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Water Accounting Information and Confidentiality in Australia

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ABSTRACT

A key objective of Australia's recent national water reforms is to keep water licence and entitlement holders accountable for the amounts of water they extract, trade and use. Water metering and the recording and reporting of water extraction and trading data are processes designed to ensure this accountability, and are central to Australia's water accounting regimes. Yet much of the data necessary to ensure compliance with water licences and access entitlements is not publicly available in Australia. This absence of publicly accessible information is due to a lack of rigour and transparency in statutory water accounting regimes. There are also restrictions imposed by water legislation and the laws of privacy and confidentiality that prevent public access to water accounting data, except in aggregated form. Consequently, commercial and industrial water consumers in Australia are not kept accountable for their consumptive water use and water market objectives are unfulfilled, contrary to the express provisions of the Intergovernmental Agreement on a National Water Initiative ('NWI'). This article argues that statutory and policy frameworks for water accounting in most Australian jurisdictions fail to meet the NWI objectives for national water accounting. In response, it advocates legislative reforms that would facilitate the achievement of these objectives.

I INTRODUCTION

This article advocates greater transparency of water accounting in Australia. Water accounting is a regulated process that involves identifying, measuring, recording and reporting information about water.¹ Transparency in water accounting is essential to secure environmental and other public benefit outcomes, and to enhance resource security for holders of water access rights. This premise is implicit, if not explicit, in the nationally agreed objective for water accounting reform:

that the outcome of water resource accounting is to ensure that adequate measurement, monitoring and reporting systems are in place in all jurisdictions, to support public and

¹ See generally Bureau of Meteorology, *The Water Accounting Story*, Australian Government, <<http://www.bom.gov.au/water/standards/waterAccStory.shtml>>.

investor confidence in the amount of water being traded, extracted for consumptive use, and recovered and managed for *environmental and other public benefit outcomes*.²

Commonwealth and state legislation and policies that implement water accounting in Australia generally fail to give full effect to this objective. This failure is becoming a matter of increasing concern. In many areas, Australia's natural water resources are under continuing pressure from identified overallocation and overuse.³ There are also rapid escalations of water resource exploitation occurring in growing urban environments⁴ and the mining industry.⁵ Pressures from increased water consumption have caused, and may continue to cause, significant ecological decline of Australia's water dependent ecosystems. There are also risks that degrading natural water resources will compromise Australia's future consumptive water use.

To respond effectively to these pressures, water accounting systems in Australia must facilitate public understanding of compliance with limits on water extraction and the operation of water trading. This understanding must apply not only to water resources as a whole, but also to individual holders of water licenses and access entitlements.⁶ Responsible and transparent water consumption and the effective operation of water markets can affect all users of Australia's depleting natural water resources. It follows that compliance with legal limits on water extraction and transparent water trading information are in the public interest. We advocate transparent public disclosure of water accounting data as a form of 'information based regulation'⁷ to better achieve water resource regulation objectives.

This theme has not yet been fully explored in Australian water resources law.⁸ It is, however, a well-recognised theme in Australia and internationally in environmental

² *Intergovernmental Agreement on a National Water Initiative* – between the Commonwealth of Australia and the Governments of New South Wales, Victoria, Queensland, South Australia, the Australian Capital Territory and the Northern Territory (National Water Commission, 2004) ('NWI 2004') 17 [80] (emphasis in original).

³ National Water Commission, 'The National Water Initiative – Securing Australia's Water Future: 2011 Assessment' (Australian Government, September 2011) [3.3]; James H Skurray, E J Roberts and David J Pannell, 'Hydrological Challenges to Groundwater Trading: Lessons from the South-West of Western Australia' (2012) 412-413 *Journal of Hydrology* 256, 257.

⁴ See, eg, Water Corporation of Western Australia, 'Water Forever: Towards Climate Resilience' (2009) 21, projecting the increase in the population of Perth and its surrounding urban centres.

⁵ National Water Commission, 'Framework for Assessing Potential Local and Cumulative Effects of Mining on Groundwater Resources', Report 7: 'National Synoptic Overview of Groundwater Resource Condition – a Mining Perspective' (2010).

⁶ The terminology here is potentially confusing, as is explained in Alex Gardner, Richard Bartlett and Janice Gray, *Water Resources Law* (LexisNexis, 2009) ch 18. We use the term "licence" to mean a pre-NWI authorisation to "take" water and "access entitlement" to mean those authorisations under NWI consistent legislation. See also the discussion at IIC of this article.

⁷ The term is cited in Neil Gunningham, 'Environment Law, Regulation and Governance: Shifting Architectures' (2009) 21 *Journal of Environmental Law* 179, 198.

⁸ Gardner, Bartlett and Gray, above n 6, 563 [25.5] and later discussion of State registers; K Stoeckel et al, *Australian Water Law* (Thomson Reuters (Professional) Australia, 2012) 227 [5.35] and later discussion of State registers. See also M D Young and J C McColl, *Robust*

law. The concept of requiring regulated entities to publish information on their operations to affected stakeholders and the public has been applied through the "Community Right to Know" (CRTK) legislation, which requires publication of aggregate data on toxic pollutant releases and transfers.⁹ A key benefit of information disclosure is to enable 'communities to exert political and social pressure on governments and business to ensure compliance with substantive environmental requirements and improve environmental performance'.¹⁰ While CRTK legislation can generally build pressure for better environmental performance, it will not generally enable affected stakeholders to determine whether a regulated entity is complying with licence or approval conditions from time to time. There are, however, more sophisticated protocols for publishing approval conditions and self-reported monitoring data. Most United States environmental laws require self-reported monitoring data to be reported to the public, which is said to 'deter violations and a failure to report, especially when the law gives citizens the right to sue sources'.¹¹

This article suggests three core elements that are necessary for transparent water accounting in Australia:

1. A clear and accessible statement of legal limits on licensees and entitlement holders to take and trade water – usually by conditions on the licence or entitlement recorded on a water entitlement register;
2. A clear and accessible statement of the obligations on licensees and access entitlement holders to:
 - (a) install meters and record and report metered extractions to government; and
 - (b) report trading information; and
3. A clear and accessible record of the aggregated and individual metering and trading data on a water entitlement register that is searchable by members of the public.

Most water accounting frameworks in Australia satisfy the first of these elements and often address the second. However, problems arise in complying with the third element – public disclosure and availability of aggregated and individual water metering and trading data.

In most Australian jurisdictions, third party access to individual water licence and entitlement data, particularly records of metered extraction ('metering data') and trades, is restricted on two grounds. First, the laws of privacy protect personal

Separation (CSIRO Land and Water, 2002); and ACIL Tasman in association with Freehills, *An Effective System of Defining Water Property Titles* (Land and Water Australia, 2004) especially Part 5.

⁹ Gunningham, above n 7, 198, citing Bradley C Karkkainen, 'Information as Environmental Regulation: TRI Performance Benchmarking, Precursor to a New Paradigm?' (2001) 89 *Georgetown Law Journal* 257. The equivalent legislation in Australia is the National Environment Protection (National Pollutant Inventory) Measure: <<http://www.npi.gov.au>>.

¹⁰ Emily Wilson, 'Australian Freedom of Information Legislation v The Aarhus Convention; Is Australia Falling Below International Standards?' (2012) 15(1) *The Australasian Journal of Natural Resources Law and Policy* 1, 5, and sources there cited.

¹¹ International Network for Environmental Compliance and Enforcement, *Principles of Environmental Compliance and Enforcement Handbook* (April 2009) 59 <<http://www.inece.org/principles>>.

information from public disclosure. Secondly, common law and statutory rules governing confidentiality prohibit third party access to information that is considered commercially valuable. While these issues are important in designing Australia's water accounting systems, prohibiting public access to metering data significantly limits transparency and accountability in Australia's water licensing and entitlement frameworks. Third party access to this data will allow for monitoring of neighbours' and competitors' licensed water consumption. This, we argue, will encourage and enhance compliance with water extraction limits. Greater public access to water accounting data will also assist trading processes and enhance the development of Australia's water trading market.¹² We argue that the policy concerns surrounding these issues require specific treatment in the context of water registers and water accounting systems.

This argument is developed in five parts. The first part explains the concepts and terminology surrounding water accounting in Australia. The second part compares the legislative models for water accounting in different jurisdictions. The third part examines legal restrictions preventing water data from disclosure and questions the validity of these restrictions under the laws of privacy and confidentiality. The fourth part discusses legal arguments supporting the public disclosure of water accounting data. Finally, this article proposes legislative and policy reforms for state water legislation and suggests practical solutions to enhance water accounting in Australia.

At the outset, we acknowledge that there are two relevant issues concerning the management of water resources in Australia that cannot be addressed by this article. First, technical and policy developments are occurring around the practice of managed aquifer recharge that raise new challenges for water accounting.¹³ Secondly, attention is growing towards the need to better account for the provision and outcomes of providing environmental water.¹⁴ This second issue merges into the procedures for monitoring water plan implementation. These issues require research and consideration of policy reforms that are beyond the scope of this article. In due course, these issues will be essential for a comprehensive understanding of the legal framework surrounding water accounting in Australia. This article focuses on water resource accounting for consumptive use.

II ACCOUNTING FOR THE EXTRACTION AND USE OF AUSTRALIA'S WATER: CONCEPTS AND TERMINOLOGY

Water accounting is essential to ensure the sustainability of Australia's natural water supply. Part I examines the policy concepts and legislative history involved in this

¹² James H Skurray, Ram Pandit and David J Pannell, 'Institutional Impediments to Groundwater Trading: The Case of the Gnamara Groundwater System of Western Australia' (2012) 15(1) *Journal of Environmental Planning and Management* 1, 22. The authors note that '[a] major impediment to effective trade in the current environment is that there is no publicly available price information'.

¹³ See Peter Dillon et al, 'Managed Aquifer Recharge: An Introduction' (Waterline Report Series No 13, National Water Commission, Australian Government, 2009).

¹⁴ National Water Commission, 'The National Water Initiative – 2011 Assessment', above n 3, 108-110 [3.5]–[3.6].

process as a basis for assessing how water accounting is implemented in different states and territories.

A National Water Initiative ('NWI')

Over recent years, Commonwealth, state and territory governments have introduced legislative and policy reforms that more effectively regulate the extraction and use of Australia's water resources.¹⁵ The blueprint for these reforms is the 2004 Intergovernmental Agreement on a National Water Initiative ('NWI').¹⁶ The NWI sets out Australia's water resource management objectives and provides actions that each party will undertake to implement its principles. The NWI's key feature involves more precise measurement and management of water resource allocations for consumptive use and for environmental and public benefit outcomes. This feature exists through legally defined 'water access entitlements' and water sharing plans with associated water accounting and monitoring processes.¹⁷ Although Western Australia and the Northern Territory have not yet fully adopted these legislative reforms,¹⁸ both jurisdictions still administer water licensing regimes that provide volumetric entitlements to access water resources and purport to provide water for environmental outcomes. Similarly, through the *Water Act 2007* (Cth), the Commonwealth has made a Basin Plan that is required to set 'sustainable diversion limits' (SDLs) for the Murray-Darling Basin jurisdictions, and those SDLs will be implemented through state water entitlement and accounting regimes.

All Australian jurisdictions also implement legislation aimed at fostering water trading. One pertinent NWI principle is that water access entitlements must 'be recorded in publicly-accessible reliable water registers that foster public confidence and state unambiguously who owns the entitlement, and the nature of any encumbrances on it'.¹⁹ Water registers should also record water trades, both permanent and temporary.²⁰ Most water resources legislation responds to this requirement by addressing the immediate private interests in water access entitlements (eg ownership and notation of securities). Details of those provisions are not pursued in this article.²¹ Rather, the focus of this article is on the effectiveness and transparency

¹⁵ Under the Commonwealth Constitution, the Commonwealth government has no power to directly regulate water within Australia. Legislative power to regulate and control water sources and use is a part of the plenary legislative power which rests with Australia's states and territories: see, eg, *New South Wales v Commonwealth* (1975) 135 CLR 337; *ICM Agriculture Pty Ltd v The Commonwealth* (2009) 240 CLR 140. However, the federal-state division of legislative power concerning the regulation of Australia's natural water resources is a complex question: see Paul Kildea and George Williams, 'The Constitution and the management of water in Australia's rivers' (2010) 32 *Sydney Law Review* 595.

¹⁶ Above n 2.

