conservation bills.134 What pastoralists wanted was security of tenure, both from downstream landholders who might cut their dams and also from the colonial government, their landlord, resuming either their land or their water.135 Pastoralists were also concerned about 'centralisation' or the interference by the colonial

131 'Water Conservation and Irrigation Bill', Clarence and Richmond Examiner (Grafton), 18 October 1892, 8.
133 The bill also contained provisions mediating against 'waste' of water (e.g. additional approval was required for channels which would divert water more than 100 yards from the water course).133 The bill regulated the sale of water to and by trusts, including requiring them to pay for the water to which they were entitled from national works, whether they used their allocation or not ('The Water Conservation Bill', Cootamundra Herald (NSW), 19 October 1892, 5; 'The Water Conservation Bill', The Sydney Morning Herald (Sydney), 15 October 1892, 13).
135 see e.g. 'Cruelty to animals and the Crown tenants', The Sydney Morning Herald (Sydney), 27 July 1888, 9; 'The Water Conservation Commission in the North-West', The Sydney Morning Herald (Sydney), 21 May 1885, 5; Philip McMichael, Settlers and the Agrarian Question: Capitalism in colonial Australia (Cambridge University Press, 1984), 126.)
government in how they managed their land and, as a result, favoured water management by individual landholders or at the municipal level. Proposals that water be vested in the Crown and that the Crown 'national' works on the headwaters challenged pastoralist interests.

From the opposite perspective, concerns were raised that the construction of private dams would only consolidate small-scale construction and make it more difficult to later build large-scale works later. These commentators favoured a systematic and scientific national approach. As such, this water reform agenda took place within a worldview of nation-building and economic development. This era in New South Wales history can be seen as a turning point between two worldviews: between colonial occupation and exploitation of a supposedly 'vacant' land and developing a nation through engineering the land to overcome drought and develop the dry inland.

This tension was exemplified in a debate in 1888 published in The Sydney Morning Herald. Mr William Edward Abbott, a pastoralist who would be elected to the Legislative Assembly for Upper Hunter the following year, wrote that there needed to be:

*clear and definite recognition by the people of the principle, that improvements on the land belong to the man by whose labour or expenditure they were created. They were his private property [...]*

Mr Abbott suggested that all that was needed in relation to water reform was a 'short Act' defining the riparian rights of the Crown and the rights of private landholders and lessees. In response, Mr Fred Gipps, who had been a member of the Water Conservation Commission, wrote:

136 e.g. 'The Opening of Parliament', *Clarence and Richmond Examiner and New England Advertiser* (Grafton), 27 October 1888.
139 'To the Editor of the Herald', *The Sydney Morning Herald* (Sydney), 11 October 1888, 8.
140 'To the Editor of the Herald', *The Sydney Morning Herald* (Sydney), 11 October 1888, 8.
Supposing the Government granted rights to [local water trusts] to divert water for the irrigation of their special localities, and then years after it was discovered that these rights interfered with a far more comprehensive scheme, which would irrigate [ten] times the area, would not posterity think that Government had failed in both judgment and foresight in granting such privileges [...]141

Mr Gipps suggested that irrigation must be dealt with comprehensively and systematically, otherwise the 'very lifeblood of the colony will be [...] blindly sacrificed to the greed of speculators and monopolists'.142

3.3 The Water Rights Act 1896

Legislative reforms were finally successful in 1896. The government introduced the Water Rights Bill in 1895 and the Water Rights Act was passed the following year.143

This Act vested all river and creek waters to which the riparian doctrine applied in the Crown:

The right to the use and flow and to the control of the water in all rivers and lakes which flow through or past or are situate within the land of two or more occupiers, and of the water contained in or conserved by any works to which this Act extends, shall, subject only to the restrictions hereinafter mentioned, vest in the Crown.144

'River' was defined as including 'any stream of water, whether perennial or intermittent, flowing in a natural channel, and any affluent, confluent, branch or other stream into or from which the river flows'.145 'Lake' was similarly broadly defined as

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141 'Irrigation', The Sydney Morning Herald (Sydney), 13 November 1888, 5.
142 'Irrigation', The Sydney Morning Herald (Sydney), 13 November 1888, 5. Mr Abigail, the Secretary for Mines, alluded to this difficulty when he spoke in relation to a proposed water conservation scheme at Lake Cudgelico (now known as Lake Cargelligo, near Condobolin in the Lachlan catchment) that while the protection of dams constructed by private individuals required consideration, it was also the duty of the parliament to protect 'Crown rights' ('Parliament of New South Wales', The Sydney Morning Herald (Sydney), 4 July 1888, 5).
143 The Water Rights Act 1896 was replaced in 1902 with the Water Rights Act 1902, and then again ten years later with the Water Act 1912, which would stay in force until the Water Management Act 2000 progressively replaced it in the twenty-first century. Landholder rights to water remained essentially unchanged across this legislation.
145 s.22 Water Rights Act 1896.
including a 'lagoon, swamp or other collection of still water, whether permanent or temporary' and excluded only artificially retained water.\textsuperscript{146} As such, particularly given the Act's application to ephemeral water sources, the waters vested in the Crown included all substantial surface water resources unless they were entirely contained within the property of one landholder.\textsuperscript{147} Arguably, this 'nationalisation' of flowing water had the effect of defining the waters of all significant rivers and streams as one unified resource.

Mr Sydney Smith, the Secretary for Mines and the Minister for Agriculture, introduced the Bill. For him, the 'great fundamental principle' of the bill was that 'the state should as trustee of the people, control all great natural supplies of water'.\textsuperscript{148} The Act was described by commentators at the time as having the effect of divesting all riparian rights from the landholder:

\textit{These former rights of the riparian proprietor are taken away from him, with the exception of the [statutory stock and domestic right in clause 2]. He cannot complain if the flow is diminished or the water polluted.}\textsuperscript{149}

Parliament debated the impact the Act would have on common law riparian rights. While the Attorney-General argued that the legislation would 'nationalise' the waters and make them the 'property' of the Crown, Mr Lyne (now in opposition) and others worried that the bill, by not expressly vesting riparian rights in the Crown, was poorly worded.\textsuperscript{150} Mr Smith made two key arguments in favour of Crown control over waters. Both arguments indicate that the Government's purpose in introducing the Water Rights Bill was to facilitate larger scale development of water resources, either by enabling private enterprise or by paving the way for national water conservation schemes.\textsuperscript{151}

\textsuperscript{146} s.22 Water Rights Act 1896.
\textsuperscript{147} 'Water Rights Bill', The Sydney Morning Herald (Sydney), 12 June 1896, 3.
\textsuperscript{148} 'The Water Rights Bill: some misapprehensions', The Sydney Morning Herald (Sydney), 7 August 1896, 3.
\textsuperscript{149} 'Water Rights Bill', The Sydney Morning Herald (Sydney), 12 June 1896, 3.
\textsuperscript{150} see discussion in Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation', (1969) 7 Melbourne University Law Review 475, 490.
\textsuperscript{151} This was comparable to arguments in relation to state control over water made in Victoria in the lead up to the vesting of flowing water in the Crown in that jurisdiction. For example, a Royal Commission had stated in 1883 that 'the state should exercise the supreme control of ownership over water sources so as to encourage the greatest possible utilisation of the water on the largest possible area' (see S.R. Dovers and D.G. Day, 'Australian Rivers and Statute Law', (1988) 5(2) Environmental and Planning Law Journal 98, 100).
The vesting of water in the Crown was intended to encourage private enterprise. Mr Smith emphasised the need to provide legal title to landholders who had constructed large works, remarking that ‘at the present time people have no rights at all’ and ‘are liable at any moment to have the works cut away’.\(^\text{152}\) There were ‘several thousand works’ constructed on running creeks, amounting to a total value of £6,700,000.\(^\text{153}\) By legalising dams, the Act would provide the necessary incentive to enable further investment:

> What we desire is not to interfere at all with existing rights, but rather to protect them. We desire to encourage those who have spent large sums in constructing these works, and also to encourage others to spend capital in this way.\(^\text{154}\)

Indeed, the role of vesting river water in the Crown was to protect water conservation works from those who would hinder them:

> The Crown will not unnecessarily interfere with private enterprise; that is to say, we will not allow designing people outside to interfere with those who have constructed, or propose to construct works.\(^\text{155}\)

Rather than seeing the public interest and the private interest as irreconcilable opposites, Mr Smith implicitly challenged the binary thinking underlying the public–private debate. Water was to be vested in the Crown, precisely in order to encourage private enterprise and privately sponsored water conservation works.

Arguably, Crown vesting operated in a similar fashion to the 'res nullius' principle within the prior use doctrine. It removed landholders' riparian rights and re-set rights to access water as a blank slate, enabling those who wished to legalise their dams to

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\(^\text{152}\) Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).

\(^\text{153}\) Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).

\(^\text{154}\) Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).

\(^\text{155}\) Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).
do so. Indeed, in his second reading speech, Mr Smith even implied that the Bill would create property rights in water conservation works:

*Property legislation [...] will enable people to construct works of the nature indicated; will induce those who own land to improve their estates and make them more productive, and will give legitimate employment to a large number of people who are not now employed.*

The Water Rights Act did not merely provide a framework whereby the status quo consensus of scattered small dams and low intensity water use could be legalised. Instead, the vesting of flowing water in the Crown shifted the balance of priority in favour of those landholders who wished to build larger dams and even to carry out limited irrigation.

This was not, however, purely or even primarily a private property system. End users' water access would be determined by the state, shifting the locus of responsibility for water allocation to the bureaucracy. In his second reading speech, Mr Smith emphasised that the state could step in to protect water users, if an unlicensed dam 'unfairly prejudiced the equitable rights of other persons':

*We do not wish to interfere with those people who have rights at present, so long as they do not interfere with the rights of others; but hon. members know that some people have erected works which may interfere with persons who have land adjoining, or below the works. The works may take all the water and prevent the utilisation of the water in a fair and legitimate way.*

The state would act as a trustee for preserving a 'fair and equal distribution of the benefits which result from the flow of water'. Concepts of fair and equitable access to water would continue throughout the development of public administration.

156 Unlike earlier, more prescriptive legislation, the Water Rights Act did not require dam owners to apply for licences. What it provided was a licensing regime whereby a dam owner who wished for the extra protection could apply for a licence. If granted, their dam would then be protected against being cut away.

157 Sydney Smith, Minister for Mines and Agriculture, second reading speech on the *Water Rights Bill 1896* (2 July 1896, Legislative Assembly). The Water Conservation Commission had also suggested that the insecurity of dam builders in their tenure had discouraged them from building ('The Water Conservation Commission's Report: XV Riparian Rights', *The Sydney Morning Herald* (Sydney), 9 January 1886, 10).


The debates over the Water Rights Act also emphasised the possibility of the state itself constructing large-scale water conservation works. This would be enabled by Crown ownership of water:

The Government also propose to take power to construct works of a national character on the various rivers and lakes throughout the colony. They also propose to take power to charge for the use of the water.\textsuperscript{160}

In the debate over the Water Rights Bill, there was a strong sense that only government responsibility for large-scale water conservation schemes would ensure success. Mr Lyne, opposition spokesperson for water, said 'the Government must have control over the water. [...] Private individuals can only carry out works if they will be for their own benefit'.\textsuperscript{161}

Nevertheless, the Water Rights Act as enacted was substantially weaker than the government's original bill in this regard. The government had originally proposed that the Crown would have taxation powers. Where a national work was to be constructed on a river, a principle of 'betterment' would have been applied, such that all those people who derived a benefit from the works would have been liable to pay a tax in proportion to the benefit they received.\textsuperscript{162} All landholders who lived in a designated catchment area would have been required to pay the betterment tax whether they used the water or not. This aspect of the bill was received critically by parliament and was removed from the final bill.

The government's intention to use the regime created by the Water Rights Bill to construct national water conservation works did not take a particularly prominent place in the Minister's second reading speech in July 1896 but in defending the betterment clauses in August 1896, he argued that:

These latter clauses are really the most important in the bill as they confer on the Government the right to use and control all great natural supplies of water.

\textsuperscript{160} Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).
\textsuperscript{161} Lyne, debate on second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).
\textsuperscript{162} Sydney Smith, Minister for Mines and Agriculture, second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly).
The Public Works Act already contains ample powers regarding the construction of works, and all that stood in the way of dealing with large projects for water conservation, irrigation and drainage was the want of the power which the first three clauses of the Water Rights Bill will confer.163

Mr Smith was concerned that, without the betterment tax power, the project was 'emasculated'. Without a taxation power, the Government could still bring such a system into existence but it would not be able to:

*levy taxes upon the people in the irrigation area to pay interest on the cost of the work. It will be optional with them whether they will or will not use the water conserved by the Government, and if they do not use it they will not have to pay.*164

Mr Smith's arguments were unsuccessful, at least in relation to the Water Rights Act 1896. It would be ten years before commencement of the first large national work: Burrinjuck Dam165 and the Murrumbidgee Irrigation Area.166

### 3.4 Not everybody wanted reform

The Water Rights Act pulled back from the more ambitious and comprehensive approaches to water conservation that had been embodied in proposed legislation such as Mr Lyne's bill. Nevertheless, not all landholders supported the reform. Instead, there are indications some pastoralists and politicians were satisfied with the status quo and were, in fact, unwilling for legislative reform to upset the balance that had been achieved. Mr Hugh MacDonald, member for Coonamble, argued in the debate over the Water Rights Bill in 1896, that the conflict over dams was not as great as it was often made out to be:

*The Secretary for Mines and Agriculture [Mr Sydney Smith] has stated that dams have often been cut away. I think this has occurred very rarely indeed*

164 'The Water Rights Bill', *Clarence and Richmond Examiner* (Grafton), 11 August 1896, 4.
165 Authorised under the *Barren Jack Dam and Murrumbidgee Canals Construction Act 1906* (NSW).
166 Authorised and governed by the *Murrumbidgee Irrigation Act 1910* (NSW). Notably this Act did provide for water supply charges to not only cover maintenance expenses but also to defray the costs of the construction of Burrinjuck Dam (see s.10(2) *Murrumbidgee Irrigation Act 1910* (NSW)).
when we take into consideration the large number of dams that have been constructed by private enterprise.\(^{167}\)

The *Sydney Morning Herald* carried a survey about squatters' attitudes towards the proposed water legislation across New South Wales in July 1896.\(^{168}\) Among those who responded, there were two distinct opinions. *The Sydney Morning Herald* reported a difference between the Riverina and the Western District. The squatters of the Riverina were worried about the change. Their opinion was that 'no legislation of the kind is required at all, that it had never been asked for, and was an unnecessary interference with the present satisfactory state of things'.\(^{169}\) They were reported as suggesting that 'no alteration in the present tenure of water rights is at all necessary'.\(^{170}\)

By contrast, those pastoralists surveyed from the Western District felt that 'if the proposed law was judiciously administered and properly safeguarded it would be productive of general good to the community whose interests it affects'.\(^{171}\) For example, Mr Bacon of Dumble station, which was on two tributaries of the Darling, was concerned that existing storages might be declared illegal but was otherwise happy with the legislation. Mr Woods, of Yambacoona station, situated between Bourke and Brewarinna thought that:

> the proposal to issue licenses for the riparian rights is a very good one [...] if we had licenses we could do it legally, while now we run the list of our dams being out by some greedy people down the river who think they have a right to the water we have conserved by a good deal of foresight.

Without further documentary evidence, it is unclear whether much emphasis should be placed on the geographical difference noted by *The Sydney Morning Herald*. Especially the responses from the Riverina, however, indicate a degree of concern with the legislation, including concerns that conflict would be renewed and that landholders

\(^{167}\) Hugh MacDonald, debate on second reading speech on the *Water Rights Bill 1896* (2 July 1896, Legislative Assembly).

\(^{168}\) 'The riparian rights of runholders', *The Sydney Morning Herald* (Sydney), 9 July 1896, 5.

\(^{169}\) 'The riparian rights of runholders', *The Sydney Morning Herald* (Sydney), 9 July 1896, 5.

\(^{170}\) 'The riparian rights of runholders', *The Sydney Morning Herald* (Sydney), 9 July 1896, 5.

\(^{171}\) 'The riparian rights of runholders', *The Sydney Morning Herald* (Sydney), 9 July 1896, 5.
could, though the licensing process, lose their current dams. Riparian landholders were concerned that they would lose their security over their access to water and their current, relatively uncontested right to construct dams and store water.

In the debate on the Water Rights Bill in 1896, Mr Edward Millen, member for Bourke, and Mr MacDonald both argued that no legislation was necessary, and in fact it might even prove disruptive. Mr MacDonald argued that:

*Water rights have been allowed to exist without friction because there has been no law in regard to them. Everyone has been perfectly satisfied and happy to be allowed to go on as they were going on. The moment the law comes in to make one thing legal it also comes in to say that another thing is illegal.*

He was particularly concerned of the effects the bill could have on 'the smaller and poorer classes of landowners', arguing that a degree of hardship could be effected.

Mr Millen believed that water works in well-established and settled areas were, in fact, not in contravention of the law. He referred to a case in the Land Appeal Court, where that court appeared to accept long-established custom as the basis for water rights in dams. Mr Millen relied on this case to argue that vesting river waters in the Crown would perpetrate 'a great deal of injustice [...] on men who have been using these waters for years.' Mr James Gormly, member for Wagga Wagga, who was an

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172 In this context, Edward Millen may have been representing the interests of landholders in his constituency in far north-west New South Wales. Millen had lived as a journalist at Walgett and, in 1896, he owned grazing leases in the Bourke/Brewarrina region. He also worked on far-western newspapers (Martha Rutledge, *Millen, Edward Davis (1860–1923)*, Australian Dictionary of Biography, <adb.anu.edu.au/biography/millen-edward-davis-7577>; *The Hon. Edward Davis Millen (1860–1923)*, Parliament of New South Wales, <parliament.nsw.gov.au>).

173 Hugh MacDonald, debate on second reading speech on the *Water Rights Bill 1896* (2 July 1896, Legislative Assembly).

174 It is unsurprising that Mr MacDonald would support the interests of the less wealthy. He was a journalist and union organiser, who had worked on shearing stations and organised within the shearers' union (Mr Hugh MacDonald (1850–1906), Parliament of New South Wales, <www.parliament.nsw.gov.au>).

175 Edward Millen, debate on second reading speech on the *Water Rights Bill 1896* (2 July 1896, Legislative Assembly).

176 'Appeals', *The Dubbo Liberal and Macquarie Advocate* (NSW), 29 February 1896, 2; 'Land Appeal Court', *The Sydney Morning Herald* (Sydney), 11 March 1896, 4; see discussion in Chapter 3.

177 Edward Millen, debate on second reading speech on the *Water Rights Bill 1896* (2 July 1896, Legislative Assembly).

advocate of water conservation,\textsuperscript{179} argued similarly. Though he did not go so far as to say that those who had built dams had ancient use rights, he was concerned that the informal rights of those who had been using the water for many years should not be adversely affected:

\begin{quote}
Although the owners of land have no legal right to the water, they still have had the use of it for many years, and that gives them some title to consideration. We must not attempt to deal with them in any way that will be unnecessarily injurious to their interests.\textsuperscript{180}
\end{quote}

In part, these concerns can simply be ascribed to worries about the impact of change. Particularly in areas where dams were well-established and there was little conflict, it is understandable that even pastoralists who disagreed with the riparian doctrine might worry about the impact of legislative reform and increasing government regulation.

These concerns can also be seen as heralding a new dynamic: between those pastoralists who were content with small, localised dams which could be used for stock and domestic purposes and the establishment of large-scale and landscape-wide water conservation schemes. In the 1860s, the argument for water conservation had been directed towards allowing increased stocking of land, and minimising stock losses during droughts. In 1884, the debates surrounding Mr Brodribb's Dams for Pastoral Purposes Bill had focused on saving the lives of sheep and ensuring that the land was available to stock.\textsuperscript{181} By contrast, in 1896, speaker after speaker in the parliamentary debates on the Water Rights Bill spoke in favour of large national water conservation schemes. Mr Gormly was in favour of a 'comprehensive scheme of water conservation', which included construction of 'large water conservation works in the mountain gorges near the sources of [the] rivers'.\textsuperscript{182} Similarly, Mr Lyne argued for the

\textsuperscript{179} For example, Mr Gormly had carried a motion against the Government in July 1888, endorsing a water conservation scheme at Lake Cargelligo and the lower Lachlan River (see e.g. 'Legislative Assembly', \textit{The Sydney Morning Herald} (Sydney), 4 July 1888, 5; 'Legislative Assembly', \textit{The Sydney Morning Herald} (Sydney), 4 July 1888, 5; 'Parliamentary Proceedings', \textit{The Maitland Mercury and Hunter River General Advertiser} (NSW), 5 July 1888, 4; 'In the House', \textit{The Sydney Morning Herald} (Sydney), 6 July 1888, 5).

\textsuperscript{180} James Gormly, debate on second reading speech on the \textit{Water Rights Bill 1896} (2 July 1896, Legislative Assembly).

\textsuperscript{181} 'The Pastoral Dams Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 3 June 1884, 6.

\textsuperscript{182} James Gormly, debate on second reading speech on the \textit{Water Rights Bill 1896} (2 July 1896, Legislative Assembly), p.1292
government to undertake large head works 'not on two or three rivers, but throughout the whole country' as a means of permanently increasing the productive power of the colony.\footnote{William John Lyne, debate on second reading speech on the Water Rights Bill 1896 (2 July 1896, Legislative Assembly), p.1291.}

4. The impact of the Water Rights Act on riparian rights

The Water Rights Act, by vesting river and creek water that flowed through or past two or more properties in the Crown, was expressly intended to replace the riparian doctrine.\footnote{The Act drew on the equivalent Victorian legislation, the Irrigation Act 1886 (Vic). The Victorian Act included provisions to vest flowing water in the Crown and remove the riparian doctrine, establish a statutory right in riparian landholders to use water for stock and domestic purposes, and a licensing scheme for other water uses (see in general Peter Davis, "'Nationalisation' of Water Use Rights by the Australian States', The University of Queensland Law Journal 9(1) (1975), 1).} Riparian concepts nevertheless lingered within water regulation and within public debates until well into the twentieth century. The Act prompted a flood of disputes heard by the land boards and the land appeals courts, as existing dam owners and landholders wishing to construct new dams sought licences. Objectors to dams, government representatives and the land boards, who were responsible for making the decisions about licensing of dams, also all tended to use riparian reasoning in their arguments. These disputes largely returned to the binary division between the interests of downstream landholders in equal access and the interests of upstream landholders to construct dams, reinforcing riparian concepts within public debate. In 1900, however, the New South Wales Supreme Court heard its first case under the new Act and decided conclusively that the Act had removed riparian rights.

4.1 Riparian concepts in the legislation

Despite the intention to remove the riparian doctrine, the Water Rights Act still contained riparian — or quasi-riparian — concepts in two key forms:

1. a limited statutory riparian right to use water; and

2. the need to take the interests of riparian landholders into account when approving dams.
Firstly, the right of the Crown to the water of the rivers was subject to the rights of riparian land occupiers to use water for domestic and stock purposes:

The occupier of land on the bank of a river or lake shall have the right to use the water then being in the river or lake for domestic purposes and for watering cattle or other stock, or for gardens not exceeding five acres in extent used in connection with a dwelling house, and it shall not be necessary for the occupier to apply for or obtain a license for any work used solely in respect of that right. 185

In following years, this right was sometimes referred to as a riparian right. In today's legislation, this statutory right has evolved into what is now known as a 'basic landholder right'. 186

Secondly, the basis upon which decisions were made whether to grant or refuse water licences under the Water Rights Act — particularly in relation to pre-existing works — also relied upon a species of riparian rights reasoning. Specifically, the legislation gave other riparian landholders a right to be heard and have their interests taken into account in decisions that could affect their interests.

The Water Rights Act specified a different process for licensing pre-existing and new works. As regards new works, a person who wished to construct a work for the purpose of 'water conservation, irrigation, water supply, or drainage' needed to apply for a licence to do so. 187 Interested persons had a right to appear and be heard at the inquiry as well as rights to appeal the land board's decision. 188 'Interested person' was not defined but it seems certain that this category would have included downstream riparian landholders who might be adversely affected by the dam. The Act did not specify what use the person conducting the inquiry was to make of the evidence given by these interested persons or what the basis of their appeal would be.

185 s.2 and s.1(2) Water Rights Act 1896 (NSW).
186 especially s.52 Water Management Act 2000 (NSW) which provides for a right to take water from a river, estuary, lake or aquifer for domestic consumption and stock watering. The basic landholder right also encompasses a 'harvestable right' (a right to capture and use rainwater runoff) and a native title right (a right for native title holders to use water for domestic and traditional purposes) (ss.53–55 Water Management Act 2000 (NSW)).
187 s.7 Water Rights Act 1896 (NSW).
188 s.8(2) Water Rights Act 1896 (NSW).
As regards existing works, the Water Rights Act set out the rights of dam owners and downstream users more definitively. The Act established a clear presumption in favour of existing dam owners but with clear protections for downstream users. The owners of pre-existing works had a prima facie right to receive a license for that work:

*Any owner or occupier of land whereon there exists on the day when this Act takes effect any work to which this Act extends shall be entitled [...] to a license under this Act in respect of the said work.*\(^{189}\)

The land board was to recommend that a license be granted, unless the 'existence or use' of the work was 'substantially prejudicial to the rights of the Crown or any other owner or occupier of other land adjoining the river or lake'.\(^{190}\) This presumption of a right to a licence for a pre-existing work much favoured the holders of these works. Nevertheless, the exception established by section 12 indicated that riparian landholders did retain at least some right to a flow of water past or through their properties, if they could convince the Land Board that they would be 'substantially prejudiced'. Despite this distinction in the Act between new and pre-existing works, land board cases of the late 1890s and early twentieth century show no clear distinction in reasoning between applications for new or pre-existing works.\(^{191}\)

Unsurprisingly, the years after the enactment of the Water Rights Act saw riparian reasoning continue within public debate and decision-making. The riparian concepts contained within the legislation were, however, subtly different from the common law riparian doctrine. Even though the stock and domestic rights of riparian landholders were attached to landholding, this right represented a different relationship between the water user, water and the natural landscape. The right effectively replicated the 'ordinary use' aspect of the common law, which had enabled a landholder to take water (without reference to the needs of other landholders) for stock and domestic uses. At common law, the right to use water for extraordinary uses — such as industrial and irrigative uses — had been defined by direct reference to the flow of the

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\(^{189}\) s.12 Water Rights Act 1896 (NSW).

\(^{190}\) s.12 Water Rights Act 1896 (NSW).

\(^{191}\) see e.g. 'Land Appeal Court', *The Sydney Morning Herald* (Sydney), 11 January 1898, 6; see also 'Riverina Water Rights', *Wagga Wagga Advertiser* (NSW), 11 January 1898, 2; 'The Water Rights Cases', *Evening News* (Sydney), 11 January 1898, 5.
stream and the rights of all other riparian landholders to access the stream equitably. This correlative link was the keystone of riparianism: that the flow of water was to be shared equitably between riparian landholders. The extent of each landholder's right was directly defined by the volume of the natural flow and interdependent on the rights and needs of all other riparian landholders.

By contrast, the statutory 'riparian right' accompanied by the water licensing regime removed this correlative link. Rather than the right being defined by other riparian users' rights, this was a right to take water for a strictly defined and limited purpose only. This had a fundamental impact on water law, establishing a new relationship between water users that relied on the mediation of the state. Rather than water rights being defined by the relationship between landholders along a stream, rights came to be defined by what the state would grant or guarantee to water users.

4.2 Water disputes under the Water Rights Act: M'Caughey's case

The Water Rights Act caused a spate of large and small water disputes across New South Wales as water users sought to license existing dams, build new dams or to increase the capacity of existing dams. The new legislation was still untested and, despite the vesting of all river and creek water in the Crown, riparian reasoning remained strong. In 1897, a large number of applications were made to licence existing structures on the Billabong in the Riverina. The most contentious was Samuel M'Caughey's application to license the Chesney Dam on Colombo Creek (a parallel stream to the Yanko Creek) as well as to increase its height. This dam was a test case to establish the principles to be applied in this context and was particularly disputed because M'Caughey wished to establish irrigation. The arguments that were made before the land board hearing can be divided into four categories, three of which (the objectors', the Crown and the land board itself) used riparian reasoning.

a. Mr M'Caughey's arguments

Mr M'Caughey was the only party in the case who did not use riparian reasoning. Alongside factual arguments that his dam did not take as much of the water as the
objectors claimed,\textsuperscript{192} M'Caughey's key argument was that without the improvements he had undertaken to bring water from the Murrumbidgee, there would be no water in the Colombo Creek.\textsuperscript{193} His evidence was intended to show that:

\begin{quote}
\textit{until he and the other applicants for the licensing of dams undertook the work and the cost of making cuttings from the Murrumbidgee and the Yanko Creek, the Colombo Creek was of no consequence and never ran except in large floods as those of 1883 and 1870.} \textsuperscript{194}
\end{quote}

This was prior use reasoning. M'Caughey was claiming that by his endeavours and the expense he had undertaken to modify and improve the stream, he had created a form of private property in the water. This is the same argument that was made by upstream dam builders earlier in the nineteenth century: that by their modification of the stream and capital investment in water infrastructure, they had acquired a prior right to use the water. In doing so, M'Caughey was also attempting to negate any riparian claim. His argument was that he had made the Colombo Creek flow by his own enterprise and users downstream therefore had no riparian rights to the water.\textsuperscript{195}

\textbf{b. The arguments of the objectors}

The objectors, by contrast, argued that, as riparian landholders, they had a right to a certain flow of water. They objected that the size, position and construction of M'Caughey's dam meant that he received nearly all of the water in the creek. John Monash, an engineer,\textsuperscript{196} stated in his evidence for the objectors that M'Caughey's dam and proposed amendments would give M'Caughey 'all the water and the other people lower down merely the surplus'.\textsuperscript{197} By this reference to the 'surplus', the objectors presumably meant that M'Caughey would get as much water as he wanted and the

\textsuperscript{192}‘Water rights in the Riverina’, \textit{The Sydney Morning Herald} (Sydney), 25 October 1897, 5.
\textsuperscript{193}see also ‘Water rights in the Riverina’, \textit{The Sydney Morning Herald} (Sydney), 25 October 1897, 5.
\textsuperscript{194}‘An important land case’, \textit{The Sydney Morning Herald} (Sydney), 26 July 1897, 4.
\textsuperscript{195}Assuming he could establish this was true, English law might have supported him; the riparian doctrine did not apply to ‘artificial streams’ unless they had flowed for very long periods of time or had become ‘established’ into the local landscape so that they were effectively natural; see discussion in Chapter 3.
\textsuperscript{197}‘Water rights in the Riverina’, \textit{The Sydney Morning Herald} (Sydney), 23 October 1897, 7; see also ‘Water rights in the Riverina’, \textit{The Sydney Morning Herald} (Sydney), 22 October 1897, 5.
others would only get what was left over. The objectors emphasised that they were not against the construction of dams, 'so long as the dams were not made so as one person got the whole of the water'.

When summing up their case, the counsel for the objectors noted that the Water Rights Act had, by vesting river and creek water in the Crown, placed riparian matters on a new footing. Nevertheless, counsel argued for an approach to water access based on a close interrelationship between property in land and in water. Counsel rejected M'Caughey's contention that all the water stored by him in Chesney dam was his own property, arguing instead that it was 'the joint property of all persons having frontages to the stream'. Using phrasing directly derived from the New South Wales Supreme Court's application of the riparian doctrine, counsel argued that 'the owners of land lower down the stream were entitled to a flow of water in its natural state and without diminution'. He contended that 'the waters belonging to all owners was now impounded by Mr M'Caughey', and that M'Caughey had been 'trespassing on other owners' rights'. The objectors argued for conditions to be placed on the licence that ensured that:

- they would receive an 'ordinary flow' coming down the creek;
- all parties would receive a 'a continuous supply of water';
- irrigation should only be permitted when the flow was above the average and there was a surplus of water; and
- one owner should not have the 'whole control of the water supply'.

The objectors did not specify what they meant by an 'ordinary flow'. However, the request for a continuous supply of water, on what was a naturally ephemeral creek, indicates a degree of departure from riparian 'natural flow' principles or, at the least, an endorsement of regulated flows.

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198 'Water rights in the Riverina', *The Sydney Morning Herald* (Sydney), 23 October 1897, 7.
201 'Water rights in the Riverina', *The Sydney Morning Herald* (Sydney), 25 October 1897, 5.
c. The Crown's approach

The Crown was represented by Mr McKinney, a strong supporter of water conservation and irrigation schemes. Mr McKinney was in favour of the construction and licensing of works. He was also cautious as to irrigation use, stating that 'he saw no objection to the dam, but there might be objection to too much water being used for irrigation'.

Although Mr McKinney supported Mr M'Caughey's dam, his focus was similar to the objectors', in that he considered that the 'ordinary flow' of the creek should be maintained by constructing a by-wash (a spillway). Irrigation was allowable, as long as only 'surplus water' was used.

His definition of surplus water was 'water which would otherwise go to waste if it was not used' (i.e. presumably water that would flow into the Edwards River). Mr McKinney was asked by the Land Board and by the parties to provide a solution that was acceptable to everyone. He proposed that:

- no parties should commence irrigation until water had reached a certain point down the Billabong or until a certain dam was full;
- while irrigation was being carried on, a certain amount of water should still pass along the creek;
- the license should be recallable; and
- the scheme would need to be revised every time a new dam was built, to ensure equitable distribution of water.

This proposal strongly emphasised the rights of all riparian landholders to receive water — in effect, attempting an equitable distribution of water among riparian landholders along the Billabong. McKinney's compromise proposal was not accepted.
d. The approach of the Land Board and Land Appeals Court

The Land Board took a similar approach to Mr McKinney, balancing M'Caughey's water needs with the water needs of all other landholders down the stream. They tried to find a solution that met all parties' needs. For example, in discussion with an engineer giving advice on the dams constructed, the chairman asked:

*Can you suggest any schemes which would allow M’Caughey water for irrigation, and yet allow a permanent supply, or, that is, whenever there was a flow in the billabong?*

The Land Board's final decision found that the:

*existence or use of the dam is not substantially prejudicial to the rights, of the Crown or any owner or occupier of other land adjoining the river with which the work is connected.*

They recommended a five-year license, on which they imposed substantial conditions:

- M’Caughey was not allowed to use the water for irrigation until the lowest dam on the Billabong (at Wendooran station) was full (or if that dam was destroyed, until the water was flowing past its site).
- M’Caughey was not allowed to irrigate for more than six weeks each year.
- M’Caughey needed to give the Minister seven days' notice of an intention to irrigate.

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210 ‘Water rights in the Riverina’, *The Sydney Morning Herald* (Sydney), 23 October 1897, 7.
211 ‘Riverina water rights’, *The Sydney Morning Herald* (Sydney), 28 October 1897, 3.
212 ‘Riverina water rights’, *The Sydney Morning Herald* (Sydney), 28 October 1897, 3.
213 Similar proposals had been made by Mr McKinney and by the objectors. McKinney suggested that irrigation should not take place unless all dams are full and that whether dams need replenishing can be measured by the state of the furthest dams (‘Water rights in the Riverina’, *The Sydney Morning Herald* (Sydney), 25 October 1897, 5). A Joshua Percy Josephson proposed that irrigation could take place at the Chesney dam ‘when the Colombo and Billabong waters have met. If the Billabong waters have not reached the Colombo junction, then the irrigation shall only take place when the Murrumbidgee waters, running through either the Yanco or Colombo have reached Wanganella’ (‘Water rights in the Riverina’, *The Sydney Morning Herald* (Sydney), 25 October 1897, 5).
214 On appeal, the Crown objected to this condition, and appears to have been removed: ‘Riverina water rights: appeal by the objectors’, *The Sydney Morning Herald* (Sydney), 21 December 1897, 3; ‘Land Appeal Court’, *The Sydney Morning Herald* (Sydney), 11 January 1898, 6.
• If the Minister considered at any stage that the water in the stream was running to waste, M'Caughey might irrigate for longer.

These conditions reveal some key principles. The Land Board balanced the principle that riparian landholders should receive an equitable share of the water with the idea that beneficial use needed to be ensured and that waste needed to be prevented. Irrigation was effectively considered an 'extra benefit' not an ordinary use of river water and could only be allowed in a minor way with any extra water — similar to the common law approach that irrigation should be considered an 'extraordinary use' that could only be undertaken if there were no sensible impacts on other landholders. Finally, the Crown had a responsibility of oversight to ensure beneficial and equitable use.

The Land Board's decision was appealed by the objectors and by Mr M'Caughey to the Land Appeal Court, who decided in favour of the objectors that the work was substantially prejudicial to the Crown and to downstream landholders. The court allowed the dam but only on the condition that a by-wash be constructed. Two principles became standard in later water licence applications:

1. that dams needed to be constructed with a by-wash to allow the flow of the creek to continue downstream (instead of flooding the surrounding countryside); and

2. that river pumping would be allowed only as long as the river flow stayed above a certain level.

Both principles indicate the idea that all landholders along the river or stream should receive an equitable share of the water — potentially a form of riparian reasoning or an early indication of the role of the Crown in ensuring fair distribution of water.

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215 'Land Appeal Court', The Sydney Morning Herald (Sydney), 11 January 1898, 6; see also 'Riverina Water Rights', Wagga Wagga Advertiser (NSW), 11 January 1898, 2; 'The Water Rights Cases', Evening News (Sydney), 11 January 1898, 5.

216 'Land Appeal Court', The Sydney Morning Herald (Sydney), 11 January 1898, 6.
4.3 Other disputes under the Water Rights Act

In an application to the Balranald Land Board in March 1898, a Mr Peter MacPherson applied for a license to pump water from the Murrumbidgee.\(^{217}\) This was approved with conditions:

- a limit on the size of the pump and irrigation channels;
- a limit on irrigation of no more than 150 acres; and
- that when the level in the Murrumbidgee fell to a certain level, the Minister might abridge the license.\(^{218}\)

In 1899, in reference to a successful application for a large-scale pumping project from the Murrumbidgee to irrigate tobacco, this was referred to as 'the usual reservation that water shall not be drawn from the river when it falls below a certain level'.\(^{219}\) In 1900, similar restrictions were also placed on licences for M'Caughey to pump from the Murrumbidgee at Narrandera\(^{220}\) and for Mr Tom Foo to pump from the Bogan River at Nyngan.\(^{221}\)

Despite the vesting of flowing water in the Crown, the resolution of water disputes among pastoralists directly after the Water Rights Act came into effect reflected riparian principles. The construction of dams was allowed as was the use of water for irrigation but water still needed to be equitably distributed between riparian landholders and some degree of 'ordinary flow' along the watercourse still needed to be assured. These cases did not reference the common law riparian doctrine directly but still appear to have relied upon similar principles.

4.4 The statutory abolition of riparian rights

The effect of the Water Rights Act on the common law riparian doctrine was clarified in 1900, when the New South Wales Supreme Court decided that the Act had removed


\(^{219}\) *Australian Town and Country Journal* (Sydney), 18 March 1899, 53.

\(^{220}\) 'Application under Water Rights Act', *The Sydney Morning Herald* (Sydney), 6 June 1900, 8.

\(^{221}\) *The Sydney Morning Herald* (Sydney), 13 July 1900, 7.
landholders' common law riparian rights to water. In November 1900, the Supreme Court heard a complaint by John Hanson against the Grassy Gully Gold Mining Company (Hanson v The Grassy Gully Mining Co). Both the plaintiff and the defendant were gold-miners but the case was resolved according to the general water law. The defendants had dammed back the water of a creek at Yalwal goldfield near Nowra on south-coast New South Wales. The plaintiff had two complaints:

1. that the dam caused the water to overflow his land, mine and mineshafts, causing a nuisance; and
2. that the construction had closed the channel and 'for a long time obstructed the natural flow of the water'.

The plaintiff's land was above the defendant's dam. His chief concern was the flooding of his land and not the stopping of the flow of the stream. The facts of this case therefore bear little resemblance to disputes between landholders in pastoral districts. Stephen J with Cohen J concurring held that the plaintiff had no case, because the Water Rights Act had clearly divested the riparian right of proprietors from them and vested it in the Crown. Even though there was no mention of 'divesting', Stephen J held that nevertheless the 'vesting' of rights in the Crown must necessarily indicate divesting of those rights from riparian proprietors. The implied outcome of the case was that a landholder whose land was flooded by another would have no recourse at law and the case caused some disquiet in the mining districts on this basis.

Hanson's case was followed by two substantially similar mining disputes. In 1901, there was a dispute between a miner, Mr Adam Barlow, and the Little River Gold Dredging

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223 Hanson v The Grassy Gully Mining Company [1900] NSWLawRp 91; (1900) 21 LR (NSW) 271 (20 November 1900); see also 'Law Report', The Sydney Morning Herald (Sydney), 24 November 1900, 7; The Braidwood Dispatch and Mining Journal (Braidwood), 1 December 1900, 2; 'Grassy Gully Litigation', the Shoalhaven Telegraph (28 November 1900), 2.

224 'Law Report', The Sydney Morning Herald (Sydney), 24 November 1900, 7.

225 The Braidwood Dispatch and Mining Journal (Braidwood), 1 December 1900, 2.


227 see e.g. The Braidwood Dispatch and Mining Journal (Braidwood), 1 December 1900, 2.
Company, which had built a dam across the Little River near Braidwood in the south-east of the state and allegedly flooded Mr Barlow’s claim.\textsuperscript{228} The mining warden decided on the basis of Hanson’s case that no action lay for penning back the water of the channel. Mr Barlow later wrote to the Minister for Mines requesting intervention and the matter was referred back to the warden for a finding on various facts in May 1901.\textsuperscript{229}

Hanson’s case was also followed by a second Supreme Court case, \textit{Dougherty v Ah Lee}, in 1902.\textsuperscript{230} Mr Ah Lee, a miner, had been charged with committing a nuisance by ‘penning back the waters of a creek’ at his mine near Murwillumbah.\textsuperscript{231} Mr Dougherty, the plaintiff, argued that he was entitled to have the water of this creek flow past his land.\textsuperscript{232} Dougherty’s complaint was that the defendant’s dam stopped the water flowing in its usual course and caused it to overflow onto Dougherty’s land.\textsuperscript{233} Owen J held that the case was covered by the decision in Hanson’s case, in that the ‘whole plaint was based on the riparian right to have the water of the creek flow by and away from the land’.\textsuperscript{234} Given the decision in Hanson’s case, Owen J held that the plaintiff in \textit{Dougherty v Ah Lee} had no legal cause of action and that only the Crown could prevent the unauthorised obstruction of rivers.\textsuperscript{235}

\begin{footnotes}
\item[228] ‘A dredging company sued for damages’, \textit{The Shoalhaven News and South Coast Districts Advertiser} (NSW), 17 August 1901, 2. See also ‘Warden’s Court’, \textit{The Braidwood Dispatch and Mining Journal} (Braidwood), 7 August 1901, 2.
\item[229] s.14 of the \textit{Gold and Mineral Dredging Act 1899} (NSW) allowed the Minister to direct the mining wardens to reconsider a matter; see also ‘Braidwood Warden’s Court’, \textit{Goulburn Evening Penny Post} (Goulburn), 4 May 1901, 5; ‘Warden’s Court’, \textit{The Braidwood Dispatch and Mining Journal} (Braidwood), 1 May 1901, 2.
\item[230] \textit{Dougherty v Ah Lee} (1902) 19 WN (NSW) 8.
\item[232] ‘Riparian rights’, \textit{Australian Town and Country Journal} (Sydney), 25 January 1902, 37; see also \textit{The Sydney Morning Herald} (Sydney), 16 January 1902, 7.
\item[233] ‘Riparian rights’, \textit{Australian Town and Country Journal} (Sydney), 25 January 1902, 37; see also \textit{The Sydney Morning Herald} (Sydney), 16 January 1902, 7.
\item[234] ‘Riparian rights’, \textit{Australian Town and Country Journal} (Sydney), 25 January 1902, 37; see also \textit{The Sydney Morning Herald} (Sydney), 16 January 1902, 7.
\item[235] ‘Riparian rights’, \textit{Australian Town and Country Journal} (Sydney), 25 January 1902, 37; see also \textit{The Sydney Morning Herald} (Sydney), 16 January 1902, 7.
\end{footnotes}
Both Hanson's and Dougherty's cases were referenced in a further decision, in March 1902 before the Land Board at Grenfell.236 This was a case for forfeiture of a Crown lease under s.20 of the *Crown Lands Act 1884* (NSW). Mr George Ah-Way, a vegetable gardener, commenced action against Mr Sam Lee, also a gardener. Mr Lee was the Crown lessee and acquired water by way of an agreement with a grazier, Mr William Clements, who had a dam across the Brundah Creek and held a licence under the *Water Rights Act* to irrigate a garden. One of the terms of Mr Lee's Crown lease was that he must not 'interfere with the natural flow of water' in the creek. Water to irrigate Mr Lee's garden was lifted from the stream via a trench or a drain at the dam. At times, the water then flowed through a timber spout onto the land of a Mr Hope. The plaintiff, Mr Ah-Way, complained that this caused water to flow outside the creek and they requested that the trench be filled in, in order to allow the water to flow down the creek. Mr Ah-Way gave evidence that as a result of the trench he had no water in dry weather. The defendant Mr Lee attempted to argue that the Land Board had no jurisdiction, on the basis that:

- the downstream riparian proprietors had no right to bring an action, citing Hanson's and Dougherty's cases that had held that only the Crown could bring action for the obstruction of a stream;
- that the condition on the lease was void as a result of the vesting of flowing water in the Crown; and
- that Mr Lee's use of water was covered by the licence.

