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Teri Etchells

Hector Malano

Thomas A. McMahon

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## Overcoming Third Party Effects from Water Trading

By: Teri Etchells, Hector Malano and Thomas A McMahon

Teri Etchells  
University of Melbourne  
Co-operative Research Centre for  
Catchment Hydrology  
Victoria, Australia  
Email: [t.etchells@civag.unimelb.edu.au](mailto:t.etchells@civag.unimelb.edu.au)

Thomas A. McMahon  
University of Melbourne  
Co-operative Research Centre for  
Catchment Hydrology  
Victoria, Australia  
Email: [t.mcmahon@civag.unimelb.edu.au](mailto:t.mcmahon@civag.unimelb.edu.au)

Hector Malano  
University of Melbourne  
Co-operative Research Centre for  
Catchment Hydrology  
Victoria, Australia  
Email: [h.malano@devtech.unimelb.edu.au](mailto:h.malano@devtech.unimelb.edu.au)

Teri Etchells is a PhD Student in the Department of Civil and Environmental Engineering at the University of Melbourne, Australia. She graduated from Monash University in 1997 with degrees in Engineering (first class honours) and Commerce. Teri then worked with The Boston Consulting Group as a strategy consultant before starting her PhD.

Hector Malano is associate professor in the Department of Civil and Environmental Engineering and Director of the International Technologies Centre at the University of Melbourne, Australia. He has 28 years of teaching and research experience in the area of irrigation systems operations and management, and management of water resources. His international research and consulting has focussed on Vietnam, China, and Thailand.

Thomas McMahon is professor of environmental hydrology in the Department of Civil and Environmental Engineering at the University of Melbourne and Deputy Director of the Co-operative Research Centre for Catchment Hydrology. Areas of active research interest include soil/water/plant relationships, hydrology and water resources engineering, stochastic processes, hydrology-ecosystem relationships and urban hydrology. Thomas McMahon holds a PhD (NSW) and Doctor of Engineering (Melb) and was elected a Fellow of the Australian Academy of Technological Sciences in 1986.

### ABSTRACT

Developing an effective market for water entitlements is a potential mechanism to achieve sustainable water allocation. A successful market allows users to voluntarily reallocate water to the use where it will be most highly valued. However, designing and implementing a market for water entitlements that is efficient, equitable and sustainable, is very difficult.

A simple system allowing people to buy and sell water with no outside intervention does not take account of issues such as losses incurred in supplying the entitlement at the new

location, changes in security level or third party impacts such as return flows and environmental degradation. The cumulative effect of unconstrained trade could reduce the value of existing entitlements, decrease system reliability and jeopardize ecosystems.

Many of these issues can be addressed through the design of an exchange rate system. Such a system would apply a conversion factor to the traded entitlement volume to account for the impacts caused when the water is consumed in a new location. Exchange rates could adjust (reduce or increase) the nominal entitlement volume to ensure that the traded entitlement can be adequately supplied, and to minimise third party impacts.

This paper focuses on the underlying causes of potential market failure and potential methodologies for calculating exchange rates. Separate methodologies are proposed for intravalley, intervalley and interstate trade. This research will ultimately be used to identify a preferred methodology for calculating exchange rates for the Murray-Darling Basin in Australia.