¹⁷ See NWI 2004, above n 2, 17-18 [81]-[85].

¹⁸ National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 28 [1.1].

¹⁹ NWI 2004, above n 2, 6 [31(vii)].

²⁰ Ibid 11 [59]. Paragraph 59 acknowledges that temporary water trades may be recorded by water service providers, but it is implicit in this paragraph that records of trades should be reliable and publicly accessible.

²¹ It may be useful, at some stage, to do a careful analysis of the legal effect on private interests of the registration and dealing provisions for water entitlements and compare

of the water accounting regimes that underlie water entitlements and trading. Each entitlement regime must account for water allocations to competing consumptive uses and to environmental and public benefit outcomes. Water access entitlements are to be 'enforceable and enforced'.²² Although these aspirational policy requirements are not necessarily directly transferable into legal requirements for water accounting, metering and monitoring processes are essential for these entitlement and trading regimes to function effectively.

B Historical Approaches to Accounting for Extraction and Use in Australia

Historically, water access rights (including rights issued under licences) were 'bundled' together with rights attached to land.²³ At common law, a riparian landowner had a right to take and use surface water flowing in a defined watercourse or wetland that was connected to the landowner's tenement. This right was subject to the limit that extractions for more than ordinary domestic and stock watering uses were not to sensibly diminish the quantity or quality of water flow.²⁴ Groundwater was unregulated and there were no limits placed on landowners who sought access to water located beneath their land. Access to water was governed by access to land; no separate rights to riparian water could be exercised by non-riparians and only land surface holders could access ground water underlying the surface or stormwater flowing over the surface but outside a watercourse or wetland.²⁵

Constraints of the common law landholder access regimes led to the establishment of government authorisation of large-scale water use as the principal regulatory technique for managing the extraction of Australia's natural water resources. Twentieth century statutory provisions in most Australian jurisdictions claimed public control of water resources and required a Minister or other government representative to authorise extraction levels for industrial and rural water users while separately authorising publicly owned utilities to extract water for public water supply.²⁶

Many forms of government authorisation of water extraction have been employed in Australia over the past century. Before the NWI was created, the most commonly conferred authorisation was a water licence issued to a landholder for a defined term. This licence conferred an annual maximum volumetric access entitlement that could be taken and used on land specified in the licence. Initially, authorisations were commonly granted for a particular purpose, such as irrigating areas of identified crops on nominated land. These authorisations were gradually transitioned from specification of purposes to volumes. From the 1970s, especially in the Murray-Darling Basin, the authorisation of volumetric access entitlements for 'regulated' surface water

their operation with established law on such matters relating to Torrens title land or mining titles: see, eg, Alex Gardner and Michal Jorek, 'Dealings with Mining Titles under the *Mining Act 1978* (WA): Part 1 – requirements of form, consent and registration' (2005) 24 *Australian Resources and Energy Law Journal* 342; Alex Gardner and Michal Jorek, 'Dealings with Mining Titles under the *Mining Act 1978* (WA): Part 2 – the effect of registration and caveats' (2006) 25 *Australian Resources and Energy Law Journal* 41.

²² NWI 2004, above n 2, 6 [31(vi)].

²³ Gardner, Bartlett and Gray, above n 6, ch 8 generally.

²⁴ *Chasemore v Richards* [1843–60] All ER 77.

²⁵ Gardner, Bartlett and Gray, above n 6, 208 [11.2].

²⁶ Ibid chs 9–10.

catchments (ie surface water resources with flow managed by dams and weirs) became more sophisticated. Annual 'allocations' conferred on access entitlement holders would vary according to the availability of water and impacts of the vagaries of climate variability. Gradually, this management technique developed into methods of water allocation planning and was applied more extensively to other surface and ground water resources.

C Contemporary Regimes for Water Access Rights and Accounting

Today, this management technique of planning for water resource allocation finds expression in the core principles of the NWI, which provide for:

- statutory planning to determine a 'consumptive pool' and provision of water for environmental outcomes from a defined water resource;
- the conversion of former access rights (usually under licences) into 'water access entitlements' as perpetual shares in the consumptive pool, separated from land title and from other regulatory approvals to construct and operate works for the extraction and use of water on specified land; and
- annual or seasonal 'allocation' of water to each entitlement holder's water account of a specified volume of water that could be taken in that period, representing the share of the consumptive pool determined to be available.

In summary, NWI consistent water law reform has sought to 'unbundle' traditional water rights, creating proprietary rights in water that are separate from rights attached to land and that are identifiable and transferable.²⁷ Importantly, both access entitlements and annual allocations are tradable, although transfers of entitlements or allocations are often subject to regulatory approval.

Some use of the pre-NWI water licensing remains, even in those states that have legislated to implement the NWI model.²⁸ Thus, the implementation of NWI reforms in many Australian jurisdictions has provided the following three basic categories of water access rights.²⁹

1. Landholder access rights, including native title rights, generally equate to access to surface and ground water for the purposes of domestic and stock watering and indigenous cultural purposes. These uses are individually small in volume and are not usually accounted by metering of water extraction.
2. Take and use licences are the prevalent pre-NWI access entitlement. Generally, take and use licences are not supported by a statutory plan defining a consumptive pool and are usually attached to land. These licences still specify the access entitlement by an annual volumetric maximum and lack a seasonal allocation of water available to take or trade.
3. NWI water access entitlements are unbundled from land title and other regulatory approvals, and are defined as a perpetual share in a consumptive pool, with a seasonal allocation of available water determined in accordance with the plan principles and the prevalent item for trading in the water market.

²⁷ Ibid 217 [12.3], 425–427 [18.3]–[18.6] and 562 [25.3].

²⁸ Ibid 425ff, ch 18.

²⁹ Ibid 627–8 [26.7].

It is clear that the NWI model of water resource management will require sophisticated methods of water accounting to monitor extraction, consumption and trading of water resources. However, adequate methods of water accounting are also necessary to administer pre-NWI water licensing regimes that continue to operate across Australia. Both take and use licences and water access entitlements provide volumetric water allocations that permit the extraction of defined quantities of water from surface and ground water sources. Adequate water accounting plays an important role in ensuring that water licence and access entitlement holders are held accountable for the amounts of water they extract, trade and use.³⁰

D Water Metering

Water metering is generally understood as the essential mechanism for water accounting.³¹ Metering involves measuring water flow and volume in a defined water resource. Licensees and access entitlement holders may be required to install water meters on their property, record water extraction amounts, and submit meter readings to relevant government authorities. In irrigation districts administered by water service utilities or co-operatives, water metering is required even if individual water users do not directly hold water access entitlements.

Water meters are devices used to measure and estimate volumes of water extracted from a water source.³² These devices are generally considered to be the most accurate volumetric measurement of water consumption.³³ However, the quality, reliability and performance of water meters vary significantly, altering the accuracy of meter readings, measurements and water volume estimations.³⁴

Water metering may be applied to both groundwater and surface water supplies. Groundwater constitutes approximately 17% of accessible water resources in Australia and over 30% of Australia's total water consumption.³⁵ However, a lack of resources

³⁰ National Water Commission, 'The National Water Initiative – 2011 Assessment', above n 3, 50 [1.7].

³¹ See, eg, Western Australia Department of Water, 'Metering Fact Sheet' (Government of Western Australia) 1.

³² *Rights in Water and Irrigation Act 1914* (WA) sch 1 cl 46(5).

³³ Western Australia Department of Water, above n 31, 1.

³⁴ For this reason, the Commonwealth Government issued a *National Framework for Non-urban Water Metering* policy paper in 2009 that provides national standards for installing and auditing water meters. This policy provides recommendations for meter selection, installation and maintenance to ensure the reliability and accuracy of the readings provided: Australian Government, 'National Framework for Non-urban Water Metering: Policy Paper' (Commonwealth of Australia, 2009), 4ff.

³⁵ Australia is heavily dependent upon groundwater as a source of its industrial and domestic water supply. One of the world's largest aquifer systems, the Great Artesian Basin, supplies much of Australia's water for inland pastoral use. See Lee Godden, 'Efficiency and Environmental Sustainability: Using Market Mechanisms for Water Resources Regulation in Australia' in Barry Burton (ed), *Regulating Energy and Natural Resources* (Oxford University Press, 2006) 293, 297. However, groundwater resources are neither understood nor managed as well as they need to be: see Australian Government, National Water Commission, 'Groundwater Essentials', (Commonwealth of Australia, 2012) <

devoted to the management, measuring and monitoring of Australia's groundwater has led to an overallocation of water licences being issued to groundwater users.³⁶ In some parts of Australia, too much groundwater is being extracted from limited water sources, leading to significant overuse.³⁷ These problems are exacerbated by inadequate water accounting for licensed groundwater extraction in many parts of Australia.³⁸ Weak monitoring of water resource extraction also impedes the development of a comprehensive water trading market.³⁹

E Water Registers

Australia's states and territories are vested with the statutory responsibility to maintain water registers and record water accounting data.⁴⁰ Water registers record the details of water access entitlements and water allocations, including licence conditions and personal details of licensees. Registers may include details of ownership, location, interests, encumbrances and trading activities relevant to a particular water licence or access entitlement. For NWI consistent regimes, there are separate water accounting registers in which the annual allocations, trades and extractions of available water are recorded. However, water registers and the legislation that governs them vary substantially between jurisdictions. Differences arise in the nature and amount of information recorded, the compatibility with other registers and the degree of public access to water accounting data. These differences create inconsistencies in the transparency and effectiveness of different water accounting systems, examined in Part III.

III COMPARING JURISDICTIONS: STATUTORY AND POLICY MODELS FOR WATER ACCOUNTING AND DISCLOSURE IN AUSTRALIA

Water accounting and disclosure of water information are governed by statutory and policy frameworks in all Australian states and territories. These legislative frameworks provide the regulatory authority necessary to measure, record and limit surface and ground water extraction. Broadly, two models of water accounting and disclosure can be identified.⁴¹ First, NWI water accounting systems provide water access entitlements and seasonal allocations to individual water users and permit trading of those water rights. Secondly, non-NWI water accounting systems feature water licences that authorise the extraction of fixed maximum annual volumes from particular land locations, where water metering is required only to a limited degree. Currently, New

http://www.nwc.gov.au/__data/assets/pdf_file/0020/21827/Groundwater_essentials.pdf.

³⁶ National Water Commission, 'Groundwater Essentials', above n 35, 27. See also Godden, above n 35, 295.

³⁷ National Water Commission, 'Groundwater Essentials', above n 35, 27.

³⁸ Ibid.

³⁹ Skurray, Pandit and Pannell, above n 12, 1.

⁴⁰ See, eg, *Natural Resources Management Act 2004* (SA) s 226. See also NWI 2004, above n 2.

⁴¹ Legislation and policy governing water metering and licencing are at various stages of development in each Australian jurisdiction, largely reflecting the extent to which water reforms have been initiated. Significant differences exist between the statutory and policy frameworks in each state and territory.

South Wales, Victoria and Queensland still operate both regimes of water accounting as these states make the transition to the NWI framework. Victoria and Queensland operate both regimes under the one Act. Interestingly, Queensland operates a 'hybrid' scheme by which the water entitlement regimes are partially merged with the land title regime. Western Australia operates only a non-NWI, or pre-NWI, regime.

Part III examines these four examples of statutory models that regulate water accounting in Australia. Each jurisdiction's statutory and policy framework is compared against the three core elements required for transparent water accounting set out above.⁴² Most jurisdictions clearly address the legal limits on taking and trading water and the obligations imposed on licensees to record and report metered water extractions. However, transparent public disclosure of individual water accounting data is not generally provided for in these statutory regimes.

A NWI Water Accounting Systems

NWI water accounting systems allocate to each access entitlement a nominal volume of water as a share of a particular water resource that is recorded on the entitlement register. Each entitlement holder then receives a 'seasonal allocation' pursuant to periodical ministerial 'determinations of available water', which are credited under a separate water accounting register to the holder's water account as a volume of water that may be extracted within a specified period – usually across a 'water year' (July to June). Water access entitlements and seasonal allocations, or parts of them, can be transferred under statutory systems of water trading. Entitlement transfer information is recorded in each state's water access entitlement register,⁴³ and seasonal allocation transfers are recorded in the separate allocation accounting regime.⁴⁴ Conditions may be imposed on water access entitlements to install water meters and record and report meter data. Metering and reporting requirements are not always mandatory but these processes will be required where water access entitlements are traded. New South Wales and Victoria provide two examples of NWI water accounting systems that currently operate in Australia.