The Land Board chose to hear the case but decided in any case in Mr Lee's favour. The Board held that Mr Lee had acted within the terms of Mr Clement's water licence and therefore had not interfered with the natural flow of water so as to forfeit his Crown lease.

The case provides insights into how the *Water Rights Act* was applied to extraction of water for irrigative purposes in the early twentieth century. According to Hanson's and

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236 'Grenfell Land Board', *The Grenfell Record and Lachlan District Advertiser* (NSW), 15 March 1902, 2; see also 'Grenfell Land Board', *Evening News* (Sydney), 14 March 1902, 6; 'Country News', *Australian Town and Country Journal* (Sydney), 22 March 1902, 14; see also Attorney-General v Bradney (1903) 20 Weekly Notes (NSW) 247 (also discussed in Peter Davis, "Nationalisation" of Water Use Rights by the Australian States, *The University of Queensland Law Journal* 9(1) (1975), 1; Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation', (1969) 7 *Melbourne University Law Review* 475, 495).

Dougherty's cases, Mr Ah-Way would not have had the right to bring an action for breach of common law riparian rights. This case was not, however, a common law action but was under the Crown lands legislation. The Minister had a broad discretion to place conditions on Crown leases and the Land Board had the authority to hear cases relating to the breach of those conditions. Hence Mr Lee's claim that the Land Board had no jurisdiction attempted to push the precedent in Hanson's and Dougherty's cases too far. Nevertheless, the condition that Mr Lee not interfere with the natural flow of water appears to have been an attempt by the Crown to place quasi-riparian restrictions on his water use — presumably in order to protect downstream riparian users. Despite this condition, the Land Board's final decision suggests that Mr Lee's water use would be legal, so long as he was acting validly in accordance with a water licence — i.e. they interpreted the lease's requirement to maintain 'natural flow' not according to the principles of the common law but in the context of the Water Rights Act. As such, the case highlights how the regulation of the water of rivers and streams had been placed on a new footing in New South Wales: a statutory water access regime administered by the executive state.

5. Conclusion

Proposals for statutory water reform in New South Wales commenced as early as 1858. Water reforms were unambiguously directed at furthering the development of the colony's watercourses. Early proposals by pastoralists and their allies suggested two main approaches: allowing landholders exclusive rights to water contained within private dams and establishing local water trusts. The Water Rights Act, however, went further and established the basis for a 'state socialist' approach to water management. The primary impact of the Act was to replace landholder riparian rights with a state monopoly over flowing water. This had critical and far-reaching impacts on the water access rights of rural water users.

At first glance, the impacts for pastoralists were not drastic. One of the objects of the Act was to legalise private dams, while taking into the account the needs of other landholders or water users who might be adversely affected. Despite the statutory abolition of the riparian doctrine, the first water disputes decided under the new
legislation still relied largely upon riparian reasoning. However, although many pastoralists had called for legislation to legalise their tenure in dams, the Water Rights Act was not universally welcomed. The construction of dams by pastoralists had for the most part been a relatively capital non-intensive use of water. Dams were small, localised works, intended only to supply stock and domestic water supplies as well as to wash wool. Not only did landholders fear the possible re-emergence of conflict that could come from the reform, the Act also threatened the settled status quo of low intensity water development.

This threat came both from both private enterprise and state-sponsored works. One of the first dams legalised under the new regime was a large, private dam in the Billabong creek system, constructed by Samuel M'Caughey with the express intention of providing water for irrigation. The Act also established a new role for government in the management and distribution of water resources in New South Wales. In particular, the vesting of flowing water in the Crown was arguably the first step towards defining all available liquid freshwater in New South Wales as one unified resource. As such, the Act also set the scene for landscape-wide, 'national' water conservation schemes.
Chapter 6

Irrigation and river regulation: the evolution of public administration (1890 – 1939)

1. Introduction

Systematic irrigation in New South Wales was started by Chinese immigrants, whose vegetable gardens often provided the only fresh fruit and vegetables in inland Australia. The first significant conflict in New South Wales over the use of water for irrigation, however, was the litigation surrounding Sir Samuel McCaughey's irrigation at his Riverina station, Coonong, in the late nineteenth century. The following decades would see substantial dispute and public debate over the establishment of irrigation and the large-scale development of water conservation on the inland rivers.

This chapter first discusses six proposals for irrigation schemes from the 1890s, detailing widespread concerns about private enterprise and the potential impacts on the public interest. The chapter then discusses two particular examples of early river regulation — a proposal in the late nineteenth century to construct a weir on the Murrumbidgee River and the construction in the early twentieth century by private landholders of dams on the Lachlan River. These developments prompted intense...

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1 This research did not find any evidence of systematic conflict reported between Chinese and European settlers over water, although there was certainly resentment and prejudice directed towards the Chinese from Europeans. For a description of Mr McCaughey's station, see e.g. 'The effects of irrigation: Mr McCaughey's Coonong station', Wagga Wagga Express (NSW), 21 April 1896, 2; 'The Coonong Estate', Albury Banner and Wodonga Express (NSW), 4 September 1896, 9; see generally C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988), 183.

disputes along the rivers between upstream landholders who wished to perennialise riverflow and lower river landholders who valued the floodwaters. This was not just an upstream–downstream conflict but instead had wide-reaching implications for the relationship between water users and the natural environment.

The chapter then discusses an unsuccessful proposal by a private syndicate to construct a dam on the headwaters of the Murrumbidgee at Barren Jack mountain. This was a qualitatively larger undertaking, which reignited vigorous debates about the role of private enterprise in developing New South Wales waters. In particular, dryland farmers raised stringent concerns about the impact of the dam and associated irrigation scheme on their water security, and suggested that large-scale water conservation schemes were best undertaken by the state.

Finally, the chapter details the disputes surrounding the construction by the state government of Burrinjuck Dam — the first large dam to be built on the headwaters of an inland river in New South Wales — and the Murrumbidgee Irrigation Area. In particular, the chapter focuses on how these developments impacted water access for downriver riparian landholders and irrigators. In so doing, the case study examines the impacts of the maturation of the public administration system on water security and the relationship between water users and the natural environment.3

3 This chapter focuses on the debates surrounding establishment of irrigation and water conservation in the Murrumbidgee and Lachlan catchments in the very first years of the twentieth century. The bulk of the case study therefore examines tensions from 1890 until 1910, with a brief consideration of how these tensions would play out over the following decades. Similar events and tensions took place in other New South Wales river catchments as well, although the Murrumbidgee was the first in which a large dam was constructed on the headwaters and also the first in which irrigation was successfully conducted on a large scale. While similar conflict and tensions between end users also occurred in the early years of the twentieth century in the Murray River catchment, this thesis case study focuses on water conservation and irrigation in the Murrumbidgee and Lachlan rivers because they were less impacted by the interstate conflict over the Murray River. In the Murray in particular there was simultaneous interstate conflict over water in the first years of the twentieth century, sparking a massive debate over state riparian rights. Key points in this history were the Corowa Conference (1902), the River Murray Waters Agreement (1914) and the agreement in 1919 to construct a large dam at Mitta Mitta near Albury. See in general John Quiggin, 'Environmental economics and the Murray-Darling River system, (2001) 45(1) The Australian Journal of Agricultural and Resource Economics 67; J.M. Powell, Watering the Garden State: water, land and community in Victoria 1834–1988 (Allen and Unwin, 1989) 137–144; Emily O'Gorman, Flood country: an environmental history of the Murray–Darling Basin (CSIRO Publishing, 2012) 126–131.
2. Nineteenth century irrigation and conflicts over water

Irrigation schemes were proposed at Wentworth, Mulgoa and Segenhoe in 1890, at Hay and Menindee in 1892 and at Balranald in 1893. The Wentworth, Hay and Balranald irrigation schemes were public schemes, sponsored by municipal councils. The councils planned develop irrigation on tracts of common land. The schemes at Mulgoa, Segenhoe and Menindee were proposed by private investors and were generally more contentious. In 1893, a private syndicate also applied for permission to build a hydroelectric scheme on the Colo River near Sydney, which prompted similar debate to the private irrigation schemes.

Each area would be divided into small irrigation lots, to be held by an individual farmer, while the irrigation area as a whole was managed by an irrigation trust. This group settlement into a colony largely displaced rather than serving the needs of older dryland uses and would become the broader pattern for the establishment of irrigation in Australia. Three broad interests were identified as at risk or threatened by the establishment of irrigation colonies:

1. downstream riparian landholders whose water use relied on natural river flows;

2. public domestic water supplies; and

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4 'Menindee' was spelled relatively interchangeably 'Menindee' and 'Menindie' during these nineteenth century debates. Today, the spelling 'Menindee' is preferred.

5 'Irrigation experiments', Barrier Miner (Broken Hill), 13 June 1893, 2.


7 Concerns about private syndicate irrigation may have been heightened by the collapse of the Chaffey Brothers' private irrigation scheme at Mildura in Victoria; see Poh-Ling Tan, 'Irrigators come first: conversion of existing allocations to bulk entitlements in the Goulburn and Murray catchments in Victoria', (2001) 18 Environmental and Planning Law Journal 2, 154 at 156.

8 The Australian Rights Purchase Bill; see e.g. 'In Parliament', The Sydney Morning Herald (NSW), 21 February 1894, 7.


10 For a discussion of the integration of irrigation and dryland farming, see 'J. Rutherford, 'Integration of irrigation and dryland farming in the southern Murray Basin Part I: need for reappraising the concept', (1958) 26 Review of Marketing and Agricultural Economics 227. At this stage, dryland farmers were not just graziers had also commenced broad-scale wheat production (see also William Lines, Taming the great south land: a history of the conquest of nature in Australia (Allen and Unwin, 1992) 148).
3. how to guarantee water security to settlers into irrigation colonies.

The private irrigation proposals prompted debate over the need to protect the public or national right to water versus encouragement of private enterprise and industry.

2.1 The Wentworth irrigation area: a public irrigation colony

The Wentworth irrigation scheme authorised the local council to convert the Wentworth common into irrigation farms.\(^{11}\) Wentworth is located at the confluence of the Darling and Murray rivers, just over the border from Mildura in Victoria. This close proximity to Mildura, the site of Victoria’s Chaffey Brothers’ irrigation scheme, was the stimulus for the scheme.\(^{12}\) Legislation granted extensive powers to the Wentworth Irrigation Trust to interfere with all waters in the trust area. The trust had the power to:

\[
\text{erect and construct upon any part of the irrigation area such dams, weirs, flood-gates, culverts, aqueducts, sluices, flumes, pipes, engines, pumping machinery, reservoirs, canals, watercourses, embankments, or other works}
\]

[and to]

\[
\text{widen or deepen or to close or divert any existing creek, lagoon, swamp, or watercourse within the irrigation area.}^{13}\]

These powers were limited by a condition that prevented interference with the flow of the Darling and Murray rivers. Similarly broad provisions can be found in the legislation for the other irrigation schemes,\(^{14}\) enabling a more interventionist approach to managing the river landscape and flow regimes. This shift in the relationship between water users and the environment would become a cause of conflict among river users. By regulating the watercourses and diverting more water away from in-stream flows,


\(^{12}\) For example the Wentworth Council argued throughout the 1890s that the establishment of irrigation at Wentworth was necessary to prevent residents leaving New South Wales to live in Victoria ('Latest Parliamentary Proceedings', The Maitland Mercury & Hunter River General Advertiser (Maitland), 29 June 1889, 4).

\(^{13}\) s.11 Wentworth Irrigation Act 1890.

\(^{14}\) s.11 Hay Irrigation Act 1892 (NSW); s.11 Balranald Irrigation Act 1893 (NSW); s.6 Mulgoa Irrigation Act 1890 (NSW); s.6 Segenhoe Estate Irrigation Act 1893 (NSW); s.4 Menindee Irrigation Act 1894 (NSW).
the establishment of irrigation marginalised the downstream riparian landholders who had been reliant on natural river flows and flood regimes.

The parliamentary debate over the Wentworth irrigation scheme did not specifically consider rights to water. There was, however, some concern about the Crown granting such a large tract of land. For example, Mr James Tonkin, member for East Macquarie, who strongly opposed the bill, 'objected to handing over 21,000 acres of valuable state land to a municipality to do what that body liked with it'. Similar doubts were raised in relation to the Hay Irrigation Bill. For example, Mr Henry Copeland, member for New England and supporter of the working class, raised concerns that the bill 'conferred enormous benefits on the town of Hay'.

Nevertheless, because the Wentworth, Hay and Balranald schemes were sponsored by municipal councils, they were regarded with far less suspicion than the irrigation schemes proposed by private individuals and syndicates. In debate on the Wentworth bill, Mr Jacob Garrard, member for Balmain and a prominent trade unionist, argued that the 'fact of the trust being composed of the Municipal Council was a sufficient guarantee to the ratepayers that their rights would be protected'. By contrast, substantial concerns were raised about private irrigation, especially the impact that these schemes would have on downstream water users and the control that the scheme would give to private enterprise over the rivers of the colony.

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18 Mr Copeland’s background was as a capitalist goldminer; in 1877, he had been campaigning for the Colonial Government to build a centralised, state-run water supply system for the goldfields (‘New member for the Northern Goldfields’, *Australian Town and Country Journal* (Sydney), 10 November 1877, 17; ‘New member for the Northern Goldfields’, *The Sydney Morning Herald* (Sydney), 6 November 1877, 3); see also *The Hon. Henry Copeland* (1839–1904), Parliament of New South Wales, <parliament.nsw.gov.au>.
19 ‘Hay Irrigation Bill’, *Sydney Morning Herald* (Sydney), 22 March 1892, 3.
2.2 Private irrigation schemes: Mulgoa, Segenhoe and Menindee

The private irrigation schemes were proposed by syndicates or companies seeking grants of land and extensive rights to use the waters of nearby rivers. The Mulgoa scheme was proposed in 1890 by Mr George Chaffey and Mr Henry Gorman, who wished to use water from the Warragamba and Nepean rivers to carry out 'extensive irrigation works [...] capable of supporting and giving employment to several hundred families'. The scheme would have the power to construct dams and weirs, to make a tunnel and to distribute water. The Segenhoe Irrigation Bill was introduced into parliament in December 1890 by Mr Francis Abigail, Minister for Mines. The proposed legislation enabled the developer, the Land Company of Australia to:

establish a system of irrigation and water supply in and upon the Segenhoe Estate, Upper Hunter, to authorise the sale and supply of water for irrigation and domestic uses thereon, and to construct and lay down dams, weirs, or floodgates upon and across the rivers Hunter and Page and Rouchel Brook, and to take and divert water from them.

The Menindee scheme was first proposed in 1892. The proposed legislation would enable the Menindee Irrigation Settlement Company to take water from the Menindee Lakes.

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22 Mulgoa is near Penrith on the outskirts of Sydney.
25 ‘Mulgoa Irrigation Bill’, The Sydney Morning Herald (Sydney), 22 August 1890, 3.
26 ‘Mulgoa Irrigation Bill’, The Sydney Morning Herald (Sydney), 22 August 1890, 3.
27 Segenhoe is in the Hunter Valley, approximately 27 kilometres north of Muswellbrook, close to the site of present day Glenbawm Dam.
29 ‘Segenhoe Estate Irrigation Bill’, Clarence and Richmond Examiner (Grafton) 16 December 1890, 4.
30 The Menindee Lakes are located on the Darling River, in far west New South Wales near Broken Hill.
lakes, the Darling river and other creeks and lakes and to establish an irrigation colony.\(^{32}\)

a. The debate over private enterprise

The debates surrounding the Mulgoa, Segenhoes and Menindee schemes were underscored by a substantial tension between the public interest on the one hand and support for encouraging water conservation and private enterprise on the other hand. Some commentators and members of parliament argued that private enterprise should be encouraged, even to the extent of granting private interests substantial rights to the colony's rivers. For example, Sir George Dibbs, member for Murrumbidgee, a successful businessman and an influential politician, argued in relation to the Mulgoa scheme that 'water conservation was not a matter to be dealt with by a Government but one in which private interest should be allowed to come to the front'.\(^{33}\) Similar arguments were made in relation to Segenhoes.\(^{34}\)

In the debate on the Menindee scheme, Mr Thomas Waddell, member for Bourke, argued that schemes of this sort 'that would tend to develop the colony and give work to unemployed' should be encouraged.\(^{35}\) Mr John Cann, Labor member for Sturt, argued that any company prepared to go to the expense of erecting the irrigation works ought to be conceded some rights to water.\(^{36}\) Some commentators in the media argued that private enterprise, by pioneering irrigation and closer agriculture, would work in the public advantage and any water privilege that the private investors gained thereby was unproblematic.\(^{37}\) Nevertheless, concerns about granting private enterprise such broad rights to water were substantial. In debate on Mulgoa, for

\(^{32}\) 'New South Wales Parliament', *The Sydney Morning Herald* (Sydney), 14 October 1892, 3. Support for irrigation at Menindee was fairly strong in Broken Hill, with one commentator even suggesting that the unions of Broken Hill should start their own irrigation colony ('Irrigation colonies', *Barrier Miner* (Broken Hill), 27 October 1892, 2).
\(^{34}\) 'Segenhoes Estate Irrigation Bill', *The Sydney Morning Herald* (Sydney) 16 February 1891, 3.
\(^{35}\) 'Legislative Assembly', *The Sydney Morning Herald* (Sydney), 24 February 1893, 3.
\(^{36}\) 'Legislative Assembly', *The Sydney Morning Herald* (Sydney), 24 February 1893, 3.
\(^{37}\) 'For the good of the colony', *The Sydney Morning Herald* (Sydney), 27 November 1890, 3; 'Mulgoa Irrigation Bill', *The Sydney Morning Herald* (Sydney), 28 November 1890, 6.
example, Mr John Hurley, member for Hartley, was afraid that 'a concession would be granted to a few individuals the value of which the House never dreamt of'.

Between 1893 and 1895 there was substantial debate about the *Australasian Rights Purchase Bill*, a proposal by a Melbourne company to build a hydroelectric scheme on the Colo and Grose rivers for Sydney's electricity supply. The bill proposed to allow the company to divert water and build electricity generation works to supply industry at Richmond. Parliamentary debate raised concerns about granting private companies rights to water, intensified by the fact that this was a Melbourne syndicate. The colony was accused of 'squandering its birthright' and one member even suggested that the bill should be renamed 'an Act to enable a Melbourne Syndicate to obtain without purchase certain valuable Rights over the public estate of New South Wales'. The proposed concession was described as a 'national crime', with the suggestion that the rights should at least be sold at auction rather than given away. The bill did not pass and lapsed by prorogation in June 1895.

Part of the resistance to private irrigation and water conservation schemes arose from fears that that the private syndicates that endorsed these proposals did not have the capacity to undertake them. For this reason, clauses were introduced into the Segenhoe legislation that insisted that the company commence work within six months and complete within three years. This concern was warranted, in that establishing irrigation in New South Wales was difficult and costly enterprise, reliant on the sponsor's capacity to undertake long-term investment. All six irrigation schemes, private and public, were unsuccessful in the long term. By 14 July 1893, the

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39 *The Maitland Mercury & Hunter River General Advertiser* (Maitland), 13 May 1893, 5.
40 *The Maitland Mercury & Hunter River General Advertiser* (Maitland), 13 May 1893, 5; 'Richmond Borough Council', *Windsor and Richmond Gazette* (NSW), 3 March 1894, 10.
46 'List of bills rejected by the Legislative Council', *The Sydney Morning Herald* (Sydney), 26 June 1895, 8.
47 'Segenhoe Estate Irrigation Bill', *The Sydney Morning Herald* (Sydney) 16 February 1891, 3.
Mulgoa Irrigation Company was being wound up\(^{48}\) and there were unsuccessful attempts to sell it to the government in the later 1890s.\(^{49}\) The Segenhoe scheme was in financial difficulties by 1895.\(^{50}\) The public schemes endured longer but, by the early twentieth century, it was reported that the Wentworth and Hay trusts had been resumed by the government and that the Balranald trust was petitioning for dissolution.\(^{51}\)

More broadly, concern was expressed throughout parliamentary and public debates that water was a public good and the public interest in water should be protected. The idea of the public interest was complex and used to describe at least three different situations:

1. the rights of riparian landholders;
2. public drinking water; and
3. the rights of settlers into irrigation colonies.

These concerns were underscored by a belief that the state would protect the general interests of all water users whereas private enterprise would only look out for its own interests.

b. Rights of riparian landholders and downstream river flows

The concept of a public right to water was occasionally relied on to support the general rights of riparian landholders. In debate on the Mulgoa scheme, Mr Sydney Smith noted that he 'was anxious [...] to "conserve the public rights", arguing that the bill needed to be amended to 'protect other people living on the river banks'\(^ {52}\). Landholders and municipalities downstream of the proposed private irrigation schemes raised concerns that these schemes would adversely affect river flows. For

\(^{48}\) 'Law Report', *The Sydney Morning Herald* (Sydney) 14 July 1893, 3.
\(^{49}\) e.g. 'The Mulgoa Irrigation Scheme', *The Sydney Morning Herald* (Sydney) 7 October 1895, 6; 'Mulgoa Irrigation Works', *The Sydney Morning Herald* (Sydney) 15 May 1896, 3; 'Intercolonial News', *Barrier Miner* (Broken Hill) 3 May 1901, 2.
\(^{50}\) 'Land Company of Australasia', *The Sydney Morning Herald* (Sydney), 5 January 1895, 5; see also 'Scone', *The Sydney Morning Herald* (Sydney), 30 April 1895, 5.
\(^{51}\) Australian Bureau of Statistics, *Year Book Australia* (1908) 491.
\(^{52}\) 'Proceedings in Parliament', *Maitland Mercury and Hunter River General Advertiser* (Maitland), 11 December 1890, 4; see also 'Parliamentary Pips', *Bathurst Free Press and Mining Journal* (Bathurst) 11 December 1890, 2.
example, while the people of Penrith favoured the Mulgoa scheme — a large meeting in November 1890 had endorsed the proposal — the people further down the Nepean at Richmond raised concerns that irrigation at Mulgoa would endanger their water supply. In response to their concerns, a clause was added to the bill prohibiting Mulgoa from taking water for irrigation purposes if 'a lesser quantity than five million gallons per day' flowed past a particular point on the river.

The same concerns were raised in relation to the Segenhoe scheme. Opinion in the area was mixed. People in the town of Scone and some witnesses at hearings in Muswellbrook indicated they were in favour of the scheme in October 1891. However, the towns of Muswellbrook, Rouchel and Aberdeen — all downstream of the project — had raised serious concerns with the scheme in January and March 1891. A public meeting to enter an 'emphatic and united protest' was organised at Muswellbrook in January 1891 and a large public meeting opposing the scheme was held in March. The concern was that the scheme would concentrate water supplies onto the Segenhoe lands at the expense of other local water users who relied on the same streams. For example, the scheme was described by one commentator as:

*the lovely proposal intended to enhance the value of the Segenhoe lands at the expense of the dwellers on the Upper Hunter, the Rouchel, and the Page, by depriving them of a great part of the, in dry seasons, scarcely sufficient supply of water in those streams [...]*

Protests of this nature would occur increasingly in the twentieth century, as riparian landholders came to feel that their rights were under threat from irrigation and river regulation.

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53 'The Mulgoa Irrigation Scheme', *The Sydney Morning Herald* (Sydney), 24 November 1890, 5.
54 'Brief mention', *Bathurst Free Press and Mining Journal* (Bathurst) 8 January 1891, 3.
55 'Mulgoa Irrigation Bill', *The Sydney Morning Herald* (Sydney), 22 August 1890, 3.
56 'The Segenhoe Irrigation Scheme', *The Maitland Mercury & Hunter River General Advertiser* (Maitland) 3 October 1891, 7; 'The Segenhoe Irrigation Scheme', *The Sydney Morning Herald* (Sydney) 12 October 1891, 5.
58 'Muswellbrook', *The Maitland Mercury & Hunter River General Advertiser* (Maitland) 19 March 1891, 4; see also 'The Segenhoe Irrigation Scheme', *The Maitland Mercury & Hunter River General Advertiser* (Maitland) 19 March 1891, 5.
c. Protection of public drinking water

Concerns were also raised that these irrigation schemes would affect the public supply of drinking water. In the parliamentary debate on the Segenhoe scheme in 1891, Dr Leslie Hollis rejected private speculation in water:

[The] company had obtained the land of that district and now wanted to obtain the water too. There were certain things which he held should not be made subjects of private speculation, and one of these was the water supply of a district.\(^{60}\)

Dr Hollis, member for Goulburn, was a Labor party member and a trade unionist,\(^{61}\) though whether his concern to protect town and drinking water supply arose from his labour background or his profession as a medical doctor is unclear. He was particularly worried that the population of the irrigation settlement would be 'entirely dependent on the company for their water supply'.\(^{62}\) Similar concerns were raised in relation to the Mulgoa scheme. In that context, Mr Tonkin, who had also opposed other schemes, such as at Wentworth, believed that the bill gave too much monopoly to the promoters.\(^{63}\) By allowing the company to take whichever water it needed, with only the stipulation of five million gallons to flow daily, he argued that the promoters were 'practically speaking [...] given complete control over the Nepean waters'.\(^{64}\) He argued that, as the region grew, the guaranteed flow would no longer meet the requirements of the population and 'people would finally have to buy water to drink'.\(^{65}\) The concern about public water supply not being a matter for private speculation echo much more modern debates over the privatisation of water supplies, highlighting an enduring tension between private rights to water and critical human water needs.

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\(^{60}\) 'Segenhoe Estate Irrigation Bill', *The Sydney Morning Herald* (Sydney) 16 February 1891, 3; in relation to Menindie, 'Mr Gormly said it was not reasonable to suppose that any company should get the fee simple of any natural resource in a country where water was a times very scarce. Serious objection would be taken to this provision, for there was no part of the colony where water needed to be conserved more' ('Legislative Assembly', *The Sydney Morning Herald* (Sydney), 24 February 1893, 3).

\(^{61}\) see e.g. 'The Labor Members', *Evening News* (Sydney), 29 June 1891; 'Death of Dr. Hollis', *Goulburn Evening Penny Post* (Goulburn), 9 August 1898, 2; see also generally Bede Nairn, *Civilising Capitalism: The Labour Movement in New South Wales 1870–1900*, Canberra, 1973.

\(^{62}\) 'Segenhoe Estate Irrigation Bill', *The Sydney Morning Herald* (Sydney) 16 February 1891, 3.


\(^{64}\) 'Parliamentary Pips', *Bathurst Free Press and Mining Journal* (Bathurst) 11 December 1890, 2.

\(^{65}\) 'Proceedings in Parliament', *Maitland Mercury and Hunter River General Advertiser* (Maitland), 11 December 1890, 4; see also 'Parliamentary Pips', *Bathurst Free Press and Mining Journal* (Bathurst) 11 December 1890, 2.
d. Irrigation settlers' rights to water

Concerns were also raised that the settlers into the irrigation colonies should be guaranteed sufficient water for irrigation. Mr McCourt, member for Camden, argued that the Menindie bill needed to contain a guarantee, that if the company was to sell land to people for the purpose of irrigation, it would need to be strictly bound to continue the supply of water to irrigation settlers. In this context, the New South Wales debates drew on the experiences in Victoria, which had more substantial experience with irrigation. Irrigation settlers at Mildura had faced difficulties in obtaining sufficient water. Mr McCourt referred to these difficulties before a select parliamentary committee while questioning Mr McKinney. Mr McKinney gave as his opinion that 'the interests of the settlers at Mildura were not sufficiently protected'. Despite these concerns, all three bills (Mulgoa, Segenhoe, Menindee) were passed.

3. Small-scale river regulation and protecting the floodwaters

The irrigation schemes of the 1890s proposed substantial modification of river landscapes and flow patterns in order to establish irrigation colonies. In a parallel development, during the last years of the nineteenth century and the early twentieth century, water storages and diversions under the *Water Rights Act 1896* became more ambitious, with greater impacts on riverflow. This section discusses two situations in particular:

1. the proposal to construct a weir across the Murrumbidgee River at Yanko in order to divert more water from the river into the Billabong Creek system; and
2. the construction of weirs and irrigation diversions on the upper reaches of the Lachlan.

66 'Menindie Irrigation Bill: Evidence before select committee', *Barrier Miner* (Broken Hill), 4 April 1893, 4.
67 'Menindie Irrigation Bill: Evidence before select committee', *Barrier Miner* (Broken Hill), 4 April 1893, 4.
68 'The Mulgoa Irrigation Act', *Clarence and Richmond Examiner* (Grafton) 14 February 1891, 4.
69 *Barrier Miner* (Broken Hill), 14 June 1893, 1.
70 Similar disputes and issues also emerged progressively in other catchments – see e.g. 'Proposed Macquarie Weirs: enthusiastic public meeting', *The Bathurst Times* (NSW), 29 June 1910, 2 (discussion of a weir or series of weirs on the Macquarie River and the implications for riparian rights).
These proposals upped the stakes for water users — while on the one hand, proponents enumerated the benefits of providing a more secure water supply, on the other hand, many landholders and residents felt that they would be adversely impacted. These conflicts were in part purely geographic, with proposals supported by people close by and rejected especially by those who lived further down the watercourses. The debates were also marked by a tension between two distinct approaches to river management: those who saw the rivers as water supply channels and wished to regulate river flow to achieve a perennial supply versus those who relied on overbank flows and natural flood irrigation. The conflicts were also intensified by the Federation Drought, which took place from 1895 until 1902/1903. Thus, both the calls for and the complaints about water conservation schemes were often accompanied by harsh descriptions of aridity and privation.

3.1 The Yanko Weir proposal and protection of the floodwaters

In 1898, landholders on the Colombo, Yanko and Billabong creeks (the Riverina creeks) requested that the government construct a weir across the Murrumbidgee River, in order to supplement the flow of water from the river down the Yanko Creek. The proponents argued that the weir would have significant economic benefits and would facilitate closer settlement by rendering the area drought-free and enabling irrigation. The proposal would also provide a water supply for the residents and towns along those creeks. The group sent a delegation to Sydney, including some of the most substantial landholders in the district, especially Samuel McCaughey and

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72 see for example 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2; 'Weir at Warroo', The Worker (Wagga), 26 April 1902, 2.
73 'Constructing a weir across the Murrumbidgee', Australian Town and Country Journal (Sydney), 8 July 1899, 59; see also The Sydney Morning Herald (Sydney), 4 July 1899, 4–5.
74 'Weir across the Murrumbidgee', Jerilderie Herald and Urana Advertiser (NSW), 20 May 1898, 2; see also 'The proposed weir at the Yanko cutting', Jerilderie Herald and Urana Advertiser (NSW), 21 October 1898, 2.
75 Noting that Samuel McCaughey later appears to have spoken against the weir to the Government's Commission, implying that he preferred the Southern Murrumbidgee Irrigation Canal scheme proposed by Mr McKinney ('The proposed weir across the Murrumbidgee', The Riverine Grazier (Hay), 30 December 1898, 2).
John Horsfall.\textsuperscript{76} The proposal was supported by the residents and landholders in towns along the creeks (Jerilderie, Narrandera, Urana and Conargo).\textsuperscript{77}

The government\textsuperscript{78} established a commission to investigate the proposed weir, which reported in July 1900 after holding hearings in four towns: Jerilderie, Narrandera, Hay and Balranald.\textsuperscript{79} The witnesses at Jerilderie were in favour of the proposal.\textsuperscript{80} Their evidence showed an instrumentalist approach to the natural landscape. They believed that much of the water of the Murrumbidgee was 'running to waste' and they claimed that they were entitled to a 'fair share' of this surplus.\textsuperscript{81} They also wished to send a constant stream of water down the creeks, converting them from 'chains of waterholes' into 'permanent running streams'.\textsuperscript{82} At a meeting in Jerilderie in favour of the weir, a motion was also passed suggesting that the Colombo and Yanko creeks should be considered to be 'channels' only and conservation of water by dams should only be allowed to a limited height.\textsuperscript{83}

By contrast, witnesses from Hay and Balranald were against the scheme, which they felt would unreasonably divert water away from the Murrumbidgee.\textsuperscript{84} The landholders and residents of the lower river formed an active River Defence Association in order to agitate for their rights.\textsuperscript{85} These landholders from the Murrumbidgee below the Yanko

\begin{footnotesize}
\begin{enumerate}
\item Horsfall, John Sutcliffe (1837–1916), Obituaries Australia, <http://oa.anu.edu.au/obituary/horsfall-john-sutcliffe-508> (from The Argus (Melbourne), 15 July 1916, 6). The full list of delegation members: Mr. S. McCaughey; John McCaughey (Yarrabee); J.S. Horsfall (Widgiewa); A. M’Arthur (Jerilderie Farmers’ Union); W. Kelly; R. D. Culley (Urapa); A. J. Chrysal (Jerilderie); Thomas Wise (Mayor of Jerilderie); W. R. Raleigh (Hartwood); L. Kiddle (Steam Plains); Falkiner (Boonoke); A. Austin (Wanganella and Mingah); Gell (Coree); M’Larty (Bundure); W. Davis; R. Hosie; W. Innes; W. W. Davis.
\item 'Constructing a weir across the Murrumbidgee', Australian Town and Country Journal (Sydney), 8 July 1899, 59; The Sydney Morning Herald (Sydney), 4 July 1899, 4–5.
\item Speaking in 1901, the Secretary for Public Works, Mr Edward O’Sullivan, said that he would 'strive to do justice to both sides' (The Ministerial Visit, The Riverine Grazier (Hay), 3 September 1901, 2).
\item 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.
\item see also 'Weir deputation', Jerilderie Herald and Urana Advertiser (NSW), 6 September 1901, 5.
\item 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.
\item 'Weir across the Murrumbidgee', Jerilderie Herald and Urana Advertiser (NSW), 20 May 1898, 2; see also 'The proposed weir at the Yanko cutting', Jerilderie Herald and Urana Advertiser (NSW), 21 October 1898, 2.
\item 'The proposed weir across the Murrumbidgee', The Riverine Grazier (Hay), 30 December 1898, 2; see also 'Control of inland waters', The Sydney Morning Herald (Sydney), 23 December 1898, 5; 'Constructing a weir across the Murrumbidgee', Australian Town and Country Journal (Sydney), 8 July 1899, 59; The Sydney Morning Herald (Sydney), 4 July 1899, 4–5.
\item 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.
\item 'River Defence Association', The Riverine Grazier (Hay), 7 June 1901, 2.
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junction had two broad concerns: that the weir would impact on navigation and that it would remove the floodwaters. They noted the beneficial impact of floods on grass growth, a form of natural irrigation:

the landowners fronting the lower part of the river depended upon the inundation of the lignum country, which flooding causes good grasses to grow when the water recedes.

Advocates from the lower Murrumbidgee argued that these lands were 'useless without this flooding'. In 1903, Mr Humphry Davy from Balranald wrote furiously that:

[Flooding] throughout the Lower River district is Nature's compensation for a deficient rainfall. And is this not, now and always, a recognised right of which there should be no infringement!

Speaking in favour of the Yanko Weir in 1899, Samuel McCaughey argued that these concerns were groundless. He sought to reassure the people in the direction of Hay that their water supply would not be endangered by this work. He considered that there was more than enough water for both Hay and the Yanko, claiming that:

1. the weir could be constructed so as to ensure 'flow enough all the time for both [communities]'; and

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86 This was a considerable concern at the time, which this case study does not investigate in detail. Lower landholders called, for example, for a series of weirs to lock the Murrumbidgee to protect river transport (e.g. 'Irrigation and riparian rights', The Riverine Grazier (Hay), 13 November 1903, 4). For a contemporaneous exposition on the legal aspects of navigation, see George Chamier, 'Property in water', (1903) 37 Journal and Preceedings of the Royal Society of New South Wales (Engineering Section) 14.

87 This conflict is still evident today, with organisations such as the Australian Floodplains Association (<www.ausfloodplain.org.au>) whose water use relies on natural flow and flood regimes campaigning to protect the rivers, floodplains and wetlands.

88 Muehlenbeckia florulenta, a species of wetland shrub.

89 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.

90 'Irrigation and riparian rights', The Riverine Grazier (Hay), 13 November 1903, 4; Davy's letter was responding to a polemic from an L.A. Pogonowski against a determination by landholders at a public meeting at Oxley (north of Balranald) to oppose a dam at Barren Jack (Burrinjuck) on the headwaters of the Murrumbidgee ('Irrigation and riparian rights', The Riverine Grazier (Hay), 26 October 1903, 4).

91 'Irrigation and riparian rights', The Riverine Grazier (Hay), 13 November 1903, 4.

92 'Constructing a weir across the Murrumbidgee', Australian Town and Country Journal (Sydney), 8 July 1899, 59; see also 'The Murrumbidgee Weir', The Sydney Morning Herald (Sydney), 3 July 1899, 3.
2. the flooding of the lower Murrumbidgee would not be affected, stating that 'the flood-waters were not desired at all; they only wanted the surplus waters of the Murrumbidgee'.

Mr McCaughey was suggesting that water conservation could produce a permanent and secure water supply for all water users. The term 'surplus waters' was frequently used in these debates, in line with contemporaneous belief that water not directly used for a productive purpose was wasted. Advocates in favour of water conservation schemes believed that natural inundation wasted water, considering it an inefficient form of irrigation.

At the government inquiry in 1900, witnesses at Narrandera upstream of the Yanko junction, also spoke against the scheme, unless it formed a part of the larger scheme for the Southern Murrumbidgee Irrigation Canal. One of these witnesses was Samuel McCaughey, who had earlier supported the Yanko weir, but shifted his stance to support the more ambitious Southern Murrumbidgee Irrigation Canal scheme. This scheme would have involved a large reservoir, a weir across the Murrumbidgee near Narrandera and a network of irrigation canals. The plan was to irrigate the land on the southern but not the northern side of the river, which raised the ire of landholders from northern towns, such as Hillston and Temora.

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93 'Constructing a weir across the Murrumbidgee', *Australian Town and Country Journal* (Sydney), 8 July 1899, 59; see also 'The Murrumbidgee Weir', *The Sydney Morning Herald* (Sydney), 3 July 1899, 3.

94 See e.g., in an address to the Royal Society of New South Wales, George Chamier wrote that 'a river is a natural outlet for waste water — that is, for water that has not been utilised and has been allowed to escape off the land' (George Chamier, 'Property in water', (1903) 37 *Journal and Proceedings of the Royal Society of New South Wales (Engineering Section)* 19).

95 See e.g. Hugh McKinney, 'Water Conservation and the Equitable Distribution of Water for Irrigation and other purposes', (1903) 37 *Journal and Proceedings of the Royal Society of New South Wales (Engineering Section)* 5, 7–8.

96 'The Yanko Weir Inquiry', *Jerilderie Herald and Urana Advertiser* (NSW), 6 July 1900, 2; see also 'Water Conservation', *Wagga Wagga Express* (NSW), 2 September 1902, 3.

97 'Constructing a weir across the Murrumbidgee', *Australian Town and Country Journal* (Sydney), 8 July 1899, 59; see also 'The Murrumbidgee Weir', *The Sydney Morning Herald* (Sydney), 3 July 1899, 3.

98 Described as being 'six times the size of Prospect Reservoir', which was part of Sydney's water supply.

99 'Southern Murrumbidgee Canal', *Albury Banner and Wodonga Express* (NSW), 3 February 1898, 26. The Southern Murrumbidgee Irrigation Canal had been recommended by Colonel Home, who had carried out a survey of water conservation options for the colony in the late nineteenth century (e.g. 'Extensive canalisation scheme', *Queanbeyan Age* (NSW), 5 January 1898, 2); Colonel Home had had experience in India and was brought out as an 'expert' (see in general Peter Davis, *Australian Irrigation Law and Administration* (PhD thesis, University of Wisconsin, 1971) 643–644).

100 'The settler: effects of the drought and irrigation', *Freeman's Journal* (Sydney), 15 April 1899, 26.
Neither the Yanko Weir nor the Southern Murrumbidgee Irrigation Canal came to fruition. The government commission decided against the weir. The commission's report accepted that the users further down the river had 'certain rights which they do not wish to disturb' but considered that the weir was in any event unlikely to affect downstream flood flows. However, they also felt that it might have had an appreciable effect on navigation. Without expressly critiquing the supporters of the weir, the commission noted that:

- at times of high flow, sufficient water already flowed down the Yanko Creek; and
- the weir would only assist the Yanko users at times of low flow, when it was also most likely to have an impact on the navigability of the river downstream.

The commission suggested that they might find differently once a larger storage upstream in the headwaters was constructed. The commission also recommended that the offtake to the Yanko be deepened, allowing water to flow from the Murrumbidgee into the Yanko at times of lower flow.

Even this diversion from the river caused concern to the residents on the lower Murrumbidgee. In 1901, they sent a deputation to the Minister for Works to complain that the deepening of the Yanko cutting deprived them of water. They considered that by allowing the deepening of the cutting, the government had interfered with their riparian rights. The basis for this reasoning was that the flow of the river was now lower than 'the ordinary summer level of the water'. A Mr Andrew of the River Defence Association suggested that the people of the lower river had a 'clear right to all the waters below the natural bed of the Yanko Creek'. His argument was implicitly for a downstream right to natural flow that was heavily defined by the natural landscape of the river and assumed a no-change approach to natural river flow patterns. Riparian landholders' approach to the river was contradictory, however.

101 'The Yanko Cutting', Jerilderie Herald and Urana Advertiser (NSW), 6 September 1901, 2.
102 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.
103 'The Yanko Weir Inquiry', Jerilderie Herald and Urana Advertiser (NSW), 6 July 1900, 2.
104 'Riparian rights on the lower Murrumbidgee: protest by residents', The Sydney Morning Herald (Sydney), 3 August 1901, 7.
105 'River Defence Association', The Riverine Grazier (Hay), 7 June 1901, 2.
106 'Riparian rights on the lower Murrumbidgee: protest by residents', The Sydney Morning Herald (Sydney), 3 August 1901, 7.
107 'River Defence Association', The Riverine Grazier (Hay), 7 June 1901, 2.
A public meeting was held at Hay in February 1902, once again protesting the diversion of waters from the Murrumbidgee via the Yanko cutting. The meeting requested that the government build a lock and weir above Maude (between Hay and Balranald).\textsuperscript{108} This request for a weir to protect the downstream flow of water was a request for artificially regulated flows.

\subsection*{3.2 Weirs on the Lachlan and hardship on the lower river}

In 1903, a similar tension arose between the landholders on the lower Lachlan and the landholders on the upper river. This conflict was, like the conflict over the Yanko weir, more than a simple conflict between upstream and downstream interests. The debates exemplified two visions for the river — one vision sought a constantly flowing perennial river, the other valued the floodwaters.

Some landholders on the upper Lachlan river had been building weirs and irrigating since the late nineteenth century. For example, in 1902, Mr Charles McPhillamy had at least two weirs on the river at Warroo near Forbes. At the height of the Federation Drought, Mr McPhillamy's property was described as an oasis, with a wealth of plants to rival the Sydney Botanic Gardens, while the Lachlan nearby was a 'stretch of ragged, waterless pits'.\textsuperscript{109} Mr McPhillamy had two dams of 20 feet high, both of which dammed the water back 12 miles.\textsuperscript{110} He bred horses, as well as growing lucerne, sheep and cattle.\textsuperscript{111}

In April 1903, Mr McPhillamy was fined for having placed sandbags on his weir the previous summer and so obstructed the flow of the Lachlan in breach of the \textit{Water Rights Act 1902 (NSW)}.\textsuperscript{112} Mr McPhillamy was prosecuted for having altered a licensed work and thereby 'prejudicially and materially affected the flow of water in the

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\textsuperscript{108} 'Country News', \textit{Australian Town and Country Journal} (Sydney), 15 February 1902, 15. Calls to lock the rivers were also expressly connected with navigation.

\textsuperscript{109} 'Weir at Warroo', \textit{The Worker} (Wagga), 26 April 1902, 2.

\textsuperscript{110} 'Weir at Warroo', \textit{The Worker} (Wagga), 26 April 1902, 2.

\textsuperscript{111} 'The Warroo Estate', \textit{Western Champion} (Parkes), 19 October 1900, 7.

