



Australian
Competition &
Consumer
Commission

Water trading rules

Position paper

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Australian Competition and Consumer Commission
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How to make a submission

The Australian Competition and Consumer Commission (ACCC) welcomes submissions on the water trading rules position paper. Responses should be supported with evidence and data wherever possible.

When making a submission, please title your document, ‘Public submission to water trading rules position paper by [INSERT NAME] on [INSERT DATE]’.

Where submissions address one or more of the specific positions in this paper (in chapters 3 to 9 and repeated in Appendix 2), the relevant position number(s) should be noted. The ACCC is also interested in stakeholder views on any aspect of water trading not otherwise covered in this position paper. Specific matters for stakeholder consultation are explained in section 1.2.

If there is any information you would like to request the ACCC not make publicly available, you should provide it in a separate document that has ‘Confidential’ clearly marked on every page.

The document containing confidential information should have a title such as ‘Confidential annexure to submission by [INSERT NAME] on [INSERT DATE]’. (Information on the treatment of confidentiality is discussed in section 1.4)

Provision of electronic submissions by email is preferred. The ACCC encourages interested parties to make submissions either in Microsoft Word or in PDF (OCR-readable text format—i.e. they should be direct conversions from the word processing program, rather than scanned copies in which the text cannot be searched).

Submissions should be sent to:

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Or by mail to the following address:

Water Branch: water trading rules position paper
Australian Competition and Consumer Commission
GPO Box 520
Melbourne Vic 3001

General inquiries may be directed to the ACCC using the contact details on p. 260 of this paper.

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Abbreviations

ACCC	Australian Competition and Consumer Commission
ACT	Australian Capital Territory
BOM	Bureau of Meteorology
CIT	Central Irrigation Trust
COAG	Council of Australian Governments
DERM	(Queensland) Department of Environment and Resource Management
DSE	(Victorian) Department of Sustainability and Environment
GL	Gigalitre
GMW	Goulburn-Murray Water
GVIA	Gwydir Valley Irrigators' Association
HWI	Horticulture Water Initiative
IGA	inter-governmental agreement
IIO	irrigation infrastructure operator
LMW	Lower Murray Water
LVW	Lachlan Valley Water
MDB	Murray–Darling Basin
MDB Agreement	Murray–Darling Basin Agreement
MDBA	Murray–Darling Basin Authority
MIL	Murray Irrigation Limited
ML	Megalitre
MRFF	Macquarie River Food and Fibre
NFF	National Farmers' Federation
NRMMC	Natural Resource Management Ministerial Council
NSW	New South Wales

NSWIC	New South Wales Irrigators' Council
NWC	National Water Commission
NWI	National Water Initiative
QFF	Queensland Farmers' Federation
VFF	Victorian Farmers Federation
WMI	Western Murray Irrigation Limited

Glossary

This glossary endeavours to provide practical meanings of terms; however, readers may need to consider the legal meaning of some terms under the *Water Act 2007* (the Act) and obtain legal advice on these definitions, if required.

basin state	New South Wales, Victoria, Queensland, South Australia or the Australian Capital Territory.
Basin water resources	all water resources within, or beneath, the Murray–Darling Basin, but not including: <ul style="list-style-type: none">(a) water resources within, or beneath, the Murray–Darling Basin that are prescribed by the regulations.(b) groundwater that forms part of the Great Artesian Basin.
conveyance loss	water lost from irrigation networks through evaporation, seepage etc. The loss is likely to be made up of both fixed and variable components, and can vary substantially between networks and between seasons. See also: transmission loss .
exit fee	a fee levied by an irrigation infrastructure operator on the transfer of a water entitlement out of the operator’s network or irrigation district (excluding any fee associated with the costs of processing that transfer).
groundwater	<ul style="list-style-type: none">(a) water occurring naturally below ground level (whether in an aquifer or otherwise), or(b) water occurring at a place below ground that has been pumped, diverted or released to that place for the purpose of being stored there, but does not include water held in underground tanks, pipes or other works.
irrigation right	a right that a person has against an irrigation infrastructure operator to receive water that is not a water access right or a water delivery right.
irrigation infrastructure operator	an infrastructure operator that operates water service infrastructure for the purposes of delivering water for the primary purpose of being used for irrigation.

infrastructure operator	a person who owns or operates infrastructure for the storage; delivery; or drainage of water (water service infrastructure) for the purpose of providing a service to another person.
minister	the Australian Government Minister for Climate Change and Water.
National Water Initiative	the inter-governmental agreement on a national water initiative between the Australian Government and the governments of New South Wales, Victoria, Queensland, Western Australia, Tasmania, the Australian Capital Territory and the Northern Territory.
surface water	includes water in a watercourse, lake or wetland, and any water flowing over or lying on land after it is has precipitated naturally or has risen to the surface naturally from underground.
the Act	<i>Water Act 2007</i>
tradeable water rights	water access rights, water delivery rights or irrigation rights.
transmission loss	water lost to evaporation, seepage, over bank flow etc. along the length of natural water courses. Losses vary with in-stream flow volumes and individual water course characteristics. See also conveyance loss
termination fee	a fee levied by an irrigation infrastructure operator when a delivery entitlement or delivery right is surrendered to the operator to terminate any rights or obligations associated with that delivery entitlement or delivery right (including any requirement to pay an access fee).
water access entitlement	a perpetual or ongoing entitlement, by or under a law of a state, to exclusive access to a share of the water resources of a water resource plan area.
water access right	any right by or under the law of a state or territory to hold water from a water resource and / or take water from a water resource.
water allocation	the specific volume of water allocated to water access entitlements in a given water accounting period.
water delivery right	a right to have water delivered by an infrastructure operator.

Summary

Under the *Water Act 2007*¹ (the Act) the Australian Competition and Consumer (ACCC) has a role advising the Murray–Darling Basin Authority (MDBA) about the development of the water trading rules component of the Basin Plan.

This position paper is the second stage in the ACCC’s public consultation process informing the development of its water trading rules advice, and sets out its preliminary positions on a range of matters related to water trading.

The preliminary positions in this paper are **not** proposed or draft water trading rules. Rather, they are an expression of the ACCC’s general position on matters pertaining to water trading.