1 New South Wales

New South Wales' water legislation and policy framework exhibits two of the three elements proposed by this article for transparent water accounting. Most water accounting is administered under the *Water Management Act 2000* (NSW) ('NSW Water Act'),⁴⁵ which defines clear legal limits on taking and trading water in NSW. Water access entitlements (called 'water access licences') entitle licence holders to (a) access specified shares of available water from specified water sources ('share component'); and (b) take water at specified times and from specified locations ('extraction component').⁴⁶ Water access licences may be traded within and outside NSW⁴⁷ and share and extraction components can be assigned between licensees.⁴⁸ Seasonal water

⁴² See above, Part I, 3.

⁴³ See, eg, *Water Management Act 2000* (NSW) ss 71, 71A.

⁴⁴ See, eg, *Water Management Act 2000* (NSW) ss 84, 85.

⁴⁵ We do not consider here the remnant operation of the *Water Act 1912* (NSW).

⁴⁶ *Water Management Act 2000* (NSW), s 56(1).

⁴⁷ *Water Management Act 2000* (NSW) ss 71M, 71U.

⁴⁸ *Water Management Act 2000* (NSW) s 71Q.

allocations may also be traded from one water licence to another, including by interstate transaction.⁴⁹ All or part of these allocations may be traded. General dealings with water access licences only take effect when the dealings are registered on the NSW Water Access Licence Register. Similarly, dealings with water allocations only take effect when they are entered in the relevant water allocation account.⁵⁰ Some water trade dealings, including the assignment of share components of water access licences and water allocations, require the consent of the Minister before they can be registered.⁵¹ The NSW Water Act, therefore, defines a relatively detailed statutory regime to regulate the taking and trading of water. This still leaves questions about the metering and reporting requirements that provide the essential information to account for the use of water allocations.

Water metering in NSW is currently regulated by the *NSW Interim Water Meter Standards* ('Interim Policy').⁵² This regulatory framework will apply until the *National Framework for Non-urban Metering Policy Paper* is approved by the Commonwealth government and implemented in all states and territories.⁵³ However, the Interim Policy does not address water meter readings or recording meter data. These processes are regulated by the *NSW Water Extraction Monitoring Policy* (2007).⁵⁴ Requirements to install meters and record water accounting data vary and are determined by individual water licence conditions.⁵⁵ Licence holders may be required to record meter readings and forward this information to the Office of Water or State Water.⁵⁶ Not all licensees are required to install water meters to measure the flow of water extraction. Where

⁴⁹ *Water Management Act 2000* (NSW) ss 71T, 71V.

⁵⁰ *Water Management Act 2000* (NSW) s 71L(1), (4). See also Government of New South Wales, Office of Water, *Dealings and trade* (7 March 2012) <<http://www.water.nsw.gov.au/Water-Licensing/Dealings-and-trade/default.aspx>>.

⁵¹ *Water Management Act 2000* (NSW) ss 71L(1) and (4) and 71M(4). See also NSW Office of Water website, *ibid*. The Minister's consent will generally be administered by the NSW Office of Water.

⁵² Ken Roberts, 'NSW Interim Water Meter Standards' (NSW Government, Office of Water, 2009) 5. Accessible at Government of New South Wales, Office of Water, *Metering* (30 June 2011) <<http://www.water.nsw.gov.au/Water-licensing/Metering/Metering/default.aspx>>.

⁵³ Government of New South Wales, Office of Water, *Metering* (30 June 2011) <<http://www.water.nsw.gov.au/Water-licensing/Metering/Metering/default.aspx>>.

⁵⁴ This policy aims to increase active monitoring of water extraction and expand water metering in New South Wales: Government of New South Wales, Department of Water and Energy, 'Water Extraction Monitoring Policy' (2007) 5.

⁵⁵ Government of New South Wales, above n 53, 5. On its website, the NSW Office of Water advises water licence and approval holders to check their 'conditions statement' for specific recording and metering requirements applicable to their licence. For example, water licence conditions may require water extractors in NSW to have a meter fitted to their extraction works.

⁵⁶ Roberts, above n 52, 6–7. The Policy states that the metering data should be reported to the Department of Water and Energy, however the Department was replaced by the Office of Water as the water resource manager and regulator in 2009. The Office of Water administers the metering of unregulated systems and groundwater, while State Water, a State owned water services provider, administers the metering of water extraction from regulated rivers that it manages through the operation of dams: Government of NSW, 'Water Extraction Monitoring Policy', above n 54, 2.

appropriate, alternative methods of monitoring water usage may be approved, such as by monitoring pump electricity consumption.⁵⁷ Broadly speaking, these policy provisions implemented through licence obligations address the second element of transparent water accounting; namely, requiring a clear statement of licensees' obligations to install water meters and report metered extractions.⁵⁸

The third element we propose for transparent water accounting involves public access to water metering and trading data. Water accounting data is more publicly accessible in NSW than in other jurisdictions. The NSW Office of Water provides several free online public interfaces that permit access to anonymous (by licence number) water licence conditions, anonymous (by licence number) water trading data, as well as summaries by water source of available water determinations and aggregated water extraction data.⁵⁹ It is possible to ascertain the overall picture of water availability and extraction by reference to these figures.

However, it is a different story for individually identifiable data on water licence entitlements and water accounting. Legislation governing the management of this information provides a basic framework for ascertaining, for a fee, individual water licence entitlements. The legislation does not provide for search information concerning compliance with these entitlements. The relevant Minister must keep a Water Access Licence Register ('the Access Register') to record water licensing and trading data,⁶⁰ including details of the basic entitlements and 'dealings' (ie transactions approved under the Act). Information recorded in the Licence Register may be disclosed to members of the public,⁶¹ though the Minister may impose conditions restricting public access to information recorded in the Register.⁶² The Minister must also maintain a 'register of available water determinations'⁶³ (ie determinations of seasonal allocations) and keep 'water allocation accounts' for each access licence, including credits and debits of water to those accounts.⁶⁴ The NSW regulations may provide the form and details of the register of available water determinations, and for public inspection of it. The NSW Water Act also stipulates that the regulations may provide the form and details of the water allocation accounts, but is notably silent about provision for public inspection of these accounts. NSW's water regulations

⁵⁷ Government of New South Wales, above n 54, 5.

⁵⁸ See above, Part I, 3.

⁵⁹ See Government of New South Wales, Office of Water, *Public Registers* (20 March 2012) <<http://www.water.nsw.gov.au/Water-licensing/Registers/default.aspx>>.

⁶⁰ *Water Management Act 2000* (NSW) ss 71–71C, sch 1A.

⁶¹ *Water Management Act 2000* (NSW) s 71J(1).

⁶² *Water Management Act 2000* (NSW) s 71J(3)(b). The Access Register is maintained by Land and Property Information NSW on behalf of the Minister for Water and is searchable for a fee.

⁶³ *Water Management Act 2000* (NSW) s 84.

⁶⁴ *Water Management Act 2000* (NSW) s 85.

provide for public inspection of the register of available water determinations,⁶⁵ but not for water allocation accounts.⁶⁶

NSW partially meets the third requirement for transparent water accounting in Australia, by providing online public access to aggregated water extraction data but not to individual data. By combining a search of the Access Register and the register of available water determinations, it may be possible to ascertain how much water is allocated to an individual water account and how much water is traded. However, it is not possible to ascertain from publicly available water entitlement and accounting information whether an individual licensee's water extraction complies with their entitlement.

2 Victoria

Victoria's statutory water framework demonstrates weaker compliance with the three core elements of transparent water accounting. The NWI water resource management objectives were incorporated into Victoria's existing water legislation, the *Water Act 1989* (Vic) ('Victorian Water Act'), mainly by amendments in 2002 and 2005.⁶⁷ This Act now employs regimes for both NWI entitlements ('shares') and pre-NWI entitlements (take and use 'licences'), though the pre-NWI regime includes licence transfer. Water entitlements are required for all water extraction except stock or domestic use.⁶⁸ The Victorian Water Act also provides for the grant of 'bulk entitlements' to water corporations and other public utilities, which are a form of public utility entitlement.

Water accounting in Victoria is administered under the Victorian Water Act. In certain geographical areas, groundwater metering and licensing are also addressed by Regional Sustainable Water Strategies.⁶⁹ Victoria's policy position on water accounting requires metering for the extraction of more than 20ML of water per year.⁷⁰ Routine monitoring is undertaken throughout Victoria by the Department of Sustainability and Environment, as well as by water authorities, other government departments and private businesses.⁷¹ Legal duties to undertake water metering and monitoring can be imposed under a bulk entitlement, under a management plan for a water supply

⁶⁵ The NSW Office of Water provides free on-line access to the register of available water determinations at <http://registers.water.nsw.gov.au/wma/DeterminationSearch.jsp?selectedRegister=Determination>.

⁶⁶ *Water Management (General) Regulation 2011* (NSW) cls 14-15.

⁶⁷ See especially *Water Act 1989* (Vic) pt 3 div 1A, pt 3A, pt 4 **div 1A**, pts 4A-4B, pt 5A.

⁶⁸ *Water Act 1989* (Vic) ss 8, 51(1)(ba).

⁶⁹ These strategies include the Northern Region Sustainable Water Strategy (DSE 2009), Gippsland Region Sustainable Water Strategy (DSE 2009), Central Region Sustainable Water Strategy (DSE 2009) and Draft Western Region Sustainable Water Strategy (DSE 2010).

⁷⁰ Sinclair Knight Merz, 'Assessment of Groundwater Licensing, Metering and Extraction Estimation Arrangements and Techniques in Australia' (Waterlines Report No 83, National Water Commission, June 2012) 33.

⁷¹ See Department of Sustainability and Environment, Government of Victoria, *Monitoring & Reporting: Groundwater Monitoring* (13 October 2011) <http://www.water.vic.gov.au/monitoring/groundwater>.

protection area, under a water licence or under a waterworks licence.⁷² However, these duties all pertain to the installation and operation of the metering/measuring devices and not to any duty to read and report metering results.

Water shares may be associated with specified water use licences. Water use licence conditions may set maximum volumes of water to be applied to land and set monitoring and reporting requirements. However, it is suggested that these procedures will not pertain to the metering of water extraction under an access right.⁷³ There appears to be no legal instrument that generally imposes on entitlement holders the duty to record and report meter readings. Instead, management plans appear to illustrate that, as a matter of practice, the installation, maintenance and reading of meters are principally undertaken by water authorities.⁷⁴

These observations are re-enforced by the provisions of Part 5A of the Victorian Water Act for the administration of the 'water register', the purpose of which is 'to facilitate the responsible, transparent and sustainable use of the State's water resources'.⁷⁵ More specifically, the purposes of the water register are:

- (a) facilitating the monitoring of, and reporting in relation to, records and information about water-related entitlements and allocation and use of water resources; and
- (b) facilitating a market for water-related entitlements and water resources by providing publicly available records and information and other records and information about ownership and use of water-related entitlements.

In Victoria, there is a somewhat confusing tripartite responsibility for the establishment and management of the water register. Responsibility is shared between the Minister (i.e. the Department of Sustainability and Environment), the Registrar and water authorities ('recording bodies'). Each body owes duties to the others to perform its functions and make available the relevant records and information that will permit the others to perform their functions.⁷⁶ Each may require a person to submit any documents or information relating to the recording of any matter in the water register,⁷⁷ and may also approve the forms to be used for those parts of the Water Register for which that body is responsible.⁷⁸ However, Part 5A prescribes only the recording of the high level bulk entitlement and NWI entitlement details. It does not provide for the maintenance of the water accounting system for seasonal allocations. Further, there appears to be no statutory provision for registration of pre-NWI take and use water licences.

⁷² *Water Act 1989* (Vic) ss 32A(3)(a), 43(g)-(h), 56(1)(xii), 71(ac). The Act also provides for instruments allocating environmental entitlements to stipulate volumetric quantification and accounting procedures for the entitlement: ss 48I(a)-(b).

⁷³ *Water Act 1989* (Vic) ss 33H(b), 64Z(3).

⁷⁴ See, eg, 'Groundwater Management Plan for the Katunga Groundwater Supply Protection Area 2006', 14. Available in Goulburn-Murray Water, *Groundwater Management Plans* (5 April 2011) <<http://www.g-mwater.com.au>>. Such plans have the force of law.