\textsuperscript{112} 'A water rights case', \textit{The Sydney Morning Herald} (Sydney), 9 April 1903, 5; 'Country News', \textit{Australian Town and Country Journal} (Sydney), 15 April 1903, 13; 'Local and general news', Narromine News and Trangie Advocate (NSW), 24 April 1903, 2; 'Local and general', \textit{The Peak Hill Express} (NSW), 17 April 1903, 2. The \textit{Water Rights Act 1902} was the successor to the \textit{Water Rights Act 1896}.
\end{flushleft}
river’. In May 1903, Mr McPhillamy applied for a license to erect a weir on the Lachlan river and to cut a channel to his run. In response, Mr Edward O'Sullivan, the Secretary for Public Works, delivered a categorical rejection of private dams and irrigation on the Lachlan. Given that there was sufficient water only available in the Lachlan River for a limited amount of irrigation, therefore 'no diversions for irrigation purposes should be constructed either by the Crown or by private individuals'. Mr O'Sullivan wrote that:

I regard it as inadvisable to allow any diversions to be made from the Lachlan River by any private individual; if such diversions are to be made, their construction should be in the hands of the Crown.

Mr O'Sullivan's intervention into Mr McPhillamy's case indicates the state's new role in mediating private users' water access. Mr McKinney, who had resigned from the government service in 1900, deprecated Mr O'Sullivan's approach. In 1903, the Crown again prosecuted Mr McPhillamy for illegally obstructing the flow of water in the Lachlan but the case was dismissed. In December 1903, the Land Appeal Court granted Mr McPhillamy a five-year license for a nine feet overshot dam.

Other large works were being undertaken by the Government on the Lachlan at the same time. In December 1902, Mr Wade, the state's principal engineer for water

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113 s.19 Water Rights Act 1902 (NSW); see also ‘Country News’, Australian Town and Country Journal (NSW), 15 April 1903, 13.
115 ‘Irrigation on the Lachlan’, Bathurst Free Press and Mining Journal (Bathurst), 6 May 1903, 2. Irrigation had been carried out quite successfully on the Lachlan at Jemalong Station near Forbes since the later nineteenth century (see e.g. ‘Irrigation in New South Wales’, The Dubbo Liberal and Macquarie Advocate (NSW), 16 August 1899, 4; ‘Irrigation from the River Lachlan: an irrigated farm’, Australian Town and Country Journal (Sydney), 28 November 1891, 22; ‘Irrigation at Jemalong Station’, The Dubbo Liberal and Macquarie Advocate (NSW), 11 September 1897, 2).
116 ‘Irrigation on the Lachlan’, Bathurst Free Press and Mining Journal (Bathurst), 6 May 1903, 2; see also ‘Weirs on the Lachlan’, The Dubbo Liberal and Macquarie Advocate (NSW), 9 May 1903, 3.
117 Mr McKinney remained an ardent supporter of water conservation and irrigation, and became involved in later private projects; for his analysis of the potential for irrigation across the state, see Hugh McKinney, 'Projects for Water Conservation, Irrigation and Drainage in New South Wales', (1901) 35 Journal and Preceedings of the Royal Society of New South Wales 223.
118 ‘Irrigation by Private Enterprise’, Australian Town and Country Journal (NSW), 3 June 1903, 8. McKinney considered that a blanket prohibition on all diversions would not solve the water shortages, suggesting that the loss or waste of water in the 'reed beds and swamps' of the lower Lachlan was a greater concern. McKinney suggested that a 'complete series of dams' along the river would enable a 'suitable distribution of the flood water'.
120 ‘Land Appeal Court’, The Sydney Morning Herald (Sydney), 13 November 1903, 7; ‘Land Appeal Court’, The Sydney Morning Herald (Sydney), 1 December 1903, 7.
supply, had recommended a series of water works in the Lachlan valley. He was authorised to spend £1 million (£200,000 per year) to build works across all the major river valleys, in order to give relief to settlers distressed by the Federation Drought. Works in the Lachlan included building a weir at Lake Cudgellico and waterworks to enable water to flow from the Lachlan up the Willandra and Merrowie creeks.

Residents and landholders on the lower Lachlan (the stretch between Hillston and Oxley) raised serious concerns about water supply to the lower river. The Lachlan Lower River Association held a series of meetings, at Oxley in March 1903, Booligal in April 1903 and at Hillston in May 1903. Their complaints relied on strongly riparian concepts, in particular that the river should not be diverted from its 'legitimate channel' and that the main channel should have priority over effluent channels.

A large meeting of the Lachlan Lower River Association was held in March 1903 at Oxley against the diversion of the Lachlan 'from its legitimate course'. The reference to the 'legitimate course' of the river, a riparian concept, evidenced the belief that that the water belonged in the main channel and should not be diverted. The concerns raised were not purely about agricultural water supply but also about water for town

121 Leslie Wade (1864–1915) had worked as assistant engineer under Mr McKinney from 1890. He became principal engineer of the water supply and sewerage branch of the Department of Mines and Agriculture in 1901, and would later become a chief architect of the Burrunjuck Dam and Murrumbidgee Irrigation Area (Clem Lloyd, Wade, Leslie Augustus Burton (1864–1915), Australian Dictionary of Biography, <adb.anu.edu.au/wade-leslie-augustus-burton-8940/>).

122 'The waterless west', *The Sydney Morning Herald* (Sydney), 9 December 1902, 3; see also 'Water conservation works on the Lachlan River', *The Hillston Spectator and Lachlan River Advertiser* (NSW), 13 December 1902, 2.

123 *Water and Drainage Act 1902* (NSW), enacted on 5 December 1902; see also 'Water Conservation and Drainage Works', *The Riverine Grazier* (Hay), 16 February 1903, 2; on this Act generally, see Peter Davis, *Australian Irrigation Law and Administration* (PhD thesis, University of Wisconsin, 1971) 645–647.

124 'Water Conservation and Drainage Works', *The Riverine Grazier* (Hay), 16 February 1903, 2. Wade noted that the closer settlement of the inland areas had largely been a failure ('The waterless west', *The Sydney Morning Herald* (Sydney), 9 December 1902, 3).

125 'The waterless west', *The Sydney Morning Herald* (Sydney), 9 December 1902, 3.

126 The Lower Lachlan River Association was in existence until at least the 1940s ('Marrowie Creek Enquiry: Effect on the Lower River', *The Riverine Grazier* (Hay), 13 September 1946, 4; 'Lower Lachlan Weirs Investigation Promised', *The Riverine Grazier* (Hay), 27 August 1948, 5).

127 'The Lower Lachlan River Association: Meeting at Oxley', *The Riverine Grazier* (Hay), 30 March 1903, 2; 'Lachlan waters: public meeting at Oxley', *The Sydney Morning Herald* (Sydney), 31 March 1903, 3. Similar concerns were also being raised by the lower river landholders at Bathurst on the Macquarie River, that they did not wish to see the kind of situation that had occurred on the Lachlan ('Water conservation', *Bathurst Free Press and Mining Journal* (Bathurst), 10 September 1903, 3.)
purposes. The failure of the Lachlan water supply had recently caused sickness in Oxley, which was probably typhoid. The meeting passed a motion that:

_This meeting views with apprehension the action of the Government in sanctioning the construction of certain works on the upper portions of the Lachlan for the storage and conservation of water, as such works are calculated to further curtail the already inadequate water supply both for domestic and stock purposes, besides seriously interfering with the riparian rights of the settlers on the lower portions of the river._

Despite the abolition of the riparian doctrine in 1896, the landholders claimed riparian rights. They requested that water not be retained upstream until a flow reached the junction of the Lachlan and the Murrumbidgee. This was identical to the approach taken along the Billabong in the nineteenth century. These landholders were not against dams, however, they believed that construction ought to start downstream and move upwards (rather than starting in the headwaters).

A further enthusiastic meeting of the Lachlan Lower River Association was held at Booligal in April 1903. The meeting blamed upstream diversions for the fact that the river had been completely dry at Booligal for twelve months. This meeting opposed the raising by the government of the Willandra weir and suggested that no water should be diverted from the main channel until the flow of water reached the Murrumbidgee. The meeting contended that the pumping plants on the upper river

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128 ‘Lachlan waters: public meeting at Oxley’, _The Sydney Morning Herald_ (Sydney), 31 March 1903, 3.
129 ‘Lachlan water conservation: protest by residents’, _Evening News_ (Sydney), 7 May 1903, 3.
130 ‘Lachlan waters: public meeting at Oxley’, _The Sydney Morning Herald_ (Sydney), 31 March 1903, 3.
131 ‘Lachlan waters: public meeting at Oxley’, _The Sydney Morning Herald_ (Sydney), 31 March 1903, 3.
132 ‘Lachlan waters: public meeting at Oxley’, _The Sydney Morning Herald_ (Sydney), 31 March 1903, 3.
133 This had also been Mr Wade’s proposal to the government in 1902 but it was not implemented (‘The waterless west’, _The Sydney Morning Herald_ (Sydney), 9 December 1902, 3).
134 ‘The diversion of the Lachlan waters’, _The Riverine Grazier_ (Hay), 17 April 1903, 2; see also ‘Waters of the Lachlan’, _Wagga Wagga Express_ (NSW), 18 April 1903, 2; ‘District News: Booligal’, _The Hillston Spectator and Lachlan River Advertiser_ (NSW), 24 April 1903, 2.
135 The government’s representative, Mr Sullivan, said that the cause of the dryness of the lower river was actually that there had not been a natural flow of sufficient magnitude to run along the whole river since April 1902 (‘Lachlan water conservation: protest by residents’, _Evening News_ (Sydney), 7 May 1903, 3). Mr McKinney argued similarly in June 1903, suggesting that the people of the lower river would be far better off if there was a complete series of dams from Forbes to Hillston (‘Irrigation by Private Enterprise’, _Australian Town and Country Journal_ (NSW), 3 June 1903, 8).
136 ‘The diversion of the Lachlan waters’, _The Riverine Grazier_ (Hay), 17 April 1903, 2.
used the 'whole of the present stream' and requested they should be stopped except for gardens or household purposes.\textsuperscript{137}

The Hillston meeting in May 1903\textsuperscript{138} showed two clear approaches to prioritisation of water access: firstly, that the main channel or parent stream should have priority over effluent streams (such as Willandra Creek, Middle Billabong and Merrowie Creek) and, secondly, that the diversion of water for irrigation was an injustice to residents and landholders on the lower river. The meeting cited the irrigation plants between Forbes and Condobolin. Discussion was heated, the meeting carrying a motion that:\textsuperscript{139}

\begin{quote}
Our vegetable and fruit gardens — some of them the result of 30 year's labor — are utterly destroyed owing to the diversion of the waters above for a purpose to which they can never benefit without doing an injustice to the general public and large occupiers of land below.
\end{quote}

Riparian reasoning was evident at the meeting, however, there were also indications hints of other forms of reasoning:

- prior appropriation: that the established water use of the downstream users should be protected over new, upstream diversions; and
- public rights: that general or public rights of users along the entire river should be protected against irrigation use.

Riparianism was still dominant, however. Mr Alexander Creswick, who was after Sir Samuel McCaughey the largest individual sheep-owner in the history of Australia\textsuperscript{140} and an active participant in the Lachlan Lower River Association, wrote a scathing critique of the actions of the government and private landowners in damming the

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\footnote{\textsuperscript{137} 'The diversion of the Lachlan waters', \textit{The Riverine Grazier} (Hay), 17 April 1903, 2. The meeting also included a request that the government ensure that the siphons it had ordered put on Mr McPhillamy's weir for passage of water were working ('District News: Booligal', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 24 April 1903, 2).}
\footnote{\textsuperscript{138} 'Diversion of Lachlan water: public meeting', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 1 May 1903, 2.}
\footnote{\textsuperscript{139} 'Diversion of Lachlan water: public meeting', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 1 May 1903, 2.}
\end{footnotes}
upper Lachlan in July 1903. While admitting that a series of small dams might be
advantageous, he argued that dams built for irrigation or which would divert water by
gravity from the river were unfair to downstream landholders. He believed that the
landholders of the Lower Lachlan had 'just water rights' to the 'natural flow' of the
river.

By the end of 1903, the drought had eased in the Lachlan. The tension did not go away,
however. The prominent landholders of the upper river had established a Wyangala
Water Conservation League (also referred to as the Upper Lachlan League), with the
primary aim of constructing a large reservoir at Wyangala on the headwaters of the
river. Their vision was for a perennially flowing river. Mr Whitehead, a delegate of
the League from Borambil considered this to be far superior to the existing wet-dry
regime: '[a] running stream all year round [...] is better than a flood, and the river
afterwards to run dry and remain so for months'. Similarly, Mr McPhillamy wished
to save the winter flows — which he considered ran 'away to waste' — for summer
use.

The landholders of the lower river appear to have been generally in favour of the
suggestion of a dam on the headwaters. For example, a meeting at Hillston in April
1904 agreed that the scheme was in the interests of the public generally and all the
settlers on the banks of the Lachlan and its creeks. Nevertheless, some 'lower
Lachlanders' remained unconvinced. This was in part due to scepticism about the
promises that the river could be made to flow constantly or that they would be able to
turn the Lachlan frontage into irrigation areas and orchards. One correspondent

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141 'Waters of the Lachlan', The Sydney Morning Herald (NSW), 2 July 1903, 4.
142 'Waters of the Lachlan', The Sydney Morning Herald (NSW), 2 July 1903, 4.
143 'Waters of the Lachlan', The Sydney Morning Herald (NSW), 2 July 1903, 4.
144 see e.g. 'Lower Lachlan River Association', The Riverine Grazier (Hay), 8 April 1904, 2.
145 see e.g. 'Wyangala Water Conservation League', The Sydney Morning Herald (NSW), 12 December 1903, 8.
146 'Lachlan — Wyangala Water Conservation League', Australian Town and Country Journal (Sydney), 2 December
1903, 34.
147 'Lower Lachlan River Association', The Riverine Grazier (Hay), 1 April 1904, 4.
148 'Wyangla Weir: irrigation on the Lachlan', The Hillston Spectator and Lachlan River Advertiser (NSW), 15 April
1904, 3.
149 see e.g. 'The Wyangala water scheme', The Sydney Morning Herald (NSW), 7 April 1904, 5
150 'Water Conservation on the Lachlan: meeting at Hillston', The Riverine Grazier (Hay), 8 April 1904, 2.
151 see e.g. 'Lower Lachlan River Association', The Riverine Grazier (Hay), 8 April 1904, 2.
considered that the upper river landholders had 'robbed' the lower landholders of the floodwaters.\textsuperscript{152} His concern was not primarily with the Wyangala reservoir itself, however, but instead with the irrigation plants and diversions on the upper river.\textsuperscript{153}

At its core, this was a dispute between two fundamentally different visions for the river and for the relationship of the landholders and water users with the natural landscape. The members of the Wyangala Water Conservation League, led by leading irrigation farmers from the upper Lachlan, sought a permanently flowing river, from which they could divert water for their crops. Implicit within the proposal were opinions that had earlier emerged along the Yanko: that rivers should become channels for water supply. This was a vision of almost revolutionary change to the natural order. For example, Mr Gatenby, an irrigation farmer from Jemalong Station, suggested that:

\begin{quotation}
If they could get a supply of water [...] they would see the birth of a new era along the Upper Lachlan, if not upon the lower river also. They could then grow anything, and save the country from droughts.\textsuperscript{154}
\end{quotation}

The Mayor of Condobolin, Mr Brady, suggested that damming the headwaters would 'change the face of nature' in the region and would supply 'what nature had not given them — a snow-fed river.'\textsuperscript{155}

By contrast, the landholders on the lower river feared the change. The Mayor of Hillston, Mr Stewart, had indicated in 1903 that '[the] Lachlan was never intended by God for irrigation purposes.'\textsuperscript{156} While not by any means environmentalists, the graziers sought to retain the natural rhythms of the river. In the same way as the landholders on the lower Murrumbidgee valued the floods, so too did the landholders on the lower Lachlan:\textsuperscript{157}

\textsuperscript{152} 'Lower Lachlan River Association', \textit{The Riverine Grazier} (Hay), 8 April 1904, 2.
\textsuperscript{153} 'Lower Lachlan River Association', \textit{The Riverine Grazier} (Hay), 8 April 1904, 2.
\textsuperscript{154} 'Wyangla Weir: irrigation on the Lachlan', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 15 April 1904, 3.
\textsuperscript{155} 'Wyangla Weir: irrigation on the Lachlan', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 15 April 1904, 3.
\textsuperscript{156} 'Diversion of Lachlan water: public meeting', \textit{The Hillston Spectator and Lachlan River Advertiser} (NSW), 1 May 1903, 2.
\textsuperscript{157} 'Lower Lachlan River Association', \textit{The Riverine Grazier} (Hay), 8 April 1904, 2.
a running stream to allow of irrigation on the upper river may suit [the upper irrigators] but we must have our frontage flooded, or partially flooded and without such owing to our very low rainfall they are practically worthless.

The value of floodwaters for revitalising grazing land was similar to the traditional use of irrigated water meadows in England.\textsuperscript{158} The role of the floods in fertilising and irrigating the soil was recognised more broadly within the water conservation debate. In 1909, a Mr Proctor raised concerns about the embankments built on the Hunter River at Maitland to protect the farmland from the floodwaters.\textsuperscript{159} Comparing the country around Maitland to the Nile valley, he abhorred the exclusion of the floodwaters, arguing that it caused the land to lose productivity:

After the 1857 floods I walked over a new deposit of two feet of soil [...] Besides leaving deposits of varying depths, these floods saturated the soil to a depth of 30ft or more, holding the water for months, and feeding the deep-stretching roots of the lucerne [...] when the surface moisture had evaporated and no rain had come to moisten it.\textsuperscript{160}

Proponents of water conservation and irrigation, however, saw natural flooding as wasteful and inefficient. Mr McKinney, for example, while noting that the natural irrigation of the floodplains was 'generally very beneficial', argued that:

the economic results viewed from a national standpoint are unsatisfactory in the last degree. That large areas of pasturage are greatly benefited by the floodwaters is beyond question; but on the other hand it has to be borne in mind that in producing this pasturage there is a deplorable waste of water.\textsuperscript{161}


\textsuperscript{159} 'Floods, water supply and lucerne growth', The Sydney Morning Herald (NSW), 10 November 1909, 7; Emily O'Gorman notes that pastoralists had complex relationships with floods, often seeing them as beneficial both 'replenishing water sources and stimulating vegetation growth' (Emily O'Gorman, Flood country: an environmental history of the Murray–Darling Basin (CSIRO Publishing, 2012) 72).

\textsuperscript{160} 'Floods, water supply and lucerne growth', The Sydney Morning Herald (NSW), 10 November 1909, 7.

\textsuperscript{161} Hugh McKinney, 'Water Conservation and the Equitable Distribution of Water for Irrigation and other purposes', (1903) 37 Journal and Preceedings of the Royal Society of New South Wales (Engineering Section) 5, 7–8.
The lower river landholders' claim to a riparian right to floodwaters\textsuperscript{162} relied on the close relationship between riparian water users and the rhythms of the natural landscape. It also highlighted the contradictions of the doctrine in the Australian climate. The riparian doctrine relies on a low level of human intervention with stream flow.\textsuperscript{163} But was a riparian right an entitlement to an \textit{even flow} of water or to the \textit{natural flow} of water? Were riparian rights restricted to in-channel flows or could a riparian landholder whose land bordered the river at a floodplain claim a riparian right to the floodwaters?\textsuperscript{164} Some commentators at the time expressed the opinion that riparian rights applied to an 'ordinary' flow, by which they meant non-flood flows.\textsuperscript{165} Neither question appears to have ever been expressly decided by New South Wales court.\textsuperscript{166} This issue would re-emerge in later debates, as lower river landholders, having lost the floodwaters, started to increasingly campaign for weirs to provide a regular and secure flow of water past their properties.

\textsuperscript{162} e.g. 'Lachlan waters: public meeting at Oxley', \textit{The Sydney Morning Herald} (Sydney), 31 March 1903, 3.

\textsuperscript{163} For example, \textit{Embrey v Owen} referred to a right to 'have a stream of water flow \textit{in its natural state}, without diminution or alteration' (\textit{Embrey v Owen} (1851) 6 Exch. 353 per Parke B at 585). \textit{Tyler v Wilkinson} referred to the 'water flowing [...] in its natural current' (\textit{Tyler v Wilkinson} (1827) 4 Mason 397, 24 F.Cas. 472).

\textsuperscript{164} For example, in the context of examining state riparian rights, George Chamier (a civil engineer who favoured the reforms) claimed that 'the law of riparian rights does not apply to floods'. He also noted that an exception might be made if 'nearly all the benefit derived from a river was through its floods', citing the example of lower Egypt (George Chamier, 'Property in water', (1903) 37 \textit{Journal and Preceedings of the Royal Society of New South Wales (Engineering Section) 17}). Arguably, some New South Wales inland rivers could fit into this exception. There was also a reference in the New South Wales press at the time to water conservation in California ('Utilising Flood Waters', \textit{The Maitland Weekly Mercury} (NSW), 19 May 1900, 16). Written from the perspective of using the floodwaters to establish irrigation in an arid landscape, the article from San Francisco suggested that the operating riparian and prior appropriation doctrines only applied to the 'average normal flow of the streams', leaving the floodwaters to be impounded, saved from 'waste' and equitably distributed among water users; on prior appropriation and riparianism in the Californian context, see J.M. Powell, \textit{Watering the Garden State: water, land and community in Victoria 1834–1988} (Allen and Unwin, 1989) 106.

In the reverse context, there had also been a substantial debate in the Hunter in the late nineteenth century, about whether a flood mitigation scheme that \textit{increased} flooding on certain land would breach riparian rights (see e.g. 'Hunter River Flood Mitigation: the question of riparian rights', \textit{The Newcastle Morning Herald and Miners' Advocate} (Newcastle), 15 February 1896, 5; Colonel Wells, 'Irrigation and flood prevention in the Hunter district', \textit{Australian Town and Country Journal} (Sydney) 4 July 1896, 23; 'The Hunter flood mitigation movement: conference at Raymond Terrace', \textit{The Maitland Daily Mercury} (Maitland), 1 March 1898, 2; 'Hunter River Flood Mitigation Scheme', \textit{The Newcastle Morning Herald and Miners' Advocate} (Newcastle), 9 June 1896, 5).

In the Indian context, Christopher Hill has suggested that the average rainfall patterns in England were a key driver of the development of riparian law. Hill was writing in the context of examining the mis-application of riparianism to India's intense and violent flood regimes. Christopher Hill, 'Water and Power: Riparian Legislation and Agrarian Control in Colonial Bengal' (1990) \textit{14}(4) \textit{Environmental History Review} 1, 2.

\textsuperscript{165} The 1857 English case, \textit{Sampson v Hoddinott} [1857] 1 C.B. (N.S.) 590 applied riparian principles to landholders' use of floodwaters. In that case, the downstream plaintiff complained that his use of winter floodwaters to irrigate adjacent fields was impeded when an upstream miller commenced irrigating and altered the pattern of water flow along the river. The court decided for the plaintiff, on the basis that the defendant's irrigation had caused a material injury to the downstream landholder's ability to use the water, without making any differentiation between the floodwaters and the non-flood flows in the river. However, the case is complicated by the fact that the plaintiff was claiming a prescriptive right (i.e. long-term uninterrupted use).
This tension between natural flood regimes and artificially engineered water conservation and irrigation is evidence of a broader transition that was occurring at the time: from the pastoral age to state-sponsored and scientific water management. This was the start of the 'development' phase of Australia's water history.  

At the turn of the twentieth century, pastoralism and the settlement of the inland were experiencing grave economic and environmental crises. Scientific agriculture was seen as a means of 'redeeming' the settler project, as well as bringing about an era of progress, national efficiency and social well-being. In the water context, this transformation was characterised by proposals for engineered water conservation and irrigation, supported by detailed hydrological, meteorological and geological data and analyses.

This was a contradictory process. On the one hand, it appeared progressive, working towards a stronger social fabric and long-term, sustainable agriculture. However,

168 See e.g. Cameron Muir, *The broken promise of agricultural progress: an environmental history* (Routledge, 2014) 3.
173 The Lyne Royal Commission was an early example of a scientific approach to water management, undertaking a highly scientific examination of water management, detailing climatic, geological and hydrological conditions. See e.g. 'The Water Conservation Commission's Report: VI Storage of Water', *The Sydney Morning Herald* (Sydney), 24 December 1885, 6. One of the more concrete outcomes of the commission was the establishment of a water conservation and irrigation branch in the Department of Mines. In the early 1890s this new body undertook surveys of major rivers in the colony including the Murrumbidgee, Murray, Lachlan, Macquarie, Namoi, Gwydir and Darling rivers ('Water Conservation in New South Wales', *The Maitland Mercury & Hunter River General Advertiser* (Maitland), 6 September 1892).
174 Cameron Muir, *The broken promise of agricultural progress: an environmental history* (Routledge, 2014) 47; There was a strong focus on the 'general interest'. For example, Mr McKinney suggested that dams should be considered as not merely 'intended for the benefit of the persons who construct them, but as part of a system which should be beneficial as a whole' (Hugh McKinney, 'Water Conservation and the Equitable Distribution of Water for Irrigation and other purposes', (1903) 37 *Journal and Preceedings of the Royal Society of New South Wales (Engineering Section)* 5, 13).
the reformers did not value natural processes, instead seeking to re-shape and transform nature:176

From the irrigation schemes of the Chaffey Brothers to the Snowy Mountains Scheme in the 1960s, hydro-engineering was an exercise in nation-building driven by an assurance that emptiness could be filled — that human ingenuity would transform the sullen bush into a wonderland of orchards, farms, towns and cities.177

Mr McKinney argued that natural floodplain irrigation was a 'wasteful arrangement of leaving everything to nature'.178 The reforms proposed a qualitatively different relationship between humans and nature, which would increasingly enable watersources to be converted into artificial storages and channels, and water itself to be re-defined as a resource in and of itself.

4. Mr Gibson's Barren Jack scheme

In August 1903, a substantial water diversion project was mooted in the Murrumbidgee. An English consortium, represented by Mr Robert Gibson,179 Mayor of Hay, proposed to build a large reservoir on the headwaters of the Murrumbidgee River at Barren Jack mountain.180 The syndicate put forward draft legislation — the

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175 e.g. Muir writes that the reformers 'wanted to restore the nutrients to the soil, save the remaining vegetation, regenerate the grasslands and teach long-term principles for cultivation' (Cameron Muir, The broken promise of agricultural progress: an environmental history (Routledge, 2014) 31).

176 See e.g. Matthew Colloff, who defined this reform process as 'an unswerving doctrine of human profit at the expense of nature' and 'civilising by overcoming nature' (Matthew Colloff, Flooded Forest and Desert Creek: ecology and history of the river red gum (CSIRO Publishing, 2014) 171); William Lines has described this process as re-organising the natural world to serve the economic interests of the country (William Lines, Taming the great south land: a history of the conquest of nature in Australia (Allen and Unwin, 1992) 149); Ian Tyrell has noted the visions of irrigation promoters as 'part of a wholesale environmental transformation that would produce a superior, gardenlike land. Merely by supplying water in ditches, great changes in nature could be wrought' (Ian Tyrell, True Gardens of the Gods: Californian–Australian Environmental Reform 1860–1930 (University of California Press, 1999) 133).


179 Mr Gibson had earlier been the president of the Hay irrigation trust (John Atchison, Gibson, Robert (1855–1936), Australian Dictionary of Biography, <http://adb.anu.edu.au/biography/gibson-robert-6309>). Mr McKinney was also involved in this scheme (C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988), 186); Samuel McCaughey was a silent backer (Peter Davis, Australian Irrigation Law and Administration (PhD thesis, University of Wisconsin, 1971) 647).

180 This would later become the site of Burrinjuck dam. On Mr Gibson's scheme, see Peter Davis, Australian Irrigation Law and Administration (PhD thesis, University of Wisconsin, 1971) 647–651.
Murrumbidgee Northern Water Supply and Irrigation Bill — which would have empowered the syndicate to build a large reservoir, acquire land for irrigation purposes, and sell water for a range of uses, including irrigation.\textsuperscript{181} The promoter was under no obligation to supply water where failure arose from drought or other unavoidable cause.\textsuperscript{182}

This was qualitatively larger than any water conservation works that had been proposed so far in the Murrumbidgee. The dam would have an impact on the flow of water along the entire river. The proposal upped the stakes for existing water users and was strenuously debated among farmers and settlers in the Murrumbidgee and Lachlan. The debates indicate at least three broad concerns:

1. by landholders on the southern side of the river that irrigation would be focused on the northern side;
2. by downstream landholders about the loss of the floodwaters; and
3. about the impacts of private enterprise water conservation and irrigation on existing landholders' access to water.

Landholders were in a contradictory position. The Federation Drought had intensified the sense of need for water conservation to protect and augment the security and availability of water for primary production.\textsuperscript{183} Most landholders preferred that the state government construct large water conservation schemes. However, they were also concerned that the government would never undertake effective water conservation, which drove greater acceptance of private enterprise.

\textbf{4.1 Concerns of southern and downstream landholders}

Some of the debate surrounding Mr Gibson's scheme bore a strong resemblance to the tensions that had occurred in relation to the Yanko weir and in the Lachlan. The proposal was, unsurprisingly, more likely to be favoured by landholders who were

\textsuperscript{181} 'Irrigation by private enterprise', \textit{The Sydney Morning Herald} (Sydney), 4 August 1903, 3; 'Irrigation in Riverina: state versus private enterprise', \textit{The Sydney Morning Herald} (Sydney), 7 August 1903, 7.

\textsuperscript{182} 'Irrigation in Riverina: state versus private enterprise', \textit{The Sydney Morning Herald} (Sydney), 7 August 1903, 7.

\textsuperscript{183} C.J. Lloyd, \textit{Either drought or plenty: water development and management in New South Wales} (Department of Water Resources New South Wales, 1988), 180–181.
located closer to the scheme. The project was strongly supported near Hay on the northern side of the Murrumbidgee. A public meeting at Hay in May 1904 called upon parliament to pass the bill, arguing that it would allow profitable closer settlement and increase production.184 There were further large public meetings supporting the bill in September and October at Hay185 and at Booligal in the Lachlan, respectively.186 By contrast, landholders on the southern side of the Murrumbidgee and further downstream raised stringent objections.

Landholders on the southern side of the river raised concerns at the intention to supply water only to the northern side. Just as there had been concerns that the Southern Murrumbidgee Irrigation Canal would only irrigate the southern side of the river,187 now the landholders south of the Murrumbidgee were similarly concerned to lay a claim to waters of the river. A large meeting at Darlington Point in October 1903 proclaimed itself fully in sympathy with the scheme but nevertheless 'strongly urged the necessity of protecting the riparian rights of those resident on the south side'.188

Landholders further downstream also worried about the project. In November 1903, at a Parliamentary Select Committee, witnesses who gave evidence against the scheme were concentrated south of Hay.189 A deputation requested that locks be constructed on the lower river just above Balranald.190 Their chief concern was the loss of the floodwaters.191

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184 'Murrumbidgee Irrigation Bill', *The Sydney Morning Herald* (Sydney), 30 May 1904, 5; see also an article on 3 May 1904 that the people of Hay very much in favour of the scheme ('Murrumbidgee Irrigation Bill', *The Sydney Morning Herald* (Sydney), 3 May 1904, 4); also landholders at Mt Ida and Jandaryan strongly in favour ('Northern Murrumbidgee Irrigation Bill,' *The Sydney Morning Herald* (Sydney), 4 October 1904, 3).

185 'District items', *The Sydney Morning Herald* (Sydney), 17 September 1903, 4.


188 'Murrumbidgee Irrigation Scheme: meeting at Darlington Point', *Australian Town and Country Journal* (Sydney), 14 October 1903, 7.

189 'Murrumbidgee Irrigation', *Australian Town and Country Journal* (Sydney), 18 November 1903, 12.

190 Walter Alexander McPherson, of Paika (just north of Balranald); Robert Wilson Ronald, grazier, Nap Nap, near Hay (downstream of Hay, near Maude); John Bennett, storekeeper, from Oxley; Frederick Edmond Vandeleur, manager of Canally Station, Balranald (south west of Balranald); Henry Lindsay, manager of Yanga Station, Balranald (near Balranald); Henry L. Harben, of Balranald. The only two exceptions were Argyle M'Callum, of Yass and William James Campbell, grazier from Hay

191 'Murrumbidgee Irrigation', *Australian Town and Country Journal* (Sydney), 18 November 1903, 12.
The deputation referred to the situation on the lower Lachlan River, where settlers had been 'absolutely deprived' of water by the construction of an upstream weir.\(^{192}\) Landholders on the Lachlan also supported landholders on the lower Murrumbidgee. In October 1903, a large public meeting at Hillston was in favour of the scheme with the proviso that 'the rights and interests of all residents on the Lower Murrumbidgee are conserved'.\(^{193}\) The Lower Lachlan River Association reiterated concerns about the loss of the floodwaters, suggesting that the scheme 'would prevent a large area of land on the lower river being inundated in certain seasons'.\(^{194}\)

By 1905, these concerns appear to have been held by a minority of landholders. The State government held a conference in January 1905\(^{195}\) to discuss options for water conservation and irrigation across the state.\(^{196}\) The Lower Murrumbidgee Locking League claimed that:

* certain waters should be allowed to go on down the rivers beyond the irrigation weirs to allow of the natural irrigation of certain low-lying lands and for navigation.\(^{197}\)*

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\(^{192}\) 'Murrumbidgee Irrigation', *Australian Town and Country Journal* (Sydney), 18 November 1903, 12. The weir was possibly the Willandra weir.

\(^{193}\) 'Country News', *Australian Town and Country Journal* (Sydney), 7 October 1903, 14. The concerns of landholders on the lower Lachian continued well into the twentieth century. For example, in 1907, in response to plans to form a water trust, the Lachlan Lower River Association moved that 'that this association, whilst approving of the Government policy of encouraging water conservation, and the formation of the Torriganny, Muccabah, and Morrinajeel Creeks Trust, respectfully requests the Minister for Public Works not to allow any diversion of the Lachlan waters for the trust's purposes until the first rise of the river in each year bas reached the town of Oxley.' The article reported that 'the residents of the town are naturally anxious that they should first receive a fresh supply in each season before any diversions are allowed up stream, for the purpose of watering stock.' ('Water conservation', *The Sydney Morning Herald* (Sydney), 24 September 1907, 5.) In 1910, the Jemalong Shire Council at Forbes petitioned the Minister for Works to prohibit any further pumping by water license holders until there is another rise in the river ('Low state of the Lachlan', *The Sydney Morning Herald* (Sydney), 13 January 1910, 8.)

\(^{194}\) 'Murrumbidgee Irrigation', *Evening News* (Sydney), 13 October 1903, 5.

\(^{195}\) Terms of reference of the conference included: Is the Common law doctrine of England on water rights applicable to New South Wales? In what direction should the common law be modified? Does the Water Rights Act of New South Wales meet the case? What should be the limits of State or private enterprise in respect of water conservation and irrigation? Is the system of trust administration desirable, as presented by the Water and Drainage Act of 1902? The application of irrigation to the pastoral industry. The same in respect of agriculture, mixed farming, and fruit-growing industries. Explanation of and discussion on proposed schemes of water conservation and irrigation. The probable increased land value which will accrue as the result of water being available through a proper system of irrigation ('Water Conservation and Irrigation: a general conference', *The Sydney Morning Herald* (Sydney), 16 January 1905, 5).

\(^{196}\) see e.g. 'Conservation and Irrigation: conference of interested bodies', *Australian Town and Country Journal* (NSW), 18 January 1905, 16.

\(^{197}\) 'The irrigation conference', *The Sydney Morning Herald* (Sydney), 19 January 1905, 4.
Delegates from the lower Lachlan argued strongly for their rights to water, with 'harrowing descriptions or people dying for a drink on the lower river while holders on the upper were irrigating hundreds of acres of lucerne and grass'\textsuperscript{198} The Lower Murrumbidgee Locking League moved that:

\begin{quote}
No further diversions of water from the natural river channels shall be permitted unless provision be made for the storage of sufficient water to maintain throughout the year, in addition to the water so diverted, a flow in the river at least equal to the average minimum flow of the last 20 years.\textsuperscript{199}
\end{quote}

The reference to the 'average minimum flow' suggests that the downstream landholders may have reduced their claims to a minimum flow of water rather than the floodwaters. The motion was not passed. Instead, a much softer motion was approved, which supported the interests of downstream landholders but did not guarantee a minimum flow of water down the river:

\begin{quote}
That in any scheme of water conservation and irrigation it is desirable to as far as practicable make suitable provision for safeguarding the interests of downstream occupants.\textsuperscript{200}
\end{quote}

The balance of power had shifted since the Land Board water rights cases in the late 1890s. From this approximate point onwards, riparian claims to a right to water became increasingly couched in political or aspirational rather than legal language. Landholders also turned towards public rights and prior appropriation claims to support their right to use water. For example, Mr Humphry Davy, who had been outspoken in earlier attempts to defend the lower river, argued that riparian landholders' had public or national rights to the rivers:

\begin{quote}
It is no wonder thousands along the lower rivers are again very much alarmed. This is the repetition of another effort by a few, and through an illegal, unconstitutional\textsuperscript{201} method, to take away the riparian rights of the people. [...]
\end{quote}

\textsuperscript{198} 'The irrigation conference', \textit{The Sydney Morning Herald} (Sydney), 19 January 1905, 4.
\textsuperscript{199} 'Irrigation: the government convention', \textit{The Sydney Morning Herald} (Sydney), 19 January 1905, 5.
\textsuperscript{200} 'Irrigation: the government convention', \textit{The Sydney Morning Herald} (Sydney), 19 January 1905, 5.
\textsuperscript{201} The reference to 'unconstitutional' may have been a concern about the impact that Mr Gibson's scheme would have on the navigability of the river and the recognition of navigable rivers in the Commonwealth Constitution.
The people must now insist that this great productive factor shall be regarded as national.\textsuperscript{202}

Mr Davy also referred to the riparian rights of landholders as the 'sacred rights of the people'.\textsuperscript{203} This shift towards public rights rhetoric perhaps indicates, at least in part, the extent to which landholders on the banks of rivers felt that their formerly strongly protected riparian rights had been reduced. Mr Davy also suggested that upstream schemes, such as Mr Gibson's, would damage the 'accrued privileges' of downstream riparian landholders — a form of prior appropriation reasoning.\textsuperscript{204}

4.2 The public interest and protecting established water users as a whole

Aside from the concerns of the southern and lower river, there was also a broader issue at stake in the debates over Mr Gibson's scheme. The scheme prompted a discussion among farmers and settlers as to whether irrigation and large-scale water conservation schemes should be undertaken by private interests or by the state. Landholders' overarching worry was the protection of their existing access to water. This concern had two facets. Firstly, while farmers appear to have supported the broad principle of damming the headwaters, they were worried that allowing a syndicate to build Barren Jack dam would entrench private monopoly control over the waters of the river and disenfranchise them of their own water rights. They were concerned both about speculation in land and about syndicates monopolising water resources. Secondly, there were also concerns about Mr Gibson's intention to establish intensive, broad-scale irrigation along the lines of the irrigation colonies from the 1890s. This would introduce new water users and concentrate water into certain geographical areas. By contrast, some commentators in the debate preferred that the benefits of water conservation should be divided evenly between existing pastoralist producers to protect against droughts.

\textsuperscript{202} 'Murrumbidgee Irrigation Scheme', The Sydney Morning Herald (Sydney), 22 September 1904, 5.

\textsuperscript{203} 'Murrumbidgee Irrigation Scheme', The Sydney Morning Herald (Sydney), 22 September 1904, 5.

\textsuperscript{204} 'Original correspondence: local proposals', The Riverine Grazier (Hay), 30 August 1904, 2.
These concerns were evident in the debates over Mr Gibson's scheme at the Farmers and Settlers Association (FASA)\textsuperscript{205} conference at Narrandera in 1903.\textsuperscript{206} Mr Crouch moved a resolution that:

\begin{quote}
the association opposes the granting of any privileges for a monopoly in land or water rights for the purpose of irrigation work to any financial corporation or syndicate.\textsuperscript{207}
\end{quote}

Mr Crouch's concern, echoed by others, was to protect the 'rights of the people from the encroachments of monopolies'.\textsuperscript{208} The motion was amended by Mr John Trefle\textsuperscript{209} to allow private works as long as they were sufficiently regulated, requiring works to be approved and able to be resumed by the state.\textsuperscript{210} The motion was passed with the amendment.\textsuperscript{211} If water conservation and irrigation schemes were established by private syndicates, the benefits would necessarily flow to the syndicates and their shareholders and not to the landholders on the river as a whole.

Some delegates at the 1903 conference did speak more strongly in favour of private enterprise. However, these were often the delegates who themselves wished to establish privately operated schemes. For example, Mr Gibson spoke up to defend his scheme.\textsuperscript{212} Mr Charles Barton, a banker and pastoralist from Wellington in the Macquarie River catchment, said he would support a motion in favour of government schemes, were it distinctly understood that there should be no interference with private enterprise, because he 'wanted to go in for some irrigation on his own

\textsuperscript{205} See in general William Bayley, \textit{A History of the Farmers and Settlers' Association of New South Wales} (Farmers and Settlers' Association, 1957). This association was established in the 1890s as a union of farmers and appears to have been one of the origins of the National Party of Australia.

\textsuperscript{206} 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (NSW), 14 August 1903, 7; see also 'Farmers and Settlers Conference', \textit{Australian Town and Country Journal} (NSW), 19 August 1903, 6–8.

\textsuperscript{207} 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (NSW), 14 August 1903, 7; 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (Sydney), 15 August 1903, 7.

\textsuperscript{208} 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (Sydney), 15 August 1903, 7.


\textsuperscript{210} 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (NSW), 14 August 1903, 7; 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (Sydney), 15 August 1903, 7.

\textsuperscript{211} 'Farmers and Settlers Conference', \textit{Australian Town and Country Journal} (NSW), 19 August 1903, 6–8. The conference also passed a motion that 'all large estates to be served by schemes of irrigation should be resumed by the State before the carrying out of such schemes is sanctioned' (Farmers and Settlers Conference, \textit{Australian Town and Country Journal} (NSW), 19 August 1903, 6–8).

\textsuperscript{212} 'Farmers and Settlers Conference', \textit{The Sydney Morning Herald} (NSW), 14 August 1903, 7. Mr Gibson also spoke in favour of his scheme at the 1905 government conference ('Irrigation: the government convention', \textit{The Sydney Morning Herald} (Sydney), 18 January 1905, 6).
The general trend of the discussion was cautious approval of private syndicate proposals. The majority would have preferred water conservation to be sponsored by the state government, nevertheless, concern about government inaction drove a broader acceptance of private schemes.

The possibility of water being provided only to private syndicate land was criticised in the media. The *Sydney Morning Herald*‘s ‘On The Land’ columnist was concerned that any private scheme would supply water exclusively to the new irrigation settlement and not to existing farmers. Rejecting broad-scale irrigation, the columnist suggested that household and livestock use should be prioritised. Any remaining water should be shared between existing users:

*The water which would suffice to settle 50,000 acres for intense culture would ensure permanent settlement and a measure of prosperity to the men on half a million acres, were it distributed with due regard to the principle of the greatest good for the greatest number.*

The columnist reached towards the language of water as a public and national good, concerned that settlers would be denied their 'just share in the national possession'. Water was referred to as the 'people's heritage' and the interests of the settlers were referenced as 'national rights in the waters'. The 'people' were not the people at large or all the citizens of the state. The 'people' were the 'people on the land'. The role of the state was to ensure fair and equitable distribution of water resources:

*The water, however, really belongs to the people, and to allow a company to divert the precious flow for its own purposes on any terms whatever would be a sacrifice of the rights of the people by the Government. [...] There would be no*

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213 ‘Farmers and Settlers Association’, *The Sydney Morning Herald* (Sydney), 11 June 1904, 15
214 e.g. ‘Murrumbidgee Irrigation Proposals’, *The Sydney Morning Herald* (Sydney), 13 November 1903, 3.
216 ‘On the land’, *The Sydney Morning Herald* (NSW), 19 August 1903, 5. See also ‘On the land’, *The Sydney Morning Herald* (Sydney), 16 September 1903, 7.
217 ‘On the land’, *The Sydney Morning Herald* (NSW), 19 August 1903, 5. See also ‘On the land’, *The Sydney Morning Herald* (Sydney), 16 September 1903, 7.
218 ‘On the land’, *The Sydney Morning Herald* (Sydney), 13 November 1903, 3.
219 ‘On the land’, *The Sydney Morning Herald* (Sydney), 16 September 1903, 7.
objection to private enterprise carrying out diversion works, but it is absolutely essential that the State should dictate that the supply should go to every portion of land which would be justly entitled to a share.221

The debate over the Barren Jack scheme continued until late 1905. The FASA conference in 1904 unanimously supported the government adopting a 'vigorous policy of water conservation' to be 'carried out without delay'.222 However, Mr Crouch's motion that 'all national conservation works should be carried out by the State' failed.223 Farmers supported government water conservation works and had concerns about private monopoly but would not reject all large-scale private works.