To inform its draft advice for the MDBA, the ACCC is seeking stakeholder views on:

- the ACCC’s preliminary positions
- the advantages and disadvantages of giving effect to the preliminary positions through a water trading rule in the Basin Plan

The ACCC is developing its advice within the legislative framework set out in the Act. In particular, the ACCC has considered the way in which the water trading rules can contribute to the achievement of the basin water market and trading objectives and principles contained in Schedule 3 of the Act. The objectives are:

- (a) to facilitate the operation of efficient water markets and the opportunities for trading, within and between Basin States, where water resources are physically shared or hydrologic connections and water supply considerations will permit water trading; and
- (b) to minimise transaction cost on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions; and
- (c) to enable the appropriate mix of water products to develop based on water access entitlements which can be traded either in whole or in part, and either temporarily or permanently, or through lease arrangements or other trading options that may evolve over time; and
- (d) to recognise and protect the needs of the environment; and
- (e) to provide appropriate protection of third-party interests.

The ACCC refers to these objectives and principles throughout this position paper. The ACCC also recognises the ongoing role for water resource plans to deal with issues specific to particular water resources.

¹ Unless otherwise described, all legislation referred to in this document is Commonwealth.

As with the ACCC issues paper, this position paper discusses three broad types of water rights:

- water access rights (chapters 3 to 6)
- water delivery rights (chapter 7)
- irrigation rights (chapter 8).

The ACCC is also interested in the development of well-informed markets that, in turn, can contribute to lower transaction costs through reporting and the availability of information (chapter 9).

The following section summarises the ACCC's positions on water trading issues. Appendix 2 collates the full positions reached in this position paper.

Water access rights

The ACCC has considered a range of issues relating to the trade of water access rights, including water allocations and water access entitlements.

General matters

Chapter 3 of this position paper discusses a range of general matters relating to water access rights. Among the issues considered, and positions reached, by the ACCC are the following:

- Ownership restrictions—restrictions on the trade of water access rights based on the identity of the purchaser impose a barrier to trade and distort the market for trade in water access rights. The reasons for imposing such limits are not justified and the ACCC considers that such restrictions should not be allowed.
- Co-held water access rights—the need to obtain co-holder approval to subdivide a water access right can, in some circumstances, be onerous and can interfere with the functioning of the wider water market. The ACCC considers that basin state governments should review the existing arrangements for trade or subdivision of co-held water access rights by members of a co-holding that are not related entities.
- Unbundling—unbundling of water access rights from other rights (such as use approvals and delivery rights) offers significant benefits. The ACCC considers that trade in water access rights should not be conditional on such rights where they are governed by separate instruments.
- Use of water access rights—restricting the trade of water access rights based on how those rights will be used (such as for urban or environmental use) will limit the efficiencies that can be achieved by trade. The ACCC considers that trades of water access rights should be considered separately from the use of the water. Accordingly, the ACCC

considers that environmental users should be treated in exactly the same way as other water market participants.

- stock and domestic rights—the ACCC considers that stock and domestic rights could be tradeable provided that these rights are clearly defined as water access entitlements and there are adequate safeguards to meet critical human water needs. Further stock and domestic needs should then be sourced through the market.
- Trade into and out of the MDB—the extraction of water for use outside the MDB should be treated no differently to other trades under water trading rules.
- Environmental impacts from trade—the ACCC considers that environmental water requirements are best dealt with through the water planning process and use approvals rather than by restrictions on trade.
- Overallocation—the overallocation and overuse of water are best dealt with by mechanisms such as sustainable diversion limits and adjustments of the amount of water rights on issue. The ACCC considers that trade of water access rights should not be conditional on adjustments to address overallocation or restricted because of overallocation.²
- Conversion between priority classes—allowing conversion between priority classes can have significant third party impacts. The ACCC recommends against allowing for conversion between priority classes of water access rights.
- Carryover—carryover allows irrigators to manage variability in water availability between water seasons. It needs to be carefully managed to allow protection of property rights and adequate recognition of property interests. The ACCC considers that there should not be any specific restrictions on trade that relate to carryover.
- Metering—market function and third party interests may be affected when metering is not used or is inaccurate. The ACCC considers that buyers and sellers of water access rights should have an approved meter installed.

The 4 per cent limit

The 4 per cent limit on the permanent trade of water out of irrigation areas is considered in chapter 4 of this paper. In recent times this issue has been highly contentious, particularly on the application of the limit in Victoria. The ACCC reached the following conclusions on the 4 per cent limit:

- The 4 per cent limit prevents water from going to its highest value use and segments the water market. This leads to efficiency losses and

² Please see section 3.8 for a discussion of the definition of **overallocation**.

prevents the efficient operation of water markets. These efficiency losses are particularly long-term dynamic efficiency losses that may result from distorted investment and exit decisions. These losses are being experienced in an increasing number of irrigation areas in Victoria.

- The 4 per cent limit will prevent irrigators experiencing financial distress from realising the value of their water access rights. It will also restrict purchases of water for the environment.
- The 4 per cent limit will lead to general market uncertainty and increase transaction costs for market participants.

The ACCC has considered the extent to which ‘temporary’ trade in water allocations may ameliorate the effects of the 4 per cent limit. In the view of the ACCC, in many instances water allocation trade is not a good substitute for water access entitlement trade for a number of reasons.

The ACCC also considers that the 4 per cent limit is a poorly targeted mechanism for managing the two main justifications for the limit—namely, stranded asset risks and managing community structural adjustment. Both these issues are better dealt with by alternative mechanisms.

Overall, the ACCC considers that the 4 per cent limit should, ideally, be removed across the MDB. However, if the limit is not already removed, the ACCC considers that, at a minimum, implementations of the 4 per cent limit should be consistent with the limit as envisaged in the National Water Initiative (NWI) and that a clear minimum transition path for lifting the limit should be defined.

Approval processes

The approval processes for trades in water access rights are considered in chapter 5 of this paper. The ACCC notes that the time taken for approval of applications for trade may be affecting water markets.

Existing Council of Australian Governments (COAG) and the Natural Resource Management Ministerial Council (NRMMC) service standards will need to be subject to ongoing review, monitoring and public reporting. The ACCC view is that greater integration between approval authorities, and possibly consolidation of approval authorities over time, should be considered. This could be facilitated by greater interoperability between approval authorities and the use of common registry systems. The ACCC also considers that it may be appropriate to address actual or perceived conflicts of interest by approval authorities.

The ACCC does not consider that there is evidence of a need for specific regulation of water market intermediaries at this time.