⁷⁵ *Water Act 1989* (Vic) s 84B.

⁷⁶ *Water Act 1989* (Vic) s 84E.

⁷⁷ *Water Act 1989* (Vic) s 84ZF.

⁷⁸ *Water Act 1989* (Vic) s 84ZI.

What about water trading information? The Registrar is required to record transfers of water shares, including limited term transfers.⁷⁹ There is separate provision for authorities to record transfers of water licences, but it is not clear from the Act whether this information should be integrated with the operation of the Part 5A water register.⁸⁰ There is limited statutory prescription of exactly what water trading information shall be reported and recorded, although a transfer (permanent or limited term) of a water share must state the consideration given for the transfer.⁸¹

In summary, the Victorian Water Act provides a clear and accessible statement of legal limits on entitlement holders to take and trade water under NWI entitlements. However, this is not expressed in the Act for pre-NWI water licences. Victoria only partly meets the second requirement for transparent and effective water accounting: a clear statement of the obligations of entitlement holders to install meters, and to record and report metered extractions, and report water trading information. While it does provide for the discretionary imposition of metering obligations, the practical administration of the water metering requirements is less than legally transparent and the relevant recording and reporting duties are not explicit. It is likely that much of the registration system rests on a general authority of the Minister, subject to any regulations, to "establish and maintain the system for the water register in any form and manner the Minister thinks fit".⁸²

How is the third requirement of water accounting addressed: that there is a clear and accessible record of the aggregated and individual metering and trading data? The Victorian Water Act provides that all information in the register in relation to NWI entitlements is publicly available.⁸³ Any person may apply to a recording body for any information or record, which the recording body must provide on payment of a search fee.⁸⁴ However, regulations may be made limiting access to information on the register, or prescribing classes of information that are not publicly available.⁸⁵ No such regulations appear to have been made. Notwithstanding the limited scope of these legislative provisions, the Department maintains a comprehensive set of online registers for share and licence entitlement regimes, including provision of information about water trading.⁸⁶ It is also possible to access aggregated water trading data for the volume and price of NWI shares and allocations, but not of water licences. Public provision of water accounting information for individual shares and licences is also missing, particularly the provision of metered extraction records. Victoria's NWI water accounting system therefore fails to satisfy the third element of transparent water accounting, which requires public disclosure of accounting data for individual water entitlements.

⁷⁹ *Water Act 1989* (Vic) s 84J.

⁸⁰ *Water Act 1989* (Vic) s 64F. The available regulations seem only to relate to fees: *Water (Resources Management) Regulations 2007* (Vic).

⁸¹ *Water Act 1989* (Vic) s 84ZG.

⁸² *Water Act 1989* (Vic) s 84D(1).

⁸³ *Water Act 1989* (Vic) s 84X.

⁸⁴ *Water Act 1989* (Vic) s 84ZA.

⁸⁵ *Water Act 1989* (Vic) ss 84X(3)-(4).

⁸⁶ Department of Sustainability and Environment, Government of Victoria, *Victorian Water Register* <<http://www.waterregister.vic.gov.au/Default.aspx?TabIndex=0>>.

B Queensland's 'Hybrid' System

A unique model of regulating water accounting in Australia is Queensland's 'hybrid' system. This system incorporates NWI and non-NWI water access entitlements, both of which are tradable, and includes some integration with the Torrens title land register. Metering and reporting may be prescribed as standard conditions of a water access entitlement. Queensland's 'hybrid' model exhibits generally strong compliance with the three core elements required for transparent water accounting, but still does not provide access to individual water accounting data.

Water accounting in Queensland is governed by the *Water Act 2000* (Qld) ('Queensland Water Act'). This Act provides two forms of access entitlements that may be issued to water users. First, NWI water access entitlements (called 'water allocations') provide an annual volumetric limit of water that can be taken from a defined water resource, subject to conditions entered on the register or prescribed by regulation.⁸⁷ The Queensland Water Act gives no statutory recognition of the process of seasonal determinations of available water credited to water accounts. Rather, the Resource Operation Plans made under the Act incorporate water sharing rules that provide for the making of 'announced allocations' to the holders of 'water allocations'.⁸⁸ The allocations can be permanently traded or temporarily traded by 'seasonal water assignment'.⁸⁹

Secondly, non-NWI water licences generally attach to the licence holder's land⁹⁰ and authorise the take and use of water only on the land of the licensee.⁹¹ The licence is subject to conditions prescribed by regulations and determined by the chief executive for a particular licence.⁹² Notably, the *Water Regulations 2002* (Qld) provide that these licences may also be the subject of 'announced allocations'⁹³ which appear to be tradable as 'seasonal water assignments'.⁹⁴ Water licences may also be converted into water allocations.⁹⁵ Both forms of entitlements are recorded in Queensland registers, but in different water registers that have an integrated operation.

The Queensland Water Act establishes the office of the 'registrar of water allocations'⁹⁶ who is responsible for keeping a 'water allocations register' for NWI

⁸⁷ *Water Act 2000* (Qld) ss 121–122, 127A.

⁸⁸ Gardner, Bartlett and Gray, above n 23, 426 [18.5].

⁸⁹ *Water Act 2000* (Qld) ss 128–130, 141ff. It is not clear from the legislation how the seasonal water assignment process interacts with the 'announced allocations'.

⁹⁰ *Water Act 2000* (Qld) ss 206(1), 213, with exceptions noted at s 213(1)(e); such as local government, a water authority, a resource operations licence holder, a petroleum tenure holder and the Commonwealth Environmental Water Holder.

⁹¹ *Water Act 2000* (Qld) ss 214, 215(1). Where water is to be taken from a resource that is not on, adjacent to or under a licensee's land, the licensee must obtain and register on the land titles register a lease or easement pertaining to the access to land from which the water resource is sourced: s 214(4).

⁹² *Water Act 2000* (Qld) ss 213–14.

⁹³ Gardner, Bartlett and Gray, above n 23, 435 [18.20].

⁹⁴ *Water Act 2000* (Qld) ss 230–35. It is not clear how the statutory provisions for seasonal water assignments interact with the announced allocations under the Water Regulations.

⁹⁵ *Water Act 2000* (Qld) ss 121(1)(a), 206.

⁹⁶ *Water Act 2000* (Qld) s 147.

water allocations.⁹⁷ NWI water allocations are generally issued pursuant to a Resource Operations Plan upon the expiry of the previous entitlement.⁹⁸ At that time, the Registrar is responsible for recording the details of an allocation in the register. Details must include information about the holder of the allocation, a nominal volume of water that may be extracted, the location of that extraction and any conditions required to be entered on the register.⁹⁹ There is a broad capacity to trade the access rights under an allocation, subject to approval by the chief executive of the Department or the resources operations licence holder, which the registrar must then record.¹⁰⁰ There is no capacity for seasonal water assignments to be registered on the water allocation register.

In contrast, there are no general provisions for the registration of non-NWI water licences under the Queensland Water Act. Instead, the chief executive has a duty to give the registrar of land titles a notice of the grant of the water licence so that the information is appended to the land titles register.¹⁰¹ Thus, Queensland's Water Act provides a clear statement of legal rights and obligations imposed on water entitlement holders to take and trade water by using two different registers. One register is dedicated to registering NWI water allocations and the other is a supplement to the land titles register under the *Land Title Act 1994* (Qld) for non-NWI licences.

How well does the Queensland Water Act provide for entitlement holders to meter and report water extractions and report water trading in accordance with our second element of transparent water accounting? Water allocation holders are subject to the water resource plan and resource operations plan and may receive their supply of water pursuant to a contract with the resource operations licence holder.¹⁰² It does not appear that these instruments are used to set metering and reporting requirements. Rather, water metering is enabled by provisions of the Water Act authorising licence conditions and provisions of the Queensland Water Regulations, which authorise the issue of notices requiring the metering of both water allocations and water licences.¹⁰³ Water metering is not required in all areas of Queensland, but is restricted to areas covered by water resource plans.¹⁰⁴ Water entitlement holders may be required to

⁹⁷ *Water Act 2000* (Qld) s 148(1).

⁹⁸ *Water Act 2000* (Qld) ss 121–122.

⁹⁹ *Water Act 2000* (Qld) ss 127–127A. Although it may appear that the chief executive has a discretion as to the conditions that he or she may require to be entered on the register (s 127(1)(e)), this interpretation would be inconsistent with the purpose of the register and the effect of s 127A. The details are different if the allocation is not managed under a resource operations licence: s 127(3).

¹⁰⁰ *Water Act 2000* (Qld) ss 128–130, 150. Strictly speaking, a transfer or lease of an allocation does not require approval by the chief executive; rather it requires notice to the chief executive and then recording by the registrar of water allocations: s 128B.

¹⁰¹ *Water Act 2000* (Qld) ss 1007(3)–(4). This allows a search of the land titles register under any Act to reveal the licence document and show that the licence attaches to the relevant land.

¹⁰² *Water Act 2000* (Qld) ss 122(4), 122A, 123.

¹⁰³ *Water Act 2000* (Qld) ss 127A, 214(2)(b); *Water Regulations 2002* (Qld) ss 70–75 and associated definitions of 'metered entitlements' and 'authorisation'. See also *Water Regulations 2002* (Qld) regs 78–79.

¹⁰⁴ Water resource plans ('WRPs') are essential water planning instruments in Queensland that establish an allocation framework for the plan area's water resources. See Vanessa O'Keefe,

record meter readings and report them to the chief executive. The obligation to provide water trading information flows from general provisions requiring an application for trade approval and/or recording.¹⁰⁵ While the Queensland Water Act uniquely provides for variable annual allocations from water licences, the complex provisions for statutory 'seasonal assignments' and plan-based 'announced allocations' fail to provide a simple and publicly transparent water accounting process for available water. Consequently, the second requirement for transparency in water accounting is not fully implemented in Queensland.

How is the third requirement addressed: a clear and accessible record of both the aggregated and individual metering and trading data available to the public from the registers? Due to the complexity of some statutory provisions in the Queensland Water Act, it is not clear how water accounting data collected through the metering policy is provided to water licensees or to members of the public.¹⁰⁶ Third parties may access copies of 'allocation' documents, including instruments of transfer or lease, recorded in Queensland's water allocations register on payment of a prescribed fee.¹⁰⁷ These documents would not include a seasonal water assignment of an allocation,¹⁰⁸ or any water accounting information for individual allocation holders. In addition to the record of water licences maintained by the registrar of land titles, the chief executive must also keep copies of documents available for public inspection for a fee, including water licences and the seasonal water assignments of allocations and licences.¹⁰⁹ Data may also be disclosed on an aggregate level to other bodies, including water user groups and members of the public.¹¹⁰ However, there does not appear to be any provision that would authorise the public disclosure of individual water accounting data from meter readings and reports.

C Non-NWI Water Accounting Systems

Non-NWI water accounting systems represent an alternative model for regulating water accounting in Australia. As applied in Tasmania and Western Australia ('WA'), these systems effectively represent a continuation of the pre-NWI model. Under this model, water licences with defined renewable terms are required to extract water from most ground and surface water sources. The licences are endorsed with a 'water

¹⁰⁵ 'A Framework for Managing and Developing Groundwater Trading' (Waterlines Report Series No 52, National Water Commission, June 2011) Appendix C, 112.

¹⁰⁶ *Water Act 2000* (Qld) ss 128 ff, 222 ff.

¹⁰⁷ Department of Natural Resources and Mines, Government of Queensland, 'Queensland Metering Water Extractions Policy' (May 2005) and Department of Environment and Resource Management, 'Queensland State Implementation Plan for Non-Urban Water Metering' (2010), both of which are available on the departmental website relating to water metering: <http://www.derm.qld.gov.au/water/use/index.html>. These documents affirm the responsibility of the Department or water service providers to conduct the metering in return for a water metering charge, but they do not say what happens to the metering data.

¹⁰⁸ *Water Act 2000* (Qld) ss 150, 153.

¹⁰⁹ Queensland Government, Department of Environment and Resource Management, *Gold Coast Water Resource Account 2010-11*, Nov 2011, 11. See also, Queensland Government, Department of Environment and Resource Management, *Water Trading: Seasonal Water Assignments and Water Leases*, 2009.

¹¹⁰ *Water Act 2000* (Qld) ss 1009(1)(n)-(o).