Three motions were moved at the state government water conservation and irrigation conference224 in January 1905, indicating the breadth of the debate among landholders:225

1. Mr McKinney moved a motion in favour of private irrigation:226

   That [...] this conference recommends the adoption of the principle that wherever private enterprise will undertake irrigation work under reasonable regulations, it should be encouraged to do so [...].

2. Mr Chris Watson, the leader of the Labour Party,227 moved a motion rejecting all private irrigation:

   That in the opinion of this conference all large schemes of water conservation and irrigation should be kept rigidly in the control of the State or other public authority on behalf of the people.

221 'On the land', *The Sydney Morning Herald* (Sydney), 16 December 1904, 4 [italics added].
222 'Farmers and Settlers Association', *The Sydney Morning Herald* (Sydney), 11 June 1904, 15.
223 'Farmers and Settlers Association', *The Sydney Morning Herald* (Sydney), 11 June 1904, 15.
224 The representation at this conference was broader than just farmers and settlers, though most delegates were associated with rural interests. The conference invited over 100 delegates, including from local councils, the Farmers and Settlers' Association, irrigation leagues, members of parliament, pastoralists and engineers ('Conservation and Irrigation: conference of interested bodies', *Australian Town and Country Journal* (Sydney), 18 January 1905, 16).
226 see also 'Irrigation by Private Enterprise', *Australian Town and Country Journal* (NSW), 3 June 1903, 8.
3. Mr John Johnston, from Hay and a member of the River Defence Association, moved a motion taking the middle ground:

That this conference is of opinion that it would be preferable for the State to carry out the proposed irrigation schemes, but in the event of the Government being unable or unwilling to do so within a reasonable time, it sees no objection in their being carried out by private enterprise, provided the concessions to private individuals are hedged about with conditions of safeguard, and that power is conserved to the Government to resume at short notice.

Mr Johnston's motion was passed unanimously while Mr McKinney's failed to a large majority. Mr Watson's motion also failed. Landholders' clear preference was for state-constructed schemes but in the absence of such schemes, sufficiently regulated private schemes were considered acceptable. However, landholders would not endorse unmitigated private investment or monopoly in water conservation and irrigation.

Gibson's Barren Jack scheme did not go ahead. The state government insisted that 'all large headworks for water supply purposes must be in the hands of the state'. This stance was confirmed and clarified by the state engineer Mr Wade and the under-secretary of works Mr Davis. They reported that the storage must be state-controlled but that channels and canals could be privately built. The Government's rejection of Gibson's scheme appears to have been driven by a concern about giving private rights to the headwaters of nationally important rivers (i.e. rivers the waters of which were the subject of actual or potential interstate disputes). While not rejecting private enterprise, the state was unwilling to cede control over major rivers and potential future major storages. Mr Wade also raised concerns that Mr Gibson's scheme would favour speculators and would settle water onto a specific patch of land, advancing the interests of the promoters while denying access to the general landholders of the district:

228 'Irrigation: the government convention', The Sydney Morning Herald (Sydney), 18 January 1905, 6.
229 'Irrigation by private enterprise', The Sydney Morning Herald (Sydney), 4 August 1903, 3; see also Leslie Wade, 'A review of water conservation in New South Wales', (1903) 37 Journal and Proceedings of the Royal Society of New South Wales (Engineering Section) 66, 84.
230 'Irrigation in Riverina: state versus private enterprise', The Sydney Morning Herald (Sydney), 7 August 1903, 7.
231 'Irrigation in Riverina: state versus private enterprise', The Sydney Morning Herald (Sydney), 7 August 1903, 7.
The bill does not set out where this water is to be utilised, whether in one spot of land purchased by the promoters for speculative purposes, or to be evenly distributed over the country fronting the whole length of the Murrumbidgee between Narrandera and Hay.\textsuperscript{232}

This appears to reflect that the state saw itself as protecting the general interests. Mr Wade commented that the scheme would divert a greater amount to the northern side of the river than that area was 'entitled to from the limited quantity available from the river', which also indicates the state playing a role to ensure equitable access, as well as recognising the limits of the resource.\textsuperscript{233} This concern was substantially similar to those of existing landholders. In November 1905, the government declared that it was in favour of Barren Jack scheme but that it would be a government scheme: 'the Government had decided that the storage works must belong to the State and be under the State's control'.\textsuperscript{234} The state also insisted that the control of any water diverted from the Murrumbidgee would be in the hands of the government.\textsuperscript{235}

4. Conflicts arising from state-sponsored water conservation and irrigation\textsuperscript{236}

4.1 Burrinjuck Dam and the Murrumbidgee Irrigation Area

In 1905–1906, the Government finally responded to calls for a state sponsored scheme. Construction of the Burrinjuck Dam commenced in 1906.\textsuperscript{237} In 1908, the state government projected that eventually 1.5 million acres would be able to be

\textsuperscript{232} 'Irrigation in Riverina: state versus private enterprise', \textit{The Sydney Morning Herald} (Sydney), 7 August 1903, 7.

\textsuperscript{233} 'The bill proposes to divert an amount of 750 cubic feet per minute from the Murrumbidgee for irrigation purposes on the northern side of the river. I consider this is much greater than this area is entitled to from the limited quantity available from the river' ('Irrigation in Riverina: state versus private enterprise', \textit{The Sydney Morning Herald} (Sydney), 7 August 1903, 7.)

\textsuperscript{234} 'New South Wales Parliament', \textit{The Sydney Morning Herald} (Sydney), 1 November 1905, 10.

\textsuperscript{235} In response to a request by Samuel McCaughey to divert water to his property at Yanko ('Cudgel Creek Cutting', \textit{Narandera Argus and Riverina Advertiser} (NSW), 26 August 1904, 3); see also 'Irrigation works and private enterprise', \textit{Narandera Argus and Riverina Advertiser} (NSW), 26 August 1904, 3; 'Yanko Creek cutting', \textit{The Sydney Morning Herald} (Sydney), 22 August 1904, 11.

\textsuperscript{236} This section covers flashpoints of conflict from 1906 into the 1930s. It is not intended as a comprehensive assessment of all conflict over water or of water management and regulation generally in this period. Instead, this section aims to demonstrate the major ways in which water access evolved as a result of the transition from riparianism to public administration.

irrigated. By 1910, the state government was also investigating the possibilities of establishing irrigation on the Lachlan, Macquarie, Murray, Hunter, Darling and Warragamba rivers. The state government assumed control over development on the basis of the 'nationalisation' of the major surface water resources, state construction of major headworks and administration of most group irrigation settlements. The state provided irrigators with financial support and generous repayment provisions, which assisted irrigators to improve the land, develop irrigation infrastructure and build homesteads. Irrigators could also take advantage of extensive additional government assistance, such as:

- fencing posts could be purchased on 10 years' terms;
- fruit trees and vines could be purchased from the government nursery;
- lucerne seed was supplied for the settler's first planting season;
- purchase of dairy stock was assisted and pedigree bulls could be leased;
- machinery and implements could be hired at reasonable rates;
- concessions were granted for railway fares and freights;
- water charges were reduced for the first five years; and
- the state had established butter factories and vegetable and fruit canning factories, and bacon and cheese factories were in the process of being built.

The adoption of irrigation in New South Wales was influenced by the ideas of American engineer, Elwood Mead. Mead believed that intensive settlement on smallholdings would make the best use of water and irrigation areas were therefore established...

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238 Australian Bureau of Statistics, Year Book Australia (1909) 590.
239 Australian Bureau of Statistics, Year Book Australia (1911) 600.
240 J. Rutherford, 'Integration of irrigation and dryland farming in the southern Murray Basin Part I: need for reappraising the concept', (1958) 26 Review of Marketing and Agricultural Economics 227, 236.
244 This became an economic failure, see e.g. C.J. Lloyd, Either drought or plenty: water development and management in New South Wales (Department of Water Resources New South Wales, 1988) 216.
on the basis of closer settlement. He also preferred state control of water distribution, arguing that this was more efficient than privately controlled water use. Despite the significant state support, many small settlers failed and were left in debt.

Damming the headwaters allowed the introduction of broad-scale irrigation and the regulation of the major inland rivers, with key consequences for the regulation of access to water:

1. the loss by downriver landholders of their claimed rights to the floodwaters;
2. the creation of new irrigation water rights; and
3. the evolution of the state as arbiter or mediator of water access and allocation decisions.

Water conflict in the first decades after the construction of Burrinjuck Dam centred on the concerns of lower river water users that their access to water had been unfairly reduced. Despite state government guarantees that water conservation would overcome scarcity, water shortages nevertheless continued and the first decades of the twentieth century therefore also demonstrate the beginnings of controversy over government water allocation.

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246 'Irrigation settlement: Australian and Californian methods, an expert's comparison', *The Sydney Morning Herald* (Sydney), 8 November 1920, 7. Mead wrote that 'It should not be left to any individual to determine how much water he will take, for as long as the determining factor is individual generosity or greed, so long will greed rule, and water needed in some localities will be wasted in others [...] paternalism like that of Australia [...] which creates opportunity for industry and thrift, awakens hope, arouses ambition, and strengthens belief in the brotherhood of man, is altogether good in its influence on character and on the prosperity of the State'.

247 Much legislation was enacted after 1912 in response to the failure of irrigation farms and resultant financial distress of leaseholders. In 1919, the Returned Soldiers Settlement (Amendment) Act 1919 allowed the Crown to forfeit returned soldiers' irrigation holdings (s.4 of the *Returned Soldiers Settlement (Amendment) Act 1919* (NSW) established a new s.7B to the *Returned Soldiers Settlement Act 1916* (NSW)). From 1926 to 1934 there were a series of legislative enactments to restate, remit and cancel debts and other charges (Irrigation (Amendment) Act 1926; Irrigation (Amendment) Act 1931; Finances Adjustment Act 1932; Crown Lands (Amendment) Act 1932; Murrumbidgee Irrigation Areas Occupiers Relief Act 1934).

248 In introducing the Barren Jack Dam and Murrumbidgee Canals Construction Bill in November 1906, the government had indicated that the scheme would store sufficient water to 'serve all the irrigable land on the northern and southern sides of the river', that even under severe drought conditions there would be 'sufficient water for domestic and stock purposes' and that settlers and stock would be greatly benefited ('Barren Jack in Parliament', *The Farmer and Settler* (Sydney), 27 November 1906, 9).
5.2 The demise of riparianism and the loss of the floodwaters

Riparianism had been the dominant water access regime for the second half of the nineteenth century. Although often considered unhelpful, the perception that riverside landholders retained riparian rights was prevalent for at least a decade after 1896. Riparian and other land-based rights reflect the intrinsic relationship between land and water. Isolated disputes involving 'riparian rights' occurred well into the twentieth century. In particular, both the legal and policy decision-makers experienced difficulties in separating landholders' ownership of the riverbed or frontage from rights in the water itself. For example, between 1899 and 1903, the riparian rights of farmers were cited as an obstacle to miners dredging rivers for gold caught up in the silt and sand of the riverbed. In 1909, the Crown raised concerns that granting leases to the bed of Lake George, an ephemeral lake in the state's south east, would result in the public losing control over the waters of the lake. In 1913, an attempt by a Mr Avery to obtain a lease to the bed of an ephemeral waterway also failed, on the basis that the owners with frontage 'held riparian rights, and under those were entitled to access to the waters of the creek.' Further references to 'riparian rights' occurred in relation to:

249 The New South Wales Supreme Court had originally held in Mary Lord's case that riparian rights could only exist where the landholder also owned the bed of the stream (Lord v Commissioners for the City of Sydney 7 NSWLR Eq. 10; Legge 912). This was also an issue in Victoria, where the state enacted legislation in 1905 to nationalise the bed and banks of the rivers to remove any uncertainty (Water Act 1905 (Vic)); see in general Peter Davis, "Nationalisation" of Water Use Rights by the Australian States', The University of Queensland Law Journal 9(1) (1975), 1; Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation', (1969) 7 Melbourne University Law Review 475, 491.

250 for a contemporaneous discussion of dredging including illustration, see 'Gold Dredging', Evening News (Sydney), 5 June 1899, 8.

251 'A mining scandal', The Dubbo Liberal and Macquarie Advocate (Dubbo), 3 June 1899, 5; 'Dredging for gold: statement by the Minister for Mines', Bathurst Free Press and Mining Journal (Bathurst), 30 June 1899, 3. see also 'In Parliament', The Sydney Morning Herald (Sydney), 17 November 1899, 7; 'River dredging for gold: ministerial inspection', The Dubbo Liberal and Macquarie Advocate (Dubbo), 7 June 1899, 2; 'The dredging industry: proposed new legislation', The Sydney Morning Herald (Sydney), 30 June 1899, 7. See also 'River waters: questions of ownership', The Sydney Morning Herald (Sydney), 10 October 1928, 14. [Cases: Booth v Williams: concerns ownership of a marine lagoon; White case on Hunter River in mid-1920s; Rouse v Wilkinson: 'Country News', Australian Town and Country Journal (Sydney), 15 February 1902, 15; The Sydney Morning Herald (Sydney), 30 November 1901, 6; 'Riparian rights: decision in a dredging application', The Sydney Morning Herald (Sydney), 8 February 1902, 9; 'Law Report', The Sydney Morning Herald (Sydney), 15 November 1901, 8; 'Country News', Australian Town and Country Journal (Sydney), 15 February 1902, 15.

252 'Leasing of Lake George', The Sydney Morning Herald (Sydney), 10 May 1909, 4.

253 'Special leases at Reedy Creek', Clarence and Richmond Examiner (Grafton), 7 June 1913, 4; Clarence and Richmond Examiner (Grafton), 5 June 1913, 8; 'Riparian rights', The Sydney Morning Herald (Sydney), 11 June 1913, 9; 'Bed of a creek: wanted for settlement', Northern Star (Lismore), 7 June 1913, 6; 'Riparian rights', The Sydney Morning Herald (Sydney), 11 June 1913, 9. The Land Board referred to Booth v Williams, a case discussing whether a private individual or the Crown owned the bed of a marine lagoon (Booth v Williams,
• the application of statutory landholder rights;\textsuperscript{254}
• conflicts between rural towns wishing to establish water supply works and landholders whose access to water would be adversely affected by such works;\textsuperscript{255} and
• the ongoing negotiations between New South Wales, Victoria and South Australia over the waters of the Murray River.\textsuperscript{256}

These cases highlight the difficulty — especially relevant given the modern-day tradable water entitlements — of separating the ownership of riverbed or river frontage from the rights to use the water of the creek.

Despite the continuation of riparian rights discourse well into the twentieth century, the legal and political recognition of the rights of riparian landholders to the natural flow of water nevertheless diminished greatly between 1900 and the 1930s. In particular, lower river landholders' attempts to rely on riparian rights to protect their access to the floodwaters failed. In 1904, Mr Gibson had offered downstream landholders compensation for any loss of floodwaters as a result of his scheme,\textsuperscript{257} implicitly recognising an entitlement. Landholders as a group had supported state government support and investment in water conservation in the belief that it would protect their access to water.

Nevertheless, landholders downstream of the Murrumbidgee Irrigation Area were not satisfied with the use of the waters of Burrinjuck Dam. As early as 1905, concerns were expressed that the dam would allow for intensive irrigation of a small area rather than to provide water for the river as a whole:

\begin{quote}
[The] most alarming matter [...] is the intention to centralise the water supply on one comparatively small area [...] The proposal bears a strong resemblance
\end{quote}

\textsuperscript{254} These claims continued up until at least the 1920s (see e.g. 'Dam across a creek: riparian rights asserted', \textit{Singleton Argus} (NSW), 1 April 1920, 2).
\textsuperscript{255} These disputes are examined in more detail in Chapter 7, in the context of public rights to water and the construction of public water supplies.
\textsuperscript{256} This thesis did not investigate this debate in any detail.
\textsuperscript{257} 'On the land', \textit{The Sydney Morning Herald} (Sydney), 3 June 1904, 4.
to those usually put forward by syndicates which hope to secure the water, and carry it to their own lands, and thus make huge profits by using the water right to enhance values.

These concerns came to a head in the Murrumbidgee in 1914, one of the first very dry years after the establishment of the irrigation area. In February, downstream landholders requested that water be released from Burrinjuck Dam to supplement low flows. The Water Conservation and Irrigation Commission (WCIC), the body established by the State government to manage water resources and irrigation areas, replied that 'they are to get no water, as it is all required for irrigation'. The landholders responded:

*Unless steps are at once taken to give the people on the river the water they are entitled to, an appeal must be made to the Interstate Commission to secure justice. It seems a parody for the State to take away the water from those who have depended upon this river all their lives, and send all the water out to Yanco.*

In the following debates, at least two different arguments were made to support this claim to water:

1. that the landholders on the main channel of the river had superior rights to those off the river; and

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258 ‘On the land’, *The Sydney Morning Herald* (Sydney), 4 September 1905, 10.

259 see also 'The low river: the water supply at Hay', *The Riverine Grazier* (Hay), 3 April 1914, 2 (referring to how the lands at Gum Creek near Hay were 'useless without flooding' and that Burrinjuck had deprived them of the floodwaters).

260 The Water Conservation and Irrigation Commission had replaced the Murrumbidgee Irrigation Trust, establishing centralised administration of all irrigation areas by one agency; see Peter Davis, *Australian Irrigation Law and Administration* (PhD thesis, University of Wisconsin, 1971) 669–672.

261 ‘Water for the Murrumbidgee’, *The Sydney Morning Herald* (Sydney), 18 February 1914, 8.

262 The Interstate Commission was established to oversee the water sharing arrangements between New South Wales, Victoria and South Australia embodied in the River Murray Waters Agreement (see generally Daniel Connell, *Water Politics in the Murray-Darling Basin* (Federation Press, 2007) 95–97). The reference by downstream water users to the Commission was an indication that they were prepared to rely on downstream states' rights to water to support their own claim to water.

263 ‘Water for the Murrumbidgee’, *The Sydney Morning Herald* (Sydney), 18 February 1914, 8. The reference to 'Yanco' is a reference to the Murrumbidgee Irrigation Area. See also 'The Murrumbidgee River', *Wagga Wagga Express* (NSW), 28 February 1914, 2. See also Mr W.E. Abbott noted that landowners, business men, and others along the Murrumbidgee, Yanco, and other creeks below the Barren Jack dam felt that 'their riparian rights [had] been interfered with, and their stock left to perish of thirst to supply water to Leeton, Mirool, and the favoured irrigation pioneers'. ('Yanco Irrigation Scheme', *The Sydney Morning Herald* (Sydney), 4 June 1914, 6).
2. that these water users had prior rights on the basis of long-term established use.

There was also a tension between claims for the floodwaters and claims for a continual or perennial supply.

At least two groups of downstream water users were affected by the water shortage in 1914: water users from the Riverina creeks (i.e. the Yanko, Colombo, Billabong and Forest creeks) and the water users of the lower Murrumbidgee. These two groups had previously been in dispute over the diversion of water from the river into Yanko creek. In May 1914, a conference was convened at Narandera by the Riverina Creeks Preservation League.\(^{264}\) Mr Blackwood, the president of the league\(^ {265}\) demanded a fair supply of water for settlers on the river and creeks.\(^ {266}\) This conference was an attempt to bring together the landholders of the Riverina creeks with the downriver landholders but the attempt to unite the previously disputing factions met with indifferent success.\(^ {267}\) The representatives from Hay and the lower Murrumbidgee were described as:

\[
\text{being so incensed at having had their rights to periodical floodings taken away from them without any [...] compensation that they would agree to no resolution that did not urge as the first and most vital principle that any conservation or diversion works be commenced from the lower end of the Murrumbidgee.}^{268}\]

The downriver delegates were particularly suspicious of the creek delegates.\(^ {269}\) Nevertheless, the meeting passed a resolution requesting a guaranteed constant

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\(^{264}\) 'Water rights: Riverina settlers complain', *The Sydney Morning Herald* (Sydney), 7 May 1914, 7.

\(^{265}\) The League had been formed in September 1911 by landholders in the creek region to ensure 'equitable regulation, control and use of the water' of the Murrumbidgee. The League succeeded the Riverina Creeks Committee which had resulted from the appeal by landholders against McCaughey's dam on the Billabong in 1896. Records in State Library of NSW, call number MLMSS 46 (1896-1922).

\(^{266}\) 'Water rights: Riverina settlers complain', *The Sydney Morning Herald* (Sydney), 7 May 1914, 7.

\(^{267}\) 'Water conference at Narandera: a large and representative meeting', *Jerilderie Herald and Urana Advertiser* (NSW), 8 May 1914, 2.

\(^{268}\) 'Water conference at Narandera: a large and representative meeting', *Jerilderie Herald and Urana Advertiser* (NSW), 8 May 1914, 2.

\(^{269}\) 'Water conference at Narandera: a large and representative meeting', *Jerilderie Herald and Urana Advertiser* (NSW), 8 May 1914, 2.
supply of water at all times below the Berembed Weir\textsuperscript{270} of not less than 500 cusecs\textsuperscript{271} for the lower Murrumbidgee, as well as a guaranteed supply to the Yanko Creek.\textsuperscript{272} While the downriver landholders still bewailed the loss of the floods, the claim to a constant flow indicates a degree of acceptance with the increasing regulation of the river. These complaints also attempted to argue a prior appropriation or ancient use element, suggesting that the existing rights of water users along the river should be given priority over new irrigation use.\textsuperscript{273}

In 1921, conflict arose again in response to a proposed weir at Yanko.\textsuperscript{274} The Yanko Creek water supply had dropped since the construction of off-takes to the irrigation area\textsuperscript{275} and this weir would have diverted extra water from the river to meet the needs of the residents and landholders of the Riverina creeks. The proposal incensed landholders and towns on the lower river, who described it as a 'menace' to their natural, moral and equitable rights.\textsuperscript{276} They recognised that the state government had a statutory right to do 'what it liked' with the waters of the river\textsuperscript{277} but suggested that as landholders and residents on the river itself, they had a 'natural first claim' over water users along the creeks (an effluent system from the Murrumbidgee).\textsuperscript{278} The landholders along the Yanko, by contrast, justified their claim for a weir to be built on

\textsuperscript{270} The Berrembed (also spelled Berembed) Weir was built just north of Narrandera below Burrinjuck Dam in order to divert water into the main channel supplying the irrigation area (see e.g. 'Berembed Weir: opening of the gates', \textit{Narandera Argus and Riverina Advertiser} (NSW), 15 September 1911, 3).
\textsuperscript{271} A cusec is a cubic foot of water per second.
\textsuperscript{272} 'Water conference at Narandra: a large and representative meeting', \textit{Jerilderie Herald and Urana Advertiser} (NSW), 8 May 1914, 2.
\textsuperscript{273} see e.g. 'The Murrumbidgee River', \textit{Wagga Wagga Express} (NSW), 28 February 1914, 2.
\textsuperscript{274} For details on the proposed weir from the Government notice, see 'The Proposed Yanko Weir', \textit{Narandera Argus and Riverina Advertiser} (NSW), 1 April 1921, 6. The weir was not built until 1928, when it became part of the water supply system for the Murrumbidgee Irrigation Area ('Water for Riverina: trust district of 950,000 acres', \textit{The Sydney Morning Herald} (Sydney), 21 January 1928, 15).
\textsuperscript{275} specifically, Berembed Weir.
\textsuperscript{276} 'The proposed Yanko Weir and the rights of the lower river', \textit{The Riverine Grazier} (Hay), 1 April 1921, 2; see also 'The River Defence Association', \textit{The Riverine Grazier} (Hay), 26 April 1921, 2; 'The river question: departmental reply to deputation', \textit{The Riverine Grazier} (Hay), 1 July 1921, 2. Down river landholders also pressed for the construction of weirs on the lower river. The weirs referred to here were the weirs that New South Wales was required to construct on the Murrumbidgee according to cl.20 of the \textit{River Murray Waters Agreement 1914} in order to maintain the navigability of the river up to Hay. As such, this is a further example of the lower Murrumbidgee landholders relying on the rights of other states to support their own access to water.
\textsuperscript{277} 'The proposed Yanko Weir and the rights of the lower river', \textit{The Riverine Grazier} (Hay), 1 April 1921, 2.
\textsuperscript{278} 'The proposed Yanko Weir and the rights of the lower river', \textit{The Riverine Grazier} (Hay), 1 April 1921, 2.
the basis of 60 years' appropriation of water via the Yanko cutting from the Murrumbidgee—i.e. prior use reasoning.279

Lower river landholders continued to stake a claim to the floodwaters. However, as large-scale development of water resources increased, they increasingly requested at least perennial flow guaranteed by weirs. These claims were made most strongly by those advocates who wished the Murrumbidgee to be managed as a navigable river. At the 1905 government water conference, the Lower Murrumbidgee Locking League had moved a motion that:

> Any scheme for storage and conservation of water of a magnitude which can operate to intercept flood waters should also provide for the construction of works for the maintenance of the flow in the river, at such levels as will permit of lands at present subject to natural flooding being effectively irrigated by gravitation for at least three months in any year.280

George Esplin, described as a 'lower river champion' argued that the river needed to be 'weired' all the way down, 'because the weirs would hold up the water all the way'.281 These requests for storages to continue of the flood regime and ensure water availability was a substantial shift away from reliance on and integration with natural regimes.

Complaints of downstream landholders on the Murrumbidgee to the loss of the floodwaters nevertheless continued into the 1930s.282 At a meeting of the Lower Murrumbidgee Defence League held at Balranald in 1933, Mr Creswick, President of the Wakool Shire Council argued that:

279 'Proposed Yanko Weir', *The Riverine Grazer* (Hay), 15 April 1921, 2.

280 They also moved a motion that where the river was currently used for navigation, it should continue to be able to be so used ('Irrigation: the government convention', *The Sydney Morning Herald* (Sydney), 19 January 1905, 5).

281 'The water conference: important determinations', *Barrier Miner* (Broken Hill), 19 January 1905, 4.

282 Similar debates also took place in other rivers. In the Macquarie, for example, in 1905, the State government also insisted that any erection of weirs on the Macquarie must ensure an uninterrupted flow of the river at a certain height in order to protect riparian rights along the river ('Irrigation: conserving the waters of the Macquarie', *The Sydney Morning Herald* (Sydney), 15 August 1905, 4). On the lower Macquarie in 1923, in response to the proposed Burrendong water scheme, the Collie branch of the Graziers' Association requested an inquiry into the extent that the scheme would 'interfere with the water rights of landowners on the Lower Macquarie, and by preventing the natural flooding of their lands would deprive those lands of much of their grazing value ('Water scheme: graziers' opposition', *The Sydney Morning Herald* (Sydney), 13 November 1923, 7).
[No] amount of rain could replace the river flooding. The crest of any flood was the most important part of it, and if it were stolen by upstream diversions it must be restored by weirs or other means.\textsuperscript{283}

Government action to provide water for the lower Murrumbidgee was not taken until the late 1930s, when Maude and Redbank weirs were built as compensation to lower landholders for upstream diversions.\textsuperscript{284}

5.3 Irrigation water entitlements: a new relationship between land and water

While the lower river landholders were attempting to protect riparian rights to the floodwaters, irrigation legislation was creating new statutory water access rights. Water rights in the Murrumbidgee Irrigation Area and other irrigation areas and districts were governed by separate legislation to the general water law. The \textit{Murrumbidgee Irrigation Act 1910} operated specifically in relation to the Murrumbidgee Irrigation Area, while the \textit{Irrigation Act 1912} covered all other irrigation areas and districts. Unlike the general water legislation, which allowed private landholders to take water themselves directly from the landscape, rights to water under irrigation legislation were principally concerned with rights to a delivered quantity of water.\textsuperscript{285}

Irrigative water rights had evolved since the late nineteenth century. Mr Farnell's proposals in the 1870s for water trusts had not provided for any specific water supply rights for landholders within trust districts.\textsuperscript{286} The 1890s irrigation legislation had not defined specific water rights, instead leaving these arrangements to be determined as a contract between the trust and the person to whom water was to be supplied. For example, s.23 of the \textit{Wentworth Irrigation Act 1890} provided that the Trust might

\textsuperscript{283} 'Weir construction along the Murrumbidgee: request to the Minister', \textit{The Sydney Morning Herald} (Sydney), 26 January 1933, 7. see also 'The Waradgery Shire Council has decided to seek the assistance of the other local government councils both shire and municipal on the Lower Murrumbidgee in protesting against the continued diversions from the river to the detriment of the river proper. It is feared that if the residents along the river banks are not vigilant their riparian rights will be gradually filched from them' (\textit{The Sydney Morning Herald} (Sydney), 13 May 1925, 16).

\textsuperscript{284} 'Murrumbidgee: Redbank and Maude weirs', \textit{The Sydney Morning Herald} (Sydney), 28 April 1937, 21.

\textsuperscript{285} The terms of this legislation showed similarities both to the legislation establish the irrigation trusts in the 1890s as well as contemporaneous town water supply legislation.

\textsuperscript{286} cl.16, reproduced in 'The Water Conservation Bill', \textit{The Maitland Mercury & Hunter River General Advertiser} (Maitland), 19 November 1878, 4.
contract to supply water for a term of years. Section 20(1) of the *Hay Irrigation Act 1902* stated that:

> The trust may enter into an agreement in writing with the owner of any land within the irrigation area, or not being more than three miles in a straight line from the boundary thereof, for the supply and delivery of water upon such land for a term of years not exceeding ten years, or from year to year, at a price, by measure or otherwise, to be stated in such agreement [...]  

The terms and conditions of such water supply, including the rate of water supply and the price of water, were thus unregulated.

By contrast, the irrigation rights in early twentieth century legislation were defined in specific, quantified terms. The *Murrumbidgee Irrigation Act 1910* created a water right for irrigators, defined as 'a right to such a quantity of water twelve inches deep as would cover an area of one acre'. Each proclamation constituting an irrigation area was required to establish the water supply arrangements for the area, including:

- the number of water rights assigned to the area;  
- the months of the year during which they were to be delivered;  
- the places at which they were to be measured; and  
- the price for each such water right.

The Trust was required to allot to each landholder annually the number of water rights they were to receive and to supply that amount of water. The provisions of the

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287 s.3 *Murrumbidgee Irrigation Act 1910*; See also s.3 *Irrigation Act 1912*; This amount is also known as one acre foot.

288 s.12(1)(c) *Murrumbidgee Irrigation Act 1910*.

289 s.12(1)(c) *Murrumbidgee Irrigation Act 1910*.

290 s.12(1)(c) *Murrumbidgee Irrigation Act 1910*.

291 s.12(1)(e) *Murrumbidgee Irrigation Act 1910*; also: the number of such water rights per acre which are a fixed charge on lands in the area (or if the area was divided into districts, in each such district) (s.12(1)(d) *Murrumbidgee Irrigation Act 1910*).

292 s.13(1) *Murrumbidgee Irrigation Act 1910*.

293 s.13(2) *Murrumbidgee Irrigation Act 1910*, noting that the trust was not required to supply water if 'by reason of drought, accident, or other cause, the Trust is of opinion that it is impracticable to do so' (s.22).
Murrumbidgee Irrigation Act 1910 were picked up largely unchanged by the Irrigation Act 1912.294

The riparian doctrine had created a landscape-dominated right, which located the right to access water within the river valley and defined the right to uses in terms of natural flow. The riparian doctrine was also fundamentally correlative: individuals' rights were dependent on all other water users. By contrast, the irrigation water rights were no longer inherently connected to the landscape or to other water users. These water rights defined the irrigator's entitlement as a specific quantity of water. Although water rights were still connected to landholding,295 the close connection between the water source or the natural flow of water and its use had been broken. Compared to riparian water entitlements, these early irrigation rights appear to be a step halfway towards today's volumetric and tradeable allocations, providing abstract, quantified rights to an artificially stored volume of water. Unlike modern-day volumetric allocations, however, this legislation defined the entitlement as a set volume of water rather than a share of a common pool.

While riparian graziers had relied on the natural flood regimes to water the land, irrigation promoted artificial, managed delivery of waters where, when and in the quantities desired by the irrigators. Irrigation was a more interventionist approach, regulating the river and diverting water by pipeline or channel to irrigation colonies. Water users no longer had to adapt their agricultural practices to the natural landscape and climate but could instead adapt water availability to their desired production regimes. The regulation of water in the irrigation areas strongly resembles Linton's modern water. Not only was the water available to an irrigation area viewed as one unified, manageable and measurable resource but also individual water access rights were defined as a right to a certain quantity of delivered water.

294 There were some relatively minor differences (see e.g. s.7(1)); the Irrigation Act allowed the Commission to allot extra water rights at the same price, if there was more water available after the water rights had been filled.

295 Tying irrigation water rights to land was a fundamental aspect of the twentieth-century irrigation settlements, which Catherine Gross and David Dumaresq suggest ensured equitable water distribution and a secure resource base for irrigators (Catherine Gross and David Dumaresq, 'Taking the longer view: timescales, fairness and a forgotten story of irrigation in Australia', (2014) Journal of Hydrology (in press) 6; see also W. Martin, Water Policy History on the Murray River: a handbook for Murray irrigators (Southern Riverina Irrigators, 2005)).
5.4 Scarcity and state-guaranteed water supplies

The vesting of water in the Crown and the construction by the state government of large-scale water conservation and irrigation projects brought about a long-term shift in the principles governing water access. In particular, the state gradually acquired a role as arbiter or mediator of end user access. This development was fuelled by the political guarantees by the state government that water conservation would provide long-term water security to all water users on the rivers.

In 1885, the Lyne Royal Commission had suggested that it would not be necessary to compensate for removal of riparian rights, as the resumption would take place in order to secure a water supply for riparians as well as irrigators.296 The proponents of water conservation schemes had similarly long insisted that the construction of water storages and greater regulation of river flows would increase water security for all water users and effectively 'drought proof' inland New South Wales. Under natural flow regimes, water users were subject to the whims of the climate. The construction of private dams allowed landholders some degree of individualised water security. On a much greater scale, however, the construction of Burrinjuck Dam and the regulation of the Murrumbidgee was accompanied by a promise from the state that all water users would have unprecedented water security.297 This guarantee, echoes of which can still be seen today, reflects the inherent contradiction within the construction of broadscale irrigation schemes. On the one hand, the state as the water supplier could not, in practice, guarantee a secure water supply to irrigators. On the other hand, prospective irrigators required at least some degree of security in order to invest and establish agriculture in a property without a natural water supply.298

297 See e.g. The Water Conservation and Irrigation Commission’s primary responsibility in the Murrumbidgee Irrigation Area was to ‘ensure a permanent supply of water throughout the entire length of the canals in the MIA, to be available when required by the farmers’ (Barry Gray, *The Riverina Story: water, wine and wealth* (Rosenberg Publishing Pty Ltd, 2009) 55).
298 see e.g. Margaret Bond and David Farrier, ‘Transferable water allocations: property right or shimmering mirage’, (1996) 13 *Environmental and Planning Law Journal* 3, 213 at 222: ‘In theory, permissions are ephemeral things, with a finite life. However, the position is very different in practice. If water-users, particular irrigators, were to be encouraged to invest in installing expensive infrastructure, there had to be some implicit understanding with the regulatory agency that licences would have some degree of permanency.’
In 1910, an advertisement for irrigation holdings in the Murrumbidgee Northern Irrigation Scheme, declared that 'the scheme is unsurpassed as regards sufficiency and permanence of water supply'. Irrigation holders were effectively promised that both their water right and extra sales water would be available:

A permanent water right, equivalent to a depth of 12 inches of water, will be attached to each acre of land, further quantities if required may be purchased under agreement.

Promotion material emphasised that 'the scheme is unsurpassed as regards sufficiency and permanence of water supply'. Despite the political promises of a guaranteed water supply, the legislation enacted spelled a different story. For example, the Murrumbidgee Irrigation Act 1910 stated:

Nothing in this Act shall be deemed to render it obligatory on the Trust to supply water to any area or person if by reason of drought, accident, or other cause, the Trust is of the opinion that it is impracticable to do so.

This section was replicated by s.23 of the Irrigation Act 1912. Clauses of this nature were fairly standard within water supply legislation, both for irrigation districts and the water supplies for cities and towns.

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299 This became the Murrumbidgee Irrigation Area.

300 'New South Wales: Murrumbidgee Northern Irrigation Scheme', Barrier Miner (Broken Hill), 30 March 1910, 1; see also Laurie Walker ('Irrigation in New South Wales, 1884 to 1940', (1941) 27 Royal Australian Historical Society Journal and Proceedings 3, 181) writing in 1941, about the advantages available to settlers in the Murrumbidgee Irrigation Area that 'there is, of course', no shortage of water' (at 208); Walker also described the Wyangala Dam on the Lachlan as 'being the only means of an assured water supply for the needs of all concerned' (at 223).

301 For a general discussion of the contradiction between this informal promise of security and the lack of legal security, see Poh-Ling Tan, 'Irrigators come first: Conversion of existing allocations to bulk entitlements in the Goulburn and Murray catchments', (2001) 18 Environmental and Planning Law Journal 2, 154.

302 'New South Wales: Murrumbidgee Northern Irrigation Scheme', Barrier Miner (Broken Hill), 30 March 1911, 1. See also 'so far as permanent supplies of water are concerned, the scheme has the guarantee of the trained engineering officers of the State, and in this vital respect must be regarded as being above any breath of suspicion' ('Murrumbidgee Northern Irrigation Areas', The Grenfell Record and Lachlan District Advertiser (NSW), 29 March 1911, 2; 'Murrumbidgee Northern Irrigation Areas', Singleton Argus (NSW), 1 April 1911, 6); see also 'New South Wales: Murrumbidgee Northern Irrigation Scheme', Illawarra Mercury (Wollongong), 31 March 1911, 1; 'New South Wales: Murrumbidgee Northern Irrigation Scheme', The Dubbo Liberal and Macquarie Advocate (NSW), 1 April 1911, 15; 'New South Wales: Murrumbidgee Northern Irrigation Scheme', The Gundagai Times and Tumut, Adelong and Murrumbidgee District Advertiser (NSW), 28 March 1911, 15; 'New South Wales: Murrumbidgee Northern Irrigation Scheme', The Hillston Speculator and Lachlan River Advertiser (NSW), 31 March 1911, 15.

303 'New South Wales: Murrumbidgee Northern Irrigation Scheme', Barrier Miner (Broken Hill), 30 March 1911, 1.

304 s.22 Murrumbidgee Irrigation Act 1910 (NSW).

305 see e.g. s.23 of the Wentworth Irrigation Act 1890 (the Trust might contract to supply water, but 'nothing in such agreement shall be construed to create any obligation on the part of the Trust to supply any stated quantity of water in the event of there being at the disposal of the Trust an insufficiency of water); s.24 also
Riparian landholders were also reassured that large upstream dams would increase their water security. In 1903, the state government stated that Burrinjuck Dam would be in the interests of the whole of the Riverina, in that it would secure 'the full flow of the Murrumbidgee at all times'.\textsuperscript{306} In the water shortages of 1914, residents on the lower Murrumbidgee supported their claim for greater river flows by arguing that 'when the Irrigation Act was passed the people on the Murrumbidgee River were told that they would have a much better flow of water during the summer months'.\textsuperscript{307} Similarly, in 1921, Councillor McArthur of Carrathool Shire\textsuperscript{308} noted that 'when Burrinjuck was built, the river people were to have a guarantee of a normal flow'.\textsuperscript{309}

Similar promises were made in other river valleys. For example, in 1929, the Forbes branch of the Farmers and Settlers Association rejected the government's offer to remove all the fallen logs in the stream on the basis that without the logs to act as natural dams, the river would be absolutely devoid of water in dry spells.\textsuperscript{310} The minister's response was that Wyangala Dam would assure a regular flow and provide:

\begin{quote}
provided that if there was insufficient water, the Trust might deliver water to the persons entitled to receive it, in amounts proportionate to what they were entitled to receive. See also ss.20–21 of the Hay Irrigation Act 1902, which include that the Trust is not liable to an action for failure to supply where there was no wilful default or negligence. For a discussion of the interpretation of these clauses in the urban setting, see Chapter 7.
\end{quote}

\textsuperscript{306} 'Murrumbidgee Irrigation', \textit{Australian Town and Country Journal} (Sydney), 18 November 1903, 12; see also speech by the Mayor of Narrandera E.C.H. Matthews trying to reassure residents of the Lower Murrumbidgee: 'He would like to say to the people living along the lower stretches of the Murrumbidgee, who were good citizens, and had had their struggles against droughts and floods, and who were now nervous as to the results of the scheme and fearful that the intention of the Government was to eventually rob them of the water rights they had enjoyed for so many years, that it was not the remotest intention of the Government to deprive them by any scheme of the maximum of water they had enjoyed in the past. More than that when the Barron Jack scheme was applied there would be under the lowest possible conditions of the river more water released daily and per second and delivered at the off-take at Narrandera to flow down the Murrumbidgee River for all purposes than there had ever been under similar weather and river conditions. The scheme would give them even in the worst possible drought a continuous flow for stock and domestic purposes.' ('Irrigation in Riverina: the Barron Jack scheme', \textit{The Sydney Morning Herald} (Sydney), 26 April 1906, 8).

\textsuperscript{307} 'Water for the Murrumbidgee', \textit{The Sydney Morning Herald} (Sydney), 18 February 1914, 8; see also comments by Mr Johnston at a meeting of local delegates interested in water supply at Hay, that 'When the Burrinjuck dam was proposed, the down river people were assured that it would enable a river to be maintained during the dry months of summer and early autumn. That had not been done so far, on the contrary the holders along the river from Narrandera to Balranald had been required to cease pumping. Moreover, the demand for water on the Irrigation Settlement would increase. He thought the down stream people were therefore entitled to be recompensed, and he strongly advised that nothing should be done which could be construed into abandoning their rights and claims for that compensation' ('The Low River: water supply at Hay', \textit{The Riverine Grazier} (Hay), 3 April 1914, 2).

\textsuperscript{308} Carrathool is located just north of Hay on the Murrumbidgee.

\textsuperscript{309} 'Two shires confer: Murrumbidgee and Carrathool', \textit{The Riverine Grazier} (Hay), 19 April 1921, 2.

\textsuperscript{310} 'Snagging the Lachlan', \textit{The Sydney Morning Herald} (Sydney), 30 January 1929, 9.
an assured water supply in the main river for riparian holders along 767 miles of frontage and also along many miles of effluent creeks; the provision of water for irrigation; a stock and domestic supply for a large area of crown lands; and hydro-electric generation.311

These situations contrast those water users who relied on the natural landscape — such as waterholes in rivers and floodwaters — to provide water security and a state-assured, artificial water supply.

Despite these guarantees, water shortages inevitably continued. The first decades of the twentieth century saw the state government experiment with different means of both preventing over-allocation and resolving conflicts about who should have priority of access. The most basic approach was to impose water restrictions on river diversions. For example, in March 1906, drought restrictions were imposed on 'owners of pumps taking water from the Hunter River for irrigation'.312 Further water restrictions were applied in the Hunter in 1916.313 The larger lucerne irrigators responded aggressively, arguing that water supply needed to be more secure to protect their extensive investments in irrigation.314 Water restrictions were also placed on pumping from the Lachlan in 1929, in order to protect the water supply to Forbes and Condobolin, and to riparian landowners for domestic and stock purposes.315 An order to riparian holders to minimise pumping from the Murrumbidgee was issued in 1930.316 While recognising the needs of productive industries for water, these situations saw the state government prioritising stock, domestic and town supplies over other water uses, such as irrigation, a priority rule that still applies in water

311 ‘The Lachlan valley: vast conservation scheme’, The Sydney Morning Herald (Sydney), 18 April 1931, 13; see also in 1935, ‘Wyangala Dam: Great national work’, The Sydney Morning Herald (Sydney), 29 May 1935, 17; and in 1937 ‘It is pointed out that the construction of the Wyangala dam has improved the flow in the lower Lachlan River to provide riparian landholders with water’ (‘Wyangala Dam: Water utilisation plans’, The Sydney Morning Herald (Sydney), 27 September 1937, 9.)
312 ‘Water supply’, The Sydney Morning Herald (Sydney), 7 March 1906, 10.
314 ‘Irrigation: pumping restrictions’, The Sydney Morning Herald (Sydney), 19 January 1916, 10; see also a call by Jemalong Shire council for restrictions along the Lachlan until the river should rise (‘Low state of the Lachlan’, The Sydney Morning Herald (Sydney), 13 January 1910, 8.).
316 ‘Burrinjuck storage: lowest level in seven years’, The Sydney Morning Herald (Sydney), 2 April 1930, 11.
legislation today. These decisions show the beginnings of a system of bureaucratically administered prioritisation of water access.

