



Wingecarribee Dam, near Bowral,
New South Wales.

Water accounting in Australia

As competition mounts for finite water resources in dairying areas like the Canterbury plains, New Zealand accountants might want to take notice of the recent developments in water accounting in Australia.

by TIM KIRBY CA

Water accounting is essentially inventory management, similar to accounting for grain in a silo, albeit one that has random holes and multiple outlets at different levels.

Water accounting has traditionally been done by hydraulic engineers controlling dam levels or local bureaucrats managing access consents and allocating allowed volumes. But recent water accounting standards and reporting products emerging in Australia have been developed with strong links to financial accounting.

Water accounting standards and products are really helping water

reform in Australia by improving the transparency and comparability of water information, but they are not yet well understood at this early stage of adoption. Since accountants have long been involved in dealing with inventory management and the presentation of decision-making information, we could have some expertise critical to the successful development this new type of accounting.

Water accounting tracks quantities of water, aiming to maximise the way that available water can be managed to meet known water needs. The function of water accounting becomes more important where available water is fully, or over-, allocated. This is certainly the case in many catchments within the Murray-Darling Basin¹, Australia's "food bowl". Some Canterbury groundwater aquifers may be approaching a critical point too.²

In Australia, the typical person doing water accounting is a water engineer or bureaucrat responsible for river operations, dam management or consent/entitlement regulation.

The users of water accounting products are potentially even more diverse. For instance, local managers need to know that storages hold sufficient water to meet daily orders placed by irrigators. Regulators need to know whether projected water supplies will be sufficient to allow approval of new water entitlements. Downstream users need to know that upstream users are not using more than their share and wider communities need to know that sufficient water is available to meet environmental and other social needs.

The needs of these doers and users have driven development of water accounting products including inventory management software, complex water availability models, and improvements to public reporting.

Lately there have been calls for more believable and consistent water data, especially driven by new Murray-Darling Basin governance and proposals for changed water sharing arrangements. Recent developments have focussed on reporting, with new country-scale public reports using two different water accounting standards.

The first standard, developed by the UN³

alongside general environmental management reporting, has been adopted by the Australian Bureau of Statistics in their *Water Account Australia 2008-2009*⁴. This shows a picture of the wider economic impact of water, based on past census data, but may not be much help to those making investment decisions at a local scale.

The second standard, *Exposure Draft of Australian Water Accounting Standard 1: Preparation and Presentation of General Purpose Water Accounting Reports*⁵ (ED-AWAS 1), has been developed by the Australian Water Accounting Standards Board (WASB). The Australian WASB is set up along the lines of the accounting standards setting bodies, and ED-AWAS 1 has borrowed heavily from financial reporting standards.

The Australian Bureau of Meteorology has adopted ED-AWAS 1 in their *Pilot National Water Account*⁶ (readers may be forgiven for thinking that there is some competition occurring between the two government agencies). The *Pilot NWA* has the look and feel of a financial statement, simply denominating assets, liabilities and flows in mega-litres (ML) rather than dollars. There have also been some comparable local water accounts quite successfully piloted, but the first full “consolidated” national water account is not expected until late this year.

Aside from the direct borrowing from our financial accounting standards and structures, there are other similarities/overlaps that make water accounting relevant to the work of accountants.

Firstly, access to water is a very significant real asset for many agricultural enterprises, and is one way in which risks of farming can be managed. Therefore there is a direct overlap with our regular accounting role, as water accounting should be able to improve the quantification of water assets leaving the accountant to provide the valuation step.

Tradeable water assets also now offer a new investment vehicle for consideration by treasury operations or investors. Accountants establishing funds, or with clients wanting exposure to the primary sector, may find tradeable water products have a place within a mix of investments. Water accounting will directly impact on the value and return from investments, so we may need to learn to read water accounts.



Since accountants have long been involved in dealing with inventory management and the presentation of decision-making information, we could have some expertise critical to the successful development of this new type of accounting

Finally, the skills in collation, management and presentation of data to assist investment allocation and management decisions are the accountant’s stock-in-trade. Water accounting is simply another set of data to be collated, managed and presented, so these skills could be transferable. This could be an opportunity for accountants looking to diversify their businesses.