¹¹¹ Department of Natural Resources and Mines, Government of Queensland, above n 106, 18.

allocation' (Tasmania) or 'water entitlement' (WA) but they are not share entitlements subject to seasonal determinations of available water.¹¹¹ Licences may be transferred,¹¹² but water trading is permitted only to a limited degree. Metering of water extractions may be required but this is not a mandatory licence condition.

WA provides an example of a non-NWI water accounting system that only complies with the first core element of transparent water accounting. The *Rights in Water and Irrigation Act 1914* (WA) ('WA Water Act') governs water accounting in Western Australia. Water licences are required to extract water from certain watercourses, wetlands and underground water sources. Licensees are granted a 'water entitlement', which provides a maximum annual quantity of water that may be extracted under a licence. Permanent and temporary trading of both licences and entitlements are permitted with the approval of the Minister, subject to the transferee meeting the landholder eligibility qualification to hold a licence. Water licences and entitlements are recorded in a water register administered by the CEO.¹¹³ This register must record details prescribed by the Act and Regulations, including details identifying the licensee, the term of the licence and the volume of water that may be taken. However, this register does not include the conditions to which a water licence is subject.¹¹⁴ Thus, WA's Water Act does not comply with the first core element of transparent water accounting because it fails to provide accessible details of the legal limits on licensees to take water.

WA's water accounting framework also lacks a clear statement of licensees' obligations concerning water meters and reporting metered water extractions. Water metering is enabled under the WA Water Act¹¹⁵ and guided by *Strategic Policy 5.03 – Metering the taking of water*.¹¹⁶ Metering may be imposed as a condition on a water licence, including requirements to record and submit meter readings to the WA Water Department.¹¹⁷ As a matter of general policy, metering is required for extractions above 500ML per year, including large mining and industrial developments,¹¹⁸ and may also be imposed for lower extractions where certain activities are carried out.¹¹⁹ However, WA's water regulation framework does not address compliance with water entitlements or monitoring and reporting guidelines. Metering requirements are largely prescribed by individual water licence conditions and will be required before trading is permitted. As water trades are subject to the approval of the Minister, a licensee is required to report trading information to the Department, but that

¹¹¹ Gardner, Bartlett and Gray, above n 23, 431–2 [18.13]–[18.14], 437–8 [18.25].

¹¹² See, eg, *Water Management Act 1999* (Tas) ss 95, 103, 120, 121.

¹¹³ *Rights in Water and Irrigation Act 1914* (WA) s 26GZI(1).

¹¹⁴ *Rights in Water and Irrigation Act 1914* (WA) s 26GZJ; *Rights in Water and Irrigation Regulations 2000* (WA) reg 48.

¹¹⁵ *Rights in Water and Irrigation Act 1914* (WA) sch 1 cl 46.

¹¹⁶ Department of Water, Government of Western Australia, *Strategic Policy 5.03 – Metering the Taking of Water* (2009) iii, 4. This policy outlines the WA Department of Water's position on water metering in Western Australia.

¹¹⁷ Ibid 11. See also *Rights in Water and Irrigation Act 1914* (WA) sch 1 cls 7(5), 15(3), app 1.

¹¹⁸ Sinclair Knight Merz, above n 70, 13.

¹¹⁹ Water metering may also be required for wells associated with small allocations such as stock watering, domestic use and garden irrigation: see Sinclair Knight Merz, above n 70, 13.

information is not then recorded on the register. Items such as the transfer or lease of the licence or entitlement are merely noted on the register to identify the transferee, not fully recorded to show the trade details such as price and volume.¹²⁰ No other legislatively endorsed record of water accounting exists in WA. There is no comprehensive metering program or water accounting system to record reports of the meter readings or trading information.¹²¹ Consequently, WA fails to satisfy the second core element required for transparent water accounting.

It is not surprising that WA's Water Act also fails to address the third proposed element of transparent water accounting concerning the public disclosure of water metering and trading data. The water register must be available for public inspection on payment of a prescribed fee.¹²² However, as already explained, the register does not contain records of individual metering or trading data, so there is no possibility of public access to this data.

D Assessing Public Access to Water Accounting Data under Water Resources Legislation

As parties to the NWI, all states have committed to implementing compatible water resource accounting systems.¹²³ As discussed, most jurisdictions have addressed this objective through legislation and policy prescribing that some data recorded in water registers must be made available to the public.¹²⁴ However, the NWC has recently reported failures by some jurisdictions to develop and implement monitoring strategies aligned with NWI water plan objectives, which '[make] it very difficult to determine whether the objectives are being achieved'.¹²⁵ One consequence of this failure is a significant lack of public disclosure of water metering and, in some states, water trading data, restricting the ability to determine whether water consumption limits are being adhered to.¹²⁶

On a simple analysis, what is missing is a coherent and comprehensive model of water resource accounting that includes public access to individual water consumption and trading data. Public access to this data would serve two important purposes. First, increasing the volume of information available in the water market would benefit and enhance water trading.¹²⁷ Relevantly, objectives of the Commonwealth government's National Water Market System Project include improving accessibility of market

¹²⁰ *Rights in Water and Irrigation Act 1914* (WA) ss 26GZJ, 26GZK; *Rights in Water and Irrigation Regulations 2000* (WA) reg 48.

¹²¹ Sinclair Knight Merz, above n 70, 104.

¹²² *Rights in Water and Irrigation Act 1914* (WA) s 26GZI(3). The WA Department of Water has also created an online access to the register using a simple search function to find basic details of water licences and available water: <<http://www.water.wa.gov.au/ags/WaterRegister/>>.

¹²³ National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 48 [1.6].

¹²⁴ See, eg, *Water Resources Act 2007* (ACT) s 67.

¹²⁵ National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 113 [3.6.2].

¹²⁶ *Ibid* 113.

¹²⁷ See generally Skurray, Pandit and Pannell, above n 12.

information and increasing transparency.¹²⁸ Secondly, allowing third party access to water metering data, whether that data is recorded and reported by a public authority or by the licensee or access entitlement holders personally, would encourage self-monitoring and better secure compliance with limits on access entitlements. In the absence of such provisions in the water resources legislation, the following section addresses legislative responses by different states to disclosing individual water accounting data.

IV LEGAL RESTRICTIONS PREVENTING ACCESS TO WATER ACCOUNTING DATA IN AUSTRALIA

Public access to water accounting data is restricted in most Australian jurisdictions on varied legal grounds. A distinction arises concerning the types of water accounting data recorded in water registers that may be publicly disclosed. Generally, the publication of total and aggregate levels of data is permitted. For example, Commonwealth agencies including the NWC, the Bureau of Meteorology ('BoM') and the Murray-Darling Basin Authority ('MDBA') publish aggregate levels of water trading and licensing information, free of charge. In contrast, the disclosure of individuals' water usage data is restricted on two grounds. First, water and privacy statutes in several states and territories prohibit the disclosure of water accounting data classified as 'personal information'. Secondly, information classified as 'confidential' may be restricted from disclosure under general law and statute. Access to this personal and confidential information may be sought and obtained under freedom of information ('FOI') legislation. The question is whether water accounting and trading data, including meter readings and extraction volumes, *can* and *should* be classified as personal or confidential information. This section compares different legislative responses to protecting water data from disclosure and examines whether the limits imposed on accessing 'personal' or 'confidential' information are valid.

A Prohibiting the Disclosure of Personal Information

Water legislation in all jurisdictions permits searching and disclosure of information recorded in state water registers. Most registers are not openly available to the public but certain types of information may be disclosed, often on payment of a prescribed fee.¹²⁹ This provides a starting point for searching and accessing water accounting data. However, prohibitions against publicly disclosing water accounting data that is characterised as 'personal information' arise under both water and privacy statutory regimes. Because of the definition of 'personal information' (discussed below) as concerning individuals, restrictions on the disclosure of this information will be of limited application to corporate holders of licences and access entitlements.

At the Commonwealth level, restrictions apply to the public disclosure of individuals' personal water accounting data. Under the *Water Act 2007* (Cth), the BoM is vested with statutory authority to collect and publish water information. The Commonwealth Act prohibits the BoM from publishing water information that

¹²⁸ See *ibid* 2.

¹²⁹ See, eg, *Rights in Water and Irrigation Act 1914* (WA) s 26GZI(3). However, note that some information is freely available via a departmental website: see Government of Victoria, above n 86.

expressly identifies an individual's water use.¹³⁰ Conversely, the BoM may publish water accounting data anonymously and on aggregate levels.

Water legislation in some states prohibits public disclosure of personal information recorded in water registers. For example, the Victorian Water Act provides a right to search records and information recorded in Victoria's water register.¹³¹ A person (likely an individual) whose personal information is recorded in this register may apply to restrict access to some or all of the information that would otherwise be publicly available.¹³² A recording body may restrict public access to personal information where it is satisfied that exceptional circumstances exist.¹³³ Personal information is not defined in the Victorian Water Act, but is defined in the *Information Privacy Act 2000* (Vic) ('Victorian Privacy Act') as 'information or an opinion ... about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion'.¹³⁴ Victoria's Office of Water website confirms that personal information is used by the Victorian Government consistently with principles set out in the Victorian Privacy Act.¹³⁵ Victoria's privacy legislation, therefore, informs the use of personal information recorded in Victoria's water register and restricts the disclosure of this information in some circumstances.

Similarly, in New South Wales, the NSW Office of Water states that information recorded in the NSW water register must meet the requirements of s 57 of the *Privacy and Personal Information Protection Act 1998* (NSW).¹³⁶ This Act contains a set of Information Protection Principles that regulate the handling of personal information by NSW public sector agencies, with 'personal information' having a similar definition to that in the Victorian Privacy Act.¹³⁷ Public disclosure of personal information is prohibited on two grounds. First, a general prohibition on disclosing information applies unless (a) disclosure is directly related to the purposes for which information was collected; (b) the individual concerned is reasonably likely to have known that such information would be disclosed; or (c) disclosure is necessary to prevent an imminent threat.¹³⁸ Secondly, disclosure of personal information is prohibited unless the information will be used for the purposes of the register (here, the NSW water register) or the NSW Privacy Act.¹³⁹ In Queensland, the disclosure of water accounting data that is classified as 'personal information' is also restricted by privacy legislation operating separately from statutory water frameworks.¹⁴⁰

¹³⁰ *Water Act 2007* (Cth) s 123.

¹³¹ *Water Act 1989* (Vic) s 84X(1).

¹³² *Ibid* s 84Y(1).

¹³³ *Ibid* s 84Y(2).

¹³⁴ *Information Privacy Act 2000* (Vic) s 3.

¹³⁵ Department of Sustainability and Environment, Government of Victoria, *Privacy* (12 October 2011) <<http://www.water.vic.gov.au/privacy>>.

¹³⁶ See Government of New South Wales, above n 59.

¹³⁷ Australian Law Reform Commission, *For Your Information: Australian Privacy Law and Practice*, Report No 108 (2008) 164–5. See also the definition of 'personal information' in *Privacy and Personal Information Protection Act 1998* (NSW) s 4.

¹³⁸ *Privacy and Personal Information Protection Act 1998* (NSW) s 18.

¹³⁹ *Ibid* s 57.

¹⁴⁰ See *Information Privacy Act 2009* (Qld) sch 3 cl 11.

In all of these jurisdictions, three important questions arise. First, does water accounting data constitute 'personal information' that may lawfully be protected from public disclosure? Secondly, does privacy legislation operating in any Australian jurisdictions further limit the release of water accounting data under water statutes? Thirdly, what is the operation of FOI legislation in respect of 'personal information'?

1 *Is water accounting data 'personal information'?*

Water accounting data is difficult to define as 'personal information' that is prohibited from disclosure under Australia's privacy legislation. The *Privacy Act 1998* (Cth) defines personal information as 'information or an opinion (including information or an opinion forming part of a database), whether true or not, and whether recorded in a material form or not, about an individual whose identity is apparent, or can reasonably be ascertained, from the information or opinion'.¹⁴¹ In essence, personal information is information that identifies, or is capable of identifying, a particular individual. Applying this definition to the water context, water accounting data consists of measured volumes of water extracted from a defined water resource. In its simplest form, this data comprises volumetric figures of extracted water that do not disclose any individual's identity. It follows that this data cannot clearly be classified as 'personal information'.