The 1938–1939 drought prompted further water restrictions. In October 1938, the Minister for Agriculture guaranteed that any restrictions on Burrinjuck water users would be applied equitably. Water restrictions were imposed a week later, in accordance with strict priority rules:

1. Water will not be supplied to rice growing for areas in excess of 60 acres;
2. Grassland and fallow will not be supplied;
3. Water in excess of three times the water rights will not be supplied;
4. Holdings in the Benerembah and Tabbita irrigation districts will not be supplied in excess of twice the water rights;
5. Kooba Station [a private irrigation scheme] will not be supplied from October 24;
6. Diversion into the Yanco Creek is not to exceed one half the corresponding flow beyond the weir.

The water shortage was blamed on increasing production, with concerns voiced that the government had too eagerly expanded on the original Murrumbidgee irrigation scheme. There was an extensive debate between rice and fruit growers over whose

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317 e.g. 'Pumping from the Lachlan', The Sydney Morning Herald (Sydney), 30 January 1929, 13.
318 Davis suggests that this development was solidified in 1946, when the government provided more specific guidelines as to priorities: 'this classification system for imposing restrictions during water shortages is designed to give greater security of water supply to well-established irrigators growing high value crops' (Peter Davis, 'Australian and American Water Allocation Systems Compared', (1968) 9(3) Boston College Industrial and Commercial Law Review 647, 821).
319 In 1936, the legislation was amended authorise the Water Conservation and Irrigation Commission to refuse the renewal of a licence or to limit the area to be irrigated. Mr Main indicated that the purpose of the bill was to assist the Commission to 'safeguard the interests of all persons desiring to utilise the water in rivers or lakes' The Commission could not limit the extent of diversion of water for use on the original area for the benefit of other persons who might at a later date require water from the stream. To safeguard the equitable distribution of water in years to come, it was vitally necessary that the Commission should have greater powers' ('State session', The Sydney Morning Herald (Sydney), 5 June 1936, 12).
320 'Burrinjuck', The Sydney Morning Herald (Sydney), 13 October 1938, 1; 'Irrigation area: fears of water shortage', The Sydney Morning Herald (Sydney), 12 October 1938, 13.
321 'Water restriction opposed: Murrumbidgee Areas', The Sydney Morning Herald (Sydney), 20 October 1938, 16.
322 e.g. with the Benerembah, Gunbar and Wah Wah irrigation districts ('Irrigation area: fears of water shortage', The Sydney Morning Herald (Sydney), 12 October 1938, 13).
plantings should be prioritised. Landholders who pumped from the river via sometimes unlicensed pumps to irrigate sheep country were also accused of contributing to the shortage. Water restrictions continued into 1939 until rain fell and the drought was broken.

Water restrictions can be seen as a blunt, administrative attempt to mediate end users' water access in times of scarcity. During this period, the state government also toyed with the idea of prior appropriation. In 1923, it was reported that the state government was considering introducing a 'first come first served' arrangement to resolve water allocation questions. The Water Act 1912 was amended in 1930 and in 1932, Mr Hugh Main, Minister for Agriculture, announced that a prior appropriation system would be established in the Clarence river catchment. The system was introduced into the Namoi catchment in 1934. In establishing prior appropriation, Mr Main recognised that there would be an 'ever increasing demand for water, and, consequently, more frequently recurring periods of shortage of supplies'. In this context, prior appropriation had two key roles:

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323 The increase in water use was also linked to increasing intensity of production and especially the shift towards rice in the irrigation areas. In January and February 1939, a substantial dispute arose between rice and fruit growers. The original strict restrictions on rice-growers' access to water (60 acre maximum) had been extended by agreement, the larger rice-growers complaining that their guaranteed 80-acre plots had already been planted ('Rice farmers suffer: water restrictions', *The Sydney Morning Herald* (Sydney), 10 January 1939, 9). In February, a large meeting of fruit growers was held at Leeton, concerned that their permanent orchards might be endangered in the endeavour to mature the rice crop ('Drain in fifty days': Burrinjuck Dam', *The Sydney Morning Herald* (Sydney), 1 February 1939, 11). However, the rice crop was also blamed for the shortage of water overall ('Irrigation area: fears of water shortage', *The Sydney Morning Herald* (Sydney), 12 October 1938, 13). These rules were specifically designed to protect the permanent assets of the fruit farmers in the irrigation areas ('Burrinjuck Dam: Tumut River proposal', *The Sydney Morning Herald* (Sydney), 21 October 1938, 13).

324 The Water Conservation and Irrigation Commission complained of over 100 unregistered pumps on the river between Narrandera and Hay ('Irrigation area: fears of water shortage', *The Sydney Morning Herald* (Sydney), 12 October 1938, 13) and about the wholesale unauthorised abstraction of water from the river for the irrigation of sheep country ('Falling river: private irrigation blamed', *The Sydney Morning Herald* (Sydney), 25 February 1939, 6).

325 'Rain in the orchards', *The Sydney Morning Herald* (Sydney), 27 March 1939, 7.

326 'Dr Elwood Mead's report on irrigation scheme', *Barrier Miner* (Broken Hill), 19 September 1923, 1. The scheme was proposed by Elwood Mead; on this prior appropriation scheme, see generally Peter Davis, 'Australian and American Water Allocation Systems Compared', (1968) 9(3) *Boston College Industrial and Commercial Law Review* 647, 810–821.

327 Division 3A of the Water Act 1912 (NSW), amended by the Water (Amendment) Act 1930 (NSW).

328 also a member of the Farmers and Settlers Association.


1. protecting the interests of licensees who by their initiative and enterprise had already established works for conservation, irrigation, and other purposes; and

2. indicating to those persons who might wish to establish works exactly how much water had been already appropriated.

At the state of the system, all licences would be cancelled and the holders would need to re-apply, in order to ensure that all water licencees were making beneficial use of the water. Existing water users would receive 'No. 1 Priority' licences. Later water users would be divided into No. 2 and No. 3 Priority licences. This approach established a central role for the state in deciding who would have access to water and who would not, in particular in order to ensure the most productive use of scarce resources. By enabling new water users to accurately estimate the amount of water remaining for their use, the law would prevent over development of the resource. Water restrictions and prior appropriation approached over-allocation from different perspectives. Water restrictions were imposed directly by the state and came 'after the fact'. Prior appropriation was an attempt to prevent over-allocation 'before the fact' by outsourcing the risk of scarcity to private water users. This pilot prior appropriation scheme was not continued.

Despite this early demonstration that landscape-scale water storages and river regulation might not remove scarcity, commentators suggested that the solution to the water supply crisis of 1938–1939 was the construction of further storages. As early as October 1938, proposals were made that the Murrumbidgee supply could be guaranteed by damming the Tumut River and in 1939, it was argued that 'the


336 The scheme was cancelled in 1946 by the *Irrigation and Water (Amendment) Act 1946*. Davis suggests that prior use was inappropriate at this point in time in Australian history: 'prior use is designed to promote rapid development of an unused water resource but in New South Wales, the water supply was being used extensively' (Peter Davis, 'Australian and American Water Allocation Systems Compared', (1968) 9(3) *Boston College Industrial and Commercial Law Review* 647, 817).

337 'Irrigation area: fears of water shortage', *The Sydney Morning Herald* (Sydney), 12 October 1938, 13.
construction of such a dam might obviate the necessity for restrictions on the use of water from the Burrinjuck Dam.' Water managers were not yet ready to question the paradigm of 'engineered abundance' and the guarantee of water supply was arguably further endorsed by the construction of new storages and an increase in river regulation.

6. Conclusion

The construction of Burrinjuck Dam and the Murrumbidgee Irrigation Area brought about a new era in the management of water resources in New South Wales. River regulation introduced a radical approach to rivers and river flow, prompting increasingly bitter complaints by lower river landholders about the loss of the floodwaters. While dryland farmers were by no means environmentalists, they relied on natural river flows and especially the natural inundation of the floodplains. By contrast, the damming of the headwaters and the construction of weirs along the stream regulated river flow, converting rivers into channels for water supply. The definition of the new statutory irrigation entitlements also indicated a more instrumentalist relationship with water. In particular, compared to riparian approaches, which relied on an integral relationship between the water user and water's natural landscape, irrigation entitlements characterised water in terms of a deliverable, measurable resource.

It is valuable to consider the extent to which water's re-creation as a resource was driven by the state. Linton suggests that state management and planning was crucial to the definition of water as an abstract and quantifiable resource. Certainly in New South Wales, the vesting of flowing water in the Crown and the construction and administration by the state of headworks and irrigation settlements mitigated towards defining all liquid freshwater in the State as one, unified resource, managed separately from its natural ecology. However, private irrigation and river regulation schemes took a similarly instrumentalist approach to the rivers, albeit not on a State-wide scale. Participants in debates were cautious about granting private enterprise rights to the waters of the state and allowing privately sponsored irrigation. There was a belief that

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338 'Burrinjuck Dam: Tumut River proposal', The Sydney Morning Herald (Sydney), 21 October 1938, 13.
the state would better protect the general interest — whether that was the interests of the public in domestic water supplies, the interests of riparian landholders or of irrigation colonists. Landholders from the lower rivers in particular were destined to be disappointed, however, there are indications that a thread of fairness and strict equitable access ran through public administration decisions.

The water shortages that emerged after the construction of Burrinjuck Dam showed the state increasingly playing a role in allocating rights to access water in times of scarcity. Privatised water access regimes, such as common law riparian rights and prior appropriation mechanisms placed the risk for water shortages onto the end user. By contrast, a defining element of public administration was the New South Wales state's guarantee of water security to end users. Arguably, 'breaches' of this promise have been one of the major drivers of water conflict today.

For example, a Chinese garden at Deniliquin was one of the only gardens to be able to produce vegetables in 1856 ('A tour in the Riverine District', The Sydney Morning Herald (13 July 1856, 2); a Chinese garden at Araluen was the only supply of vegetables for Braidwood residents in January 1869 ('Chinese Gardeners', The Sydney Morning Herald (Sydney), 22 January 1869, 5); in 1880, Chinese gardeners were irrigating at Queanbeyan by means of a race about one mile long fed by a water-wheel, described as a 'self-acting and perpetual system of irrigation, thus ensuring abundant crops even in the driest season' ('News of the day', The Sydney Morning Herald (Sydney), 20 August 1880, 5).

See also 'Chinese Gardeners', The Sydney Morning Herald (Sydney), 31 January 1872, 4 (Chinese gardeners at Bathurst given leave to lay an irrigation pipe); 'Notes on gardening operations for the season and district', Clarence and Richmond Examiner and New England Advertiser (Grafton), 2 November 1875, 2 (referencing the success of Chinese gardens at Grafton); 'Chinese Industry', The Maitland Mercury and Hunter River General Advertiser (NSW), 13 October 1887, 6 (eulogising over Ah Mow's garden at Singleton).


There were some disputes involving Chinese over water. The dispute between Sam Lee and George Ah-Way at Grenfell in 1902 indicates that the use of water by Chinese irrigators did cause some localised conflict ('Grenfell Land Board', The Grenfell Record and Lachlan District Advertiser (NSW), 15 March 1902, 2). It would be valuable to explore the Chinese relationship with water and with other water users in more depth. There is clear evidence of Chinese gardeners and miners having held water licences under the Water Rights Act 1896 and under mining legislation. Despite their success at irrigating, the Chinese also appear to have been prohibited from taking up blocks in the irrigation districts ('That Chinese Garden'', The Hay Standard (Hay), 25 March 1896, 3). There were some references to the Chinese irrigation methods wasting water, though these were possibly spurious and generated by envy (see e.g. 'Irrigation for Australian Lands', The Sydney Morning Herald (Sydney), 8 June 1888, 8; 'Chinese Gardeners', The Sydney Morning Herald (Sydney), 21 December 1886, 11.
There was also a dispute at Hay in 1896 where the municipal council's decision to approve an application for a water supply to a Chinese market garden caused considerable ire among some community members. Other community members supported the applicants' rights to equal treatment and wondered where the Chinese would be allowed to garden. The general concern would appear to have been that the garden would create a nuisance and lower neighbouring property values rather than use too much water (see 'Objections to a Chinese Garden', *The Riverine Grazer* (Hay), 17 March 1896, 2; "That Chinese Garden", *The Hay Standard* (Hay), 25 March 1896, 3; 'The Proposed Chinese Garden', *The Riverine Grazer* (Hay), 28 April 1896, 2; 'Re Chinese Garden', *The Hay Standard* (Hay), 28 March 1896, 2). European advocates of irrigated agriculture often held up the Chinese gardens as an example of what could be achieved, while nevertheless denigrating them on racial grounds. For example, in the debates over irrigation in the 1880s, one commentator lamented the Europeans' inability to successfully irrigate, given the 'abundance of the best of fruit and vegetables grown by the despised Chinaman' ('Water Conservation and Irrigation', *The Sydney Morning Herald* (Sydney), 27 October 1888, 15). See also 'Pastoral Districts—Agriculture Horticulture', *The Sydney Morning Herald* (NSW), 16 March 1886, 2; 'Chinese Gardeners', *The Sydney Morning Herald* (Sydney), 21 December 1886, 11; see also Warwick Frost, 'Migrants and technology transfer: Chinese farming in Australia', (2002) 42(2) *Australian Economic History Review* 113, 125.
Chapter 7

Accessing water in rural towns: public rights and political struggle (1883 – 1944)

1. Introduction

Access to water was a major concern for residents of New South Wales regional towns and cities. In July 1849, 415 residents of Parramatta signed a petition calling for the 'adoption of measures to secure a supply of pure water'. The following year, the town held a large public meeting discussing a proposed dam to supply the town with water. Concerns were raised that the New South Wales government was not treating the question as seriously as they should. Mr Charles Blakefield argued that 'to the rich it might be a joke; but, in his opinion, the poor had the greatest interest in the matter, for they had not the means to fetch their supply from a distance'.

This early debate highlights key elements that would emerge in later disputes over water access in regional towns. Residents of towns were dependent upon municipal authorities and the colonial and state governments to provide a water supply, and had few legal options to force authorities to construct water supply works. Town water supply was also often a class question, with poorer or working class residents the most vulnerable to inadequate water supplies. This chapter first examines the legal rights of town residents to access water and of towns to obtain water from the surrounding landscape. Public rights to water were particularly weak in New South Wales and hampered by private property in land. Without strong legal rights, residents often turned towards public protest as a means of prompting authorities to construct a

1 ‘Supply of water to Parramatta’, The Sydney Morning Herald (Sydney), 19 July 1849, 2.
2 ‘Parramatta: a public meeting, water works’, The Sydney Morning Herald (Sydney), 1 November 1850, 2.
3 ‘Parramatta: a public meeting, water works’, The Sydney Morning Herald (Sydney), 1 November 1850, 2.
water supply. The case study next outlines some key moments of protest in New South Wales towns in the nineteenth and twentieth centuries. The final sections of the case study focus on the struggles for a water supply in the arid western mining city of Broken Hill. A unique story in New South Wales history, the sustained campaign of Broken Hill residents for a water supply over 60 years demonstrates both the extent to which town residents — without financial resources to build their own supply — were at the mercy of the government in Sydney, as well as the extent to which public water supplies could become a class question. Arguably, Broken Hill finally obtained access to a safe and secure water supply as a direct result of the industrial power of the trade union movement, which was able to make up for Broken Hill residents' lack of political, legal or economic power.

2. The legal rights of town residents and authorities to access water

Public rights to water are malleable and can be utilised by a wide range of participants. However, they have tended to be legally weak and therefore water users have often only relied on public rights rhetoric when they are relatively economically, legally and politically powerless. This section explores the breadth of towns' and town residents' rights to access water, in particular:

3. rights of members of the public to take water from rivers and streams for their domestic use;

4. rights of town residents to a piped water supply, especially whether residents could by any legal means force the New South Wales government or the municipal authorities to build a town water supply; and

5. water access disputes between towns and local landholders over water.

2.1 Public rights to access water resources

Unlike other Australian jurisdictions, New South Wales has never had statutory rights which would allow members of the public to take and use water from rivers and other
water sources. At common law, there were certain public rights to access waterways — for example, for boating and fishing — but there does not appear to have been any well-defined or specific right to take water. In any event, such a common law right would almost certainly have been removed in 1896 by the Water Rights Act. The Public Watering Places Act 1884 only allowed registered stockmen to use the government-owned watering places and did not, therefore, provide a general public water access right.

At certain points in time in New South Wales history, statutory regimes have protected or prioritised the public interest in water. For example, gold regulations came to contain protections on water for public — especially domestic — uses, possibly as a result of working class agitation on the goldfields. Especially later enactments gave water for domestic purposes priority over other water uses. For example, the Metropolitan Water Sewerage and Drainage Act 1924 (NSW) provided that:

Water available from works provided by or vested in the board shall be primarily used and equitably distributed for domestic purposes, sewerage flushing, and the maintenance of a suitable pressure for fire extinguishing.

Town, city and irrigation settlement water supply legislation also tended to protect public and household water use. Legislation often restricted the price that could be charged for water supplied for domestic purposes and required water supply authorities to provide a free water supply for 'public purposes' such as public hospitals.

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4 In contrast, for example, to the Victorian legislation. The Irrigation Act 1886 (Vic) created a public right to withdraw water for domestic and stock watering places where there was access to water by a public road or reserve (see in general Peter Davis, "'Nationalisation' of Water Use Rights by the Australian States', The University of Queensland Law Journal 9(1) (1975), 1). Further cross-jurisdictional research could explore why public rights to access water were enacted in some states but not in New South Wales.


6 Hanson v The Grassy Gully Mining Company [1900] NSWLawRp 91; (1900) 21 LR (NSW) 271 (20 November 1900); confirmed in ICM Agriculture Pty Ltd v The Commonwealth of Australia [2009] HCA 51 (9 December 2009).

7 s.11 Public Watering Places Act 1884 (NSW).

8 See discussion in Chapter 4.

9 s.47(1) Metropolitan Water Sewerage and Drainage Act 1924 (NSW). This Act regulated Sydney's water supply. See e.g. s.20 Mulgoa Irrigation Act 1890 (NSW); s.34(4) Metropolitan Water and Sewerage Act 1880 (NSW); s.13(3) Country Towns Water and Sewerage Act 1880 (NSW). 'Domestic purposes' were generally defined as use for 'household purposes', with the exclusion of uses such as manufacturing, stables, irrigation, water power, fountains or ornamental purposes (see e.g. s.24 Country Towns Water and Sewerage Act 1880 (NSW); s.4 Mulgoa Irrigation Act 1890 (NSW)).
charitable institutions, and public pumps, baths and washhouses. These protections were valuable but did not allow members of the public to take water from or use water within the landscape.

The weakness of public water access was arguably primarily a result of the dominance of private property in land and the generally 'propertyless' nature of residents of cities and towns. The impact of private property on public access to rivers was sporadically raised as an issue in the nineteenth and early twentieth centuries. In 1896, in debates over the Water Rights Bill, Mr Haynes raised concerns about private landholders having a monopoly over waterways, complaining that '[there] is not the slightest doubt that the waterways of New South Wales have been stolen'. In places, the Namoi River had been fenced in the middle by landholders on each side:

*The gentlemen [...] were quite convinced that they owned the water as well. [...] The waterways of this country [are] now so fenced in that if a man wanted to commit suicide by drowning he would run the risk of being arrested for trespass.*

Mr Haynes argued that this was an offence against the general interests of the people and requested action to restore the public right to the waterways.

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11 see e.g. s.35 *Country Towns Water and Sewerage Act 1880* (NSW).
12 Noting that there is a distinction between a right for household use and the rights of the general public to access water.
13 This concept of 'propertyless' is derived from Marxist definitions of class under capitalism and specifically, the concept of the working class as being a propertyless class with no ownership or control over the means of production (including major natural resources such as water and soil) (Karl Marx, *Capital Volume 1* (International Publishers, 1967) 715). For a Marxist perspective on the consequences for the human relationship with nature, see generally John Bellamy Foster, *Marxist Ecology: materialism and nature* (New York University Press, 2000); John Bellamy Foster, *The Vulnerable Planet: a short economic history of the environment* (Cornerstone Books, 1999); Paul Burkett, *Marx and nature: a red and green perspective* (St Martins Press, 1999); Paul Burkett, *Marxism and Ecological Economics: toward a red and green political economy* (Brill, 2006).
Where landholders owned riverbanks and streambed, members of the general public would need to commit trespass to access the water. In 1902, tensions arose at Tumut in the Snowy Mountains, between private landholders and members of the general public wished to claim the riverbanks as public land. The limitations that private landholding placed on public access expanded during the nineteenth and twentieth centuries but were only sporadically raised in public debate. In 1933, concerns were raised that increasing private landownership was limiting public access to waterways.

The local Lands Office and the Forbes Pastures Protection Board raised concerns that:

\[
\text{people would ultimately be cut off from pleasure grounds, stretches of natural beauty, fishing grounds, and future parks, if the process [of alienating land to private ownership] continued.}\]

The objection by the Lands Office and the Board against several leases was unsuccessful.

Two years later, in 1935, litigation implicitly involving the idea of a public right to waterways arose in the Sydney area. A cement company wished to lease the bed of the Woronora River for obtaining sand. The Sutherland Shire Council objected to the lease and the matter was litigated in the Land and Valuation Court. The council's objection was that:

\[
\text{the operations of the company would detract materially from the picturesqueness of the area, which was an acknowledged holiday resort and pleasure ground, that the operations in the stream would have a prejudicial effect on the attraction of the area for boating and fishing parties; and that certain rights which accrued to holders of fee simple of land on the banks of the river might be jeopardised.}\]

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18 'Riparian rights', *The Tumut and Adelong Times* (NSW), 14 March 1902, 2.
19 'Alienation of riparian land', *The Sydney Morning Herald* (Sydney), 6 February 1933, 10.
20 'Alienation of riparian land', *The Sydney Morning Herald* (Sydney), 6 February 1933, 10.
21 'Alienation of riparian land', *The Sydney Morning Herald* (Sydney), 6 February 1933, 10.
22 'Land Board: application by Cement Mortars Ltd', *The Sydney Morning Herald* (Sydney), 2 May 1935, 10.
Pike J decided in favour of the company. He held that the only basis on which a party could object to the lease was interference with riparian rights, which only attached to landholding. His judgment implied that the rights of the public at large to use the water for recreational purposes were legally irrelevant.

Even where town residents did have access to riverside land, this did not always guarantee rights to access water. In the early twentieth century, a series of conflicts between residents and manufacturers in the Sydney region over water saw manufacturing supplies prioritised over the rights of residents. In May 1902, the Parramatta Woollen Mills Company applied for a licence for a dam on Darling Mills Creek. Local residents opposed the application, claiming that the riparian rights of landholders below the proposed dam would be prejudiced by pollution and a reduction in water flow. The board granted a ten-year licence, subject only to the 'minimum flow' of the creek being uninterrupted. This decision contrasts to contemporaneous land board decisions in agricultural districts, which specifically sought to ensure that all pre-existing riparian landholders would continue to have access to sufficient water.

In August 1902 a dispute arose between residents of Moorbank and the Liverpool Paper Mills Company over water from the Georges River. There had been a drought

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24 'Riparian rights: Land Court's decision', The Sydney Morning Herald (Sydney), 21 December 1935, 17.
25 Recreational rights to the rivers remain a contested issue today. See for example, the submission by the Riverina and Murray Regional Organisation of Councils (RAMROC) to the Commonwealth Government statutory review of the Water Act 2007, raising concerns about the impact of low river flows on tourism and recreation (Ray Stubbs, Riverina and Murray Regional Organisation of Councils submission to the Review of the Water Act (30 June 2014), Review of the Water Act 2007, <www.environment.gov.au/water/legislation/>). Residents of Menindee near Broken Hill have raised concerns about the impact of low water levels on recreational uses of the lakes (see e.g. Eugene Boisvert, 'Water fight over Menindee Lakes', ABC News, 22 January 2013, <www.abc.net.au/news/2013-01-22/water-fight-over-menindee-lakes/4477410/>). Margaret Alston and Robyn Mason have listed recreational relationships with water as a key element of what she terms 'social flow' (Margaret Alston and Robyn Mason, 'Who turns the taps off? Introducing social flow to the Australian water debate', (2008) 18(2) Rural Society 131, 132). At times, there is a tendency to see environmental and social flows as mutually exclusive, however, as Cameron Muir has pointed out, 'good ecological relationships depend on good social relationships' (Cameron Muir, The broken promise of agricultural progress: an environmental history (Routledge, 2014) 1–2); see also generally Erica Nathan, Lost Waters: a history of a troubled catchment (Melbourne University Press, 2007).
26 'Parramatta District: The woollen mills dam', The Sydney Morning Herald (Sydney), 29 May 1902, 5.
27 'Parramatta District: The woollen mills dam', The Sydney Morning Herald (Sydney), 29 May 1902, 5.
28 'Disputed water rights', The Sydney Morning Herald (Sydney), 8 August 1902, 6; 'Disputed water rights', Liverpool Herald (Liverpool), 9 August 1902, 3; 'Disputed water rights', Liverpool Herald (Liverpool), 30 August 1902, 5; 'Disputed water rights', The Sydney Morning Herald (Sydney), 29 August 1902, 7; The Sydney Morning Herald (Sydney), 22 September 1902, 6.
and river flows were extremely low. Local industries cut channels in the sand of the riverbed, to allow water to flow from one waterhole to another. When the water in the waterholes was exhausted, the Liverpool Paper Mills Company started to dig a trench to let down water from a natural storage near Casula. Riverside residents of Moorbank objected and 'filled in the channel as fast as it was being opened by the paper mill operatives'. The residents believed that their position as riparian landholders entitled them to a supply of water:

_The residents are of opinion that, having purchased property in view of having a water supply, they have a right to the water naturally conserved adjacent to their holdings, and that no-one has a right to deprive them of it._

The industries appealed to the government that the water was 'necessary in order to enable them to carry on operations'. The Government intervened on their behalf, the _Sydney Morning Herald_ reporting that:

_As it was absolutely necessary that the mills should be able to obtain water to keep their employees to the number of about 150 at work, recourse was had to the Minister to cut a drain from the stretch of water referred to, so as to allow a sufficient flow to the mills without, however, depriving those persons higher up the stream of any rights they might possess._

The Department of Public Works intervened to ensure that the trench was completed. Diggings were recommenced under government supervision and when two residents appeared and 'threatened to fill in the trench', the government official sent for the police. A constable and several of the workmen stayed overnight to protect the trench.

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29 'Disputed water rights', _The Sydney Morning Herald_ (Sydney), 8 August 1902, 6; see also 'Disputed water rights', _Liverpool Herald_ (Liverpool), 9 August 1902, 3.
30 'Disputed water rights', _The Sydney Morning Herald_ (Sydney), 8 August 1902, 6; see also 'Disputed water rights', _Liverpool Herald_ (Liverpool), 9 August 1902, 3.
31 'Disputed water rights', _Liverpool Herald_ (Liverpool), 30 August 1902, 5; see also 'Disputed water rights', _The Sydney Morning Herald_ (Sydney), 29 August 1902, 7.
32 _The Sydney Morning Herald_ (Sydney), 22 September 1902, 6.
33 'Disputed water rights', _Liverpool Herald_ (Liverpool), 30 August 1902, 5; see also 'Disputed water rights', _The Sydney Morning Herald_ (Sydney), 29 August 1902, 7.
34 'Disputed water rights', _Liverpool Herald_ (Liverpool), 30 August 1902, 5; see also 'Disputed water rights', _The Sydney Morning Herald_ (Sydney), 29 August 1902, 7.
The actions of the Department of Public Works were explained as being in accordance with s.1 of the *Water Rights Act 1896* (NSW), which vested river and creek water in the Crown.\(^{35}\) The implication of this case is that when it came to conflict between residential inhabitants and industry over water, the Crown and the Land Boards would come down on the side of industry. This is in contrast to modern-day legislation, which prioritises 'critical human water needs' over all other uses.\(^{36}\)

### 2.2 Town residents' rights to a water supply: Hesler v Bourke (1899)

While members of the general public had only limited rights to draw water directly from the landscape, town residents did have some, also limited, rights to a piped water supply. This right remained tied to land ownership or occupation, with access to a piped water supply limited to residents of houses in streets with a mains water supply.\(^ {37}\) The parameters of town residents' rights to a public supply were explored in the 1899 case, *Hesler v Bourke* and the 1910 case, *McLean v Dubbo*.

In 1899, a dispute arose between the Municipal Council of the town of Bourke in the arid north-west of New South Wales and Mr Hesler, a town resident.\(^ {38}\) The Bourke Municipal Council had constructed water mains and had given landholders in that area notice under the *Country Towns Water and Sewerage Act 1880*\(^ {39}\) to connect their houses to the water main. Mr Hesler did so. The Act provided that rates were to be set by the council in the form of a bylaw\(^ {40}\) but when Mr Hesler connected his property to the water mains and the council demanded payment, the bylaw had not yet been passed. He refused to pay, claiming that the council's demand for payment was illegal. The council disconnected Mr Hesler's water supply and he applied for an injunction to have his water supply reconnected.

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36. See especially s.86A Water Act 2007 (Cth); see also s.58 and s.60(3)(a) *Water Management Act 2000* (NSW).
37. In modern-day context, Janice Gray has noted that the homeless have no legal rights to water (Janice Gray, 'Implementing the Human Right to Water in Australia', 17(1) March 2008 *Human Rights Defender*, 2 at 4).
39. This Act was enacted specifically to enable local towns to construct water and sewerage services for their inhabitants. The Act enabled municipal authorities to borrow money to finance the capital construction of such works and established a regulatory regime (e.g. payment of rates).
40. s.13 *Country Towns Water and Sewerage Act 1880*. 
The question before the court was whether the council could, in these circumstances, disconnect the plaintiff's water supply. Owen CJ answered in the affirmative, rejecting Mr Hesler's application for an injunction. Owen CJ agreed with Mr Hesler that the water rate was unenforceable, as no bylaw had been passed:

\[
\text{[It] was admitted that no by-law for the purpose had been passed by the defendant municipality. Therefore the rate for the supply of water was illegally made, and could not be enforced. [...] The parties therefore are in the same position as if no rate had been made.}^{41}
\]

However, Owen CJ considered that, even in the absence of a legal authorisation to demand water rates under the Act, the council could not be expected to supply water for free:

\[
\text{Suppose the municipality had supplied water in anticipation of the passing of the by-laws, and in consequence of some delay in passing them had stopped the supply of water, could they be compelled to go on supplying water before that rate was made? It is clear to me that they could not. [...] The municipality is not bound to supply water unless there is some mode of enforcing payment for the water supplied, either by an agreement or by a legal rate.}^{42}
\]

The court deemed that other ratepayers — who were paying the rate set by the council — had implicitly made a special agreement with the Council for the supply of water at that price. In effect, these householders had entered into an implied contract with the council, outside the remit of the legislation. Mr Hesler's refusal to pay the demanded water rate was considered by the court to be effectively a refusal to enter into a similar special contract for water supply. Without such a contract, the council was under no obligation to continue to supply him with water.

The council could not be compelled to supply water without payment — whether that payment took the form of a water rate set in a by-law or a special agreement to supply water. The case came six years before the power was introduced into the Country

\[41\] Hesler v The Municipality of Bourke 1889 Weekly Notes 151 at 152.

\[42\] Hesler v The Municipality of Bourke 1889 Weekly Notes 151 at 152.
Towns Water and Sewerage Act 1880 to cut off the water supply for the non-payment of rates\textsuperscript{43} and thus effectively pre-empted the legislation.

2.3 McLean v Dubbo (1910)

In 1910, the case *McLean v Dubbo*\textsuperscript{44} affirmed the principle from *Hesler v Bourke* that water supply was dependent on payment. The plaintiff in *McLean* operated a private hospital,\textsuperscript{45} which he had bought in 1908. McLean had always paid the water rates but, at the time of purchase, the vendor had owed significant amounts of back rates on the property. The council refused to supply water to the property until these rates were paid, either by the vendor or by the plaintiff.\textsuperscript{46} The council also disconnected a second property owned by the plaintiffs and adjoining the main property when it discovered that the plaintiff was using the water supplied to that second property to provide water for the main property. This second disconnection was not discussed at any length in the court’s judgment.

The New South Wales Supreme Court, in a leading judgment delivered by Cullen CJ,\textsuperscript{47} found for McLean, with three major points of reasoning:

1. that the plaintiff had a *prima facie* right to have the water connected;
2. that, although the council could choose not to provide a water supply at all or to certain areas, if it did build a water main to which a property could be connected, it could not capriciously deny the right to access that water supply; and
3. that the council could withhold water from an individual property if there was a legitimate reason to do so under the legislation — but there was no such legitimate reason in this case.

\textsuperscript{43} This power was introduced into the country towns water legislation in 1905 (*Country Towns Water and Sewerage (Amendment) Act 1905* (NSW)).

\textsuperscript{44} *McLean v Municipal Council of Dubbo* [1910] NSWStRp 93; (1910) 10 SR (NSW) 911 (17 November 1910).

\textsuperscript{45} 'A council in trouble', *Northern Star* (Lismore), 24 August 1910, 5.

\textsuperscript{46} There was some evidence that the plaintiff had, as part of the agreement of sale, voluntarily taken on these debts from the vendor; however, the Court did not pursue this, as this was part of a separate dispute between the purchaser and vendor.

\textsuperscript{47} Cohen and Street JJ concurring at 933.
a. A prima facie right to water supply

Cullen CJ's first finding was that McLean had a *prima facie* right to have the water supply connected and to receive water. Central to Cullen CJ's reasoning was the close nexus between rateability and the availability of water supply in the Act. Section 30 of the *Country Towns Water and Sewerage Act 1880* provided that a property would become rateable when a water main was laid that could supply that property with water. In addition, any owner or occupier of a house within the area, who had paid the water rate, could lay pipes connecting their house to a water main that was not in their street.\(^48\)

Cullen CJ reasoned that 'accessibility to the council's water supply and rateability go hand in hand'.\(^49\) Thus, paying the water rate itself *prima facie* entitled the ratepayer to access the water supply.\(^50\) He also found that paying the rate was equivalent to 'payment for a certain normal allowance of water'\(^51\) — i.e. ratepayers were entitled to receive a certain amount of water annually. Cullen CJ based his reasoning on section 35 of the *Country Towns Water and Sewerage (Amendment) Act 1905*, which established the basis for an excess water rate. A ratepayer who wished to use more than the 'normal demand' could contract with the council for the supply of excess water. As such, a ratepayer who paid the normal rate effectively had a right to receive a certain 'normal' or 'average' amount of water. This amount was defined as 'the probable yearly quantity of water which any person would require to be supplied to any land'.\(^52\) Thus, if a water main was laid within the area of an inhabitant's dwelling, they had a *prima facie* right:

1. to be connected to the water main;
2. to receive a certain 'average' quantity of water each year; and

\(^{48}\) s.40 *Country Towns Water and Sewerage Act 1880* (NSW).
\(^{49}\) *McLean v Municipal Council of Dubbo* (1910) 10 SR (NSW) 911 at 924; see also at 925.
\(^{50}\) Cullen CJ also discussed the fact that connection to the water main was compulsory but did not appear to derive any firm conclusion from this fact (see also s.39 *Country Towns Water and Sewerage Act 1880*, as amended by the *Country Towns Water and Sewerage (Amendment) Act 1905*).
\(^{51}\) *McLean v Municipal Council of Dubbo* (1910) 10 SR (NSW) 911 at 925.
\(^{52}\) This amount of water was to be set by the council as a by-law (*McLean v Municipal Council of Dubbo* (1910) 10 SR (NSW) 911 at 923).
3. to not have their water supply disconnected unless the Act authorised that disconnection.

In order for the council to win, therefore, they would need to show that the Act authorised the disconnection of McLean's water supply. The Act gave two possible justifications for this disconnection.

b. No 'capricious' refusal to supply water

The first option was what could be termed a 'non-compellability' provision. Similar to many other Acts at that time, section 23 of the *Country Towns Water and Sewerage Act 1880* provided that:

*The Council shall not be liable [...] to any penalty or damages for not supplying such water if the want of such supply arises from unusual drought or other unavoidable cause or accident nor shall the Council be compellable to supply water to any person whomsoever.*

This provision was repeated in section 34 of the *Country Towns Water and Sewerage (Amendment) Act 1905*: 'notwithstanding anything contained in the Principal Act, the Council shall not be compellable to supply water to any person whomsoever'. Substantially similar provisions were found in other New South Wales water supply legislation at the time.

The Council, naturally enough, argued for a wide interpretation of this clause, such that the Court would be unable to compel them to provide any person with water. Cullen CJ described this as an extreme interpretation of the section, stating that the question for the Court was:

*Did the Legislature, which made provision for the supply of water to the ratepayers in the Municipal Boroughs in New South Wales, intend to give an absolute power to the Municipal Council, having made provision for the supply*
of water, to choose between different individuals in the same street, and say that one should be supplied and another should not.\footnote{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 927.}

Cullen CJ characterised the council's preferred construction of the section as:

that the Council is not bound to permit water in an existing main to flow to the premises of a ratepayer with which it is connected, however abundant the supply in the main might be, although the ratepayer has paid his rates and has committed no default entitling action to be taken against him.\footnote{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 928.}

Cullen CJ was unwilling to place the wide construction preferred by the council on the section, reasoning that a narrower construction would still provide the council with the necessary protection against defaulting ratepayers or offending householders, owners or occupiers of land. Cullen CJ expressly rejected an interpretation which would allow 'the council to exercise a capricious preference between one ratepayer and another',\footnote{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 928.} arguing that such an interpretation would be unreasonable and unjust. Cullen CJ's interpretation of this non-compellability clause was effectively an extension of his previous finding of a \textit{prima facie} right of a ratepayer to be connected to the water supply.

Cullen CJ provided a list of situations when it would be perfectly reasonable for the Council to not supply water. He held that the council should be under no obligation to:

\begin{enumerate}
\item provide a water supply at all;
\item build water mains in particular directions or areas;
\item maintain a flow of water through existing pipes;
\item maintain a flow of water permanently or for any definite continuous period; or
\item maintain a flow of water in any defined locality.
\end{enumerate}

\footnotetext[55]{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 927.}
\footnotetext[56]{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 928.}
\footnotetext[57]{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 928.}
\footnotetext[58]{McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 927.}
The council could choose not to provide or to discontinue a water supply but having made the decision to supply water to a particular area, they could not then pick and choose which individual rate paying households in that area would receive water.

Cullen CJ stressed that the council would be legally justified in deciding 'that the water shall be cut off from [a particular] locality or altogether if need be'. As such, the Act set substantial limitations on townspeople's right to a water supply. No householder who was willing and able to pay rates should have been arbitrarily denied a connection to the water supply. However, there was no substantial positive right for a town or city-dwellers to receive a sufficient supply of potable water.

c. Disconnection for failure to pay rates

Despite Cullen CJ's narrower reading of the non-compellability clause, there remained a second option for the council. The council could still validly withhold water from the plaintiff if they had a valid reason, justified by the Act, for that disconnection. Since 1905, the Council had had the legislative power to disconnect for failure to pay rates. Cullen CJ noted that the disconnection of the house in 1907, when it was still owned by the vendor, was therefore justified.

However, Cullen CJ held that the council could not refuse the plaintiff water on that basis. The effect of such a ruling would be to visit the consequences of one person's debt upon another, which Cullen CJ was reluctant to allow without clear words to that effect:

Reading the sections carefully one does not find any such indication of that as one would expect in order to make one person liable for another person's debt. [...] I certainly do not find any such expression as one would expect to find, where a person is in default in carrying out his contractual liability to the

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59 McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 930.
60 s.47 Country Towns Water and Sewerage (Amendment) Act 1905.
61 McLean v Municipal Council of Dubbo (1910) 10 SR (NSW) 911 at 929.
Council for the supply of excess water,\textsuperscript{62} in order to throw that liability upon someone else who comes into occupation or ownership of the same property.\textsuperscript{63}

Cullen CJ refused to interpret section 47 as allowing the council to refuse to supply a particular property until the rates owing on that property were paid off. Instead, he interpreted the section strictly, that the council might refuse to supply the offending person but not the offending property.\textsuperscript{64} The court found that the council was incorrect in disconnecting the plaintiff.\textsuperscript{65}

\textit{Hesler v Bourke} and \textit{McLean v Dubbo} both operated in the situation where a mains water supply had been built under the country towns water supply legislation. These cases were disputes between individuals and municipal authorities, where those authorities had undertaken to build a water supply for the town. Together they stand for the principles that:

1. there was no general right which town residents could use to force a municipal council to build a water supply main or to keep water supplied to an area;
2. however, assuming that such a water main had been built, individual households had the right to receive water and could not be refused capriciously; and
3. this right to receive water was dependent upon the payment of rates or, in the absence of a legal water rate, another payment agreed by the Council and water users.

The principles in these cases could therefore assist especially individual residents of towns to obtain a water supply in certain circumstances but did not provide a positive legal right to a water supply.\textsuperscript{66}

\textsuperscript{62} The vendor's failure to pay was a failure to pay excess water charges.

\textsuperscript{63} \textit{McLean v Municipal Council of Dubbo} (1910) 10 SR (NSW) 911 at 929; see also Cohen J at 932–933.

\textsuperscript{64} The 1905 legislation had referred to the power to cut off the water supply if any person neglected to pay the rate. This language appears to have been amended in later legislation to associate the failure to pay rates more clearly with the land. For example, s.53 of the \textit{Metropolitan Water Sewerage and Drainage Act 1924} (NSW) provided that the Sydney Water Board might cut off the water supply to any land 'if any rates or charges in respect either of water, sewerage, or drainage on the land are unpaid'.

\textsuperscript{65} The New South Wales Supreme Court needed to decide a similar case in 1992, where one of the joint owners of a property in Sydney was in arrears on water rates owing on a second property. Mahoney JA and Priestley JA (Kirby P dissenting) found that the Sydney Water Board could restrict water or terminate supply in this circumstance, even though the plaintiff was not responsible for the failure to pay rates on the other property (\textit{Water Board v Glambedakis} (1992) 28 NSWLR 694).

\textsuperscript{66} This would emerge as a problem for a group of residents at Coonabarabran in the 1990s (\textit{Timor Water Action Group Inc v Coonabarabran Shire Council} [1997] NSWLEC 62). In that case, a local residents action group was
The limited nature of the rights of individual town residents to a public water supply highlights the abstracted relationship of these water users with the natural world. The water access rights of town residents were made more complicated by their geographic settlement away from the natural sources of water, in built environments with a high population density. As a result, the dominant relationship between most city-dwellers and water was their consumption and use of tapwater. Young and Keil suggest that it is difficult:

for the town's citizens to make a connection between the water that comes out the tap, the flushing of a toilet, and the lake that is [...] the source of water [...]. Water remains a 'concrete abstraction'.

From the perspective of water, the built environment has often been connected to taming, domesticating or rationalising rivers and waters. Gandy describes large-scale water supply works as 'rationalising' and 'domesticating' nature. Oliver argues that the construction of the Thames embankments in the late nineteenth century was an example of modernity's tendency to enchain and discipline the landscape. He suggests that the embankment of the Thames created an 'engineered river': 'a product 'cleansed' of the disruptive elements of its naturalness, lodged between hard embankments and rigid retaining walls'. In this process, not only the built environment but also the water itself becomes characterised as a social construct. Kafka suggests that 'water supply networks [...] are the means of transforming H2O (a

unable to prevent the relevant water supply authority from permanently disconnecting a group of properties from the water supply main.

Drinking bottled water can also be seen as an example of purifying and isolating water from the natural world. For a general history of bottled water, see Philip LaMoreaux and Judy Tanner (eds), Springs and Bottled Waters of the World: ancient history, source, occurrence, quality and use (Springer Science and Business Media, 2001).

Douglas Young and Roger Keil, 'Urinetown or Morainetown? Debates on the re-regulation of the urban water regime in Toronto', (2005) 16(2) Capitalism Nature Socialism 61. See also Jamie Linton: for city-dwellers in particular, the 'the most significant (and intimate) hydrological experience was occurring in the city, specifically at the mouth of a tap or in relation to a toilet' (Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 97).

Matthew Gandy, Concrete and clay: reworking nature in New York City (MIT Press, 2003), 52.


For example, Illich notes how water has been removed from nature: 'the H2O which gurgles through Dallas plumbing is not water, but a stuff which industrial society creates' (Ivan Illich, H2O and the waters of forgetfulness (Boyars, 1986), 7).
natural element) into potable, clean, translucent water (a socially produced commodity [...]').\textsuperscript{74}

From the perspective of Linton's modern water, two key conclusions can be drawn. Firstly, supplied water is inevitably abstract water, that has been 'produced, purified, standardized and commodified'.\textsuperscript{75} Secondly, household water users become dependent upon an external and usually monopoly authority to produce and deliver piped water. This relationship is best described as a consumer relationship: water users receive piped water in return for the payment of rates.