Location matters

Chapter 6 of this position paper addresses matters relating to the change in the location of a water access right resulting from trade. These issues depend significantly on the types of system—such as regulated rivers, unregulated rivers or groundwater—that are involved in the change of location. The issues considered, and positions reached, by the ACCC include the following:

- The impact of hydrologic constraints in regulated systems is best managed through the use of trading zones. The ACCC considers that rules for trading within and among such zones should reflect the physical and environmental constraints in those systems, and that the effect of trade on river transmission losses should be further considered.
- Exchange rate trading has the potential for significant third party impacts. Tagging should be used to manage the trade of water access entitlements between trading zones, although there may be ways to improve current tagging administrative processes.
- The potential for water to be traded along intermittently connected rivers should be considered. This may involve further detailed study, better communication with market participants and the potential use of trading zones. The ACCC considers that options for improving the clarity and excludability of water access rights in unregulated systems should be considered.
- Exchange rates should not be used as a mechanism to manage trade between regulated and unregulated systems. Other options to manage such trade should be considered.
- Trade of groundwater rights carries with it potential third party impacts. The ACCC considers that such trade should be allowed within the same zone, and potentially between zones within the one aquifer. There may be a need for a separate process to manage extraction rights. The ACCC considers that trade between surface water and groundwater would only be feasible under certain circumstances.
- Similarly, it is possible that third party interests may be affected by trade in farm dam rights. The ACCC considers that trade in these rights should be assessed individually. Trade between farm dams and surface water systems, while ensuring adequate protection of third party interests, does not appear feasible.

Water delivery rights

Water delivery rights—the rights to have water delivered by an infrastructure operator—may be tradeable. Chapter 7 considers the potential effects of facilitating trade of water delivery rights against irrigation infrastructure operators (IIOs) for delivery within irrigation networks.

Water delivery rights can potentially serve a number of purposes for an IIO and the irrigators served by that network. These include being used as a basis for charging and managing delivery constraints. Having these rights separately and clearly defined, rather than related to the number of water access rights held, would offer significant benefits. This separation and clear definition would better facilitate the trade in water access rights, as well as better providing for charging and management of delivery. The ACCC considers that IIOs should be required to clearly specify the volume and/or unit share of their customers' and/or members' access to the irrigation network under a water delivery right, and that trade in water access or irrigation rights should not be related to the amount of delivery right held.

The ACCC also considers that the trade in water delivery rights would have significant benefits. Trade would give irrigators increased flexibility to manage their delivery needs and would provide better signalling to IIOs on capacity management and investment. The ACCC considers that IIOs should not be allowed to unreasonably prevent, deter or delay the trade of water delivery rights within their irrigation network, but that issues such as capacity constraints and security would need to be considered.

Irrigation rights

Chapter 8 considers issues relating to the trade of irrigation rights—the rights that a person has against an IIO to receive water that is not a water access right or a water delivery right. The ACCC considers that there would be benefit in irrigation rights being clearly defined, and that IIOs should clearly define such rights for member irrigators. Given that IIOs have considerable incentives not to restrict the trade of irrigation rights, and the operation of the water market rules, the ACCC does not consider there is a present need for further provisions on the trade of irrigation rights.

Reporting and information

Access to timely and accurate information is critical to a well-functioning water market because it allows participants to make informed decisions about managing their water access and delivery needs. Chapter 9 considers these information and reporting issues and the positions reached include the following::

- A lack of accessible information about the characteristics of water access entitlements may provide a disincentive to trade. The ACCC considers that basin state governments should provide information about the characteristics of water access entitlements in a standard template to be available at a centralised location.
- The large number of trading rules currently in operation has the potential to lead to significant uncertainty and to impede trade. The ACCC considers that governments should provide trading rules in a compiled form to a centralised location. IIOs should also have to provide their trading rules to the same central location, publish them on their website and/or make them available on request.
- Accurate and timely pricing information is important for efficient market function. The ACCC considers that trading parties should be

required to accurately report prices to approval authorities or registers (who would then need to provide such information centrally to the Bureau of Meteorology).

- Allocation and policy announcements can have significant effects on water markets. The ACCC considers that such announcements should be communicated to the entire market at the same time, to avoid giving advantages to particular market participants.

1 Introduction

The *Water Act 2007* (the Act) provides for the development of a Basin Plan—a strategic plan for water resources in the Murray-Darling Basin (MDB). A map of the MDB is contained in Appendix 1. Water trading rules are a key component of the Basin Plan, which is to be prepared by the Murray-Darling Basin Authority (MDBA).

The Act requires the MDBA to obtain Australian Competition and Consumer Commission (ACCC) advice on the water trading rules component of the Basin Plan.³

The MDBA has formally requested ACCC advice on the development of water trading rules.

This position paper is the second stage in the ACCC's public consultation process.

The paper initially discusses the role of Basin Plan water trading rules and the ACCC approach in developing its positions (chapter 2). Matters relating to water access rights are considered in chapters 3 to 6. Chapters 7 and 8 focus on water delivery rights and irrigation rights, respectively, while information and reporting matters are considered in chapter 9.

Many issues are common across chapters and, where relevant, readers will be referred to more detailed discussions located elsewhere in the position paper.

1.1 Consultation processes

Consulting with stakeholders is an important part of the ACCC's process in developing its water trading rules advice for the MDBA.

In March 2009 the ACCC released its water trading rules issues paper. In response, the ACCC received 21 submissions. This position paper continues that consultation process by seeking submissions from stakeholders, including:

- basin state governments
- infrastructure operators
- irrigators and other water users
- water market intermediaries
- other interested parties.

³ The framework for the water trading rules and the role of the ACCC is set out in more detail in chapter 3 of the ACCC's [Water trading rules—issues paper](http://www.accc.gov.au), available on the ACCC website, www.accc.gov.au.

The ACCC commissioned a number of consultancy reports to inform its development of this position paper. These reports were:

- Australian Bureau of Agricultural and Resource Economics, *Survey of irrigators on water trading in the Murray-Darling Basin 2007-08*, August 2009.
- Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009.
- Sinclair Knight Merz, *Water Trade and the Hydrological Connectivity of Surface Water Systems*, September 2009.
- Sinclair Knight Merz, *Water Trade Between Water Sources— Water Trade Involving Farm Dams And Unregulated Catchments*, September 2009.

The Frontier paper was released publicly with this position paper and is available at www.accc.gov.au. The remaining papers are available upon request (see page 260 for contact details).

The ACCC is interested in hearing from all stakeholders on the preliminary positions identified in this paper. Matters for stakeholder consideration are explained in more detail in section 1.2.

Submissions need to be provided to the ACCC no later than **Friday, 23 October 2009**. See the **How to make a submission** page of this paper for details on lodging a submission.

Submissions received in response to this position paper will inform the ACCC’s advice to the MDBA. Further opportunities to inform the ACCC’s development of water trading rules advice will be available before the preparation of final advice to the MDBA. Table 1.1 sets out the proposed timeline for the ACCC’s consultation process.