In contrast, water accounting data recorded in state water registers is often matched to a particular water entitlement holder. If the entitlement holder is not a corporation or an incorporated association, the water accounting data may reveal an individual water user's identity, which could classify the data as 'personal information'. In this context, water accounting data may potentially be exempt from public disclosure.

2 *Statutory exceptions to privacy under water legislation*

Water accounting data that identifies particular individuals may still be publicly disclosed under certain statutory exceptions. Four examples illustrate this point. First, the NSW Privacy Act permits the disclosure of personal information recorded in a public register, where the agency responsible for that register is satisfied that the information will be used for the purposes of the register or the Act under which the register is kept.¹⁴² Consequently, personal information recorded in NSW's water register may be disclosed where such disclosure conforms to the purposes of the NSW water register or the NSW Water Act. Disclosure that is consistent with a state's water register will likely include a government authority's responses to a public water register search. If this search includes personal information, providing access to that information would comply with statutory prohibitions against unauthorised disclosure. It is difficult to see why water accounting data (including metering volumes), which cannot of itself be classified as 'personal information', should not also be disclosed where a similar search is performed.

Secondly, an individual whose personal information is recorded in Victoria's water register must apply to restrict public access to that information.¹⁴³ Unless the recording

¹⁴¹ *Privacy Act 1998* (Cth) s 6. This definition is adopted in substantially the same terms in the *Personal and Privacy Information Act 1998* (NSW), *Information Privacy Act 2000* (Vic) and the *Information Privacy Act 2009* (Qld).

¹⁴² See, eg, *Privacy and Personal Information Protection Act 1998* (NSW) s 57(1).

¹⁴³ *Water Act 1989* (Vic) s 84Y(1).

body finds that 'exceptional circumstances' warrant non-disclosure,¹⁴⁴ the personal information may be disclosed under the Victorian Water Act.

Thirdly, Queensland's *Information Privacy Act 2009* (Qld) provides a broad range of circumstances where personal information may be disclosed.¹⁴⁵ Circumstances where disclosure is permitted include research, compilation and analysis of statistics in the public interest¹⁴⁶ and dealing with breaches of law imposing penalties or sanctions.¹⁴⁷ There are no provisions in the Queensland Water Act that provide for discretionary limitations on the disclosure of personal information under that Act's register search provisions.

Finally, in Western Australia there is no equivalent information privacy legislation and there are no provisions in the water legislation that facilitate a water entitlement holder applying to prevent the release of personal information in accordance with the provisions for searching the register. However, the WA Water Department may also classify certain information as unsuitable for public access on grounds of privacy, but the legal foundation for this practice in privacy concerns is unclear.¹⁴⁸

In summary, restrictions on the public disclosure of personal information, prescribed by information privacy legislation, do not significantly inhibit the ability to search information recorded in state water registers. These restrictions have no operation in respect of corporate holders of water entitlements. Water register search provisions often provide for only limited disclosure of personal information, without the need for any overarching statutory provisions governing privacy. Water statutes may also make specific provision for the release of personal information where it is in the public interest that such information is disclosed. It is, therefore, questionable whether Australia's information privacy legislation contributes anything further to protecting personal information from disclosure. This legislation is unlikely to significantly alter the operation of water legislation in respect of any public disclosure of water accounting data.

3 *Personal information and FOI: Disclosure in the public interest*

Finally, the interrelationship between privacy legislation and FOI (discussed below) is significant in this context. FOI operates as an additional statutory mechanism for, and an exception to, the disclosure of 'personal information'. FOI legislation provides a legally enforceable right to access documents from an agency, other than exempt documents.¹⁴⁹ Under the *Freedom of Information Act 1982* (Cth), a document is exempt if its disclosure would involve an unreasonable disclosure of personal information. 'Personal information' is defined in similar terms to most state and territory privacy

¹⁴⁴ Ibid s 84Y(2).

¹⁴⁵ See *Information Privacy Act 2009* (Qld) sch 3 cl 11.

¹⁴⁶ Notably, this exception is also subject to three other conditions: (ii) disclosure does not involve the publication of all or any of the personal information in a form that identifies the individual; (iii) it is not practicable to obtain the express or implied agreement of the individual before the disclosure; (iv) the agency is satisfied on reasonable grounds that the relevant entity will not disclose the personal information to another entity: *Information Privacy Act 2009* (Qld) sch 3 cl 11(f).

¹⁴⁷ Ibid sch 3 cl 11(e)(i).

¹⁴⁸ O'Keefe, above n 104, 96.

¹⁴⁹ See, eg, *Freedom of Information Act 1982* (Cth) s 11.

statutes.¹⁵⁰ However, public interest in the disclosure of information sought under a FOI request may provide grounds to divulge information that would otherwise be exempt. This operation of the FOI public interest test is addressed in Part IV(B)(3).¹⁵¹

B Prohibiting the Disclosure of Confidential Information

Public disclosure of water accounting data may be restricted by legal protections governing confidential information. First, duties of confidence arising at common law and in equity prevent the disclosure of confidential information. Secondly, legally enforceable obligations of confidence also arise under statute. For example, water legislation in Western Australia imposes limits on the disclosure of 'confidential' information recorded in the state's water register.¹⁵² Thirdly, FOI legislation may interact with prohibitions governing confidential information to provide alternative grounds for public disclosure of this data. The question is whether water accounting data may be defined as 'confidential' and, therefore, be exempt from public disclosure.

1 Equitable duty of confidence

Duties to treat information as confidential may arise at common law and in equity. At common law, a contractual duty of confidence may be sourced from express or implied contractual terms between two or more contracting parties.¹⁵³ As water accounting data is provided to regulatory authorities in a statutory context and not because of a contractual relationship, the common law duty of confidence is not relevant to our discussion.

Equity protects confidential information from unlawful use¹⁵⁴ and disclosure.¹⁵⁵ An equitable duty of confidence arises where information with a necessary quality of confidence is imparted in circumstances imposing an obligation of confidentiality.¹⁵⁶ This obligation is breached when unauthorised use or disclosure of that information occurs. The equitable duty may operate in the context of water accounting data provided to regulatory agencies exercising statutory authority.

In general, water accounting data will attract the equitable duty of confidence if it satisfies two elements. First, the nature of the information must warrant a recipient treating it as confidential.¹⁵⁷ There is no *a priori* standard for classifying information as inherently confidential: it is a question of fact.¹⁵⁸ Relevant considerations include

¹⁵⁰ *Freedom of Information Act 1982* (Cth) s 4.

¹⁵¹ See below Part V.

¹⁵² *Water Agencies (Powers) Act 1984* (WA) s 112(1) makes it an offence for any person to misuse any confidential information that the person has by reason of performing any function in the administration of the State's water legislation: discussed below.

¹⁵³ See, eg, *BGC (Australia) Pty Ltd v Fremantle Port Authority* (2003) 28 WAR 187.

¹⁵⁴ *Lord Ashburton v Pape* [1913] 2 Ch 469.

¹⁵⁵ *Smith Kline & French Laboratories (Australia) Ltd v Secretary to the Department of Community Services and Health* (1990) 22 FCR 73.

¹⁵⁶ *Corrs Pavey Whiting & Byrne v Collector of Customs* (Vic) (1987) 14 FCR 434, 443; *Smith Kline & French Laboratories (Australia) Ltd v Secretary to the Department of Community Services and Health* (1990) 22 FCR 73, 86–87.

¹⁵⁷ See, eg, *Deputy Commissioner of Taxation v Rettke* (1995) 31 IPR 457, 461–2; *Coco v AN Clark (Engineers) Ltd* (1968) 1A IPR 587.

¹⁵⁸ G E Dal Point, D R C Chalmers and J K Maxton, *Equity and Trusts: Commentary and Materials* (Lawbook Co., 3rd ed, 2004) 148 [6.25].

whether information is in the public domain or considered common knowledge,¹⁵⁹ what steps have been taken to preserve the information's secrecy¹⁶⁰ and whether the information is considered intrinsically valuable.¹⁶¹ Secondly, the information must be disclosed in circumstances importing an obligation of confidence.¹⁶² This fact-sensitive inquiry depends upon the circumstances in which the information is disclosed to another.¹⁶³

Confidential information in the government context provides an exceptional case for the equitable duty of confidence. Government may function as a recipient or a source of confidential information.¹⁶⁴ As a recipient, government agencies become privy to the secrets of others and may be subject to limits imposed on the use and disclosure of confidential information. Circumstances in which confidential information may be communicated to a government authority are particularly relevant, as not all information provided to government is confidential in nature.¹⁶⁵ Importantly, where confidential information is disclosed to a government or statutory authority for a particular purpose, that information cannot be used for purposes beyond which it was disclosed.¹⁶⁶ In *Deputy Federal Commissioner of Taxation v Rettke*,¹⁶⁷ Cooper J in the Federal Court of Australia provided three factors relevant to determining whether an equitable duty of confidence protects information provided to a government authority from disclosure. First, the information concerns the personal or business information of a confider. Secondly, that information is obtained in the exercise of a statutory body's power to obtain information from private persons. Thirdly, the information is provided in circumstances where the confider would not expect it to be used for any purpose other than the purpose for which the information was provided.¹⁶⁸ *Rettke* concerned the disclosure of a tax return annexed to an affidavit, which the plaintiff argued was a breach of the Deputy Tax Commissioner's duty of confidence. Cooper J found that all three factors of the equitable duty were satisfied. His Honour held that the Tax Commissioner had breached his duty of confidence by disclosing the plaintiff's confidential tax return.

Applying the three *Rettke* factors to water accounting data, this data may be impressed with the equitable duty of confidence when it is provided to government for a limited statutory purpose. Metering and reporting of water extraction volumes are often required as mandatory licence conditions.¹⁶⁹ In some jurisdictions, licensees may

¹⁵⁹ See *Coco v AN Clark (Engineers) Ltd* (1968) 1A IPR 587, 590.

¹⁶⁰ *Amber Size & Chemical Co Ltd v Menzel* [1913] 2 Ch 239, 247.

¹⁶¹ See, eg, *RLA Polymers Pty Ltd v Nexus Adhesives Pty Ltd* (2011) 280 ALR 125, [42].

¹⁶² See *Coco v AN Clark (Engineers) Ltd* (1968) 1A IPR 587; *Smith Kline & French Laboratories (Australia) Ltd v Secretary to the Department of Community Services and Health* (1990) 22 FCR 73.

¹⁶³ *Moorgate Tobacco Co Ltd v Philip Morris Ltd (No 2)* (1983) 156 CLR 414, 438.

¹⁶⁴ See R P Meagher, J D Heydon and M J Leeming, *Meagher, Gummow and Lehane's Equity: Doctrines and Remedies* (Butterworths LexisNexis, 2002) 1134.

¹⁶⁵ See *Deputy Commissioner of Taxation v Rettke* (1995) 31 IPR 457, 461–2 ('*Rettke*').

¹⁶⁶ *Castrol Australia Pty Ltd v EmTech Associates Pty Ltd* (1980) 33 ALR 31.

¹⁶⁷ (1995) 31 IPR 457 ('*Rettke*').

¹⁶⁸ *Rettke* (1995) 31 IPR 457, 462.

¹⁶⁹ See above Part III.

be required to provide water meter readings to relevant government authorities.¹⁷⁰ For example, the *NSW Water Extraction Monitoring Policy* provides that licensees should record meter readings and report their extraction levels to the relevant authority.¹⁷¹ As the information is obtained in exercise of governmental power to obtain data from individual water consumers, it satisfies the second *Rettke* element of the equitable duty of confidence.¹⁷²

Turning to the first element of this *Rettke* test: is water accounting data valuable personal or business information? Water extraction volumes often concern the business information of industrial water users. Water accounting data may be classified as confidential where this information is, for example, commercially valuable to competitors, such as in the mining context. Mining companies have proposed that the publication of a mine's water extraction volumes could enable competitors to derive that mine's ore production volumes.¹⁷³ If this were so, such information may be deemed commercially sensitive and public disclosure may be harmful to a mining company.¹⁷⁴

Applying the third *Rettke* factor, would the confider of the water accounting data not expect it to be used for any purpose extraneous to the reason for its provision? Where water users provide metering data to government, expecting it to be used for a limited statutory purpose, that information will be protected from any further disclosure. Thus, government authorities are limited by the equitable duty of confidence from using the data for any purpose beyond which it was provided. This raises a central question: what is the legislative purpose for which water accounting data is provided to government?

