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Overcoming Third Party Effects from Water Trading

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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.