Table 1.1 Proposed times for the ACCC’s consultation process

Date	Item
March 2009	Issues paper released for consultation
September 2009	Position paper released for consultation
December 2009	Draft advice provided to the MDBA and released for consultation
March 2010	Final advice provided to the MDBA

The MDBA will also consult with relevant stakeholders during this period regarding the other components of the Basin Plan.

After the ACCC has provided its final advice to the MDBA, the MDBA will undertake a separate formal consultation process on the Basin Plan as a whole, including the water trading rules component.⁴

1.2 Matters for stakeholder consideration

This paper sets out the ACCC's preliminary positions on a range of matters related to water trading. The preliminary positions in this paper are **not** proposed or draft water trading rules. Rather, they are an expression of the ACCC's general position on water trading matters.

To inform the development of the ACCC's draft advice to the MDBA, the ACCC is seeking stakeholder views on:

- the ACCC's preliminary position
- the advantages and disadvantages of giving effect to the preliminary position through a water trading rule in the Basin Plan

Where submissions address one or more of the preliminary positions identified in this paper (chapters 3 to 9 and repeated in Appendix 2), the relevant preliminary position number(s) should be noted. Chapter 2 outlines the ACCC's general approach to formulating its advice to the MDBA.

Finally, the ACCC is also interested in stakeholder views on any aspect of water trading not otherwise covered in this position paper.

1.3 Interaction with other ACCC processes

Water trading rules are part of a broader package of reforms under the Act aimed at improving water market outcomes. These other sets of rules are explained below. The water trading rules are wider in scope—both in terms of the particular rights that they relate to and in their application to a broader set of water market participants (including state, territory and federal government agencies).

1.3.1 Water market rules

The ACCC recently provided advice to the minister on the water market rules.⁵

The water market rules deal with restrictions imposed by an irrigation infrastructure operator that either prevent or unreasonably delay transformation or trade of a transformed irrigation right. For an operator to be covered by the water market rules, they must hold a group access entitlement on behalf of their irrigators and deliver water

⁴ See section 3.2 of the ACCC's [Water trading rules—issues paper](#) for more details about this process.

⁵ See the ACCC publication, [Water market rules—ACCC advice to the Minister for Climate Change and Water](#), available on the Department of the Environment, Water, Heritage and the Arts website (www.environment.gov.au); viewed 24 February 2009.

for the primary purposes of irrigation, as well as satisfy transformation arrangements. Such IIOs exist primarily in New South Wales and South Australia.

Transformation arrangements are arrangements that allow an irrigator to permanently transform their irrigation right against an operator into a water access entitlement held by someone other than the operator, thereby reducing the share component of the operator's water access entitlement.

Once an irrigator holds a separate water access entitlement, they can trade this without requiring the operator's approval.⁶ (See section 9.1.1 for more information).

1.3.2 Water charge rules

Water charge (termination fees) rules

The ACCC has recently provided advice to the minister about water charge (termination fees) rules.⁷ The rules have been made by the minister and commenced in their entirety on 1 September 2009. When imposed on the sale of water, termination fees can deter otherwise efficient trades and/or transfers. The rules will cap the termination fee (at a multiple of 10 times the annual access fee) that can apply when an irrigator terminates access to an IIO's irrigation network, including where they surrender a delivery right in relation to an irrigation network.⁸

Water infrastructure charge rules

On 26 June 2009 the ACCC provided its final advice on the water infrastructure charge rules to the minister.⁹ Water infrastructure charge rules relate to charges levied by irrigation infrastructure operators and bulk water operators.

The purpose of the water infrastructure charge rules is to contribute to achieving the basin water charging objectives and principles, including the efficient and sustainable use of water resources and water infrastructure assets, efficient water markets and consistency in charging practices across regions where water can be traded.

Water charge planning and management information rules

The ACCC provided its final advice on water charge planning and management information rules on 10 July 2009.¹⁰ It recommended that state and territory

⁶ Third party approval may be required if the third party (which could include the irrigation infrastructure operator) holds an encumbrance over the transformed water access entitlement—for example, for security.

⁷ See the ACCC publication, [Water charge \(termination fees\) rules—final advice](#), available on the Department of the Environment, Water, Heritage and the Arts website (www.environment.gov.au); viewed 24 February 2009.

⁸ Under the water charge (termination fees) rules, an additional fee can be approved by the ACCC in certain circumstances.

⁹ See the ACCC publication, [Water infrastructure charge rules—advice to the Minister for Climate Change and Water](#) (June 2009), available on the Department of the Environment, Water, Heritage and the Arts website (www.environment.gov.au); viewed 23 August 2009, .

government departments and agencies publish details of water planning and management charges. The ACCC also proposed the establishment of a voluntary reporting framework to report more broadly on water planning and water management activities, costs and charges.

1.4 Treatment of confidential information

The ACCC prefers that all written submissions be publicly available to foster an informed, robust and consultative process. Accordingly, submissions will be considered to be public and will be posted on the ACCC website, www.accc.gov.au, unless confidentiality is sought and obtained from the ACCC.

The general policy of the ACCC on the collection, use and disclosure of information, including the treatment of claims for confidentiality in respect of information, is set out in the [*ACCC–AER information policy: the collection, use and disclosure of information*](#) (October 2008), which is available on the ACCC website.

1.5 Terminology used in this position paper

The terminology used to describe tradeable water rights (and water management and trading more generally) varies considerably between jurisdictions.¹¹

For the purposes of this position paper, the terminology and associated definitions contained in the Act will be used wherever possible. These terms are broadly similar—although not identical—to the terms used in the National Water Initiative (NWI).¹² Where other terminology is used in this position paper (e.g. on the specific rights or dealings within a particular jurisdiction), this will be noted.

As set out in chapter 3, the term **water access right** can include a range of rights to take and/or use water. The position paper will refer to specific types of water access right—in particular to **water access entitlements** and **water allocation**—wherever necessary. However, references to a water access right should be read as referring to all water access rights, including water access entitlements and water allocations, unless otherwise indicated.

The terms **trade** and **transfer** are not defined in the Act. For simplicity, references to a ‘trade’ in this position paper should be read as meaning trade or transfer.

¹⁰ See the ACCC publication, [*Water planning and management charge rules—final advice*](#), available on the Department of the Environment, Water, Heritage and the Arts website (www.environment.gov.au); viewed 15 August 2009.

¹¹ For a discussion on consistency in terminology as it relates to water trading, see section 9.1.

¹² For example, the NWI and Water Act definitions of ‘water access entitlement’ differ. The NWI defines it as ‘a perpetual or ongoing entitlement to exclusive access to a share of water from a specified consumptive pool as defined in a water plan’. See the [*Intergovernmental agreement on a national water initiative*](#), Schedule B(i), National Water Commission, available on the National Water Commission website (www.nwc.gov.au/www/html/7-home-page.asp); viewed 12 January 2009.