The purposes for which information is provided to government must not be too narrowly construed.¹⁷⁵ In *Smith Kline v French Laboratories*,¹⁷⁶ the House of Lords afforded a broad interpretation to the permitted use of confidential information by a statutory body. *Smith Kline* concerned confidential information provided to a licensing authority by a pharmaceutical company that applied for a new product licence. Lord Templeman held that the authority was permitted to use this information not only for the company's specified purpose, but also to discharge other regulatory functions under the statutory scheme.¹⁷⁷ As noted, water licence holders may be required to report water meter readings to government as a prescribed licence condition. Arguably, the use of this information by government agencies could extend further than ensuring compliance with an individual's licence conditions. Instead, this

¹⁷⁰ Ibid.

¹⁷¹ Government of New South Wales, above n 54, 6.

¹⁷² In some jurisdictions, water meter readings are provided to government at a corporate rather than individual level. Corporate irrigators, such as the Central Irrigation Trust in South Australia, provide water accounting data to government at an aggregate level, representing extraction volumes for all irrigators within that trust. See below Part VI(A).

¹⁷³ Interview with Brendan Moran, Standards and Regulation Section, Climate and Water Division, Bureau of Meteorology (Canberra, 16 November 2011).

¹⁷⁴ See, eg, *Freedom of Information Act 1982* (Vic) s 38; *Geelong Community for Good Life Inc v Environmental Protection Authority & Anor* [2009] VCAT 2429, [36].

¹⁷⁵ See *Smith Kline v French Laboratories* [1990] 1 AC 64 ('*Smith Kline*').

¹⁷⁶ Ibid.

¹⁷⁷ Ibid 103–4 (Lord Bridge of Harwich agreeing).

information may be used to ensure compliance with broader regulatory schemes and the implementation of state water planning. Following the House of Lords' approach in *Smith Kline*, such use may still be permitted to discharge other functions under water legislation and policy frameworks.

Even if further use of the information is permitted, does this justify disclosure of water accounting data to third parties and members of the public, particularly where its disclosure could harm the entitlement holders' private interests? Generally, water resources legislation does not provide explicitly for the public availability of individual entitlement holders' water accounting data. Therefore, it is arguable that it would be extraneous to the purpose for which this data is provided to require regulatory authorities to make the data publicly available without specific statutory authority. However, consistent with the NWI objective for water accounting reform, we argue that a public information purpose should also be served by legal obligations requiring water entitlement holders to report water accounting data to government authorities. The argument of confidentiality needs to be more routinely and clearly tested in the public interest.

Current state legislative and policy frameworks for water accounting generally fail to express the purposes for which water accounting data is provided to government. They also fail to illustrate how the provision of information via the entitlement registers and water accounting records addresses public confidence in the amount of water being traded, extracted or managed for consumptive or environmental and public benefit outcomes. It is arguable that the almost ubiquitous pattern of water legislation not providing for public access to individual water accounting data reflects the purpose for which that data is provided to government: that only government needs know what entitlement holders are doing. In our opinion, this view is inconsistent with the NWI objective for water accounting reform and indicates that this issue has been insufficiently addressed in the legislative and policy measures to date.

2 Statutory limits on disclosing confidential information

In addition to the equitable duty, Western Australia provides statutory restrictions on disclosing confidential water data. The *Water Agencies (Powers) Act 1984* (WA) s 112 limits the disclosure of confidential water information by public agencies. Section 112 creates an offence of the misuse of confidential information obtained by any person in the administration of a relevant statute.¹⁷⁸ This provision has the effect of protecting 'confidential information' recorded in water registers from unauthorised public disclosure. 'Confidential information' is defined in similar terms to the equitable duty of confidence,¹⁷⁹ as information that is by its nature confidential, specified as confidential by the confider or known to the person using or disclosing that information to be confidential.¹⁸⁰ It would be an interesting question whether this provision might be too broadly expressed so as to infringe the constitutional implied freedom of political communication.¹⁸¹ Aside from such questions, where water licence and metering information falls within this definition, the information is

¹⁷⁸ See *Water Agencies (Powers) Act 1984* (WA) s 112(1).

¹⁷⁹ See above Part IV(B)(1).

¹⁸⁰ *Water Agencies (Powers) Act 1984* (WA) s 112(4).

¹⁸¹ *Bennett v President, Human Rights and Equal Opportunity Commission* (2003) 134 FCR 334.

protected from public disclosure, subject to the operation of the WA Water Act (discussed above, which authorises very little disclosure of confidential information) and the FOI legislation, to which we now turn.

3 *Confidential information and FOI: Disclosure in the public interest*

Faced with both statutory and general law prohibitions on disclosing 'confidential' information, Australia's FOI regime provides an exception that allows public access to water accounting data. FOI enables the disclosure of information held by state¹⁸² and Commonwealth¹⁸³ government authorities upon application by any person, including third parties. FOI legislation is based on principles of 'democratic government, namely, openness, accountability and responsibility'.¹⁸⁴ Most FOI statutes include certain categories of information that are labelled as 'exempt' from public disclosure, including information of a personal, commercial or governmental nature.¹⁸⁵ Commercial information about water access rights will not be exempt from disclosure unless it is truly of commercial value and not compiled from public sources.¹⁸⁶ Information obtained by 'confidential communication' is another category that is exempted from disclosure under FOI. However, where a statutory exception to restrictions on publishing 'exempt' information is satisfied, that information may be publicly disclosed. Public interest in disclosure provides one exception to the prohibitions on disclosing confidential and other 'exempt' matter under FOI.

In certain circumstances, the public interest exception provides grounds for disclosing confidential information under state¹⁸⁷ and Commonwealth¹⁸⁸ FOI statutes. This exception requires a balance between competing interests in (i) publicly disclosing information; and (ii) maintaining confidentiality in the information requested.¹⁸⁹ As the High Court of Australia observed in *Osland v Secretary, Department of Justice*, FOI legislation affords 'very high importance to a public interest in greater openness and transparency in public administration'.¹⁹⁰

¹⁸² *Freedom of Information Act 1992 (WA)*; *Government Information (Public Access) Act 2009 (NSW)*; *Freedom of Information Act 1991 (SA)*; *Freedom of Information Act 1982 (Vic)*; *Right to Information Act 2009 (Qld)*; *Right to Information Act 2009 (Tas)*.

¹⁸³ *Freedom of Information Act 1982 (Cth)*.

¹⁸⁴ *Osland v Secretary, Department of Justice* (2008) 234 CLR 275, 302.

¹⁸⁵ See, eg, *Freedom of Information Act 1992 (WA)* sch 1.

¹⁸⁶ *Mineralogy Pty Ltd v Department of Environment, Water and Catchment Protection and Yamatji Barna Baba Maaja Aboriginal Corporation* [2003] WAICmr 14. Merely expending time and money on the acquisition and compilation of information (in this case, a hydrogeology report submitted in support of a water licence application) does not make the information commercially valuable.

¹⁸⁷ *Freedom of Information Act 1992 (WA)* sch 1 cl 8(4); *Freedom of Information Act 1991 (SA)* sch 1; *Freedom of Information Act 1982 (Vic)* Part IV; *Right to Information Act 2009 (Qld)* s 49(1); *Right to Information Act 2009 (Tas)* s 33. In NSW, the scheme of the new freedom of information legislation works differently; there is a public interest in disclosure but there may be an overriding public interest in non-disclosure: *Government Information (Public Access) Act 2009 (NSW)* ss 5, 12 – 15, especially s 14 Table items 1(d), 3(a), 4(c).

¹⁸⁸ *Freedom of Information Act 1982 (Cth)* pt 4 div 3.

¹⁸⁹ See, eg, *Manly v Ministry of Premier and Cabinet* (1995) 14 WAR 550, 569.

¹⁹⁰ (2008) 234 CLR 275, 303 [66].

This statutory exception operates differently between Commonwealth and state jurisdictions. For example, under the *Freedom of Information Act 1992* (WA), public interest justifies the disclosure of information that would otherwise be confidential. Confidential information is defined as 'exempt' matter if:¹⁹¹

- (a) its disclosure would be a breach of confidence for which a legal remedy could be obtained; or
- (b) its disclosure would reveal information of a confidential nature obtained in confidence; and could reasonably be expected to prejudice the future supply of information of that kind to the Government or to an agency.

Matter is not exempt under this clause if its disclosure would, '*on balance*, be in the public interest'.¹⁹² In contrast, Victoria's FOI statute defines documents as 'exempt' if their disclosure would be contrary to the public interest.¹⁹³ Allowing the disclosure of confidential information on grounds of public interest is a fact-sensitive inquiry raising questions of 'balance and degree'.¹⁹⁴ On balance, this article contends that water accounting data is a matter of significant public interest that should normally be disclosed to third party applicants under Australia's FOI regimes. However, as this 'balance' involves a highly fact-sensitive inquiry, the public interest in disclosing water accounting data may not succeed in every case.

FOI legislation may, therefore, provide an adequate means to publicly access water accounting data. Arguably, this legislative regime still provides adequate protection for entitlement holders who can establish valid reasons of privacy of personal information, confidentiality or commercial value for being exempted from disclosure. However, it is a mechanism that imposes high transaction costs on third parties. This option is unlikely to be exercised often enough to serve the significant public interests in transparent water accounting by facilitating knowledge of water market prices and compliance with licence and access entitlement limits.

V POTENTIAL METHODS FOR PUBLIC DISCLOSURE OF WATER ACCOUNTING DATA

This Part examines potential methods for providing public access to water accounting data, subject to statutory restrictions on the disclosure of personal and confidential information. We suggest three methods for disclosing water accounting data to allow greater transparency and accountability in water resource extraction, whilst protecting the identity of individual licensees.

Before examining these three methods, the public interest in making this information available must be acknowledged. Water accounting data raises matters of

¹⁹¹ *Freedom of Information Act 1992* (WA) sch 1 cl (8)(1) and (2).

¹⁹² *Ibid* sch 1 cl (8)(4) (emphasis added).

¹⁹³ *Freedom of Information Act 1982* (Vic) s 36. Public interest considerations also provide grounds to permit disclosure of information under Victoria's FOI statute. Where a decision is made refusing access to a document sought under FOI, an application may be made to the Victorian Civil and Administrative Tribunal ('VCAT') to review that decision. Under s 50 of the FOI Act, the VCAT has powers to permit access to exempt documents where the public interest favours disclosure of that document: *Freedom of Information Act 1982* (Vic) s 50(4).

¹⁹⁴ *Manly v Ministry of Premier and Cabinet* (1995) 14 WAR 550, 569.

fundamental public confidence in the security and future sustainability of Australia's natural water supply.¹⁹⁵ A strong public interest exists in disclosing water accounting information to facilitate transparency and accountability in regulating Australia's water resource extraction.¹⁹⁶ First, this data facilitates accountability in ensuring that water licence holders comply with their water allocations and licence conditions.¹⁹⁷ As Ryall observes, '[w]ithout timely access to information, the task of identifying breaches of environmental law and ensuring that those responsible are held to account can be undermined'.¹⁹⁸ Secondly, disclosing water accounting data achieves transparency in government processes that regulate and restrict water usage and ensures that stated environmental outcomes and objectives are being achieved.¹⁹⁹ In this context, the NWC has repeatedly emphasised the importance of monitoring, metering and auditing water extraction by licensees.²⁰⁰ Disclosure of 'particular' water information by the BoM is also permitted where disclosure is in the public interest,²⁰¹ although the information disclosed may not include individuals' water use information. The BoM may only publish individual water usage data where that information is already published or otherwise publicly available in a form that expressly identifies the individual's water use.²⁰² This limitation would prevent publication of corporate water accounting data of 'particular' companies because they do not qualify as 'individuals'.

A Aggregate Levels of Data

The first proposed method of disclosing water accounting data involves publishing aggregate levels of data in state water registers. Publishing aggregated data would remove the possibility of identifying particular licence holders and linking, for example, water extraction volumes to individual users. Queensland's metering policy already permits aggregate levels of extracted groundwater to be accessed by members of the public.²⁰³ New South Wales and Victoria also provide online access to aggregate

¹⁹⁵ See National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 51 [1.8].

¹⁹⁶ See O'Keefe, above n 104, 68; Godden, above n 35, 296.