This leads to a further valuable distinction: that between \textit{community rights} and \textit{public rights} to water. Linton suggests that pre-modern waters were exemplified by an integral connection between people and water. This connection was bound up in the traditional community relationships with the natural world. For example, Vandana Shiva cites examples of community management of water, such as the adjudication by village community councils of rights in relation to maintenance of wells and tanks in the Thar desert in India\textsuperscript{76} and the traditional \textit{acequia} systems in the upper reaches of Rio Grande Valley in Colorado.\textsuperscript{77} She emphasises the connection between commons, local management and the community: 'community control meant that water was managed locally and as a common resource'.\textsuperscript{78}

By contrast, the idea of a 'public right' to access water entails a much weaker connection between humans and nature. The public as a whole is a distinct concept from community: while \textit{community} assumes a group of people connected to each other and to the earth by a web of social production relations, the \textit{public} is an amorphous mass composed of isolated individuals. The relationship between members of the public and their water supply becomes limited to a consumer relationship,

\begin{itemize}
\item \textsuperscript{74} Maria Kaika and Erik Swyngedouw, 'Fetishizing the Modern City: The Phantasmagoria of Urban Technological Networks', (2000) 24(1) \textit{International Journal of Urban and Regional Research} 121.
\item \textsuperscript{75} Maria Kaika, \textit{City of flows: modernity, nature, and the city} (Routledge, 2005), 53; see also Maria Kaika, 'Interrogating the Geographies of the Familiar: Domesticating Nature and Constructing the Autonomy of the Modern Home' (2004) 28(2) \textit{International Journal of Urban and Regional Research} 265, 267.
\item \textsuperscript{76} Vandana Shiva, \textit{Water wars: privatization, pollution and profit} (South End Press, 2002) 25.
\item \textsuperscript{77} Vandana Shiva, \textit{Water wars: privatization, pollution and profit} (South End Press, 2002) 27.
\item \textsuperscript{78} Vandana Shiva, \textit{Water wars: privatization, pollution and profit} (South End Press, 2002) 53.
\end{itemize}
within which water is defined purely as 'H₂O', abstracted from nature. Nevertheless, the idea of the *public* contains an inherently progressive meaning: the idea that the mass of the population as a whole have a right to a certain standard of living or capacity to access nature.⁷⁹

### 2.4 The rights of towns to appropriate water for a public water supply

In the late nineteenth and early twentieth century, municipal authorities also faced legal difficulties in acquiring a water supply for the town. The towns, mostly located on the New South Wales south coast,⁸⁰ wished to build water supply works but were blocked by the 'riparian rights' of landholders.⁸¹

Between 1899 and 1909, plans by the town of Bowral to build a water supply were regularly blocked by one landholder, Mr Samuel Hordern, who was 'not prepared to abate any riparian rights'.⁸² Hordern was a substantial businessman with a horse and cattle stud at Bowral.⁸³ His property was inspected in 1902, revealing that he had several dams on the creek and would 'certainly have some riparian rights', though the inspector did note that he would also need to have licences for his dams.⁸⁴ At the very least, for the town to carry out its favoured water supply scheme, they would have needed to purchase Hordern's rights.⁸⁵ At times, however, Hordern appears to have

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⁷⁹ The boundaries of basic human rights to water are an important subject of discussion. For example, Fiona Allon has emphasised the social value of gardens and garden-watering to urban householders, a water use which is today often considered to be a wasteful use of scarce water supplies (see Fiona Allon, 'Dams, Plants, Pipes and Flows: From Big Water to Everyday Water', 6(3) Reconstruction [http://reconstruction.eserver.org/063/allon.shtml] (4 December 2008)).

⁸⁰ It is unclear whether there is any particular reason why this concentration of disputes occurred in south-eastern coastal New South Wales and not elsewhere.

⁸¹ See also reference in 1909 that irrigation was taking all the water needed for the town water supply at Maitland ('Floods, water supply and lucerne growing', *The Sydney Morning Herald* (NSW), 10 November 1909, 7).


⁸⁴ ‘The proposed supply’, *Robertson Advocate* (NSW), 8 July 1902, 2.

refused to discuss or negotiate with the Council at all.\textsuperscript{86} This dispute raises questions about the balance between the rights of landholders and the supply of water for human water needs. For example, in 1902, Alderman MacKenzie noted that 'it seemed a monstrous thing that one man could block the interests of a whole community'.\textsuperscript{87} The effective stand-off with Hordern continued until his death in 1910. The new owner was happy to grant the town access to the water.\textsuperscript{88}

A similar conflict arose in relation to Sydney's water supply in 1902.\textsuperscript{89} Farmers and residents of Camden raised serious concerns about the effect that 'proposed construction of a weir in the river at Menangle and the probable stoppage of the stream by pumping for the Sydney supply' would have on their riparian rights.\textsuperscript{90} The quality of the water in the river had greatly deteriorated since 'so much of the best water was diverted to [the Prospect Reservoir]'.\textsuperscript{91} Their key concern was the loss of stock and domestic rights under the water rights legislation.

Between 1903 and 1906, Mittagong faced similar issues, with the riparian rights of two landholders hindering a plan to draw water from the Nattai River.\textsuperscript{92} In 1909, Kiama announced its intention of building a second water supply dam and the Mayor declared that 'if any riparian right actions were brought, the department would defend them'.\textsuperscript{93} In 1911, a similar water dispute occurred between the town of Kiama and dairy farmers in the Fountanidal Valley at Jamberoo, who argued that

\textsuperscript{86} e.g. 'Local and district', \textit{The Scrutineer and Berrima District Press} (NSW), 3 January 1900, 2.

\textsuperscript{87} 'The Bowral water supply', \textit{Robertson Advocate} (NSW), 10 June 1902, 2.

\textsuperscript{88} 'The Bowral water supply', \textit{The Wollondilly Press} (NSW), 23 July 1910, 2; see also 'South Coast', \textit{The Sydney Morning Herald} (Sydney), 9 June 1902, 9; 'Country news', \textit{Australian Town and Country Journal} (Sydney), 26 August 1903, 13; 'Bowral Water Supply', \textit{The Sydney Morning Herald} (Sydney), 7 October 1909, 3.

\textsuperscript{89} 'Municipal Councils and Progress Associations', \textit{The Sydney Morning Herald} (Sydney), 24 October 1902, 4.

\textsuperscript{90} 'Municipal Councils and Progress Associations', \textit{The Sydney Morning Herald} (Sydney), 24 October 1902, 4.

\textsuperscript{91} 'Municipal Councils and Progress Associations', \textit{The Sydney Morning Herald} (Sydney), 24 October 1902, 4.

\textsuperscript{92} 'Mittagong Water Supply', \textit{The Sydney Morning Herald} (Sydney), 3 March 1903, 5; 'The Mittagong–Bowral water supply', \textit{Bowral Free Press} (NSW), 14 May 1904, 2; 'Mittagong Water Supply', \textit{Evening News} (Sydney), 11 January 1906, 3; 'Country news', \textit{Australian Town and Country Journal} (Sydney), 17 January 1906, 6–8.

\textsuperscript{93} 'South Coast news', \textit{Northern Star} (Lismore), 3 July 1909, 2.
the impounding of so much water at the head of the valley will deprive them of water for their herds in dry seasons, and they intend to stand on their riparian rights.94

The proposal had been made to lay a water main in the valley to supply the dairies with water in troughs but when the article was written, it was unclear whether the farmers would accept such a scheme 'in lieu of the natural flow of the water' and who would pay for the scheme.95

The newspaper discussions do not specifically state on what legal basis the Kiama, Mittagong and Bowral landholders believed that they had riparian rights which overrode the power of the town to build water supply works. It may have been the limited riparian right to water for stock and domestic purposes in s.2 of the Water Rights Act 1896. The Country Towns Water and Sewerage Act 1880, which had been enacted in order to facilitate New South Wales towns building water and sewerage schemes, gave the local councils substantial powers to divert watercourses and take water, including the power to:

[divert] from time to time and impound the water from any streams as they may think fit and alter the courses of the same and also take such waters as may be found in under or on any lands so to be taken for the purposes of this Act.96

Councils were nevertheless liable to pay compensation for the loss of water 'in respect of any damage sustained by reason of the taking or diverting of water permanently or otherwise from any river stream or watercourse'.97 The statutory riparian right to water for stock and domestic purposes may have been a sufficient basis upon which the landholders could claim compensation.98 The tenor of the media reports at the

94 'Kiama water scheme', The Sydney Morning Herald (Sydney), 4 August 1911, 11; see also 'Deputations: riparian rights', The Sydney Morning Herald (Sydney), 29 September 1911, 5.
95 'Kiama water scheme', The Sydney Morning Herald (Sydney), 4 August 1911, 11; see also 'Deputations: riparian rights', The Sydney Morning Herald (Sydney), 29 September 1911, 5.
96 s.16(4) Country Towns Water and Sewerage Act 1880 (NSW).
97 s.16 Country Towns Water and Sewerage Act 1880 (NSW).
98 For the disputes, it the late nineteenth and very first years of the twentieth centuries, it is also possible that the lack of clarity around the continuation of landholders' common law riparian rights may have prompted these tensions. After the Supreme Court cases in Hanson v The Grassy Gully Mining Company [1900] NSWLawRp 91; (1900) 21 LR (NSW) 271 and Dougherty v Ah Lee (1902) 19 WN (NSW) 8, however, any claim
time was, however, that the landholders had a veto — regardless of compensation — over council’s rights to take water.\textsuperscript{99} These disputes emphasise the challenges faced by towns and their residents in obtaining a secure water supply for household purposes in a landscape dominated by private property.

3. Political struggles for water access

Town residents' weak legal rights to access water proved problematic for the residents of certain New South Wales rural and regional towns in the nineteenth and early twentieth centuries. The 1880s and 1890s saw a wide range of water disputes across New South Wales towns, some led by town residents and leaders against the government, some led by town residents against the municipal leaders. These disputes were largely localised and sporadic, occurring as a result of acute water shortages.\textsuperscript{100}

A crowded indignation meeting at Gunnedah in 1889 called upon the municipal council to resign because of its refusal to procure the necessary supply of water, 'thereby endangering the lives of the inhabitants'.\textsuperscript{101} 'Businessmen and principal residents' of Wyalong held a meeting in 1895 condemning the government for not providing a water supply for the township,\textsuperscript{102} indicating that they might start up a private water supply scheme.\textsuperscript{103} There was typhoid in the vicinity at the same time.\textsuperscript{104} From the reverse perspective, a dispute arose between residents at Mudgee in 1897.\textsuperscript{105} Some residents objected to the council's decision to build new water supply works, arguing

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\textsuperscript{99} see e.g. 'Mittagong Water Supply', \textit{The Sydney Morning Herald} (Sydney), 3 March 1903, 5; 'The Bowral Water Supply', \textit{Robertson Advocate} (NSW), 10 June 1902, 2.

\textsuperscript{100} In 1862, there was a discussion in Maitland about the provision of a water supply; in 1856, a private water supply company was called for (see e.g. 'Water supply for Maitland', \textit{The Maitland Mercury and Hunter River General Advertiser} (Maitland), 27 November 1862, 2; 'Hunter River District', \textit{The Sydney Morning Herald} (Sydney), 30 June 1856, 3).

\textsuperscript{101} 'Indignation meeting at Gunnedah', \textit{The Sydney Morning Herald} (Sydney), 6 April 1889, 11; 'Gunnedah water supply', \textit{Australian Town and Country Journal} (Sydney), 13 April 1889, 19.

\textsuperscript{102} 'Wyalong water supply: indignation meeting', \textit{Australian Town and Country Journal} (Sydney), 12 January 1895, 12.

\textsuperscript{103} 'Wyalong water supply: indignation meeting', \textit{Australian Town and Country Journal} (Sydney), 12 January 1895, 12.

\textsuperscript{104} 'Wyalong water supply: indignation meeting', \textit{Australian Town and Country Journal} (Sydney), 12 January 1895, 12.

\textsuperscript{105} 'A Mudgee meeting: police interfere', \textit{Bathurst Free Press and Mining Journal} (Bathurst), 7 August 1897, 2; 'Mudgee water supply', \textit{Australian Town and Country Journal} (Sydney), 21 August 1897, 46.
that the current water supply was adequate and that the town could not afford the works. A large and acrimonious meeting was held and the police were called to break up fights between the participants.

At times, these protests were led by the business and municipal leaders of the town, while at other times protests took on a stronger class element. Protests for water in the mining town of Cobar in 1883 were explicitly working class, with concerns that use of water for mining purposes conflicted with the needs of the townspeople. When it was announced that the money earmarked for Cobar's water supply had been withdrawn, the town held an indignation meeting. The meeting complained that a new water supply was essential as the town and stock tanks were polluted with organic and inorganic matter. The town called specifically for government water supply, complaining that the mining companies were refusing to allow townspeople to access water which had been stored for mining purposes:

*Out of a population of upwards of 3000 only, 550 men and boys are employed by the Cobar Company, and since the drought that company has expended upwards of £5000 in the construction of a reservoir for its own exclusive use, and has positively refused to allow any of the townspeople to take any water from that source [*]*.*

Sporadic disputes in New South Wales towns continued into the twentieth century. Concerns about enteric fever and dysentery drove ratepayers at Wellington to hold a meeting in 1908 against the government’s delay in building a water supply. Protests arose near Parkes in 1912, due to farmers taking water from the town dam for stock use at a time of water shortage. An indignation meeting was held at Ballina in 1924 by private citizens and business interests calling for an updated water supply to prevent the frequent stoppage of the town water supply. The most intense and sustained of these protest movements was in the western city of Broken Hill.

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106 ‘Water supply for Cobar’, *The Sydney Morning Herald* (Sydney), 24 April 1883, 8; see also ‘Cobar water supply’, *Australian Town and Country Journal* (Sydney), 28 April 1883, 21.

107 ‘Water supply for Cobar’, *The Sydney Morning Herald* (Sydney), 24 April 1883, 8.

108 ‘Medical officer’s fears’, *The Sydney Morning Herald* (Sydney), 8 January 1908, 9.


110 ‘Ballina water supply’, *The Sydney Morning Herald* (Sydney), 8 February 1924, 10.
4. Early water protests in Broken Hill: 1885–1889

Broken Hill encountered special difficulties in the development of a water supply. In the late nineteenth and early twentieth centuries, Broken Hill was the third largest city in New South Wales after Sydney and Newcastle. Unlike most New South Wales cities which are located in river valleys, Broken Hill's location in a highly arid area of New South Wales was driven by the deposits of mineral resources. The closest large-scale natural water supplies were the Darling River and the Menindee lakes, approximately 100 kilometres away.

The New South Wales government persistently ignored the city's needs, failing to build a permanent, secure and high quality water supply until the mid-twentieth century. As a result, Broken Hill saw a history of water famines between the mid-1880s and mid-1940s. Far more than any other town or city in New South Wales, the provision of a secure and safe water supply for the town was characterised by ongoing, substantial public protests, often with strong trade union backing.

The reasons for the New South Wales government's opposition are unclear. It would have been very expensive. Broken Hill was also so far distant from Sydney that New South Wales leaders could readily ignore its needs. The indifference caused by distance may have been intensified by economic indifference. Broken Hill's mining companies tended to be based in Melbourne and ore was shipped by rail to Port Pirie in South Australia. As such, the New South Wales government may not have had much interest in assisting the town or its residents. In the early years, the extent of the ore deposits was unknown, it was also unclear whether Broken Hill had a long-term future that would justify the construction of a water supply.

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111 L. Martin and P. Spearrit, A Thirst for Bureaucracy: a political history of water management in New South Wales (NSW Water Management Audit, 1985) 27 (Broken Hill was in 1888 the third largest city in New South Wales (17000)).


113 Broken Hill is over 1000 kilometres from Sydney, more than twice the distance from Adelaide to Broken Hill.
4.1 The first water disputes in Broken Hill

Water disputes among the communities of the Broken Hill region — known as the 'Barrier' — pre-dated the establishment of the city. In March and April 1885, there were a series of protest meetings in Silverton, the first town established on the Barrier. These meetings demanded that the New South Wales Government provide a water supply for Silverton.\(^{114}\) Broken Hill emerged as a town in the same year and the following year, 1886, saw Broken Hill's first protest meetings for water.

Water was primarily supplied to the town by water carters fetching it from soakages\(^{115}\) in the nearby ephemeral Stephens Creek,\(^{116}\) more than ten miles away. The water from the soakages expensive and unreliable. The water price varied with water scarcity but is reported to have been 5–8 shillings for 100 gallons.\(^{117}\) Most households would have acquired their water by the bucket at a rate of 2–4 pence for four gallons.\(^{118}\) Hardy reports that, in March 1886, a public meeting was held to complain that:

- stock watering at the soakages was excessive; and
- a mining party which leased some of the land was charging for the water taken.\(^{119}\)

The meeting requested that the New South Wales government provide a reliable water supply for the town — in this case, by building a tank\(^{120}\) near the town. Another protest on 19 November 1886 repeated this request to the government, noting that no water was available 'except soakage miles away'.\(^{121}\)

\(^{114}\) *The Argus* (Melbourne), 28 March 1885, 10; *The Sydney Morning Herald* (Sydney), 28 March 1885, 9; *The Argus* (Melbourne), 7 April 1885, 3.

\(^{115}\) These soakages were depressions in the riverbed where water would collect underneath the sand, even when the river was not flowing.

\(^{116}\) sometimes referred to as 'Stevens Creek'.


\(^{120}\) A tank is an impoundment of water similar to a dam, cistern or reservoir. It is an Anglo-Indian word, derived from the Gujarati word *tankh* (Michael Cathcart, *The Water Dreamers* (The Text Publishing Company 2009) 28).

\(^{121}\) *The Sydney Morning Herald* (Sydney) 17 November 1886, 10
The campaign for a water supply continued into the summer of 1887. On 10 January 1887, a public meeting was attended by 400–600 people 'in consequence of the insanitary state of this township, which the recent great heat renders alarming'. The government was requested to authorise the local Progress Committee — Broken Hill did not yet have a municipal council — to purchase some tanks to provide water to the town immediately while a larger tank was being built. The government did not agree to this request. In February 1887, however, the government did call for tenders for the construction of a large tank and the Minister approved the work in April. The tank was not completed until January 1888.

As the summer of 1887–1888 approached, concerns over the town's water supply escalated. On 2 November 1887, a mass meeting was attended by 500 people. Mr T.J. Williams of the Progress Committee noted that Stephens Creek was almost dry and every drop of water would have to be protected for domestic use. The Sydney Morning Herald printed that:

[Fully] 5000 persons would be affected within the next fortnight by the inadequate supply of water. Not a bath could be had in town. Rain seem as far off as ever, and altogether there was a gloomy look out for the Barrier generally, and Broken Hill in particular.

Mr Francis Abigail, Minister for Mines, was heavily criticised. The meeting passed a resolution that:

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122 'Broken Hill', Sydney Morning Herald (Sydney), 15 January 1887, 10.
123 Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968).
125 Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 5.
126 The Sydney Morning Herald (Sydney), 4 November 1887, 8; Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 5.
127 The Sydney Morning Herald (Sydney), 4 November 1887, 8; Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 5.
128 'The scarcity of water at Broken Hill', The Sydney Morning Herald (Sydney), 4 November 1887, 8.
this meeting views with alarm the impending water famine, and respectfully urges upon the notice of the Government the immediate necessity of providing a supply of water for the approaching summer.\textsuperscript{129}

The government tank, which would become known as Imperial Dam, was finally completed in January 1888.

4.2 The 'Rathole Storm' (1888–1889)

By the following summer (1888–1889) Broken Hill was experiencing its worst water shortage to date. The year 1888 was a particularly dry year.\textsuperscript{130} It was also a boom year for the mining town, leading the population — and hence demand for water — to double.\textsuperscript{131} The summer of 1888–1889 also saw the first serious typhoid epidemic. Hardy blames the practice of householders building, out of necessity, small rain-filled storages in their backyards to capture water. Rain would caused these backyard cesspits to overflow, contaminating the household storages.\textsuperscript{132} A year of vociferous and urgent protest meetings,\textsuperscript{133} at least five protests were reported in the national newspapers, three in September and two in October. The climax came in September with the affair of the rathole tank.\textsuperscript{134}

This picturesquely named tank was controlled by the Department of Mines and was mostly used for supplying water for travelling stock.\textsuperscript{135} When other water supply options failed for the town, the local Public Works Department official arranged to have water brought from the tank to Broken Hill by train. However, Mr Abigail refused

\textsuperscript{129} The Sydney Morning Herald (Sydney), 4 November 1887, 8.

\textsuperscript{130} Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 6; Brian Kennedy, Silver, Sin and Sixpenny Ale: a social history of Broken Hill, 1883–1921 (Melbourne University Press, 1978) 41.

\textsuperscript{131} Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 6; Brian Kennedy, Silver, Sin and Sixpenny Ale: a social history of Broken Hill, 1883–1921 (Melbourne University Press, 1978) 41.

\textsuperscript{132} Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 6.

\textsuperscript{133} Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 7.

\textsuperscript{134} Named after a particular native rat that inhabited the area, not necessarily an indication of the quality of the water (Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968)).

\textsuperscript{135} Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 8.
his consent, communicating 'that since the Mines Department, which controlled the
tank, had not been consulted in the matter, he declined to give permission for its
use'.

Hardy describes the town's response as the 'rathole storm'. There were at least three
protests: 19, 20 and 26 September 1888. The protest on 19 September attracted a
large crowd, though estimates of the numbers of people differ. Kennedy claims there
were 2000–2500 people while the Argus report claimed that there were 1000
people. In any event, it was still the largest gathering so far around the water issue
and according to Kennedy, the largest crowd so far ever seen in Broken Hill. The size
of the protest on 20 September is not recorded but the 26 September protest was
again reported as more than 2000 people.

The anger of the town was intense. At the meeting on 19 September, Captain Richard
Piper, the General Manager of the Broken Hill South Mine, attempted to defend the
government 'but the crowd would not allow him to proceed'. One speaker drew
comparisons to the injustice of the Eureka stockade 30 years earlier. The Argus
wrote that 'the crowd dispersed after giving loud expressions of anger '. The protest on
the following afternoon (20 September) shows the extent of the town's dissatisfaction
with Minister Abigail. The Argus reported:

[A] large number of persons assembled in Argent Street to witness the
execution in effigy of Mr Abigail, the Minister of Mines. A gallows was erected
near the post office, and the effigy was hanged from it and placed in a coffin,
and the hearse paraded the town, followed by a procession of vehicles,
horsemen, four horse drags, and bands of music playing the Dead March in

136 Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 8.
137 Brian Kennedy, Silver, Sin and Sixpenny Ale: a social history of Broken Hill, 1883–1921 (Melbourne University
138 The Argus (Melbourne), 21 September 1888, 7.
139 Brian Kennedy, Silver, Sin and Sixpenny Ale: a social history of Broken Hill, 1883–1921 (Melbourne University
140 'The Broken Hill Water Supply', The Sydney Morning Herald (Sydney), 27 September 1888, 8.
141 Brian Kennedy, Silver, Sin and Sixpenny Ale: a social history of Broken Hill, 1883–1921 (Melbourne University
Press, 1978) 44.
142 The Argus (Melbourne), 21 September 1888, 7.
143 The Argus (Melbourne), 21 September 1888, 7.
'Saul' alternately with waltz music. In the evening the effigy was burnt in the reserve.'\textsuperscript{144}

The \textit{Silver Age} wrote that it was 'the most brilliant appearance that the Hon. Francis Abigail is ever likely to make in Broken Hill'.\textsuperscript{145}

A week later on 26 September, the town had not heard from Minister Abigail and there were only three weeks' supply of water left in the Stephens Creek. A third protest meeting was held\textsuperscript{146} and the following day, 27 September 1888, the Minister announced that, as soon as the town was incorporated with a municipal council, he would place the rathole tank into that body's hands.\textsuperscript{147} By 5 October 1888, the tank had been placed in the hands of trustees.\textsuperscript{148} The townspeople had effectively given Minister Abigail little choice but to agree to their demands. Resolutions moved at the September protests were mostly in the form of supplications and demands to the New South Wales Government. For example, at the meeting on 26 September, resolutions were passed that the conduct of Minister Abigail should be brought to the attention of the Premier, Sir Henry Parkes, and that appeal should be made to the New South Wales Governor, Lord Carrington.\textsuperscript{149} A resolution was also passed that the Mayor of Sydney should be asked 'to call a meeting of the citizens of Sydney to discuss the Broken Hill water question'.\textsuperscript{150}

However, the townspeople did not restrict themselves to simply asking for aid. The debates at all three protests indicated that at least a proportion of the population were willing to simply take over the tank, with or without Mines Department approval. On 19 September, Mr Edwards, a local solicitor, 'offered to put himself at the head of those willing to take possession of the Rathole tank'.\textsuperscript{151} Mr Edwards warned that if 'the Ministers would not give the people what they required they should take measures,
even if powder and shot had to be used [...]'. On 26 September, three speakers declared their willingness to lead or be part of a group taking control of the tank. Mr Fred Chappie said that:

he would make one to go and take possession of the tank, and a committee should be appointed for the purpose of doing this at once. [...] They must impress on the Government that they must have water at any cost. Broken Hill sent a good revenue to Sydney, while they were compelled to drink water which Sydney dogs would not drink.153

Mr Edwards repeated his offer to lead such a party, and said:

He had been told that if he persisted in his conduct against Mr. Abigail he would be removed from the roll of the law courts, but he could justify his conduct. He did not want to cause a riot; he was too loyal to the Queen and Governor; but he must assert his rights.154

Mr Donald Morrison said he was willing to participate in taking the tank, adding that 'if he should be arrested [...] he was sure the people would pay his expenses on trial'.155

The crowd cheered.156 The Argus' report of the meeting of 26 September 1888 concludes that 'if necessary a committee will be appointed to accompany Mr Edwards to take possession of the Rathole tank'.157 The willingness of town residents to take unauthorised possession indicates the difficult situation in which residents found themselves. Without strong legal or political rights, they had the choice between trespassing and attempting to survive without a safe or clean household water supply.

The campaign for a permanent water supply did not end with the rathole storm. Two more meetings on 5 and 30 October 1888 discussed the problematic question of acquiring a more permanent water supply, with a great difference of opinion as to the best solution.158 The first meeting debated the question of providing water from

153 The Sydney Morning Herald (Sydney), 27 September 1888, 8.
154 The Sydney Morning Herald (Sydney), 27 September 1888, 8.
155 The Sydney Morning Herald (Sydney), 27 September 1888, 8.
156 The Sydney Morning Herald (Sydney), 27 September 1888, 8.
157 The Argus (Melbourne), 28 September 1888, 10.
158 The Argus (Melbourne), 31 October 1888, 10.
Stephens Creek or obtaining water through the more ambitious and expensive — but ultimately more secure — route from the Darling.\textsuperscript{159} The second meeting, which was somewhat disorderly, favoured the Darling scheme.\textsuperscript{160}

5. The possibility of private water supply

The years immediately following the 'rathole storm' saw two new elements enter into the water supply debate: firstly, proposals that a private company should be entrusted to build a water supply for the town, and secondly, the increasing strength of the union as a participant in the debates. Residents of the town were divided over whether to support a private scheme or to insist on a state-owned and managed water supply.

From the early months of 1888, two water supply promoters were carrying out investigations and planning, and one commenced to supply water on a limited scale.\textsuperscript{161} Hardy argues that the incentives for private investment were considerable: given that water supply was an essential service, a private water venture should be able to derive profit.\textsuperscript{162} However, the capital investment required would be extensive. In 1888–1892, at least four different private water supply promoters were seeking approval:

- Mr. J.D. Derry's Broken Hill Water Supply Syndicate, reformed in August 1888 as the Barrier Ranges and Broken Hill Water Supply Syndicate (the 'Syndicate');
- Nolan's Stephens Creek Water Supply Company (also known as the Nolan Brothers scheme or 'Nolan and Lloyd's');
- the Stockdale company; and
- Mr English's Broken Hill Waterworks Company.

Eventually the Syndicate and Nolan's company merged to create the Broken Hill Water Supply Company (or the Barrier Ranges and Broken Hill Water Supply Company), which

\textsuperscript{159} 'The Water Supply Question at Broken Hill', \textit{The Argus} (Melbourne), 6 October 1888, 18
\textsuperscript{160} A scheme that would ultimately not be built until the 1940s.
\textsuperscript{161} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 10–11.
\textsuperscript{162} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 9–10.
was also known as the Stephens Creek company. This company would eventually provide water to Broken Hill right up until 1916.

The hopeful private water providers needed to obtain parliamentary authorisation for water storage and supply works in order to overcome existing private rights to land and water. Much of the conflict between the companies revolved around their struggles to get Parliament to pass an Act approving them (and not their rivals). Eventually, Parliament passed three Acts, with many other Bills being proposed or introduced to Parliament but lapsing:

- **Broken Hill and District Water Supply Act 1888** (NSW). This Act authorised the Stockdale company to build a water supply system from the Darling, a scheme which never eventuated.

- **Broken Hill Water Supply Act 1890** (NSW). This Act authorised the Stephens Creek company to build a reservoir on Stephens Creek.

- **Broken Hill and District Water Supply Amendment Act 1892** (NSW). This Act again related to authorisations for the Stockdale company to take water from the Darling and from Lake Speculation.

The Stockdale company — which never delivered a drop of water to Broken Hill — was twice preferred by Parliament over the Stephens Creek company. The Stockdale Company's failure to act upon its authorisation to draw water from the Darling meant that this scheme — with its resulting water security — was not built until much later in the twentieth century. By contrast, the Stephens Creek company, a small local concern with limited capital, was the only one of the companies to ever provide water to the town. In the water supply crisis of late 1888, the Stephens Creek company were already constructing temporary water supply structures as well as taking water from some of the mineshafts to supply stock with drinking water. Later they bought water

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163 see e.g. s.2 Broken Hill Water Supply Act 1890 (NSW).
out of Imperial Dam from the government, which they conveyed to their own reservoir and then to the town through their own reticulation pipes.¹⁶⁶

There was hefty debate in the town over private versus government water supply. In 1888, for example, various speakers at the September meetings declared their hostility to a private monopoly. The October 1888 meetings were more open to private enterprise, indicating that townspeople — in a similar progression to the farmers and settlers in the water conservation debates of the early twentieth century — were losing faith in the government and considering other possibilities.¹⁶⁷ The meeting on 30 October 1888 rejected a resolution that the government be requested to carry out a scheme to bring water from the Darling, on the basis that 'the Government persistently neglected the district, and that it was no use preferring the request'.¹⁶⁸

The year 1889 had been relatively quiet but in 1890 protest broke out again, this time over the proposal by the Stephens Creek company to build a reservoir on Stephens Creek. The company had commenced building works on what would become the Stephens Creek Reservoir shortly after April 1890.¹⁶⁹ However, due largely to machinations of their competitor, the Stockdale company, their Bill was stalled in its progress through parliament on 6 June 1890, halting work.¹⁷⁰ The town's response was a 'large barrage of indignation meetings and petitions'.¹⁷¹ One protest meeting on 11 June 1890 was called by the Municipal Council¹⁷² and there was another protest on 25 August 1890.¹⁷³ The council also presented a petition to the Government on


¹⁶⁷ The tension between private and public water supply was not limited to Australia; for example, Hassan notes substantial tensions in nineteenth-century England (J.A. Hassan, 'The Growth and Impact of the British Water Industry in the Nineteenth Century', (1985) 38(4) *The Economic History Review* 531, 533)


30 June 1890\textsuperscript{174} and again in November 1890.\textsuperscript{175} The anger of the town at the attempts to hinder the Stephens Creek company's operations should not be read as wholehearted approval of private industry. Instead, the local sentiment was that the Sydney government was trying to prevent works which had a reasonable chance of providing water to the town. The Bill enabling the construction of Stephens Creek company's scheme was finally passed through parliament on 17 December 1890.

The \textit{Broken Hill Water Supply Act 1890} gave the Stephen's Creek company wide authority enter land, to construct water supply works, to take water from certain water sources and to supply water to the town:

\begin{quote}
For the purposes of this Act [...] the Company may construct weirs and dams in any creek or watercourse, cut drains and deliver into or take water from, and embank, widen, or deepen any creek, watercourse, lagoon, or swamp within the catchment area of Stephen's Creek.\textsuperscript{176}
\end{quote}

The company was not given an \textit{exclusive} right to any water sources or to supply water to the town.\textsuperscript{177} However, the company's water supply works were given legislative protection against unlawful or malicious damage or destruction\textsuperscript{178} and a process was established whereby the company could compulsorily acquire private land with compensation.\textsuperscript{179} While the company did not hold a monopoly, it was given strong state support.

The company's powers were limited by specific statutory protections, most likely intended to protect against any misuse by the company of its role as effective sole water supplier for Broken Hill. Authorisations to construct water supply works were subject to the company obtaining the approval of the Governor and provided protections for existing rights.\textsuperscript{180} The legislation also specifically protected the rights of

\begin{footnotes}
\item[174] 'The Broken Hill Water Supply', \textit{The Argus} (Melbourne), 30 June 1890, 10.
\item[175] Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 29.
\item[176] s.8 \textit{Broken Hill Water Supply Act 1890}.
\item[177] see e.g. s.3 \textit{Broken Hill Water Supply Act 1890}.
\item[178] s.5 \textit{Broken Hill Water Supply Act 1890}.
\item[179] s.2 \textit{Broken Hill Water Supply Act 1890}.
\item[180] s.3 and s.8 \textit{Broken Hill Water Supply Act 1890}.
\end{footnotes}
the Crown to the 'general control of the natural supplies of water'. The possibility of future state-sponsored works was provided for, with the company's works prohibited from interfering with the:

construction hereafter by any person of other necessary works approved by the Governor for providing water supply for domestic use, or for live stock, or for mining or manufacturing, or other purposes.

At the end of 28 years, all rights granted under the legislation — including all rights in the works — would become the absolute property of the government.

The company was authorised to supply water for domestic or other purposes, at rates and terms to be agreed between the company and the person to be supplied. This broad discretion as to the terms of the arrangement between the company and the user was accompanied by certain protections: that the company could not withhold water from any person except for a failure to pay the water rate and that the rate could not be greater than 'other persons are charged under like conditions'. In terms fairly similar to other water supply legislation from the nineteenth century, the company would not be liable for a failure to supply water caused by unusual drought for other unavoidable cause or accident.

Key issues in the establishment of private water supplies were the granting of rights to private enterprise over the rivers of the colony — safeguarded in this instance by the need for the Governor's approval and the protection of the Crown's general right to natural water — and concerns about private companies charging inequitable or unaffordable prices for the purposes of making a profit. The limitations on the company withholding water and requirement for some degree of equity in charging decisions appear to be directed towards ameliorating these concerns.

181 s.105 Broken Hill Water Supply Act 1890.
182 s.8 Broken Hill Water Supply Act 1890.
183 s.103 Broken Hill Water Supply Act 1890.
184 s.9 Broken Hill Water Supply Act 1890.
185 s.9 Broken Hill Water Supply Act 1890.
186 s.10 Broken Hill Water Supply Act 1890. This provision would presumably have been interpreted in a similar fashion to how the substantially identical non-compellability provision was later interpreted in Dubbo v McLean.
6. Trade unions: an alternative voice

Hardy presents the mood of the town as being unanimously in support of the Stephens Creek Company's scheme.\textsuperscript{187} She notes that even the militant Richard Sleath — who was president of the Amalgamated Miners Association and a strong advocate for compulsory unionism\textsuperscript{188} — spoke in favour on the scheme.\textsuperscript{189} This support for the Stephens Creek company was understandable: the town had waited a long time for a government scheme without substantial results whereas the Stephens Creek company were already providing water to the town.

It is not clear, however, that the town did in fact unanimously favour the private scheme. Hardy notes that there were 'dissentient voices'.\textsuperscript{190} Certainly there was a deal of distrust within the town about handing such an important service over to a private monopoly provider. Newspaper reports present an image of a town much divided. Dissatisfaction with the private scheme appears to have grown towards the end of 1890, given voice in particular by the Broken Hill trade unions who agitated strongly for a government water supply.

It is unsurprising that trade unions would emerge as a powerful actor in the water debates in approximately 1890. In the 1880s, Broken Hill and its predecessor Silverton had been relatively undivided by class consciousness. Far from seeing mining workers' interests as diametrically opposed to mine owners' and managers' interests, the early Silverton union leaders had seen the role of the union as promoting 'the mining interests of the silver fields by the close union and co-operation among the classes'. Their aim was to 'end the absurd antagonism which sometimes appears to exist between labour and capital'.\textsuperscript{191} The Broken Hill branch of the Amalgamated Miners Association also commenced life with an 'eminently respectable tone'. Its first

\textsuperscript{187} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 24.


\textsuperscript{189} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 24.

\textsuperscript{190} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 24.

executive consisted of a coaching agent (president), an auctioneer and broker (vice-president) and the manager of the Commercial Banking Company of Sydney (treasurer). Only the secretary (Robert Griffin) was actually a mining worker.

This early lack of working class consciousness can be ascribed to the fluid nature of Broken Hill's class composition. Similar to the gold rushes a generation earlier, most mines were small and worked by their owners. Kennedy writes of Silverton that 'it was virtually impossible to distinguish between the masters and the men'. By 1888–1889, however, the picture had changed. The union grew substantially, from 898 members in November 1887, 1666 in November 1888 and 2127 in May 1889. As a result, unlike the earlier situation of class collaboration:

*The union [...] alone among the town’s institutions seemed to possess the will, resources and organization to resist distant and grasping authorities. The union was rapidly assuming a new role as the defender of local and regional interests against Melbourne-based companies and the far-off state [New South Wales] government.*

The 1890 water debates show a town divided along class lines, the town leaders in favour of a private scheme and the trade unions holding out for a government scheme. Hardy does not report the size of the public meeting on 11 June 1890 and it does not appear to have been substantial enough to be reported in the national newspapers. The meeting on 25 August 1890 gathered a crowd of only 400 people and was described as 'one of the most disorderly ever held in Broken Hill'.

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manager of the Proprietary Mine, among others, spoke in favour of the Stephens Creek Company's construction of a reservoir on Stephen's Creek.\textsuperscript{199}

However, Jabez Wright, president of the Carpenters' Union, spoke strongly against the scheme, moving that 'the [Municipal] Corporation borrow sufficient money from the government, under the terms of the Towns Water Supply Act,\textsuperscript{200} to carry out the work'. Mr Wright characterised the suggested scheme 'as a huge monopoly, and urged those present not to vote away the inheritance of their children'.\textsuperscript{201} Wright's motion was seconded by a Mr Pearce. Alderman Chapple attempted to amend the motion to support the private scheme, moving:

\begin{quote}
that this meeting expresses indignation at a certain section of Parliament in blocking the Water Supply Bill, and is of the opinion that the interests of the town demand the speedy passage of such measures.\textsuperscript{202}
\end{quote}

When the motion and the amendment came to a vote, approximately half the meeting voted each way and the chair refused to give a decision.\textsuperscript{203}

A further indignation meeting was held just over a week later, on 2 September 1890. This meeting was called in opposition to the municipal council and to the private scheme. It was attended by approximately 1500 people,\textsuperscript{204} more than three times the size of the council's meeting on 25 August. The meeting passed two resolutions, condemning both the private scheme and the council:\textsuperscript{205}

\begin{quote}
(1) That in the interests and for the well being of the ratepayers and the residents of Broken Hill, it is necessary to urge the council to apply to the Government of the colony for money to construct waterworks on a public basis, and that condemnation by this meeting be given to the bill now before Parliament, and known as the Broken Hill Water Supply Companies Bill.
\end{quote}

\textsuperscript{199} 'The Broken Hill Water Supply', \textit{The Sydney Morning Herald} (Sydney), 26 August 1890, 5.
\textsuperscript{200} \textit{Country Towns Water and Sewerage Act 1880}.
\textsuperscript{201} 'The Broken Hill Water Supply', \textit{The Sydney Morning Herald} (Sydney), 26 August 1890, 5.
\textsuperscript{202} 'The Broken Hill Water Supply', \textit{The Sydney Morning Herald} (Sydney), 26 August 1890, 5.
\textsuperscript{203} 'The Broken Hill Water Supply', \textit{The Sydney Morning Herald} (Sydney), 26 August 1890, 5.
\textsuperscript{204} 'Water supply', \textit{Barrier Miner} (Broken Hill), 3 September 1890, 2; see also 'The Week', \textit{The Sydney Mail} (Sydney), 6 September 1890.
\textsuperscript{205} \textit{The Sydney Morning Herald} (Sydney), 8 September 1890, 5.
(2) That this meeting is of opinion that the Municipal Council of Broken Hill have failed in their duty to the ratepayers of Broken Hill in pledging the voice of the people to support a private bill granting unfair and dangerous monopolies to a private company, and that this meeting expresses a total want of confidence in the council aforesaid.

Speakers in favour of the Bill were refused a hearing by popular vote of the meeting.206

The meeting considered that the public water supply was too important to entrust to a private concern. Speakers considered that the town needed a 'plentiful and permanent supply' and that they should continue to agitate until they got a 'national' scheme.207

The major concern of the speakers was that, despite the legislative protections, the company would acquire a monopoly over both the natural water source and the right to supply water to the town.208 There were also suggestions that the fixed price for water in the bill was too much for working people to pay.209 Concerns were raised that the company was closely allied with the mines:

None of those who were connected with this water scheme had any stake in [Broken Hill] except in the big mines. If this bill became law, the company would have a monopoly for life and not a few years.210

The meeting proposed an alternate approach: that the council should take charge of the scheme, with a loan of money from the government.211 This was seen as a means of ensuring that the people of the town would control their own water supply and that any surplus profit could be spent on 'ornamenting and improving their town'.212

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206 *The Sydney Morning Herald* (Sydney), 8 September 1890, 5.
207 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2.
208 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2.
209 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2.
210 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2.
211 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2; in 1892, the council explained their reasons for not seeking a government loan as that they could only borrow £25,000, which would be inadequate ('Public meeting at the Theatre Royal', *Barrier Miner* (Broken Hill), 4 January 1892, 2).
212 'Water supply', *Barrier Miner* (Broken Hill), 3 September 1890, 2.
The delay in passing the Stephens Creek Company’s Act delayed the completion of the Stephens Creek reservoir until November 1891.\textsuperscript{213} No rain fell until June 1892 and over the summer 1891–1892, Broken Hill was again in the grip of serious water famine. The population of the town was over 20,000 at this stage and the mines were also using more water.\textsuperscript{214} Water was brought by train from South Australia from 26 December 1891 until May/June 1892, when the rains came.\textsuperscript{215} The railed supply never exceeded 50,000 gallons per day. There were only just over 2 gallons (9–10 litres) per person per day coming into Broken Hill.

As early as August 1891, it was predicted that there would be a water shortage the following summer (1891–1892). A deputation to the Premier in August asked that the government put down artesian bores to supply the town and mines.\textsuperscript{216} A public meeting was called soon afterwards by the council.\textsuperscript{217} The discord between the council and at least a section of the town’s population appears to have continued at this meeting, with attendees favouring a government water scheme. The meeting:

\begin{quote}
resolved that the Government ought to take immediate steps to bring in a supply of water from the River Darling on a national basis, and urged the Municipal Council to get up a petition to support this proposal. The Council compromised by writing a strong letter to the Minister for Public Works on the subject [...].\textsuperscript{218}
\end{quote}

Resistance to the council’s approach to the water question continued in 1892 with a public meeting called by the Amalgamated Miners Association on 3 January\textsuperscript{219} and

\begin{footnotesize}
\textsuperscript{213} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968).

\textsuperscript{214} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 30.


\textsuperscript{216} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 29–30.

\textsuperscript{217} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 30.

\textsuperscript{218} Bobbie Hardy, \textit{Water carts to pipelines: the history of the Broken Hill water supply} (Broken Hill Water Board, 1968) 30.

\textsuperscript{219} \textit{The Argus} (Melbourne), 4 January 1892, 5. This meeting was called by Richard Sleath and chaired by Mr Findlay, the president of the Trades and Labor Council ('Public meeting at the Theatre Royal', \textit{Barrier Miner} (Broken Hill), 4 January 1892, 2). This is the first mention in national newspapers of the unions calling a meeting in Broken Hill around the water question.
\end{footnotesize}
attended by over 1000 people. The meeting was called specifically because of concerns that the supply of water being delivered by train was being 'distributed such that many poor people were unable to pay the cost', which Richard Sleath attributed as the fault of the Council. \(^{220}\) The meeting resolved to appoint a committee to draw up a 'monster petition' in favour of a permanent, government-constructed water supply from the Darling. \(^{221}\) The water famine endured until the rains fell in May/June.

7. Water supply from Umberumberka: water sharing between the mines and the town

The years between 1893 and the turn of the century were relatively unproblematic, without significant water shortages or water rationing. From 1900 onwards, however, concerns about the water supply situation appear to have arisen again. In 1901, at least two public meetings were held, at which concerns about the low supply and poor quality of water in the Stephens Creek reservoir were raised. \(^{222}\) A series of at least six protests were held in late 1902 and early 1903. A well-attended public meeting in November 1902 requested that the government provide a larger and cheaper water supply. \(^{223}\) These were mostly mass meetings called by the unions and the council. \(^{224}\) Businesspeople (the Chamber of Commerce) also held one protest. \(^{225}\) The water shortage became so acute that water trains operated again in mid-1903. \(^{226}\)

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\(^{220}\) 'Public meeting at the Theatre Royal', *Barrier Miner* (Broken Hill), 4 January 1892, 2.