The ACCC recognises that a trade can involve a change of ownership and/or a change in the location pertinent to the right.

The term **basin state** as defined by the Act, and as used in this position paper, means New South Wales, Victoria, Queensland, South Australia and the Australian Capital Territory.

2 Scope of the ACCC's advice

The ACCC's water trading rules issues paper provided an overview of the provisions of the Act relating to the water trading rules.¹³

The ACCC's advice is to inform the development of the water trading rules component of the Basin Plan. The Basin Plan will provide an overarching planning tool for Basin-wide issues, including requirements for water resource plans to be developed for particular water resources (see section 2.1).

The ACCC is developing its advice in the context of this legislative framework, in particular, the basin water market and trading objectives and principles contained in schedule 3 of the Act. The objectives are:

- (a) to facilitate the operation of efficient water markets and the opportunities for trading, within and between Basin States, where water resources are physically shared or hydrologic connections and water supply considerations will permit water trading; and
- (b) to minimise transaction cost on water trades, including through good information flows in the market and compatible entitlement, registry, regulatory and other arrangements across jurisdictions; and
- (c) to enable the appropriate mix of water products to develop based on water access entitlements which can be traded either in whole or in part, and either temporarily or permanently, or through lease arrangements or other trading options that may evolve over time; and
- (d) to recognise and protect the needs of the environment; and
- (e) to provide appropriate protection of third-party interests.

The ACCC refers to these objectives and principles throughout this position paper. However, the ACCC considers that Basin Plan water trading rules alone will not be able to fully achieve these objectives and principles.¹⁴ Also relevant are the water trading rules contained in other instruments, in particular water resource plans (see section 2.1), and broader water management considerations relevant to trade (discussed in section 2.2).

2.1 Role of water resource plans

The ACCC recognises that the Basin Plan is not the only instrument that will govern water trading. Rules may also be included in water resource plans, state and territory legislation and the policies and procedures of irrigation infrastructure operators.

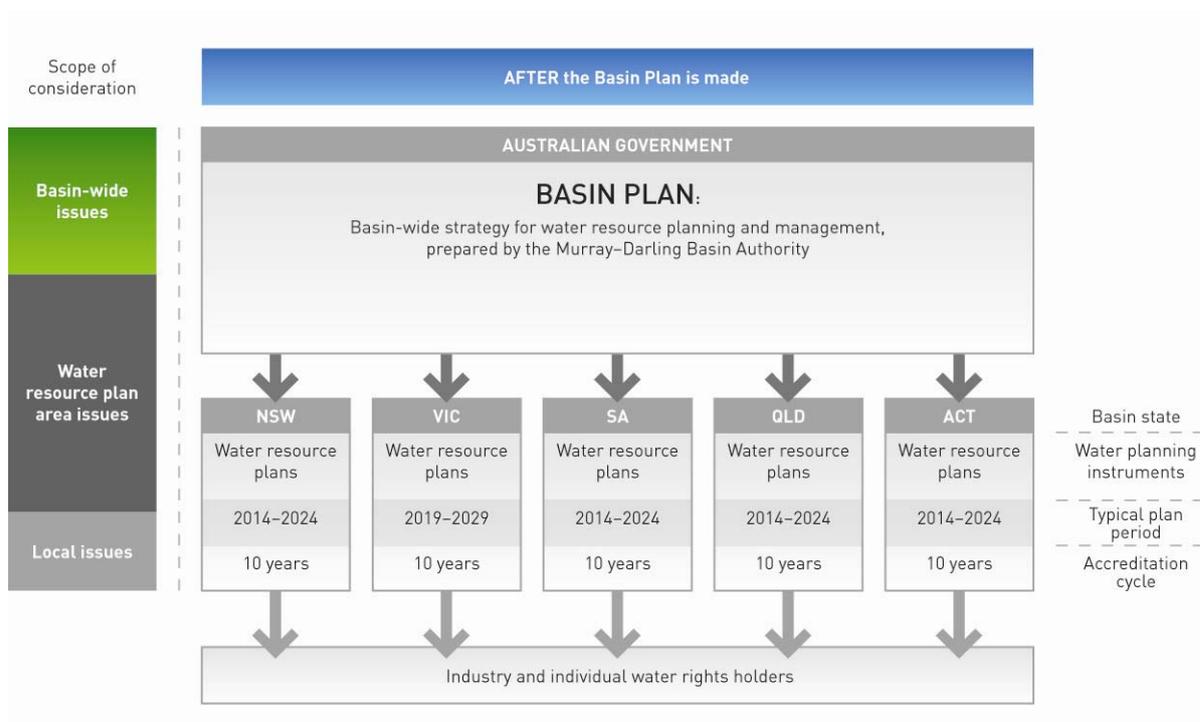
¹³ See the ACCC publication, [Water trading rules—issues paper](#) (March 2009), chapter 3, available on the ACCC website, www.accc.gov.au.

¹⁴ This is acknowledged in the Act by the requirement that the Basin Plan water trading rules 'contribute to achieving' the objectives—see section 22, item 1 of the Act.

Initially, even the Basin Plan water trading rules will not apply uniformly throughout the MDB as the Act allows interim and transitional water resource plans to operate until their prescribed expiry date (as late as 2017).¹⁵ The Act clearly provides for water trading matters to also be addressed in future water resource plans. These water resource plans will be developed by basin states, consistent with the requirements for water resource plans to be developed as part of the Basin Plan.¹⁶ The ACCC does not have a formal role in advising on these requirements, which will be included in item 11 of the Basin Plan.

The ACCC believes that local trading matters should be dealt with in the water resource plans, as long as the approach taken is consistent with the Basin Plan water trading rules and the Basin Plan as a whole. This is consistent with the MDBA’s proposed approach, as set out in its Basin Plan concept statement (see figure 2.1). Any water trading rules contained in a water resource plan must also contribute to achieving the basin water market and trading objectives and principles.¹⁷

Figure 2.1 Interaction between water resource plans and the Basin Plan



Source: Reproduced in part with permission of the MDBA.¹⁸

¹⁵ See s. 241(3) and Schedule 4 of the Act. Transitional water resource plans for water resource plan areas in Victoria may be prescribed by regulations made for the purposes of s. 241(1)(b), and may have an expiry date later than 2017.

¹⁶ See s. 22(1), item 11, and s. 22(3) of the Act.

¹⁷ See s. 22(3) of the Act.

¹⁸ MDBA, *The Basin Plan A Concept Statement*, Canberra, 2009, p. 18.