¹⁹⁷ National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 50 [1.7]; O'Keefe, above n 104, 57. In 2009, the NWC reported that a small minority of water users may have exceeded their water allocations or tampered with water meter and flows. As the NWC noted, '[s]uch actions undermine the water security of legitimate water entitlements and frustrate users'. National Water Commission, 'Australian Water Reform 2009: Second Biennial Assessment of Progress in Implementation of the National Water Initiative' (Australian Government, September 2009) 59 [3.3.6].

¹⁹⁸ Aine Ryall, 'Access to Environmental Information in Ireland: Implementation Challenges' (2011) 23 *Journal of Environmental Law* 45, 45-6.

¹⁹⁹ See National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 50 [1.7].

²⁰⁰ See, eg, National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 50 [1.7]; National Water Commission, 'Australian Water Reform 2009: Second Biennial Assessment of Progress in Implementation of the National Water Initiative' (Australian Government, September 2009) 59 [3.3.6].

²⁰¹ See *Water Act 2007* (Cth) s 123(2)(a).

²⁰² *Water Act 2007* (Cth) s 123(2)(b). Significantly, no public interest consideration applies to this section.

²⁰³ See Government of Queensland, above n 106, 18.

levels of data recorded in these states' water registers.²⁰⁴ Publishing aggregated data is also undertaken in the water trading context. For example, the National Water Commission publishes aggregated water trading data on an annual basis.²⁰⁵ The MDBA assists the BoM to prepare its National Water Account for the Murray-Darling Basin, which includes water trading information provided to the MDBA by state water authorities.²⁰⁶ Clearly, aggregated water accounting data may be published regularly without breaching statutory prohibitions on publishing personal or confidential information. Aggregated data could reveal not only total amounts of water extracted from a resource, but also indicate the numbers and proportions of licensees who extract more or less water than their entitlements allow.

However, whilst the possibility of publishing aggregated data complies with statutory prohibitions against identifying individual licensees, this method of disclosure reduces any accountability measures that may ensure individual licence holders adhere to their prescribed allocations and entitlements. As licensees remain anonymous in aggregated data, the ability to identify individual water users who exceed their entitlements is necessarily restricted.

B Anonymous Disclosure

Secondly, water accounting data may be disclosed anonymously to protect the identity of individual licensees who measure and report their water use. Anonymous publication could reveal patterns of water extraction and compliance with reporting protocols as well as sets of individual data and, to that extent, facilitate public pressure for compliance with water accounting procedures. However, providing public access to anonymous water data does not permit third party action for enforcement of the limits of water entitlements and allocations against non-compliant individual licensees. This option therefore faces similar difficulties to disclosing aggregated metering data. Although the publication of anonymous data does not preclude government agencies from taking enforcement action, it may result in reduced third party and public pressure for agencies to act against non-compliant individuals.

C Audited Self-Management

A third proposal for providing limited public access to water accounting data involves disclosing this data exclusively to other licence and access entitlement holders, to facilitate audited self-management. Audited self-management is a process of delegating water monitoring to individual water users, subject to audit by government authorities.²⁰⁷ This process allows licensees to view each other's meter readings and monitor compliance with water allocations through a peer review process. Audited self-management, which incorporates peer based water metering, has recently been

²⁰⁴ See above Part III(A).

²⁰⁵ See, eg, Australian Government, National Water Commission, 'Australian Water Markets Report 2009-2010' (Commonwealth of Australia, 2010) <<http://archive.nwc.gov.au/library/topic/markets/water-markets-report-december-2010>>.

²⁰⁶ See Murray-Darling Basin Authority, *Water Accounting*, Australian Government, Murray-Darling Basin Authority <<http://www.mdba.gov.au/water/water-accounting>>.

²⁰⁷ See Irrigation New Zealand Inc, 'Decision Support Systems for Audited Self-Management: Opihi Catchment' (Contract Report, Project No 2242, Ministry of Environment Report, October 2008) 1.

piloted in a limited number of locations in New Zealand with some early signs of success.²⁰⁸ However, there is uncertainty about its wider applicability.

Adopting audited self-management for water metering in Australia would serve three useful purposes to enhance the accountability and transparency of Australia's water accounting processes. First, requiring water licence holders to enforce their own entitlements would increase the personal responsibility of individual licensees. Secondly, financial demands on the resources required to enforce water accounting would be reduced if licensees performed this process, rather than government regulators. One report of New Zealand's experience in implementing audited self-management shows that this process improves cost-effective management of water resources, maximizing both economic gain and environmental sustainability.²⁰⁹ Thirdly, implementing audited self-management for Australian water licensees would encourage cooperation between government authorities and individual water users, by reducing top-down regulation and enforcement.²¹⁰ Ultimately, this process may provide the most viable short-term solution to providing greater access to and disclosure of water accounting data.

VI PROPOSALS FOR REFORM

Effective administration and enforcement of water accounting is essential to achieving compliance with water entitlements and fundamental to maintaining public confidence in sustainable water management.²¹¹ We submit that three core elements are necessary for transparent and effective water accounting in Australia. These elements concern clear and accessible statements of (i) licensees' and entitlement holders' obligations in taking and trading water; (ii) water metering and water trade reporting requirements; and (iii) publicly disclosing water meter and trading data recorded in water registers. This article has demonstrated a need for legislative and policy reform of Australia's water accounting frameworks, to permit public disclosure of water accounting data. Three legislative reforms are proposed, addressing the second and third elements required for transparent water accounting.

A Practical Limitations on Reform

At the outset, three significant practical limitations must be acknowledged, preventing greater accountability and transparency in enforcing and reporting metered water extractions. First, many rural and industrial water users in Australia are not metered and are not required to adhere to any metering or reporting requirements.²¹² In Tasmania, no water licensing or metering is required to extract groundwater.²¹³ In the Northern Territory, exemptions from water licensing obligations are provided for

²⁰⁸ Cameron Holley and Darren Sinclair, 'When Does Agricultural Management of Groundwater Work?' (Paper presented at National Ground Water Association Ground Water Summit, Garden Grove, California, 8 May 2012).

²⁰⁹ See S Taylor, 'Audited Self-management for Regulators', *Country-Wide National* (1 February 2011) <<http://www.country-wide.co.nz/article/12433.html>>.

²¹⁰ *Ibid.*

²¹¹ National Water Commission, 'The National Water Initiative - 2011 Assessment', above n 3, 50-51 [1.7]-[1.8].

²¹² *Ibid.*

²¹³ Sinclair Knight Merz, above n 70.

mining leases. Mining sites that extract water in this jurisdiction are not required to engage in water metering or report their extraction levels to government agencies responsible for water resource management.²¹⁴

Secondly, methods of monitoring water resource extraction vary significantly between jurisdictions, and even within some states. In some circumstances, water extraction levels are estimated rather than measured by metering because financial constraints on state governments limit the resources that can be devoted to water accounting processes.²¹⁵ Consequently, a lack of consistency and uniformity in water accounting restricts both the nature and accuracy of available water licence data and the regulatory framework that may be implemented.

Thirdly, some considerable disparity exists between the levels of water metering required by different water entities throughout Australia. In many states and territories, large water trusts and irrigation corporations receive water allocations at a bulk level and divide their allocations between individual water users. South Australia's Central Irrigation Trust ('CIT') provides an example. CIT is a private water management company that administers bulk water entitlements to over 1400 farmers and provides domestic water to approximately 3000 households and industries.²¹⁶ Water trusts such as the CIT are defined as single licensed water users by state government water authorities. Any monitoring or compliance measures requiring water metering are administered by these independent corporate water entities, not by government authorities. Consequently, state water authorities have no direct regulatory power to impose licence or access entitlement conditions requiring water metering and reporting for water users who receive their entitlements and allocations from water trusts and corporations. Effectively, these large-scale water allocation systems remove a significant proportion of Australia's rural and industrial water users from any metering or reporting requirements that may be imposed by statutory water authorities. Privacy laws prohibiting the disclosure of 'personal' water information also have limited relevance in this context.

B Legislative and Policy Reform Proposals

In light of the practical limitations on enforcing consistent water accounting in Australia, regulatory reform must proceed incrementally. We propose three reforms of water metering legislation and policy to increase accountability and transparency in water accounting.

First, greater Commonwealth oversight of the legislative implementation of NWI water access entitlement regimes is necessary. The NWI provides a national water reform framework to which all Australian states and territories are party, requiring consistent reform and implementation across all jurisdictions. Increasing the involvement of Commonwealth government agencies would ensure adequate water

²¹⁴ Ibid.

²¹⁵ For example, Western Australia's water metering plan has not yet been fully financed. A proposal to increase metering requirements for water licensees in this state has been partially implemented but is unable to proceed further due to lack of resources: see Sinclair Knight Merz, above n 70.

²¹⁶ National Water Commission, 'National Performance Report 2009-10: Rural Water Service Providers' (Australian Government, 2011) 53.

accounting and the provision of information to national water accounts. This reform would also ensure that all states and territories are complying with the aims and obligations for water reform set out in the NWI. It is possible that some of this oversight is already being exercised by the Bureau of Meteorology in setting requirements for the states and territories to submit information for the National Water Accounts and the Murray-Darling Basin Water Rights Information Service.²¹⁷

Secondly, water licence and entitlement conditions, including metering and reporting obligations, should be recorded in state water registers and be searchable by any person. This reform proposal responds to the second and third elements required for transparent water accounting in Australia. Currently, legislative and policy reforms in most jurisdictions fail to provide clear water metering obligations for licensees and entitlement holders, and do not provide public access to this information.²¹⁸ Water statutes in all states and territories should be amended to include this aspect of NWI water reform. Further, in designing these reforms, governmental discretionary power in setting and implementing metering and reporting obligations should be curtailed. This could be achieved by creating statutory presumptions that licensed water extraction will be metered and reported, and that water trading information will be reported and recorded. Exemption from such obligations should only be conferred by specific reviewable decisions for particular license or entitlement holders upon an application that demonstrates the concerns that are said to warrant the exemption.

Thirdly, we propose that water resources legislation should create a statutory presumption that water accounting data will be publicly available via a search of the relevant register, unless the party asserting privacy or confidentiality can specifically establish a reason for exemption from disclosure. Exemption from disclosure of this data should, again, only be conferred by specific reviewable decisions for particular license or entitlement holders upon an application that demonstrates valid privacy or confidentiality concerns. This would reverse the imposition of transaction costs that prevail under the FOI legislation. Specific wording of legislative provisions may vary, as well as the level of non-disclosure that is permitted in particular cases. Legislative reforms may be guided by the considerations of general law and statutory prohibitions on disclosing personal and confidential information, discussed above.²¹⁹ However, it is the presumption of disclosure that should prevail. Exemption from that presumption should only apply to water accounting data in limited circumstances. This is essential to achieve greater levels of transparency and accountability for water accounting in all jurisdictions, including compliance with limits on water extraction rights.

VII CONCLUSION

This article has considered the current regulatory framework for water accounting in Australia. Three core elements of water accounting are proposed, which we argue are

²¹⁷ *Water Act 2007* (Cth) pt 7, 'Water Information' *Water Regulations 2008*, as amended in 2012, and pt 5, 'Murray-Darling Basin Water Rights Information Service'.

²¹⁸ See above Part III.

²¹⁹ See above Part VI. On this point, and more broadly concerning the need for greater transparency in environmental information, see J Abbot and J Marohasy, 'Barriers to Accessing Environmental Information under Australian Freedom of Information' (2013) 24 *Public Law Review* 3.

essential for the transparent and effective regulation of Australia's natural water resources. Against these core elements, four legislative and policy regimes operating in Australia are compared, exposing clear deficiencies in the statutory frameworks that prevent full disclosure of water accounting data of individuals or individual entities. Legal restrictions limiting the disclosure of water accounting data arise under statute and at general law. These prohibitions prevent public access to water metering and trading data where information is classified as 'personal' or 'confidential'. In response, we propose three legislative and policy reforms that address current legal limitations on publicly disclosing water accounting data. The essence of those reforms is to establish statutory presumptions that individual water resource extraction and trading data will be recorded, reported to government and made publicly available. There should be statutory provision for the particular exemption from these presumptive provisions, especially on the application of persons alleging reasons of privacy or confidentiality. Ultimately, reforms should be implemented in all states and territories to increase transparency and accountability in water accounting to fulfil the NWI objectives for water accounting reform: namely, 'to support public and investor confidence in the amount of water being traded, extracted for consumptive use, and recovered and managed for *environmental and other public benefit outcomes*'.²²⁰

²²⁰ NWI 2004, above n 2, 17 [80].