\(^{221}\) 'Public meeting at the Theatre Royal', *Barrier Miner* (Broken Hill), 4 January 1892, 2; the petition was drawn up the following Wednesday and read: '(1) That the population of Broken Hill and district exceeds 30,000. (2) That the residents are suffering from privation on account of the scarcity of water and the exorbitant prices that have to be paid — in times of scarcity £1 per 100 gallons and never less than 5s per 100 gallons. (3) That the progress and prosperity of the town, the health of the inhabitants and the successful development of the mines depend on a plentiful and permanent supply of water being obtained at a reasonable rate. (4) That your petitioners are of the opinion that, owing to the very small and uncertain rainfall, the only scheme to meeting the requirements of the town and district would be one on a national basis and from the River Darling. Wherefore your petitioners pray that your Government will immediately take action to provide Broken Hill with a plentiful and permanent supply of water' ('The Water Famine', *Barrier Miner* (6 January 1892), 2).

\(^{222}\) *The Argus* (Melbourne), 8 February 1901, 7; *The Sydney Morning Herald* (Sydney), 26 February 1901, 3.

\(^{223}\) *The Sydney Morning Herald* (Sydney), 12 November 1902, 8.

\(^{224}\) *The Advertiser* (Adelaide), 1 December 1902, 5; *The Sydney Morning Herald* (Sydney), 3 December 1902, 13; *The Advertiser* (Adelaide), 3 December 1902, 5; *The Advertiser* (Adelaide), 16 December 1902, 4; *The Advertiser* (Adelaide), 16 December 1902, 4; *The Sydney Morning Herald* (Sydney), 16 December 1902, 4; *The Sydney Morning Herald* (Sydney), 31 January 1903, 14.

\(^{225}\) *The Advertiser* (Adelaide), 1 December 1902, 5; *The Sydney Morning Herald* (Sydney), 3 December 1902, 13; *The Advertiser* (Adelaide), 3 December 1902, 5; *The Advertiser* (Adelaide), 16 December 1902, 4; *The Advertiser* (Adelaide), 16 December 1902, 4; *The Sydney Morning Herald* (Sydney), 16 December 1902, 4; *The Sydney Morning Herald* (Sydney), 31 January 1903, 14.

Proposals emerged to build government water supply from Umberumberka (approximately 35 kilometres to the north-west of Broken Hill) or a private scheme from Yanco Glen (approximately 30 kilometres to the north-east of Broken Hill). The Yanco Glen scheme was driven by the Broken Hill Cooperative Water Supply Company Limited. There was a brief cessation of protest in March 1903, when the government announced its intention of building a dam at Umberumberka. Protests recommenced immediately when the government communicated that the scheme was not certain, as money would need to be obtained. At least two meetings were held in March 1903 and another was called by the Amalgamated Miners’ Association in June 1903.

The lack of water did not just affect the townspeople. In 1903, the mines also started to suffer because of lack of water. This new factor would set the trend for the development of a water supply until at least 1906: the need to build a water supply which could provide water to both the mines and the town. Without a water supply, the mines ceased operations, leading to serious hardship among mine workers who were put out of work. A public meeting was held in the central reserve in July, passing a series of resolutions:

- supporting the Umberumberka scheme and rejecting water from the Stephens Creek reservoir because of poor quality water;
- thanking the government for providing water for domestic use but requesting immediate steps be taken to assist the unemployed by providing them with government relief work;

227 see e.g. 'Broken Hill Water Supply', The Sydney Morning Herald (Sydney), 27 March 1903, 6;
228 see e.g. 'The Yanco Glen Reservoir', Barrier Miner (Broken Hill), 13 July 1903, 4; 'The Yanco Glen Water Scheme', Barrier Miner (Broken Hill), 8 November 1901, 4; 'The Water Supply', Barrier Miner (Broken Hill), 21 February 1901, 2.
229 The Advertiser (Adelaide), 5 March 1903, 7
230 The Sydney Morning Herald (Sydney), 17 March 1903, 5; The Sydney Morning Herald (Sydney), 20 March 1903, 7; The Advertiser (Adelaide), 20 March 1903, 5; The Sydney Morning Herald (Sydney), 23 March 1903, 8; The Advertiser (Adelaide), 23 March 1903, 4; The Sydney Morning Herald (Sydney), 24 March 1903, 6; see also 'Broken Hill Water Supply', Australian Town and Country Journal (Sydney), 28 October 1903, 7.
231 The Advertiser (Adelaide), 16 June 1893, 5.
232 The Sydney Morning Herald (Sydney), 25 June 1903, 7; The Sydney Morning Herald (Sydney), 23 June 1903, 5.
233 e.g. The Sydney Morning Herald (Sydney), 23 June 1903, 5.
234 The Advertiser (Adelaide), 6 July 1903, 5; see also The Sydney Morning Herald (Sydney), 29 July 1903, 8 (dispute between the unions and the government as to the seriousness of the unemployment situation).
• condemning the high water rates charged by the Silverton Tramway Company and the South Australian Government for the water being carted into the town; and

• requesting free train passages be granted to unemployed people in Broken Hill who might be compelled to leave the town to look for work.

These motions indicate the difficulties in which Broken Hill residents found themselves. Water for basic domestic needs was being supplied but they were expected to pay high rates for it. At the same time they often had no work or income, in order to pay those rates or provide for their survival more generally. They also potentially did not even have the financial resources to leave the town.

There were at least three town meetings in August 1903. Rain fell at the beginning of September and relief works were discontinued. The townspeople did not stop protesting, however. At least two public meetings in September demanded that the government build a water supply from the Darling River in order to make the town drought-proof.

The position of the Broken Hill unions at this stage was unequivocally in favour of a government owned and controlled water supply scheme. On 7 September 1903, the Barrier Political Labor League, which represented the combined unions and every organised worker on the Barrier, unanimously passed a motion rejecting the privately sponsored Yanco Glen scheme. The project had at this stage been approved by the New South Wales government’s Public Works Committee. In an uncompromising declaration of opposition, the league stated that the ‘workers of the Barrier are unanimously opposed to [the scheme] and emphatically in favor of State-owned and State-controlled water supply’. The league placed demands on the Labour Party and local parliamentarians to combat the project and, in particular, to ‘endeavor to give

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235 The Sydney Morning Herald (Sydney), 3 August 1903, 7; The Advertiser (Adelaide), 10 August 1903, 4; The Advertiser (Adelaide), 31 August 1903, 5.
236 The Sydney Morning Herald (Sydney), 3 September 1903, 7.
237 The Advertiser (Adelaide), 7 September 1903, 5; The Argus (Melbourne), 7 September 1903, 5; The Advertiser (Adelaide), 8 September 1903, 6.
238 ‘Broken Hill Water Supply: a labor protest’, The Advertiser (Adelaide), 9 September 1903, 6. See also ‘The PLL Water Policy: important declarations’, Barrier Miner (Broken Hill), 8 September 1903, 3; ‘An appeal to the Labor Party’, Barrier Miner (Broken Hill), 9 September 1903, 2.
effect to the labor principle of public ownership in regard to the Broken Hill water supply'. In what was effectively a declaration of war, the motion declared that the:

policy of the Barrier laborists should be to block the [scheme] by every means of protest and to throw upon Parliament the onus of deciding that the venue of water storage shall be national in its character.

In referencing the 'labor principle of public ownership' the Political Labor League's motion cut to the heart of the unions' opposition to privately controlled water supply. In a strong polemic supporting the league, the Barrier Miner wrote that '[there] is something absolutely immoral about the private ownership and control of a water supply system'. Describing water as a 'prime public necessity', the newspaper bewailed that Broken Hill, with 30,000 residents, was the only city in Australia whose water supply was managed by a private monopoly and not by municipal authorities. This concern was not purely ideological: the priorities of a private company were to ensure a profit for promoters and shareholders whereas state or municipal authorities, even if badly managed, could be politically influenced and exhorted to act equitably and look after the general interest.

Union activity around water supply questions was intense at this point in time, with individual unions also taking a stand. The Enginedrivers and Freemen’s Association passed resolutions opposing private water supply. There were further indignation meetings in October 1903 when the government ceased construction at Umberumberka. Public meetings in October and November 1903 repeated the Barrier Political Labour League's demand for a state-owned and controlled water supply. Occasional public meetings continued into at least 1904.

242 'An appeal to the Labor Party', Barrier Miner (Broken Hill), 9 September 1903, 2.
243 'An appeal to the Labor Party', Barrier Miner (Broken Hill), 9 September 1903, 2.
244 'That this association enters its emphatic protest against the adoption of the Works Committee's report on the Broken Hill water supply question, the report being entirely opposed to the wishes of the people in accordance with the evidence given before that committee, and we also protest against any extension of tenure being granted to the Broken Hill Water Supply Company under any conditions whatsoever' ('Protest by the E.D. and F. Association', Barrier Miner (Broken Hill), 3 September 1903, 2).
245 The Sydney Morning Herald (Sydney), 26 October 1903, 5.
246 The Sydney Morning Herald (Sydney), 2 November 1903, 6; The Advertiser (Adelaide), 28 October 1903, 7.
In 1906, Parliament passed the *Broken Hill and Umberumberka Water Supply Act 1906*, which enabled the construction of an additional water supply from Umberumberka. Mr Lee, Secretary for Public Works, stated that this legislation was driven in part by the needs of the mines for water:

*There have been very great developments in mining at Broken Hill, and to enable the mining interests to be carried on, as well as to provide a further supply of water for the town of Broken Hill, it has become imperative to carry out additional water supply works.*

This was a time of expansion for the mines, with output in the coming year expected to double, requiring more water than the Stephens Creek water supply and their own reserves could provide. The scheme was to be a joint venture of the mines and the council, primarily funded by the mines and managed through a joint trust.

The legislation was a balancing act between the needs of the town and the mines. The primary water users from the new reservoir would have been the mines. The Act was drafted so as to provide the mines with a degree of water security. The mining companies involved in the scheme could notify the trust of a 'water reserve' to be held for their exclusive use for twelve months, to be supplied as and when required. If, however, water supply from Stephens Creek ran short or became undrinkable, the town would have priority over the mines to access the Umberumberka water. The Act also provided that the townspeople would pay no more for water than the mines.

Concerns were nevertheless raised in parliament about the connections to the mines. In terms of providing a public water supply, the project was problematic: it did give a 'back-up' supply to the town in times of shortage but the primary recipients were to be...
the mines. As such, it fell short of the townspeople's claims to a 'plentiful and permanent' supply. Mr Thomas Jessep, a free trader and a liberal, argued strongly in favour of a comprehensive government scheme and Mr Jones raised concerns that the mines would receive all the benefit of the water supply. Mr Arthur Griffith, a Labour politician, accepted the scheme as the best achievable but nevertheless bewailed that the government had not provided a state scheme: '30,000 people are settled out in the wilderness and yet the Government has refused to give a reasonable water supply to make life and comfort secure'. Mr Reynoldson, an independent member of parliament, while supporting the bill was also critical of the Government: 'I must say that this scheme, as far as the Government are concerned, is not on the face of it, as good as they would lead us to believe'. He raised concerns that the bill provided an unreasonable advantage to mining companies:

These very wealthy mining companies are very anxious to get this bill passed, primarily for the purpose of squeezing the Stephens Creek Co down to prices that perhaps will not pay them; and when the works of this company, under the terms of their agreements, handed over to the Government eleven years hence, they may be in a dilapidated and deplorable condition, and their property really valueless, because their water supply will be so much less in value than at the present time. Again, although these wealthy mining companies are finding the money at the rate of 5 per cent., that is not the only value they are going to receive. They are going to get considerably cheaper water.

The Umberumberka joint scheme failed. In 1908, work had not commenced and the Broken Hill Water Supply League petitioned the government to take over if the trust


257 George Reynoldson, debate on the Broken Hill and Umberumberka Water Supply Act 1906 (21 November 1906, Legislative Assembly).

258 George Reynoldson, debate on the Broken Hill and Umberumberka Water Supply Act 1906 (21 November 1906, Legislative Assembly).
did not start work immediately.\textsuperscript{259} A mass meeting protesting the refusal of the government to step in and fund the scheme was held in July 1908.\textsuperscript{260} The Chamber of Commerce also protested, indicating that this water supply was seen as necessary for business interests as well as residential interests.\textsuperscript{261} The government eventually capitulated. They agreed to provide a national water supply scheme sourcing water from Umberumberka. Legislation authorising the construction of the reservoir was passed in 1910\textsuperscript{262} and legislation establishing the new Broken Hill Water Board, including water supply arrangements, was enacted in 1915.\textsuperscript{263}

This new scheme was successful, at least to an extent. There was some dissatisfaction at the slow construction of the works. In 1914 the City Council held a protest at the request of the Barrier Political Labour League.\textsuperscript{264} Further protests about the quality of the government’s works were held in 1915.\textsuperscript{265} Nevertheless, the scheme would provide for Broken Hill’s water until the early 1950s and as a state scheme, it was less controversial. The purpose of the water supply was for the town, the mines and the tramway company:

\begin{quote}
An Act to provide for the supply of water to and the administration of certain works of water supply for the city and district of Broken Hill, and certain mining and tramway companies [...]\textsuperscript{266}
\end{quote}

Both residents and the mining companies were required to pay additional levies to contribute to the capital cost.\textsuperscript{267} Similar to the 1906 legislation establishing the joint scheme, the legislation created a strong right for the mines to water. It did, however, prioritise town residents’ water needs ahead of the mines:

\begin{itemize}
\item \textsuperscript{259} ‘Umberumberka Water Scheme: the petitions’, \textit{Barrier Miner} (Broken Hill), 7 August 1908, 8.
\item \textsuperscript{260} ‘Broken Hill Water Supply: an indignation meeting’, \textit{The Sydney Morning Herald} (Sydney), 24 July 1908, 4.
\item \textsuperscript{261} ‘Chamber of Commerce protest’, \textit{Barrier Miner} (Broken Hill), 22 July 1908, 4.
\item \textsuperscript{262} \textit{Broken Hill (Umberumberka) Water Supply Act 1910} (NSW).
\item \textsuperscript{263} \textit{Broken Hill Water Supply Administration Act 1915} (NSW). This Act repealed the \textit{Broken Hill and Umberumberka Water Supply Act 1906} (NSW).
\item \textsuperscript{264} ‘Broken Hill’, \textit{The Sydney Morning Herald} (Sydney), 2 March 1914, 11.
\item \textsuperscript{265} ‘Broken Hill water supply: indignation to be held’, \textit{Barrier Miner} (Broken Hill), 14 October 1915, 2; ‘Broken Hill water supply: using the Stephens Creek mains’, \textit{Barrier Miner} (Broken Hill), 15 October 1915, 3.
\item \textsuperscript{266} Preamble, \textit{Broken Hill Water Supply Administration Act 1915} (NSW).
\item \textsuperscript{267} see e.g. ss.9, 17 and 18 \textit{Broken Hill Water Supply Administration Act 1915} (NSW).
\end{itemize}
The administrator shall supply to each of the mining companies named [...] the water required by it in carrying out its business in so far as the capacity of the water works and the requirements of the inhabitants of Broken Hill will permit.\textsuperscript{268}

The companies were obliged to source their water from the scheme,\textsuperscript{269} indicating that the project's financial viability was dependent upon revenue from mining water use. Concerns about Broken Hill's water supply continued into the mid-twentieth century. There do not appear to have been any substantial conflicts between the town and the mines, indicating that the priority rules in these provisions may have worked well.

8. The following decades: role of the union movement in achieving a state water supply

At intervals throughout the following decades, water disputes with strong trade union participation, continued to occur. The trade unions continued to agitate for a secure and healthy supply — including taking industrial action — which actions arguably led to the eventual construction of a pipeline from the Darling River. In 1919, water supply was included in the demands of a strike at Broken Hill\textsuperscript{270} and in 1925 unionists at the British Mine held a meeting to:

\[\text{enter a protest against the continued use of bad water in the mines and the homes in Broken Hill, and urge on the members of the district to bring same before Parliament, and advocate tor an adequate supply from the Darling River.}\textsuperscript{271}\]

Water shortages in the mines in 1926 also caused workers to be put out of work. The Barrier branch of the Labour Party issued a call to the government to pay the wages of men out of work by the water shortage.\textsuperscript{272} Although the domestic water supply was

\textsuperscript{268} s.13 Broken Hill Water Supply Administration Act 1915 (NSW).

\textsuperscript{269} s.14 Broken Hill Water Supply Administration Act 1915 (NSW).

\textsuperscript{270} The focus of the strike was the temporary closure of the mines by the companies (because of low minerals prices on international markets), and the union call for the government to take over the mines and work them ("Broken Hill strike", \textit{The Sydney Morning Herald} (Sydney), 2 June 191, 8.)

\textsuperscript{271} 'British Check Assn: better water supply urged', \textit{Barrier Miner} (Broken Hill), 16 February 1925, 3.

\textsuperscript{272} The unemployed: protest to premier', \textit{The Sydney Morning Herald} (Sydney), 10 March 1926, 16.
secure, the workers could not 'live on water': 'something would have to be done for the [7000] miners and their families if they were thrown out of work'.

A further concentration of disputes occurred in 1935 and 1936. In December 1935, a meeting of the Amalgamated Engineers' Association protested the poor quality of Stephens Creek water. The meeting that the water quality was responsible for the recent epidemic of sickness in the town. They also protested about the Umberumberka water going to waste. Protests about the poor quality of Stephens creek water continued into 1938 and 1939, in conjunction with the drought, and included the threat of industrial action. Protests at this time also involved concerns about high water charges and included threats to place bans on paying rates. Broken Hill also did not yet have a sewerage scheme, the provision of which would depend on a more adequate water supply. There were protests by Silverton residents in April 1942 about each individual household having to make arrangements for sewerage disposal, a situation which endangered the Barrier water supply as a whole.

These protests in the late 1930s featured a strong union presence. In relation to the March 1938 meeting, it was reported that:

Practically every union has now signified its intention of attending the meeting, which has been called to protest against the high rates charged for water in Broken Hill.

The town as a whole, including the Chamber of Commerce, also supported the protests. The townspeople threatened direct action, by refusing to pay rates in

273 'The water supply: deputation to premier', Barrier Miner (Broken Hill), 9 February 1926, 3.
274 'Stephens creek water', Barrier Miner (Broken Hill), 4 December 1922, 3.
275 'Water supply protest: stop-work day is mentioned', Barrier Miner (Broken Hill), 7 February 1938, 1; 'Protest against creek water', Barrier Miner (Broken Hill), 25 November 1938, 5; 'Creek water opposed: protest meeting arranged', Barrier Miner (Broken Hill), 12 January 1938, 1.
276 'High cost of water: ALP to protest again', Barrier Miner (Broken Hill), 13 August 1935, 3; 'Why not continue water rate protest?', Barrier Miner (Broken Hill), 11 April 1936, 2; 'Cheaper water wanted', Barrier Miner (Broken Hill), 4 April 1936, 3; 'Water charges condemned: public meeting to consider', Barrier Miner (Broken Hill), 28 February 1936, 3. Similar concerns had also arisen earlier (e.g. 'Barrier Workers' Association', Barrier Miner (Broken Hill), 11 April 1922, 2.), 'Move for cheaper water', Barrier Miner (Broken Hill), 25 February 1938, 1; 'Demand for reduced water charges', Barrier Miner (Broken Hill), 17 February 1938, 2; 'Local agitation for cheap water', Barrier Miner (Broken Hill), 19 February 1938, 7.
277 'Permanent water supply needed', Barrier Miner (Broken Hill), 11 March 1938, 2.
278 'Silverton protest', Barrier Miner (Broken Hill), 29 April 1942, 4.
279 'Big meeting to urge cheaper water for city', Barrier Miner (Broken Hill), 4 March 1938, 1.
March 1938. At a meeting of the Workers Industrial Union — which had replaced the Amalgamated Miners Association — in February it was resolved that:

\[
\text{in the event of the closing down of Umberumberka for the purpose of pumping water for the townspeople from Stephens Creek, a stop-work day be immediately called to deal with the question, and the [Barrier Industrial Council] be asked to fall in line in calling a stop-work day for all affiliated unions.} \]

It was not until 1944 that a water supply from the Darling River was finally constructed. Its construction was a direct result of persistent industrial action by Broken Hill workers. In 1943, water shortage had once again threatened. The solution of the Water Board was to state that householders must cut back their water use, otherwise the supply of water to the mines would be threatened. The Water Board claimed that most of the water was being used in household gardens, a use which it considered needed to be sacrificed for the war industry. In July 1944, amidst fears of a water famine, 700 unionists took strike action to agitate for a Government water supply from the Darling. There was also a 1000 strong protest. At this time, the unions were not only concerned about household water supply but also raised concerns about the bad quality of water being used in the mines, a health risk for mine workers. In 1944, at least three weekly one-day strikes were held and it was suggested that if success was not achieved soon, the unions would progress to weekly

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280 ‘Water protest meeting: huge crowd is expected’, Barrier Miner (Broken Hill), 8 March 1938, 3; see the strong role of the council in ‘Umberumberka water is favoured’, Barrier Miner (Broken Hill), 28 October 1938, 4.
281 A concern of both the Chamber of Commerce, the Council and the Barrier Industrial Council was that the cost for repairs to water lines would be passed on to property owners (‘Imposition on local householders’, Barrier Miner (Broken Hill), 3 May 1939, 3; ‘Protest to be made about pipe repairs’, Barrier Miner (Broken Hill), 19 May 1939, 4; see also ‘Water pipe repair protest’, Barrier Miner (Broken Hill), 8 June 1939, 2.)
282 ‘Our water supply: Council to discuss’, Barrier Miner (Broken Hill), 24 March 1938, 4.
283 ‘Water supply protest: stop-work day is mentioned’, Barrier Miner (Broken Hill), 7 February 1938, 1.
284 ‘Citizens must reduce water demands’, Barrier Miner (Broken Hill), 7 January 1943, 3.
285 The supply of lead from the mines was crucial to the war effort.
286 ‘Unionists agitate for water: big demonstration’, Barrier Miner (Broken Hill), 19 July 1944, 2.
287 ‘Citizens must reduce water demands’, Barrier Miner (Broken Hill), 7 January 1943, 3.
two-day strikes. The actions brought about policy changes and a pipeline from the Darling was built and finally came into operation in 1952.

9. Conclusion

Broken Hill's tumultuous water supply history is largely unique in New South Wales history. While other New South Wales regional and rural towns had occasional difficulties with water supply, Broken Hill presents an almost unbroken history of sixty years' of recurrent water famines with attendant protests and public meetings. Nevertheless, key conclusions can be drawn from the Broken Hill water supply struggles for the rest of New South Wales and in order to better understand the water access rights of town residents.

The residents of Broken Hill could not obtain their own water supply and were therefore heavily dependent an external authority — the municipal authority, the government or a private company — constructing a water supply. This dependence arguably arose primarily from the settlement of the population into a built environment divorced from the natural landscape, a dependence that was intensified by the location of the city in the desert. Residents' vulnerable position was intensified by the absence of legal rights to demand that municipal authorities construct a water supply. In this regard, the situation of the population of Broken Hill can be contrasted with that of the mines, who had used their extensive landholdings and economic resources to construct mining water supplies.

Achieving a water supply for Broken Hill was inherently a class question. The unions' and town residents' rejection of privatised water supply drew a line in the sand, insisting that the access of members of the general public to water should remain in public hands. In the absence of legal rights, the case study suggests that it was the refusal of the townspeople to give up, their willingness at times to take direct action

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288 'Unionists agitate for water: big demonstration', Barrier Miner (Broken Hill), 19 July 1944, 2; 'Unionists' new demand', The Sydney Morning Herald (Sydney), 20 July 1944, 4; 'Water plans for Broken Hill', The Sydney Morning Herald (Sydney), 29 July 1944, 4.

289 Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968).
and the industrial power of the trade unions that achieved an equitable, safe and secure water supply.
Under contemporary legislation, other Australian states do have statutory public rights to water. These rights tend to be quite limited in scope.

Firstly, the member of the public must have access to the land which abuts the water source. In Victoria, the right only applies to taking water from a waterway or bore to which the person has access by a public road or reserve (s.8(1)(a) Water Act 1989 (Vic)). In Tasmania and Queensland, the right is not limited in the same way, but in any case, a person will not be able to take water from private land unless they have the permission of the private landholder to access that land.

Secondly, the purposes for which the water may be used are limited. In Victoria members of the public may take water, free of charge, for domestic and stock use (s.8(1)(a) Water Act 1989 (Vic)). In Queensland, members of the public may take water from a watercourse, lake or spring for camping purposes or for watering travelling stock (s.20(5) Water Act 2000. Queensland also has a public right to take water for public purposes in an emergency or fire-fighting: s.20(1) Water Act 2000). In Tasmania, persons in casual use of land — camping, recreational use and travelling stock — may take water for domestic purposes (s.48 Water Management Act 1999).

Thirdly, Victoria also places a further limit on water use: the water must be used at the same place at which it was taken from the water source — it cannot be transported elsewhere for use (s.8(3) Water Act 1989 (Vic)).
Conclusion

'Modern water' and New South Wales water law

1. Introduction

The hundred years from the 1820s into the early twentieth century in New South Wales were a complex tapestry of water conflict and shifting water regulation, reflecting evolving relationships between water users, the natural environment and the state. The defining development in this era was the long-term shift from land-based water access rights to the public administration system. At times, the drive for development as well as the desire for equitable access led to claims for other water access arrangements, including use-based, decentralised and public water access rights. Viewing these developments through the framework of Linton's 'modern water' enables the identification of valuable patterns and trajectories of water access and control. This chapter uses four different perspectives to examine how modern water evolved within New South Wales water law:

1. the gradual dislocation of water from the natural environment, evidenced by the attenuation of land-based water access rights;
2. the definition of water as an abstract resource and water users as consumers, enabled in particular by the centralisation of water in the hands of the state;
3. use-based water access rights and the lessons that can be learned from history in relation to private property in water access; and
4. the law's limited recognition of social relationships between people and water, evidenced in particular by the weakness of public water access rights.

The definition of water as an isolated substance in and of itself, and of water users as individual, disconnected consumers are arguably key factors shaping water conflict
today. These patterns and principles from New South Wales' water law history can, in turn, provide valuable insights into today's water tensions in the Murray–Darling Basin.

2. Land-based water access rights and water's dislocation from the natural landscape

The relationship between land and water is integral to many water uses. In relation to unbundling of water entitlements from land title, the plaintiffs in *Lee v Commonwealth* emphasised that their land would be unviable without access to sufficient water for irrigation. Mr Lee noted the difficulties of owning land without water:

> [when] water was tied to land [...] it was impossible to take 30% of our water, as the buyer would have had to take the farm as well. Now, the water entitlements can be sold and you can be left with useless pieces of land.¹

Despite the inevitable close connection between land and water use, however, the law has seen a gradual diminution in the relationship between landholding and water access rights. The most obvious and recent step in this process was the creation of tradable water access entitlements, separate to and distinct from ownership of land. This modern-day unbundling has been built on *historical* unbundling processes, in particular, the abolition of the riparian doctrine.

The evolution of land-based rights to flowing water during the nineteenth and early twentieth centuries suggests that New South Wales water law has applied at least three approaches to the relationship between land and water:

1. exclusive landholder rights to access a watercourse;
2. correlative riparian rights to share flowing water equally among the community of riverside landholders; and
3. statutory and administrative land-based water access rights.

The transition through these access regimes has entailed an incremental dissolution of the relationship between land and water, driven by the increasing capitalisation of water resources. This attenuation of water from the natural landscape has in turn encompassed a dislocation in the relationship between water users and the landscape.

¹ *Lee v Commonwealth of Australia* [2014] FCA 432 (2 May 2014) at 16.
Early nineteenth-century caselaw applied, at least at times, a relatively static relationship between land and water, allowing waterside landowners exclusive rights to access watercourses. In West's case, for example, West was expressly granted an exclusive right to the watercourse. Similar to the assertion by some medieval English jurists that flowing water statically belonged to the owner of the land over which it flowed,\(^2\) this definition did not emphasise water's fluidity. Instead, the definition of water as a watercourse located water as one unity within the river valley. Granting exclusive rights made sense in a situation of limited development\(^3\) in order to encourage the establishment of industry. It was, however, arguably ill-suited to managing the tensions involved in sharing river water between private landholders.

Once water-sharing disputes arose along a watercourse,\(^4\) concepts of water flow emerged. For example, in *Hallen v King*,\(^5\) the defence attempted to plead that the dam stopped the flow of water downstream. Unlike the concept of a watercourse, which identifies water with the stream or river, flowing water views the water as a substance in and of itself, constantly moving through rather than an inherent part of the landscape. The common law riparian doctrine nevertheless still entailed an integral relationship between the rightholder, and the rhythms and structures of the natural landscape:

1. through its emphasis of the 'flow of water in its natural current'; and
2. by locating water access equally among the community riparian landholders.

In this context, it is interesting to speculate on when and how flowing water emerged as a 'problem' for defining property regimes within the common law. The problematic of assigning property in flowing water is well understood: given that continually running water fluidly crosses the boundaries of private property in land, it is difficult to

\(^2\) Represented by the maxim *cujus est solum ejus est usque ad coelum et ad inferos*.

\(^3\) West's mill was the first private mill to be built in the colony: Warwick Pearson, 'Water-Powered Flourmilling on the New England Tablelands of New South Wales' (1998) 16 Australasian Historical Archaeology 30, 31; 'West's mill in Barcom Glen', The Sydney Gazette and New South Wales Advertiser, 25 January 1812, 2.

\(^4\) Such as eventuated in *French v McHenry* in 1832 or *Hallen v King* in 1839, as well as in later pastoralist water disputes.

\(^5\) *Hallen v King* [1839] NSWSupC 47 per Stephen J.
assign private property in the flow itself. Thus, water sharing has often been perceived as complex because of the nature of water as a fluid or flowing resource. For example, Steinberg has contrasted the ease with which private property can be established on land (e.g. by using stone walls to mark the borders of private property) to the difficulties in establishing private property in flowing water:

Rivers and lakes, however, could not be fenced off. [...] Water, in short, is more difficult to commodify and privatize than land. [...] By its very nature, water is a common resource — a part of the natural world not easily subject to private ownership.

It is unclear, however, when this appreciation of the complex nature of water as the subject of property rights firmly entered into the English common law. William Blackstone's eighteenth century assertion that 'water is a movable wandering thing, and must of necessity continue common by the law of nature', rather than expounding settled, unchanging doctrine, contained revolutionary ideas in relation to water:

The principles set forth by Blackstone represented a substantial advance over previous English water rights law. The doctrine was revolutionary in that it clearly recognised — perhaps for the first time in the common law — that due

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6 For example, in the mid-1990s, Scott and Coustain argued that it was water's fluidity that distinguished it most from land: 'the individual drops of water flowing in a stream are always in motion, and travel from one rightholder's location to another's' (Anthony Scott and Georgina Coustain, 'The evolution of water rights' (1995) 35 Natural Resources Journal 821, 822). Similarly, Sinden has noted that 'water flows across boundaries, seeps under the earth, evaporates into the air, and fluctuates drastically in quantity depending on random and unpredictable weather patterns' (Amy Sinden, 'The tragedy of the commons and the myth of a private property solution', (2007) 78 University of Colorado Law Review 533, 578). In this context, see also Clark and Renard who described water as a 'transient, elusive commodity'. They applied this characterisation to all water, not just river water: 'Even when [water] comes to rest in an apparently stagnant pond, it is, in fact, subject to change by precipitation, natural surface drainage, seepage, evaporation and transpiration. Like air, it defies our ordinary concepts of possession and ownership' (Sandford Clark and Ian Renard, The law of allocation of water for private use (Australian Water Resources Council Research Project, 1972) 27–28; Sandford Clark and Ian Renard, 'The riparian doctrine and Australian legislation' (1970) 7(4) Melbourne University Law Review 475, 476.)


8 see also Amy Sinden, 'The tragedy of the commons and the myth of a private property solution', (2007) 78 University of Colorado Law Review 533, 576, who wrote 'fresh water is a resource that is hard to pin down within fixed property boundaries and is, thus, particularly vulnerable to the tragedy of the commons'.


to the singular nature of running water, water use law involves principles
different, even radically different, from the rules governing rights in the land
itself.  

Early medieval legal treatise writers such as Bracton, Fleta, and Britton, with their
strong reliance on Roman law, did state that flowing water was common property. However, the extent to which these doctrines were applied in English courts and made part of English law is unclear. Scott and Coustalin argue that medieval law did not distinguish greatly between land and water — and in particular did not place great emphasis on water’s capacity to flow:

[The] medieval common law conceptualised a stream as it would land — as static. Rights were not attached to a thing flowing by land, but were a feature of land. [...] The landowner ‘owned’ the watercourse, or his portion of it [...].

Sixteenth and seventeenth century caselaw indicates that English courts' understanding of water as a substance was evolving. For example, the 1555 case Throckmerton v Tracy envisioned that a pond or a watercourse was property that could be conveyed in the same manner as other real property. By contrast, in 1608,

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12 Bracton, for example, was claimed by Samuel Wiel in 1909 to be potentially nothing more than a copy of an Italian legal text, which itself drew strongly on the Institutes of Justinian. Justinian stated that 'By natural law all these things are common, viz: air, running water, the sea and as a consequence the shores of the sea' (Samuel Wiel, ‘Running water’ (1909) 22(3) Harvard Law Review 190, 190–193).
13 For example, Bracton wrote that 'flowing water is common property by "natural right"'. Britton and Fleta, writing after Bracton in the thirteenth century, also treated rivers as 'public' and rainwater as 'common property' (Earl Murphy, 'English water law doctrines before 1400' (1957) 1(2) The American Journal of Legal History 103, 104).
14 e.g. Joshua Getzler argues that 'the Romanist and natural-right conceptions of water law outlined by Bracton were not nativized within the English common law, though their presence was always felt' (Joshua Getzler, A History of Water Rights at Common Law (Oxford University Press, 2004), 117). T.E. Lauer also throws doubt on the extent to which these Roman doctrines could have been naturalised into English law, arguing that 'English law at mid-thirteenth century had not become so sophisticated as to sustain nice distinctions between public and private rights to the use of watercourses'. Lauer attributes this to the fact that under feudalism, public and private rights were 'merged in lord and overlord', and hence were 'unable yet to separate so-called "public" right from its holder' (T.E. Lauer, ‘The common law background of the riparian doctrine’ (1963) 28 Missouri Law Review 60, 66). On the early English treatises as part of the Australian legal tradition, see Justin Gleeson, 'Glanvill to Bracton: the two great early legal treatises', in Justin Gleeson, J.A. Watson and Ruth Higgins (eds), Historical Foundations of Australian Law: institutions, concepts and personalities (Federation Press, 2013) 81.
Challoner v Thomas emphasised the flowing nature of running water and suggested that it was distinct to and separate from land.\textsuperscript{17}

One could not put in possession of running water because it is not constant [...] [R]unning water is not land, but is strictly sui generis. [...] [A] pond took the nature of land [but] a watercourse could not be treated under the same heading because it was a wandering, transitory thing lacking the situational stability of a patch of land.\textsuperscript{18}

The maxim \textit{cujus est solum ejus est usque ad coelum et ad inferos} suggested that landholders owned from the centre of the earth up into the sky. Many treatise writers applied this maxim to water. Coke, an authoritative seventeenth-century legal writer considered that 'the ownership of land comprehended the ownership of all water found upon the land and applied to running water as well as to ponds'.\textsuperscript{19} Other seventeenth-century writers came to similar conclusions.\textsuperscript{20} For example, Hale wrote in about 1670 that 'fresh rivers [...] do of common right belong to the owners of the soil adjacent'.\textsuperscript{21} By contrast, Callas,\textsuperscript{22} writing in 1622, rejected the application of \textit{cujus est solum} to flowing waters and 'approached very near the position that no man has a property in the flowing waters themselves, but simply a usufructuary interest in them as they pass over his land'.\textsuperscript{23} Callas was possibly the first express recognition of the conflict between the principle that there can be no property in running water and the \textit{cujus est solum} maxim.\textsuperscript{24}

It may have been the definition of flowing water as a substance of its own, separate to the watercourse and the river valley that was responsible for the creation of water as a

\textsuperscript{17} In this context, see also Anthony Scott and Georgina Coustalin, ‘Rights over flowing water’ in Anthony Scott (ed.), \textit{The evolution of resource property rights} (Oxford University Press, 2008) 63, 70.


\textsuperscript{22} Sometimes spelled 'Callis'.


substance that is 'difficult' to share or propertise.\textsuperscript{25} Concepts of 'flowing water' as \textit{sui generis} potentially emerged because increasing development had triggered conflict over the volume, power or regularity of water's flow. This thesis suggests that the extent to which water's fluidity causes difficulties for water sharing depends in part on how the water resource is characterised. Linton locates the genesis of modern water — i.e. the identification of water as a substance in and of itself, defined separately from its social and ecological meanings — within seventeenth-century science.\textsuperscript{26} It was at this same approximate time that common law courts were starting to understand water and land as distinct from each other and subject to different legal principles. Arguably, the 'problematic' of how to assign property rights in flowing water, rather than being an eternal concept inherently linked to the nature of water itself, was an early indication within legal thought of the evolution of 'modern water'.\textsuperscript{27}

Far from being a universal or eternal truth, the complexities in water sharing change depending on how the water source is conceptualised and managed. The difficulty for water sharing in this context comes from the \textit{partial separation} of land and water. By emphasising the 'flow of water in its natural current', the riparian doctrine viewed land as a static or fixed 'base' through which water flowed. By granting riparian landholders usufructuary rights to flowing water, riparianism attempted to provide a water-sharing regime that 'bridged the gap' between well-defined private property on land and endlessly flowing water within the natural river landscape.

It is interesting to note that there is a tendency to blame \textit{water} (and especially water's fluidity) for this problematic. This reflects Linton's contention that 'modern water' ascribes water problems to water itself rather than seeking an explanation within

\textsuperscript{25} This also potentially triggered other tensions within the law — \textit{e.g.} whether the owner of the river bank had riparian rights or whether an owner needed to also own the bed of the stream (see \textit{e.g.} Mary Lord's case). Once the bed, bank and flowing water came to be conceptualised as distinct and separate, such that each was subject to its own property regime, then the property relationships between them become more complex.

\textsuperscript{26} Jamie Linton, \textit{What is water? The history of a modern abstraction} (UBC Press, 2010), 101–102.

\textsuperscript{27} In this regard, it is interesting to note that from the mid-nineteenth century, English water law divided naturally occurring waters into three categories: water flowing in a defined channel (whether on the surface or underground), water dispersed across the surface of the land and groundwater. By contrast, cases from the first half of the nineteenth century tended to apply similar principles to groundwater and streamwater — see \textit{e.g. Balston v Bensted} (1808) 1 CAMP 462 (which did not distinguish between flowing water and springwater) and \textit{Mason v Hill} (1833) 5 B. & A.D. 2 (which appeared to equate flowing water with a 'valuable mineral or brine spring'). The application of greater definition to defined categories of liquid, freshwater may be another example of the evolution of modern water within water law.
social relations: 'modern water — the scientific abstraction of water from social relations — frames water problems in such a way that water itself is made the problem'.

Arguably, the concepts of water sharing, correlative access and reasonable use that sit at the heart of the common law riparian doctrine are an attempt to overcome the contradiction between flowing water and the 'static' boundaries of private property in land. However, in this context, an alternative approach would be to question the dominance of private property in land, noting that:

- while private property boundaries are static and unchanging, land itself does change and move; and

- while private property in water appears a difficult concept to grasp, private property in land is also a relatively recent concept within world history.

In this concept, it is possible that property in flowing water came to be perceived as 'difficult' as a result of common property regimes in land giving way to more strongly private property regimes during the transition from feudalism to capitalism.

In New South Wales, the common law riparian reasonable use doctrine can be associated with low levels of development of rivers and streams. This was largely inherent within the doctrine, as the foundational concept of 'natural flow' placed inevitable limitations on interference with riverflows. This was intensified by the approach taken by the New South Wales Supreme Court in Pring v Marina (reiterated

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30 For example, Fisher has noted a transition during the English feudal era from general common property in land and water to rights of common and profits-à-prendre in the feudal era (Doug Fisher, 'Rights of property in water: confusion or clarity', (2004) 21 *Environmental and Planning Law Journal*, 200 at 203–204).

31 Compared for example to the English context, where the riparian reasonable use doctrine regulated water use on highly developed industrial rivers. Also note Francine Rochford suggests that the riparian principles originally arose to regulate common property in flowing water as a result of development: 'This idea, that water was common property, originated in Roman law, but it became an inconvenient rule in the context of economic development leading to increased utilisation and scarcity of the water resource' (Francine Rochford, "Private rights" to water in Victoria: farm dams and the Murray Darling Basin Commission Cap on diversions', (2004) 9(2) *The Australasian Journal of Natural Resources Law and Policy* 229, 231).
in *Howell v Prince*) to prohibit dams and diversions on permanent and ephemeral watercourses. In these decisions, the court emphasised the rights of riparian landholders to the undiminished or 'natural' flow of running water. This refusal to allow even minor levels of development led to the widespread criticism of the common law riparian doctrine and — given that pastoralists continued to build dams on streams — had the effect of declaring thousands of works along New South Wales watercourses illegal.

While the riparian doctrine came to be rejected for its prohibition of dams on running streams, the cooperative agreements and social compacts of pastoralist landholders in many ways still resembled the core principles of the riparian reasonable use doctrine: that the stream was the shared property of the community of riparian landholders as a whole and individual landholders should have equal rights to use the flow of water. The main distinction was that these community-based agreements allowed riparians to dam the stream, as long as dams were relatively small and constructed with a spillway to keep water flowing in the main channel. This interpretation of the riparian doctrine was, however, arguably possible within the framework established by English and United States courts and jurists: that for extraordinary uses such as irrigation and manufacturing, reasonable use of the water was allowed, including diminution of flow, as long as no sensible or material injury was incurred to landholders downstream.

Pastoralist water users deliberately structured their landholdings along watercourses on the basis that occupying waterside land would guarantee their access to water. By remaining relatively nomadic and concentrating stock close to natural water sources — as well as suffering large losses in unexpectedly dry years — these landholders were able to operate with only relatively minor human modification of the natural environment. It is logical, therefore, that they would claim land-based water access rights. Conflict occurred when this social compact was broken by upstream landholders who attempted to take more water than the lower landholders considered to be their 'fair share'. This conflict could be seen as resulting simply from the greed — or, depending on perspective, the foresightedness — of specific upstream landholders. Arguably, it can also be seen as resulting from a tension between two distinct interests in the water resource:
1. the community of pastoralist landholders who were content with a relatively low level of development; and

2. those landholders who sought greater development and considered that they ought to gain prior rights to the resource as a result of their enterprise and investment.

Pastoralist water uses did have a substantial and often adverse impact on the natural ecology\textsuperscript{32} but with only a low level of human manipulation of the landscape, water users were also highly subject to the whims of season and climate. The debates between lower river landholders and irrigation advocates over the loss of the floodwaters highlight the change that occurred in the early twentieth century in relation to water management: from landscape-dominated to development-dominated or 'engineered' production.

Linton defines modern water as having been \textit{abstracted} so that it is no longer 'complicated' by ecological, cultural or social factors.\textsuperscript{33} Riparianism's emphasis on naturally flowing water and associating water access rights within the river landscape was a \textit{partial abstraction} of water from the natural ecology, in that it defined flowing water as a substance in and of itself. Nevertheless, the use and management of flowing water was still inevitably constrained within the landscape. The public administration regime re-created water in a much more abstract, universal form. While land-based water access rights did continue within statute, the integral relationship between the \textit{riparian landscape} and water was much attenuated. Firstly, the removal of the concept of natural flow enabled flood- and drought-prone natural streams to be converted to water supply channels with a regulated water supply. This had the effect of disenfranchising those riparian users who had adapted their productive regimes to work within the natural riverflow patterns. Secondly, riparian rights had organically located water use within the landscape. By contrast, the construction of large-scale dams and diversions enabled the use of water outside the river landscape. The new irrigation entitlements defined the water access right as a

\textsuperscript{32} See e.g. Cameron Muir, \textit{The broken promise of agricultural progress: an environmental history} (Routledge, 2014) 2. For an in-depth discussion of the ecological impacts of the pastoralist invasion on the Barmah-Millewa forest, see Matthew Colloff, \textit{Flooded forest and desert creek: ecology and history of the river red gum} (CSIRO Publishing, 2014) 128.