2.2 Broader water management considerations relevant to trade

The Basin Plan water trading rules will not apply to all entities involved in water trading¹⁹ or to all matters relevant to the development of an efficient water trading regime across the MDB.

The ACCC acknowledges that the ability to effectively manage trade is influenced by matters other than water trading rules, including other rules made under the Act as outlined in section 1.3.

The following is an overview of other key water management considerations relevant to the implementation of efficient water markets, with references to later discussions where relevant.

2.2.1 More complete water markets

To the extent that water extraction or interception can take place without a water access right with a volumetric limit (e.g. for stock and domestic purposes—see section 3.5), water markets could be considered to be incomplete and water access entitlements less secure. Similarly, where water access rights are tied to a specific purpose, water markets may be unnecessarily fragmented (see section 3.4).

The ACCC notes that, all else being equal, the creation of additional water access rights for a particular water resource necessarily reduces the reliability of existing water access rights of the same, or lower, priority class with a corresponding effect on the market value of those rights. The ACCC considers that wherever possible new water requirements should be sourced from the existing market. This ensures that the price of water more accurately reflects its true value and that opportunities for trading are expanded.

2.2.2 Unbundling of water rights

A key feature of water reform to date has been the commitment to separate water access from land²⁰ and, more recently, from water use approvals and water delivery rights.²¹

Where unbundling has occurred (particularly in regulated surface water systems and for use approvals), significant gains have been made in terms of trading opportunities and providing water users with greater flexibility to manage their water access, water use, delivery and land-holding needs. Section 3.3 considers how to avoid water trading rules

¹⁹ Sections 34 and 35 of the Act list the entities that must act consistently with and (for a subset of these entities) in a manner that gives effect to the Basin Plan (including its water trading rules).

²⁰ Council of Australian Governments, *Water reform framework*, 1994, attachment A, cl. 4(a).

²¹ As discussed in chapter 7, water delivery rights are employed by infrastructure operators as a vehicle for the collection of infrastructure access charges independently of water availability, more so than to manage delivery constraints.

jeopardising these gains by unnecessarily linking the ability to trade an unbundled water access right to a different nominally unbundled right.

As noted elsewhere²², further unbundling of water-related rights could potentially expand trading opportunities and/or provide more appropriate protection for third party interests when trade takes place. Chapter 6 discusses some of these unbundling possibilities, particularly for trade outside regulated surface water systems.

The ACCC acknowledges, however, that unbundling is not without cost. While unbundling can greatly simplify the assessment of trade applications, it may also increase the complexity of transactions involving more than one unbundled right. Therefore, the likely benefits of further unbundling (which can be substantial) must be assessed against the likely costs.

2.2.3 Adequate monitoring of compliance with extraction conditions

Water access right holders can have the security of their right eroded through the unauthorised extraction of water by others. Un-metered or inaccurately metered extraction can obviously lead to negative third party impacts for other water users, as well as for the environment. Section 3.11 discusses the potential role of water trading rules relating to metering, while recognising that the monitoring of extraction can be resource-intensive.

Extraction in excess of prescribed pumping rates, or outside prescribed pumping times, can also significantly affect third parties and make it very difficult to give effect to particular types of water trades. This is particularly relevant for unregulated systems (see section 6.2) and groundwater systems (see section 6.4).

2.2.4 Operation of storages and other river flow operations

How storages and other infrastructure are operated can influence not only the ability to trade and/or carry over water, but also the ability for water (traded or not) to be delivered.

For systems served by multiple storages, operators face the task of managing the allocation of water between these storages with different efficiencies (in terms of losses to evaporation and seepage), to ensure environmental (passing flow) requirements are met while taking into account likely demand patterns, inflow levels and the risk of spills. For example, operators can release water through the Barmah Choke to hold in downstream storages to mitigate capacity constraint problems later in the season.

Infrastructure operators must also consider the balance between providing water for extractive use today versus storing water to ensure there are adequate reserves (for both extraction and delivery purposes) in future seasons. These considerations are, inter alia, relevant to carryover, as discussed in section 3.10.

²² Price Waterhouse Coopers, *National Water Initiative Water trading study*, Department of the Prime Minister and Cabinet, Canberra, 2006, pp 53-63.

In most cases, these decisions are guided by the requirements of water resource plans. However, when circumstances arise that have not been provided for in relevant planning documents, infrastructure operators are required to make decisions that can significantly affect water markets, as discussed in section 5.6.

2.3 The ACCC's preliminary positions

Chapters 3 to 9 of this paper contain the ACCC's preliminary positions.²³

These positions should **not** be read as proposed water trading rules. Rather, they are an expression of the ACCC's general position on water trading matters.

As explained in section 1.2, the ACCC is seeking submissions from stakeholders on the advantages and disadvantages of giving effect to these positions through a Basin Plan water trading rule.

The ACCC's draft advice to the MDBA (scheduled for public release in December 2009) will include proposals for specific Basin Plan water trading rules, informed by stakeholder submissions as well as the factors set out in this chapter.

It should be noted that several of the positions in this paper call for further investigation by the MDBA and/or basin states on matters relevant to water trading (particularly the positions in chapter 6). These investigations are unlikely to be undertaken before the first Basin Plan commences, but could inform the development of future amendments to the Basin Plan.

²³ Appendix 2 provides a consolidated list of all ACCC's positions contained in this paper.

3 Water access rights—general matters

The term **water access rights** is drawn from the Act and refers to any right conferred by or under a law of a state (or territory) to hold and/or take water from a water resource. This includes water access entitlements, water allocations, riparian rights, stock and domestic rights, and any other right relating to the taking or use of water as prescribed by regulations.

This definition incorporates a diverse range of statutory rights, ranging from clearly defined and secure water access entitlements and water allocations, to statutory rights to harvest an unspecified volume of water for specified purposes (e.g. some stock and domestic rights). Furthermore, a water access right may not be explicitly licensed, nor defined as a particular share or volume of water.

Some forms of water access rights existing within a basin state may not, in practice, be tradeable at present or may only be tradeable in limited circumstances. Where an ACCC preliminary position refers to the trade of a water access right, it will generally only be relevant to water access rights able to be traded under the law of the basin state in question, unless otherwise indicated.

This chapter deals with a number of general matters relating to water access right trades:

- ownership restrictions
- co-held water access rights
- unbundled water access rights
- restrictions based on the intended use of water
- stock and domestic water use
- trade into and out of the MDB
- environmental impacts resulting from trade
- overallocation issues
- conversion between priority classes
- carryover
- metering.