It is still early days, but we can guess some things that might happen next. At this stage, water accounting is not done by accountants. There is no Institute of Water Accountants, there is no Water Accounting Special Interest Group, and there are no Chartered Water Accountants. In contrast, financial accounting and reporting is driven by skilled practitioners from a single profession, working together over many decades to develop and apply common standards of practice. Water accounting may need a similar development of a new profession before we see widespread uptake and real gains in the provision of useful water information.

Accountants can help with this. Like environmental management accounting before it, water accounting improvements are being driven in Australia from the top. While governments have provided some public funding for initial development, which included some strong input from accounting academics, the extent to which water accounting is picked up and tested by practising accountants may determine its future.

Hopefully some of the confusions will be solved, because it is that the body of knowledge is currently being developed in at least two different (complementary) directions. We may see some alignment occur to make the most of the AWASB structure and to strengthen its credibility. ED-AWAS 1 is currently open for comment, so NZ accountants may wish to contribute to promote such an alignment. New Zealand and Australia have had a pretty good record influencing global accounting standards setting, so perhaps we can lead water accounting standard setting too.

The scope of water accounting may change too, with some pull-back from the more ambitious parts of reporting. For instance, other forms of property rights, such as real estate, are not publicly reported in the manner proposed by the national-scale water reports. In some ways it isn’t useful to report such

personal scale assets that way. For this reason, we may see the scale of the presentation of water accounting reports change over time.

Valuation issues are also likely to develop further. As mentioned above, the current batch of water accounting reports are not yet valued in dollar terms. With the expansion of water trading, market valuations of some water assets and liabilities should be possible. More difficult issues of valuing non-traded water use, such as minimum flows to meet environmental water needs, have yet to be solved.

There remains a clear demand for better quality water information. This is what drove the development of water accounting in the first place. Within Australia, water markets are expanding strongly each year, with trade of around 3,000GL⁷ of water products, including over \$AUD300 million⁸ of temporary trades, in 2009/10. Continued growth in these

volumes and values is sure to drive the demand for better quality water information.

For NZ accountants, the impacts of these Australian developments are not likely to be direct, but you can get involved, or just watch how the Australia profession is being changed and challenged by water accounting. ▣

- 1 *Australian Water Reform 2009: Second biennial assessment of progress in implementation of the National Water Initiative*, Australian National Water Commission, Canberra.
- 2 *Canterbury Water Management Strategy*, ECan and Canterbury Water, Christchurch, 2009.
- 3 *System of Environmental-Economic Accounting for Water*, United Nations Statistics Division, 2009 – a 208-page conceptual framework for organizing the hydrological and economic information in a coherent and consistent manner.

4 *Water Account Australia 2008-2009*, Australian Bureau of Statistics, Canberra.

5 *Exposure Draft of Australian Water Accounting Standard 1: Preparation and Presentation of General Purpose Water Accounting Reports*, Australian Water Accounting Standards Board, Melbourne, 2010 – a 134-page FRS-like document that prescribes the basis for preparing and presenting a general purpose water accounting report.

6 *Pilot National Water Account -2009*, Australian Bureau of Meteorology, Canberra.

7 A gegalitre (GL) is one billion litres.

8 *Waterfind Annual Water Market Report 2009-2010*, available at waterfind.com.au.

Tim Kirby CA is helping the Australia National Water Commission establish a performance assurance program over water management activities in the Murray-Darling Basin. He is the deputy chair of the Institute's Sydney Branch.

Greenwood Forest LP

An exciting new Forest Investment with early income from Carbon Sales.

Investment is sought from 'Eligible Persons' and persons otherwise excepted or exempted from being members of the public in terms of Section 5(2CBA) of the Securities Act 1978.



ROGER DICKIE
NEW ZEALAND

NEW ZEALAND'S LEADING FORESTRY INVESTMENT SPECIALIST

Your sustainable investment just became more rewarding.

- Forecast to recover your investment in 12 years.
- Projected Pre-Tax IRR of 8.69%.
- Investment in freehold land and trees.
- Quality property in prime location.

To register your interest call

0800 FOREST (367378)

or visit

www.rogerdickie.co.nz