\textsuperscript{33} Jamie Linton, \textit{What is water? The history of a modern abstraction} (UBC Press, 2010), 8.
right to have a set volume of water delivered by pipe or channel to the property boundary. Even though water access entitlements were still attached to land title, the organic link between natural river flow, riparian landholding and water use was lost.

This thesis has focused on river and creek water. However, this process of dismantling traditional associations between landholding and water access rights continued throughout the twentieth century in relation to other water sources. Groundwater was vested in the Crown in 1966,\textsuperscript{34} removing the common law rights of landholders to use and access the water in aquifers beneath their land.\textsuperscript{35} Today's reforms have extended the Crown's rights to the use, control and flow of water to cover all water in rivers, lakes and aquifers, as well as all water occurring naturally on or below the surface of the ground.\textsuperscript{36} Hence, all forms of naturally occurring, land-based liquid freshwater are now vested in the Crown, displacing landholders' common law rights to water dispersed across the surface of the soil\textsuperscript{37} and establishing one unified regime for the management of all water resources.

This process was the cause of litigation in Victoria in 2003. The establishment of the Murray–Darling Basin Cap in the early 1990s (an early form of sustainable diversion limit) had revealed that relatively unregulated diversion of overland flows such as rainwater run-off into farm dams risked breaching sustainable extraction limits.\textsuperscript{38,39} As a result, amendments to the \textit{Water Act 1989} (Vic) in 2002 required a landowner to obtain a licence to take and use water from a spring, soak or dam on their land for use

\textsuperscript{34} s.3(c) Irrigation, Water, Crown lands and Hunter Valley Flood Mitigation (Amendment) Act 1966 (NSW), which added a new s.48(1) to the Water Act 1912 (NSW): 'The right to the use and flow and to the control of all sub-surface water shall vest in the Commission for the benefit of the Crown [...]'.


\textsuperscript{36} s.12 Water Administration Act 1986 (NSW); s.392 Water Management Act 2000 (NSW).


\textsuperscript{39} This can also be seen as an example of the contradiction that arises between private property in land and water as a fluid substance, moving across the landscape. The implementation of the Cap required an understanding of connectivity between overland and streamflows (a connectivity that had arguably not been recognised within common law doctrines). The recognition that the actions of upper catchment farmers in interrupting the flow of water had a substantial impact on downstream flows brought the contradiction between private property boundaries and water catchments into sharp relief. Arguably, the redefinition of water as one \textit{unified yet highly divisible} resource enabled this contradiction to be overcome, apportioning each water user with their share of the resource.
other than for domestic or stock purposes.\textsuperscript{40,41} These amendments were challenged in 2003 in \textit{Ashworth v Victoria}, in which case Gillard J of the Victorian Supreme Court held that the common law rights of landholders to collect, store and use water on land had been replaced by the more restrictive statutory water use rights.\textsuperscript{42} With arguments similar to those of lower river landholders in the early twentieth century bewailing the loss of the floodwaters, upper catchment farmers argued that regulation of rainwater run-off was unfair. Allen Ashworth argued:

\begin{quote}
Why should I pay for [the water in my dams], for a start off [sic], because every litre of water that will come into that dam comes off my property, nobody else's — no government land, no other neighbour. Every inch of it, every skerrick of water comes off that piece of ground of mine will go into that dam.\textsuperscript{43}
\end{quote}

Broadly speaking, these reforms had the effect of 'completing' what had been started approximately one century earlier. In an identical scenario to the removal of riparian rights to the natural flow of water, the removal of landholder rights to overland flows further attenuated the relationship between land and water within legal doctrines.\textsuperscript{44}

\begin{itemize}
\item \textsuperscript{40} The \textit{Water (Irrigation Farm Dams) Act 2002} (Vic) amended s.8 of the \textit{Water Act 1989} (Vic).
\item \textsuperscript{41} Rochford discusses the tension at this time between upper catchment farmers (who were upset at the amendments) and irrigators (who, conversely, supported the amendments, believing the same rules that applied to them should apply to all farmers) (Francine Rochford, "'Private rights' to water in Victoria: farm dams and the Murray Darling Basin Commission Cap on diversions', (2004) 9(2) \textit{The Australasian Journal of Natural Resources Law and Policy} 229).
\item \textsuperscript{42} \textit{Ashworth v Victoria} (2003) 125 LGERA 422.
\item \textsuperscript{43} ABC Television, 'Farmers dammed if they'll pay for rain', \textit{The 7:30 Report}, 21 January 2003 <http://www.abc.net.au/7.30/content/2003/s767315.htm> at 4 April 2006. In the same report, upper catchment farmer, Bill Hill, was reported as saying: 'When I bought my land, it was interesting — I thought I bought the trees that were on it, and now I have to get a permit to fall them. I thought I could drive my cattle along the road. I now have to put underpasses in the roads. And now we're being asked to pay for the rain that falls on our land. I just wonder what I did buy when I purchased my land many years ago'.
\item \textsuperscript{44} In some ways, the modern-day shift towards a 'management hypothesis' has intensified this process of separating water from the landscape. While today's water management paradigm does for the first time expressly include ecological sustainability, the programs designed to maximise environmental flows (e.g. irrigation efficiency upgrades designed to minimise waste of water enroute to irrigation holdings) increasingly capitalise the natural environment (e.g. converting irrigation supply channels to pipelines; e.g. laser-levelling paddocks) and could be seen to have increased the disconnect between water and the landscape. In this context, it could be highly valuable to analyse modern-day concepts of the environment as a 'water user' and the provision of 'environmental flows'. While these developments within water law and management are beneficial to ecological health, arguably they are still inherently based upon a separation between water and the natural environment. In essence, within this framework, the 'environment' is defined as an individual water user — effectively a consumer of water — and water is conceptualised as being extracted from the environment to later be returned as environmental flows. Further research could analyse the frameworks surrounding environmental water in the context of 'modern water'. In this context, see Linton's critique of integrated water management (Jamie Linton, \textit{What is water? The history and crisis of a modern abstraction} (PhD thesis, Carleton University, 2006) 352–357).
\end{itemize}
3. Public administration and the evolution of 'engineered water'

It is no surprise that the major litigated disputes over water in Australia in the last decade have been brought by private water users against the state.\(^{45}\) Australian twentieth-century water management was defined by the 'public administration' system, with the state as central governing authority responsible for:

1. centralised control over and management of water resources;
2. mediation of end users' access to water; and
3. construction and operation of water conservation and irrigation schemes.\(^{46}\)

Centralised control enabled the creation of New South Wales waters as a unified and homogeneous yet divisible 'engineered resource'. Public water supply for irrigation established contradictory social relationships. On the one hand, the state guaranteed end users' water security, within a framework of equitable access, scientific progress and social well-being. On the other hand, however, state-sponsored irrigation in the arid inland created a new class of water consumers who were entirely dependent on 'engineered abundance' for their water supply.

Public administration was strongly connected to the development of water resources. The evolution of the state as central authority enabled the landscape-wide modification of natural flow regimes and can be associated with the creation of water as a manageable and quantifiable\(^{47}\) 'engineered resource'. The unification and homogenisation of the waters of the State was enabled by vesting rights to the use and flow of all river and lake water in the Crown. This removed pre-existing social relationships with water, as well as attenuating the common law's recognition of the inherent connection between water and the landscape. The consequent construction

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\(^{46}\) See e.g. Warren Musgrave, who notes in particular the substitution of state control for riparianism, the institution of water licences, authorisation of state loans to irrigation entities and the establishment of bureaucracies through which the state could exert control over the resource (Warren Musgrave, 'Historical development of water resources in Australia: irrigation policy in the Murray–Darling Basin', in Lin Crase (ed.) Water Policy in Australia: the impact of change and uncertainty (Resources for the Future, 2008) 28, 34).

\(^{47}\) Outside the scope of this thesis, it would be interesting to use Linton's modern water to how modern-day water planning defines water as a volumetric or quantifiable issue (e.g. the Basin Plan has been criticised on the basis that it focuses predominantly on volumes of water – see Dr Philip Wallis, 'Murray-Darling Basin Plan draft released: expert reactions' (28 November 2011) The Conversation <theconversation.com/murray-darling-basin-plan-draft-released-expert-reactions-4478>).
of large dams and water diversion systems reconfigured river ecologies, converting naturally flooding and drying inland rivers into regulated supply channels and diverting water via pipes and canals to irrigation settlements. This process enabled the definition of water as one homogeneous resource, with natural seasonal and geographic variabilities removed. Thus, public administration in New South Wales was a major enabling factor for the creation of abstract 'modern water'.

This also facilitated the division of water among users. At common law, flowing water, defined in terms of a constantly running 'natural flow', was inherently indivisible. Intriguingly, however, more recent analyses suggest that water has become highly divisible. For example, in the twenty-first century context, Alford has suggested that water:

> is a mobile 'common pool' resource which cannot be easily or practically contained within fixed boundaries [...] it is variable in nature [...] and it is more divisible [in that it] can be broken up more easily than land, across both time and space.\(^{48}\)

In a contradictory process, the unification of the waters of the rivers and lakes into one 'resource' rendered water subject to borders and division.\(^{49}\) While still recognising the fluidity of liquid water, this definition no longer constrains water within the fixed geography or the natural flow patterns of the river valley. As such, the water in this definition bears a far stronger resemblance to Linton's modern water — an abstracted, manageable and quantifiable resource. Because water has been defined separately to the landscape and has (as far as the law is concerned at least) ceased to 'flow', it can be segmented and divided into as many individual parcels as desired. This divisibility of abstract 'modern water' is evident in the definition of water access rights for irrigation farmers in the early irrigation colonies. Each irrigation holding had a right to a certain defined quantity of water delivered to the boundary of their land.

\(^{48}\) Lindsey Alford, 'The law, the rules and mechanisms to consider when dealing in the property right of water: Comparing the regulation of an emerging water market in Queensland with New South Wales, Victoria and South Australia' (2007) 14(3) *Australian Property Law Journal* 259, 259.

This process of re-creating the New South Wales' waters as a unified and divisible resource relied on the state's capacity to manipulate water's natural ecology on a landscape scale — in essence, to convert predominantly natural systems into hybrid systems, such that water and the river system became a social product. A central element of public administration — or what Linton has called the 'state-hydraulic paradigm' — is the concept of management of the water resource:50

...the notion that water was a discrete resource that could be exploited and manipulated without explicit regard for the complexity of relations between water and ecosystem functions and between water and human society.51

Similarly interventionist approaches to the natural landscape were also mooted in early legislative proposals for private irrigation colonies and localised water trusts managed cooperatively by landholders. Arguably, both public administration and decentralisation through or local water trusts and private syndicate irrigation colonies were structured around a framework of neutralising existing social and ecological relationships surrounding water, with central authorities taking upon themselves the responsibility for managing and 're-shaping' natural water sources and allocating water access rights among end users.

Assigning the role of central authority to the state provided two key advantages. Firstly, the state was capable of providing the long-term capital investment necessary to re-shape river systems and construct water supply infrastructure on a landscape scale. Given the economic failure of the irrigation colonies from the 1890s as well as the near-failure of the Murrumbidgee Irrigation Area, it seems unlikely that private syndicates or local cooperative approaches would have succeeded. Secondly,

50 Paul Porteous has used similar concepts to critique the Murray-Darling Basin planning process from the perspective of irrigation communities, suggesting that a key driver of conflict in the community was the 'perceived exercise of inequitable power by an external authority'. Porteous suggests that instead of central authorities — such as the Murray-Darling Basin Authority — using managerial and top-down approaches to solve water crises as 'technical problems', instead problems and power should be shared with the community (Paul Porteous, 'Localism: from adaptive to social leadership', (2013) Policy Studies 1). See also Paul Porteous, 'Blinded by vision: lamenting leadership', (July–September 2011) Public Administration Today 8; Margaret Alston and Robyn Mason, 'Who turns the taps off? Introducing social flow to the Australian water debate', (2008) 18(2) Rural Society 131.

centralisation of water resources into the hands of the state ensured at least the perception of equitable access for all water users, which was valuable for getting those with vested interests in water 'across the line'.

By mediating end users' access to water, public administration also fundamentally changed the nature of water-sharing disputes by converting water sharing into a public issue. Nineteenth-century water disputes had been predominantly private disputes between individual water users. Even where the state was involved in disputes — such as in the early manufacturing cases attempting to secure Sydney's water supply — it did not have a role to manage water resources or to administer water entitlements. The goldfields water regulations provided an early indication of how the role of the state would change in the coming century, such that water access rights would be granted either under statute or at the discretion of the executive government. Public administration 'proper' emerged with the statutory water reforms in 1896 and the subsequent construction by the State government of large dams and irrigation colonies. While conflict between water users continued (e.g. the tensions between irrigators and lower river water users in the early twentieth century or the tensions between different irrigative water users during the 1930s droughts), the role of the state as central authority had the gradual effect of directing water users' energies towards the state. As a result, water-sharing problems have become an issue of public, science-based planning and allocation of water resources by a central authority rather than the subject of private dispute between users along a watercourse.

The state also became more responsible for ensuring the water security of end users. Concepts of water security underpin water access regimes. The removal of riparian rights fundamentally changed concepts of security in water access. Under the common law, water users could provide for a degree of water security by locating their properties near substantial natural water sources, effecting relatively minor modifications to the landscape and negotiating with other landholders not to impede water supplies. As such, the primary elements affecting security of access to river and creek water were:

1. ownership or occupation of riparian land;
2. the natural availability of water including reliance on seasonal variability;
3. the construction of small dams to overcome variability;
4. social norms that prevented upstream landholders from taking all the water; and
5. when these social norms failed, their enforcement through 'violent self-help'.

With the removal of the riparian doctrine, the landholders especially on the lower rivers saw their water security substantially decrease and they commenced political agitation for an artificially flowing, regulated river to replace the floodwaters.

Irrigators' security of access to water was very different to that of riparian pastoralists. Irrigators did not construct their own water supply and storage systems, and irrigation water was not naturally available to irrigation plots. Water was delivered by an external authority and, instead of negotiating with other water users through private disputes, irrigators were reliant on the state bureaucracy for their water security. The evolution of the state as the central governing authority for water management and distribution was accompanied by political guarantees to water users of a degree of water security. In particular, those who bought into the early irrigation areas were effectively promised permanent water:

*Having water tied to the land meant that there was a predictable resource base, which allowed people to plan their occupations and livelihoods, invest in their farms and communities, and feel secure about their future.*

In this context, a key function of the attachment of irrigation water to landholding was to create certainty of water supply for irrigative water users — and vice versa, the requirement that irrigation landholders pay rates for water even if they did not use any was designed to ensure that the state would recoup its capital investment in the scheme. For irrigative water users, the guarantee was arguably embedded in the allocation of a certain number of water rights — a certain volume of delivered water — to their landholding.

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53 see e.g. 'Barren Jack in Parliament', *The Farmer and Settler* (Sydney), 27 November 1906, 9.
54 With some variation between different jurisdictions, this was generally a right to the amount of water required for a 'normal' season. Alex Gardner, Richard Bartlett and Janice Gray have noted that 'state irrigation authorities sought to develop and employ policies which ensured a stable minimum water requirement';
Particularly for farmers in the new irrigation colonies, the guarantee of water security was essential. Irrigators were dependent on an artificial water supply outside the natural landscape to provide secure, ongoing access to sufficient water. In this context, there was a social need for state-guaranteed water security, a guarantee which arguably continued at least until the water shortages of the 1970s. This guarantee had strongly equitable foundations. Equitable access for all water users had been a key aspect of government-sponsored settlement even in the nineteenth century. Powell notes that the colonial government had allocated settlers equal access to river frontages in order to ensure equitable access to the resource.55 Gross and Dumaresq argue that the early twentieth-century irrigation schemes were set up in order to achieve fairness through administrative arrangements.56

Changes made to the water allocation on an annual basis, depending on water availability, were made equally across all users. Irrigators had an equitable stake in the irrigation system (with water being proportional to the landholding) [...].

As external authority responsible for water supply, the administrative state therefore played a progressive role, ensuring equitable access and social well-being.

Nevertheless, the state guarantee of water security always rested on unstable foundations in that it assumed that state planning and allocation could inevitably overcome any natural water shortages. This was recognised by the provisions in water supply legislation that there was no obligation to supply water if 'by reason of drought, accident, or other cause' it was considered impracticable.57 Irrigators' water access rights were legally unenforceable58 and yet politically and socially guaranteed, a
contradiction which arguably arose out of the establishment of productive human
needs outside the rhythms of the natural ecology.

As Lee v Commonwealth indicates, the state's role as central authority governing water
resources is still a driver of water conflict today. The focus of the plaintiffs' anger in
that case was with the Commonwealth Government rather than the various State
governments. Nevertheless, the anger in the community at the development of the
Basin Plan as a document governing the Basin's water resources suggests that the role
of the state as a central authority is relevant to understanding water conflict today.
In particular, the political guarantee to irrigators that they would have permanent
access to sufficient water was a driving factor for the plaintiffs in Lee v Commonwealth.
These farmers have established and maintained their operations on
the understanding, endorsed by State governments, that sufficient water would always
be available. The failure of this guarantee has inevitably caused a sense of betrayal
among irrigative water users.

4. Use-based rights, modern water and private property water access rights

Use-based systems of water access have had little effect on the overall shape of New
South Wales general water law. The scattered examples of use-based rights arising in
water conflicts can, however, provide valuable insights into the impact of private
property concepts on water access regimes. The first application of use-based water
access rights in New South Wales was in the 1932 case, French v McHenry. It is hard
to draw any definitive conclusions about the applicability or operation of use-based
water access rights in New South Wales from this case, as it is an isolated decision,
best seen as a straightforward application of English legal principles in Australia. The

59 In the Murray-Darling Basin, the role of the state to manage water resources is now split between the
Commonwealth and the Basin States. This shift represents how the National Water Initiative (2004) and the
Water Act 2007 (Cth) have increased Commonwealth powers to manage water resources in the Basin. For
the purposes of this analysis, the role of the different arms of the state in managing and planning water resources
is sufficiently similar to draw parallels between State-based public administration and the water reforms led by
the Commonwealth government. However, it would be valuable to explore the consequences of the further
semi-centralisation of Murray-Darling Basin water resources into Commonwealth-led planning processes.
In particular, this is arguably a further unification of water into one homogeneous resource.


61 French v McHenry [1832] NSWSupC 46 (9 July 1832).
later examples of use-based water access rights argued by individual water users or enacted by the state are more interesting, suggesting that:

- use-based water access rights have been sought by private individuals either to justify on long-term occupation or to acquire private property rights on the basis of their investment in and modification of the water resource; and
- state-sponsored use-based systems have had the effect of 'outsourcing' the risk of water scarcity to private water users.

Use-based water access rights lack the correlative nature of riparian-based rights and, as such, are intrinsically less communal. Instead, these rights can be more strongly associated with private property in water access. In this context, it is particularly interesting to explore the relationships between use-based water access and 'modern water', private property and the development of water resources.

New South Wales inherited — but rarely or never applied — two use-based doctrines from England: ancient use and prior use. The key differences between these doctrines are the length of time required to establish a prior claim and the extent to which the resource needed to have been modified. Each doctrine arose in a different social and economic framework: ancient use arose out of the settled water use regimes of the feudal era and can be associated with the relatively low levels of development in the early industrial era, while prior use should be associated with higher levels of development, competition over water and especially human modification of flow regimes. Similar comparisons can be made in relation to historical claims by New South Wales water users to a use-based water access right. In particular, private users have argued for use-based rights to water in two broad situations:

1. when long-term, established water use is challenged by newer, more efficient users; and
2. by users who have invested in or wish to invest in substantial modification and 'improvement' of the resource.

Scattered examples of the first scenario arose in the early twentieth century, when the water access rights of lower river landholders were challenged by increasing
development and diversions upstream into more productive water uses. At times, advocates of lower river landholders referred to the 'accrued privileges' of downstream riparian landholders. The basis of this claim was long-term, established use. In some respects, the claim by the plaintiffs in Lee v Commonwealth to an historically based right to a certain volume of water also bears a resemblance to this scenario — possibly indicating the extent to which the irrigators in that case consider their established use to be under threat from other water users.

The second example has occurred much more frequently, however. Use-based claims have often been justified by reference to some modification or 'improvement' of the water source. Claimants argue that their investment of labour and capital should create private property. In the mid–late nineteenth century, for example:

- pastoralists argued that their modification of the water source justified excluding selectors from access to certain streams, suggesting in particular that this water, as a result of their efforts, was 'to all intents and purposes, artificial'; and
- upstream landholders attempted to justify their construction of larger dams on the basis that their works created private property in the water retained (e.g. Samuel McCaughey’s arguments before the Land Board in 1897).

The line between the two categories is not clear — for example, the claim in 1921 by water users along the Yanko Creek that they had a right to flows along the creek on the basis of both 60 years' appropriation and their construction of the Yanko cutting relies on both established use and the modification of the natural source of water. There is nevertheless a strong connection between use-based rights and private property in water. Moreover, while riparian rights derive directly from water as a naturally flowing substance, use-based rights are more strongly connected to socially produced or artificially stored water.

The state has also implemented use-based rights to water through legislation. Major examples occurred on the goldfields and in relation to administrative water licences in

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62 See e.g. 'Original correspondence: local proposals', The Riverine Grazier (Hay), 30 August 1904, 2.
63 'The Pastoral Interest', The Sydney Morning Herald (Sydney), 20 January 1866, 7.
64 ‘An important land case’, The Sydney Morning Herald (Sydney), 26 July 1897, 4.
65 'Proposed Yanko Weir', The Riverine Grazier (Hay), 15 April 1921, 2.
the 1930s. The dominance of use-based rights on the goldfields most likely emerged because the first-in-time, first-in-right principle already applied to land claims. It is nevertheless valuable to examine the operation of prior use principles in the context of the goldfields water regulations as creating a 'trial' or 'pilot' public administration system. On the goldfields, water rights took the form of administrative privileges, granted and held at the discretion of the colonial goldfields authorities. There were two key differences to the twentieth century public administration system, however:

1. flowing water was not vested in the Crown; and
2. the Crown did not engage in water construction or supply activities.

It is hard to draw conclusive comparisons between the goldfields and the establishment of irrigation, in that the nature of production (mining vs agriculture) and the political, economic and social context of the goldfields in the 1850s and the establishment of irrigation from 1890s onwards were very different. It is noticeable, however, that the goldfields water access regime lacked the state guarantee of water supply. The state's authority for granting water privileges was not a state monopoly control over water sources but was instead the strict social control by goldfields commissioners over the gold districts. As a result, administration of access to water on the goldfields was more intensely privatised. Miners needed to construct their own water supply or source their water from a water supply company. In this context, arguably the private property concepts entailed within prior use required water users to 'create their own water security'.

In a similar fashion, the prior appropriation scheme trialled for water licence holders in the 1930s was expressly intended to place at least some of the burden of the risk of water shortage on individual water users. Instead of the state guaranteeing water availability as a central authority on the basis of science-based planning and allocation decisions, individuals would be expected to make their own assessment of the capacity of the water resource and their own place in the order of priority in order to make investment decisions — in effect, 'outsourcing' the risk of water scarcity onto end users.
Use-based water access rights in New South Wales history resembled Linton's 'modern water' much more strongly than riparian rights. Firstly, use-based water access rights provided access to a defined quantity of water — even if the quantity was not defined in terms of a set volume but was instead defined as the volume of water to be used or stored by particular works. As such, similar to twentieth century public administration, use-based water access regimes defined water entitlements without direct reference to the natural availability of water. The abstract nature of the water entitlement was particularly evident on the goldfields, where water users acquired a right to a certain quantity of water, either taken directly from the watercourse or delivered via water race.

Secondly, there was no intrinsic reason why use-based rights needed to be connected to landholding — and, as such, these water access regimes arguably inherently contained a weaker relationship between water and the natural landscape. Use-based entitlements claimed by pastoralists were to a volume of stored water. The right was defined in terms of the human activity of 'improving' the water source rather than in terms of the natural availability of water. On the goldfields, the connection between land and water was even weaker, with water access rights sometimes separated entirely from claims to land. The goldfields also appear to be one of the few examples in New South Wales history where private water supply companies and arrangements operated. This reflects the high degree of development of water in the gold districts, enabling water supply outside the rhythms of the landscape.

The history of scattered examples of prior use in New South Wales history can assist to better understand the implications of creating private property water entitlements for the purposes of a water market. Modern tradable water entitlements are not a use-based system. There are, however, parallels between the function of use-based rights in enabling new, innovative water users to 'improve' the water resource and the purpose of the water market to shift water towards higher value and more efficient water uses. It is particularly interesting to re-consider the concerns expressed by the Lee v Commonwealth plaintiffs that unbundling has enabled 'opportunistic', corporate water users to increase their share of the water. Similar to the concerns of lower river landholders in the early twentieth century, Mr Lee and Mr Gropler's concerns about
the impact of the water market on the irrigators represented by Murray Valley United can be seen as an attempt to protect a long-term, established use against new users.\textsuperscript{66}

Moreover, similar to the function of use-based water access rights in New South Wales history, the creation of tradable private property rights in water has also arguably 'outsourced' a degree of the risk of water scarcity to private users. The unbundling of irrigative water rights from landholdings removed the basis of the state guarantee of water security, in effect replacing it with a 'private property guarantee'. The concerns raised by the \textit{Lee v Commonwealth} plaintiffs indicate that this approach may not be meeting the needs of a significant proportion of irrigative water users. By contrast, the role of the twentieth-century state as central authority to ensure fair and equitable access among water users appears progressive.

Historical examples of how use-based water access rights have resembled modern water serve to underscore the connection between private property and Linton's modern water. This, in turn, raises questions about the centrality of state control in the creation and maintenance of modern water. It is clear that in the New South Wales context, the state and public administration have played a key role in the development of water as an abstract, unified, quantifiable and manageable resource. There are, however, distinct synergies between modern water and the private property commodity form — specifically, the essence of a commodity as a substance or 'thing' whose primary social or ecological connections are via impersonal exchange and market-supply relationships.\textsuperscript{67} As Linton notes, the 'commodification of water strengthens modern water by fixing hydro-social relations in terms of water-consuming subjects and water-commodity objects'.\textsuperscript{68}

\textsuperscript{66} On this generally in the context of the Lee and Gropler case, see Alex Gardner, 'Lee and Gropler v Commonwealth and Murray-Darling Basin Authority — a reflection on a conception of Australian water access rights', (2013) 28(3)\textit{Australian Environment Review} 517.

\textsuperscript{67} Drawing on a basic definition of a 'commodity' as a product of labour with both use value and exchange value (i.e. that the product is made in order to be sold on the market); see Alex Callinicos, \textit{The Revolutionary Ideas of Karl Marx} (Haymarket Books, 2012) 123. The concept of a 'commodity' and 'commodification' in the ecological space is contested; see for example, Noel Castree, 'The geographical lives of commodities: problems of analysis and critique', (2004) 5(1)\textit{Social & Cultural Geography} 21.

\textsuperscript{68} Jamie Linton, \textit{What is water? The history and crisis of a modern abstraction} (PhD thesis, Carleton University, 2006), 351 (footnote).
In this context, the evolution of modern water within New South Wales water law has particular consequences for understanding how to combat scarcity and over-allocation. Arguably, the over-allocation that has been recognised since the 1970s can be attributed directly to the creation of water as an abstract substance, managed and identified separately to nature. 'Over-allocation' can be defined as a situation where water users hold entitlements to greater volumes of water than are available for use in relevant water sources. According to this definition, over-allocation could not occur under the common law riparian doctrine. That is, if water access rights are defined in terms of the natural availability of water — such as via a right to access 'natural flow' — then, while water shortages and drought can have adverse impacts on water users, over-allocation cannot occur. Arguably, therefore, over-allocation was made possible by defining water access rights separately from the natural availability of water — such as by creating entitlements to a set volume of water annually, irrespective of natural rainfall and riverflow patterns. The same dislocation from the natural landscape that caused a state guarantee of water availability to be necessary arguably also enabled over-allocation, potentially in turn exacerbating scarcity.

Today's water paradigm attempts to combat over-allocation by systematic planning and the imposition of sustainable diversion limits, alongside market-based and pricing mechanisms to decrease demand and increase water use efficiency. Water entitlements are defined as a share of the available resource and it is well understood that actual water allocations will vary from year to year. This paradigm intends to overcome the failures of past water access regimes, including riparianism and public administration. However, the history of water law and conflict in early New South

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70 Linton has suggested that the isolation of 'modern water' from social and ecological connections has exacerbated scarcity and water shortage, by allowing us 'to imagine we can manipulate water without profound social consequences' (James Linton, 'Modern water and its discontents: a history of hydrosocial renewal', (2014) 1 WIREs Water 111, 113).
Wales, viewed through the lens of modern water, suggests that we need to be careful if we are not to simply exacerbate or consolidate the problems of the past.

The neoliberal water reform agenda, following a line of thinking that can be traced back to Garrett Hardin's 'Tragedy of the Commons', suggests that in situations of scarcity, water is best managed as a private good. This is based in part on perceptions that the riparian doctrine and public administration have failed. In historical context, however, the 'failure' of the riparian doctrine in Australia should be viewed specifically as a result of late nineteenth-century development imperatives. Riparianism, especially in the form applied by the New South Wales Supreme Court, was abolished because it made any water conservation works on perennially or ephemerally flowing streams illegal. Riparianism's focus on 'natural flow' inhibited the transformation of New South Wales rivers and streams into regulated supply channels. The vesting of flowing water in the Crown in 1896 and the abolition of the riparian doctrine was a key step in the creation of modern water — and simultaneously a

72 The modern concept of 'water scarcity' and 'water crisis' can itself be interrogated. For example, Linton has undertaken a detailed critique of the social creation of scarcity, suggesting that there is a need to re-define scarcity as a social and not simply a natural problem. In particular, Linton critiques modern water's tendency to understand scarcity in terms of a 'fixed mathematical relation between population and water use' (Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 210). Linton suggests that 'while the present hydrological problematic is usually presented in terms of a 'water crisis' it is more accurate to say that what we are facing is a crisis of modern water. [...] Water is not the problem per se; rather all water problems are fundamentally social problems' (Linton, Jamie, 'Modern water and its discontents', (2014) 1 W IRES Water 111, 114). For a discussion of the relationship between privatisation and scarcity, see Karen Bakker, 'Privatizing water, producing scarcity: the Yorkshire drought of 1995', (2000) 76(1) Economic Geography 4;
critical prerequisite for the 'unbundling' of water entitlements from landholding. As Linton notes, in his discussion of modern-day commodification of water, 'the act of turning H2O into a commodity [...] is preceded by the prerequisite act of turning water into H2O'. As such, the creation of a water market and tradeable water entitlements rests upon a long history of increasingly defining water separately from the natural landscape.

While not romanticising the past — the pastoralist invasion of inland Australia was both ecologically and socially destructive — this history is valuable to understand the nature of water access regimes today. Riparianism was a contradictory and limited doctrine. Its land–water nexus was based on private property in land, which was, in turn, based on colonial pastoralism's exploitation of the landscape. The strength of the riparian doctrine was its emphasis on community and its integration of water use within the landscape. Floodplain landholders' respect for natural flood-flows and their claim of riparian rights to support the continuation of the floods highlights riparianism's necessary connection to the natural landscape and 'natural flow'.

Early public administration broke this land–water nexus, intensifying the modern water paradigm within New South Wales water law. Public administration also encompassed valuable concepts of social well-being and equity in relation to water and community. This is not to suggest that all pre-modern or traditional water management regimes have been unmitigated successes or to overlook the

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78 For example, Douglas Fisher notes that 'there have, of course, been examples of both successful and unsuccessful management systems for water resources. For example, the use of small scale artificial irrigation systems in support of natural flooding some six to seven thousand years ago in the valley of the River Nile seems to have had few adverse environmental consequences. The irrigation system based upon tanks and channels operational for over two thousand years in Sri Lanka and to some extent still operational appears to have achieved its objectives. On the other hand, excessive irrigation some three to four thousand years ago in Sumaria caused soil salinisation to the point of destruction of its agricultural capabilities. And the same results
environmental and social issues associated with either common law or public administration water access regimes. The concerns raised by contemporary irrigators about the impacts of the water reforms on their communities nevertheless highlight the need for water access regimes to be fair, equitable and enabling of communities.

Ecological and social health cannot be separated. This thesis suggests that we need to seek water management and water access paradigms that conceptualise waters, humans and nature as one integrated unity. Michael Cathcart praises traditional Balinese water engineering systems, suggesting that the key is the 'unity of nature and engineering' that connects the people to the rhythms of their beautiful island'. By contrast, he notes that Australian twentieth-century development 'flogged [the] rivers to the edge of extinction in just four generations.' Erica Nathan similarly notes the integral connection between ecological and social health: 'a waterscape strong in community connections — or "social flow" — is more likely to retain greater natural integrity.' In this context, there is a need to ensure that modern water reforms establish water access regimes that enable water users, water and the natural environment to function as an integrated whole.

5. Public rights, water protests and the relationship between water and people

Historical protests over public water supply indicate similar concerns to those which have been raised internationally: that the public should have rights to access water and that water should remain in public hands. In New South Wales history, these concerns were most evident in the gold districts and in Broken Hill. Examination of the public water access right provides a valuable context in which to analyse the social relationship between people and water — and, in particular, emphasises how modern water has not only defined water separately from the natural landscape but has also

79 Michael Cathcart, The Water Dreamers: a remarkable history of our dry continent (The Text Publishing Company, 2009) 247 [emphasis added]; Cathcart has also critiqued water trade, writing that 'the commodification of our rivers replicates white Australia's oldest folly: it treats water as if it can be separated from the environment, as if it can be trucked around the country regardless of the logic of the land. It treats "the market" as more natural than nature itself' (at 258).
diluted social relationships. In this context, 'public rights to water' are defined as the rights of members of the public — either as individuals or as the public at large — to access water, usually for household and domestic purposes. A range of possible public rights to water can be identified, including:

- rights to access and use in nature at source;
- rights to a household water supply;
- rights to publically available water services (e.g. public washhouses, drinking bubblers); and
- rights to have public water sources prioritised over other water users and protected from pollution.

Janice Gray has noted that public rights to water remain limited today. The general public have either no or limited private property in land, no interest in production and a weak economic position. As a result, security of access to water has at times been sought through political struggle and trade union organisation. Both on the goldfields and in Broken Hill, protest was linked to the working class and the trade union movement. The weakness of public water access rights can be explained in terms of 'modern water', especially in contrast to the 'materially and conceptually inseparable' human–water relations of pre-modern societies.

A key factor inhibiting public access to water is lack of access to private property in land. In New South Wales, the general public have never had statutory rights to access and use in nature at source. Even household water supply, the most common means by which members of the public access water, is limited to those who occupy private property in land. Gray notes that today the homeless, the epitome of the

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83 Jamie Linton, What is water? The history of a modern abstraction (UBC Press, 2010), 56.
84 Noting that other Australian States do have statutory rights for members of the public to take water from public waterways for domestic and public uses (e.g. firefighting), it would be interesting to examine the historical development of those rights in other States and identify why New South Wales did not enact similar rights.
propertyless, have no legal rights to water.\textsuperscript{86} Interestingly, nineteenth and early twentieth century urban water supply legislation usually contained a requirement that the water supply authority provide a sufficient supply to public hospitals, charitable institutions, and any 'public pumps, baths and washhouses'.\textsuperscript{87} This latter right possibly reflects the fact that, historically, many houses would not have had bathrooms or a piped water supply,\textsuperscript{88} and that therefore publically provided facilities were required for a broad section of the population. Arguably, the limitations that the dominance of private property in land places — and have historically placed — on public access to water are a further example of the contradictory relationship between private property in land and water as a shared or communal resource. In the long-term, a solution could be to address the social inequities that leave the majority of the population without access to or control over productive land or water resources.\textsuperscript{89}

The dominant relationship between members of the public and water is via a public water supply. The case studies indicate key limitations in the relationship between humans and water within this relationship, in particular:

- the limitation of public water rights to domestic, personal or household uses;
- the lack of a legally enforceable public right to a water supply that is sufficient to meet the human needs of urban communities; and
- the nature of the water supply relationship as reducing water to an object of consumption and water users to consumers.

Public water access rights were generally restricted to domestic and household uses. Public water supply legislation, for example, has historically set out the uses for which water may be used, expressly excluding uses such as manufacturing, stables, irrigation

\textsuperscript{86} Janice Gray, 'Implementing the Human Right to Water in Australia', 17(1) March 2008 Human Rights Defender 2, 4.

\textsuperscript{87} See e.g. s.35 Country Towns Water and Sewerage Act 1880 (NSW); s.63 Hunter District Water Supply and Sewerage Act 1892 (NSW).

\textsuperscript{88} On the history of water use inside the house and the creation of the bathroom as an important space, see Maria Kaika, 'Interrogating the Geographies of the Familiar: Domesticating Nature and Constructing the Autonomy of the Modern Home', (2004) 28 International Journal of Urban and Regional Research 2, 265.

\textsuperscript{89} In this context, it is valuable to distinguish between private property in homeownership and private property in productive resources; see e.g. Daniel Luria's work on the social meaning of home ownership (Daniel Luria, 'Wealth, Capital, and Power: The Social Meaning of Home Ownership', (1976) 7 Journal of Interdisciplinary History 2, 261).
or water power. While these provisions had the immediate impact of prioritising domestic water use over productive water uses — and therefore had a potentially positive impact on the water security of households — they also established a dichotomy within water law and management: between productive water uses and personal or household water needs.

In this context, one of the most interesting features of the agitation for public water rights on the goldfields was the lack of a clear distinction between the water access rights of working class miners for mining purposes and the needs of the general population for water for personal use. At Tambaroora, for example, a flashpoint of conflict over public or working class rights to water, the mass of miners complained equally about the restriction of rights to drain waterholes to corporate enterprise and the spoliation of public water sources. This blurred line between productive and domestic water use arguably reflects the fact that working class miners were 'working for themselves' rather than working for a wage and, as such, had a direct interest in access water for productive purposes.

A major distinction between the goldfields and the situation that emerged three to four decades later in Broken Hill was also the absence of claims by goldfields communities that the state should construct water supplies. Instead, political agitation was directed towards protecting the natural sources of water from which residents took their own water. This may have reflected the general rejection of all state 'interference' in the goldfields, as well as the general level of economic development of the colony at the time. Even Sydney in the 1850s did not have a reliable water supply. From the 1880s onwards, however, municipal councils began to construct water supplies under the Country Towns Water and Sewerage Act 1880. The water conflict in Broken Hill centred around demands that the state construct a public water supply, indicating that that provision of safe water supplies was considered to be a communal question rather than requiring individual households to manage their own water supply.

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90 see e.g. s.24 Country Towns Water and Sewerage Act 1880 (NSW); s.4 Mulgoa Irrigation Act 1890 (NSW).
91 Broken Hill residents did take water from backyard tanks, which were a source of typhoid and cholera (Bobbie Hardy, Water carts to pipelines: the history of the Broken Hill water supply (Broken Hill Water Board, 1968) 6).
The legal rights of town residents to a public water supply were limited. Most New South Wales rural and regional towns appear to have constructed water supplies under the country towns water supply legislation without extensive protest by communities — although there were still examples of town populations who did need to agitate for a water supply to be built. In any event, the situation of the residents of Broken Hill over forty years indicates the weakness of their legal situation. The achievement of a state-owned public water supply for Broken Hill can largely be attributed to the resolute political agitation and leadership of the trade unions. In many ways, the situation of town residents is similar to that of irrigation water users: the concentration of populations into large centres away from natural sources of water created a contradiction between human natural needs and their immediate environment. Nevertheless, like irrigation communities, New South Wales towns were historically under no obligation to provide or maintain a water supply.

Arguably, even today the obligations on water supply authorities to continue to supply water to urban areas remain limited. In this regard, the 1996/1997 case of Timor v Coonabarabran\footnote{Timor Water Action Group Inc v Coonabarabran Shire Council [1997] NSWLEC 62.} is of particular interest. In Timor, the Coonabarabran Council disconnected a water main from 35 properties. Timor Dam was contaminated with unacceptably high levels of blue-green algae and the 35 properties disconnected were all supplied with untreated water. The Council justified the withdrawal of the water supply on the basis of a non-compellability clause in the \textit{Water, Sewerage and Drainage Regulation 1993}. That clause entitled the Council to cut off water supply to a premises if 'in the opinion of the council, that action is necessary because of unusual drought or other unavoidable cause or any accident.'\footnote{cl.31(1)(c) Water, Sewerage and Drainage Regulation 1993.} The Council argued that the unacceptably high levels of blue-green algae in the dam were an 'unavoidable cause', justifying the closing of the water supply.

The case was brought by a residents’ group, who argued that there was 'nothing inevitable about the presence of blue-green algae' and that in fact it was the 'failure on the part of the Council to take steps to control the outbreak of algal bloom' that created the health risk and led to the decision to disconnect supply. The Court saw the
Council’s choice as clear: between continuing to supply contaminated water or to disconnect the consumers until a safe potable supply could be guaranteed within acceptable limits. The Court’s conclusion was that the Council was under a duty to provide a water supply but that this duty only existed where there was a sufficient supply of potable water:

*That is not to say that the council is discharged from any future obligation to provide a water supply to the consumers between the town of Coonabarabran and Timor Dam. The obligation however extends only to the supply of potable water. [...] Until [...] some [...] means of ensuring safe supply is identified, the council is not in dereliction of its duty.*

Notably, the Court did not place positive obligations on the Council to obtain a safe supply of water — for example by extending the town’s water treatment works.

The Timor case is not clear-cut: the Court did accept that the Council had some obligations to supply water and there is logic in the perspective that a water supply authority should not supply household properties with contaminated water. Nevertheless, the Timor case, read alongside the sixty year struggle of the people of Broken Hill, raises significant questions about the degree to which New South Wales town and city residents have a right to an adequate, secure and safe water supply.

The general public have mostly accessed water as consumers of water supply services and the limitations to public rights to a water supply arguably derive directly from the position of household water users as consumers. As was emphasised over 100 years ago in *Hesler v Bourke* and *McLean v Dubbo*, the relationship of town and city dwellers with water is not a human or public right to water but a customer-supply relationship. Household water users become what Linton has termed 'water-consuming subjects'. Compared to pre-modern social relationships surrounding water, which visualised communities and waters as inseparable, modern 'supplied water' simultaneously creates water as an artificial 'engineered resource' and, in a contradictory process,

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denies produced water's inherently social nature.\textsuperscript{97} This is particular evident in relation to urban water supplies, where water is supplied into the built environment as a purified, delivered substance, lacking social and ecological connectivity to its natural source. As such, there is no visible social or ecological connection between urban water users and the water resource. Neither is there a relationship between urban water users among themselves, as the water supply relationship is an individual relationship that each consumer has with the water authority (i.e. there is no sense of community).

\textbf{6. Conclusion: lessons from modern water for today's water law}

This thesis has examined water conflicts and the evolution of water law from the early nineteenth century into the first years of the twentieth century. This history provides key lessons for today, highlighting the extent to which today's water regulation frameworks are built upon key pre-requisite steps from the past. This thesis' major finding is that in the nineteenth and early twentieth century, New South Wales water law evolved to define water, water users and the natural landscape separately to or distanced from each other. The formation of modern water involved multiple divisions, including dissociating water and water users from nature — allowing the creation of water as an abstract resource — and distancing water users from each other.

One of the most evident examples of the development of modern water was the removal of riparian concepts. Riparianism's focus on water flowing through the landscape already entailed a partial separation of land and water. The abolition of the riparian doctrine further attenuated concepts of natural flow and of water use within the connectivity of riparian land to the watercourse. The riparian doctrine's replacement with a state monopoly in flowing water enabled the creation of water as a unified and homogeneous, yet manageable and divisible 'engineered resource'. Similarly, the state's role in mediating end user access to water fundamentally changed the nature of water distribution, weakening legal concepts of communal sharing of flowing water and establishing water users' relationship with the state as central, governing authority as the primary social relationship surrounding water.

\textsuperscript{97} It would be interesting to investigate the nature and evolution of human rights to water within the context of 'modern water' and in particular the extent to which the strong positive rights to water in countries such as South Africa and India can challenge 'modern water'.

There are close connections between the development of modern water and the role of the modern state in managing and developing water resources. Nevertheless, there are also indications that private property water access regimes — such as use-based regimes or modern market-based regimes — replicate abstract modern water, especially in disconnecting rights to water access from the rhythms of the natural landscape and defining the entitlement as a right to an abstract volume of water. The history of public rights to access water also indicates a dissociation within legal doctrine between humans and water within nature. In contrast to traditional social relationships, which saw human society and its waters as one unity, the history of water in New South Wales towns demonstrates an abstract 'consumer' relationship, whereby populations are dependent on an external authority to provide safe and secure piped water supplies.

Arguably, modern-day water conflict is in part driven by these trends, a finding which has key implications for the management of water resources. A major challenge for water management, as well as for the resolution of conflict over water, is to seek ways to overcome the contradictions of modern water by re-integrating water, water users and the landscape into one whole.
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