3.1 Ownership restrictions

3.1.1 Background

Certain trading rules may limit the ownership of water based on the identity or characteristics of the buyer. Most notably, restrictions may be in place to address concerns about the ownership of water by non-landholders—particularly concerns about potential water-hoarding or speculation by non-landholders and the role of environmental water-holders. There are two obvious examples of restrictions on the trade of water based on the identity of the purchaser of the water.²⁴

First, there is a limit on the proportion of Victorian water shares in a system that can be owned without being associated with a water use licence or registration in that system. This is commonly known as the 10 per cent non-water user limit, or the 10 per cent rule.²⁵ Separate limits were set for high- and low-reliability water shares. The 10 per cent limit was reached in the Campaspe and Goulburn systems for high-reliability water shares in August 2009.²⁶

On 7 May 2009 the Victorian Government stated that it would remove this limit.²⁷ The Bill removing the limit passed the Victorian lower and upper house on 13 August 2009 and 3 September 2009 respectively, but had not yet received assent at the time of this position paper being published.²⁸

Second, on 29 May 2009 (and subsequently on 6 July 2009), the New South Wales Minister for Water and Regional Development amended the New South Wales Access Licence Dealing Principles under state water legislation to enact an embargo on trades of water access rights to environmental water holders, except in limited circumstances.²⁹ The New South Wales Government stated that the embargo was necessary because, in its view, ‘NSW is unfairly represented in water purchases for the environment by the Commonwealth’.³⁰

²⁴ The 4 per cent limits are considered separately in chapter 4.

²⁵ See the [Victorian Water Register](http://www.waterregister.vic.gov.au) website, www.waterregister.vic.gov.au; viewed on 16 February 2009.

²⁶ Goulburn-Murray Water, *GMW water trading ballot update: Limits reached in some irrigation areas and systems as farmers position for year ahead*, media release, 3 August 2009.

²⁷ Tim Holding (Minister for Water), *Government outlines further water market reforms*, media release, Victoria, 7 May 2009.

²⁸ Victorian Hansard, Legislative Assembly, 28 July 2009, p. 2250, 29 July 2009, p. 2391; Victorian Hansard, Legislative Assembly, 13 August 2009, p. 2775; Victorian Hansard, Legislative Council, 13 August 2009, p. 4082; Victorian Hansard, Legislative Council proof, 3 September 2009, p. 52.

²⁹ *New South Wales Government Gazette*, No. 80, Special Supplement, 29 May 2009; Phillip Costa, Minister for Water and Regional Development, [New South Wales Government to guarantee environmental water purchasing is fair](#), media release, 28 May 2009. Order repealed and replaced by another Order on 6 July 2009; see *New South Wales Government Gazette*, No. 102, Special Supplement, 9 July 2009.

³⁰ Minister for Water and Regional Development, [NSW water embargo—deadline extended to apply for an exemption](#), media release, 10 July 2009.

3.1.2 Summary of submissions

A number of interested parties made submissions expressing concern about foreign ownership of water. The New South Wales Irrigators' Council (NSWIC), Silver Moon, Gwydir Valley Irrigators Association Inc (GVIA), Lachlan Valley Water (LVW) and Western Murray Irrigation Limited (WMI) raised concerns about foreign investment in water.³¹ In the NSWIC's view the Foreign Investment Review Board should be given a role relating to water.

Generally, however, interested parties did not consider that there was a need to have ownership restrictions for particular individuals. The NSWIC, GVIA and LVW submitted that no further restrictions aside from any foreign ownership controls should be applied.³²

The National Farmers' Federation (NFF) stated that all market participants should be able to buy water in a competitively neutral way, including governments buying from willing sellers.³³

The Queensland Department of Environment and Resource Management (DERM) and the Queensland Farmers' Federation (QFF) noted that no such ownership restrictions apply in Queensland.³⁴

The Central Irrigation Trust (CIT) specifically submitted that it was important that environmental water holders were not restricted in their ability to purchase water, and that rules should be consistent.³⁵

The Victorian Farmers Federation (VFF) stated that it did not 'explicitly support' ownership restrictions but considered that trades should be subject to the 4 per cent and 10 per cent caps.³⁶

In addition to the submissions on foreign ownership, certain parties submitted on other ownership restrictions they considered should be permitted. The South Australian Government submitted that its legislation allowed some restrictions—for example, where a person has acted in breach of its water legislation, or for certain environmental purposes.³⁷

The Horticulture Water Initiative (HWI) submitted that there should be some protection of a proportion of water access rights for domestic, stock, irrigation, environment and urban use, to prevent one group buying all the water.³⁸ WMI expressed concern about

³¹ NSWIC, issues paper submission, p. 8; Silver Moon, issues paper submission, p. 5; GVIA, issues paper submission, p. 8; LVW, issues paper submission, p. 8; WMI, issues paper submission, p. 8.

³² NSWIC, issues paper submission, p. 8; GVIA, issues paper submission, p. 8; LVW, issues paper submission, p. 8.

³³ NFF, issues paper submission, p. 8.

³⁴ QFF, issues paper submission, p. 3.

³⁵ CIT, issues paper submission, p. 1.

³⁶ VFF, issues paper submission, p. 6.

³⁷ South Australian Government, issues paper submission, p. 1.

³⁸ HWI, issues paper submission, p. 4.

excessive urban ownership of water where rural interests could be affected. WMI also noted the recent failure of certain managed investment schemes.³⁹

3.1.3 Discussion

In general, stakeholders did not consider there was a need for restrictions on the identity of purchasers of water rights, with the possible exception of foreign ownership restrictions.

The ACCC similarly considers that the identity of the purchaser should not typically be a factor in a trade. The ACCC considers that ownership restrictions will be inherently distorting and that trades of water access rights should occur on a level playing field.

Ownership restrictions can prevent wider participation in the water market, restricting the efficient operation of water markets and opportunities for trade, and prevent water from reaching its highest value use. They would also potentially prevent intermediaries developing more innovative water-related products, such as water futures and options, to assist water users to hedge against seasonal risk and price uncertainty.⁴⁰ The rules will also hinder the ability of environmental water-holders to purchase water access rights (directly in the case of the New South Wales embargo and indirectly in the case of the 10 per cent limit).

The most obvious example of an ownership restriction is the Victorian 10 per cent limit. The VFF was the only interested party to explicitly support the 10 per cent limit.

Where the Victorian 10 per cent limit has been reached, it prevents any further water access entitlements from being purchased by urban, interstate or environmental users (or, for that matter, irrigators located in other, connected, water sources). This would remove potential participants in the market and limit the movement of water around the MDB. While irrigators will still be able to sell to other landholders within the water source, the limit would prevent irrigators within a restricted area from realising the value of their water by selling to urban, interstate or environmental purchasers. As noted by the Victorian Government, to some extent this has the effect of making the non water user (NWU) entitlements and water-user entitlements operate in separate markets.⁴¹ Furthermore, segmenting the market may particularly affect irrigators in financial distress who are unable to sell their water assets for their full value as part of exiting irrigated farming.

The justification for the 10 per cent limit has typically been to limit the ability of water barons to purchase and hoard water. However, as previously noted by the ACCC, there

³⁹ WMI, issues paper submission, p. 3.

⁴⁰ The Allen Consulting Group, *Improving market confidence in water intermediaries*, Waterlines Occasional Paper No. 3, commissioned by the National Water Commission, Canberra, 2007, p. 26; available on the NWC website, www.nwc.gov.au/www/html/7-home-page.asp; viewed on 12 January 2009.

⁴¹ Victorian Government, *Review of non-water-user limit*, undated, available on the 'Our water our future' website, www.ourwater.vic.gov.au; viewed on 2 July 2009.

is little evidence of such water hoarding taking place.⁴² When the Victorian Government announced that it intended to legislate to remove the 10 per cent limit, the Victorian Minister for Water stated:

These fears [of water barons] have proven unfounded. There is no evidence of water barons entering markets in a big way in other jurisdictions that do not have this provision.⁴³

As such, the 10 per cent limit appears to be protecting against a fear of water barons that has not eventuated, while having the potential to distort the market by limiting the ability for water to move to its highest value use through trade.

The Victorian review of the limit reached a number of conclusions about the effect of the limit on water markets⁴⁴:

- The limit does not support the water market, as it prevents non water user buyers (including environment, interstate and urban) buying from anyone other than holders of NWU shares.
- The limit leads to market distortions, as NWU and non-NWU shares become different products operating in different markets, and there is no evidence of a water baron problem.
- It is uncertain whether the limit complies with National Water Initiative (NWI) obligations.
- The limit does not assist reforms and investment activities as it blocks reconfiguration activity and prevents environmental purchasing of water.

The ACCC considers that the Victorian Government's conclusions concur with its own assessment and reinforce the problems with ownership limits.

Given the pending removal of the 10 per cent limit, the ACCC does not propose to deal with this particular limit further. However, the ACCC notes that the limit appeared to have the potential to prevent wider participation in the water market and has in fact already had such effect in the 2009–10 water year.

Similar concerns apply in relation to the New South Wales embargo on environmental water purchases. The embargo has a more limited scope than the 10 per cent limit, but similarly limits the range of purchasers that can participate in the market. This will likewise make it more difficult for irrigators looking to sell their water access rights (including water allocations) to realise the value of their asset. As noted above in relation to the 10 per cent limit, this may particularly affect irrigators in financial distress. Media reporting after the embargo was announced indicates that the embargo has prevented irrigators from selling their water to facilitate debt reduction or

⁴² ACCC, submission to the Productivity Commission on 'Rural water use and the environment: The role of market mechanisms', 15 February 2006, p. 3.

⁴³ Tim Holding, Minister for Water, [Government outlines further water market reforms](#), media release, Victoria, 7 May 2009.

⁴⁴ Victorian Government, [Review of non-water-user limit](#), undated, available on the 'Our water out future' website, www.ourwater.vic.gov.au; viewed on 2 July 2009, p. 3

investments.⁴⁵ The ACCC also notes that the New South Wales embargo does not relate to sales where the transaction takes place due to a default of a debt.⁴⁶ This means that the arbitrary beneficiaries of the embargo may be banks or other financial institutions holding mortgages over irrigator assets. Murray Irrigation Limited has been reported as saying that the embargo could lead to increased mortgagee-in-possession sales.⁴⁷

The New South Wales embargo does not appear to have a strong basis. The measure was justified by New South Wales as a response to the inability of Commonwealth environmental water purchasers to obtain water access entitlements from Victorian irrigators.⁴⁸ The ACCC agrees (as discussed in chapter 4) that the Victorian 4 per cent limit causes a significant barrier to trade. However, the ACCC considers that introducing a further restriction on environmental water purchases in New South Wales will not remedy the problems generated by the 4 per cent limit and that the embargo simply introduces a further barrier to trade. The general concerns raised by the Victorian Government about the 10 per cent limit would similarly apply to the New South Wales embargo. The ACCC discusses environmental water holders and restrictions based on the intended use of water later in section 3.4.

As noted earlier, these limits on ownership impose trade barriers, distort the market for trade in water access rights and limit the ability of irrigators to realise the value of water held. The ACCC does not consider the reasons for introducing the limits are justified, and believes that there is little compelling evidence to support the imposition of such rules preventing particular categories of individuals from owning water access rights. The ACCC considers that restrictions on the trade of water access rights should generally only be for physical and environmental reasons.

As to the suggestions that foreign ownership of water should be restricted, the ACCC notes that arrangements are already in place to cover foreign investment in Australian assets. Acquisition of water entitlements may be captured under the business investment provisions in the *Foreign Acquisitions and Takeovers Act 1975* where the value of the gross assets of the business is over \$100 million.⁴⁹ These arrangements will continue to apply regardless of the content of the water trading rules. The ACCC does not consider that there is sufficient justification for additional restrictions on purchasers of water by foreign parties.

⁴⁵ Australian Broadcasting Corporation, *ABC News*, ‘[Farmers lose millions in water spat](#)’, available online at www.abc.net.au; viewed on 2 July 2009; Australian Broadcasting Corporation, [Govt urged to rethink water sales embargo](#), 28 August 2009, available online at www.abc.net.au, viewed on 28 August 2009.

⁴⁶ NSW Government Gazette No. 102 Special Supplement, 9 July 2009; Phillip Costa (Minister for Water), p. 4049.

⁴⁷ Matthew Cranston, ‘Water restrictions may lead to flood’, *Australian Financial Review*, 10 August 2009, p. 48.

⁴⁸ Phillip Costa, Minister for Water and Regional Development, [New South Wales Government to guarantee environmental water purchasing is fair](#), media release, 28 May 2009.

⁴⁹ Potential foreign investors must notify the Australian Government. The Foreign Investment Review Board examines the proposal and makes recommendations to the federal Treasurer, who has the power under the Foreign Acquisitions and Takeovers Act to impose conditions on or block proposals determined to be contrary to the national interest. Further information is available at www.firb.gov.au/content/default.asp.

The ACCC notes that some jurisdictions may impose restrictions such as those in South Australia which may restrict a sale to a party that has violated the *Natural Resource Management Act 2004*, or in Victoria that may restrict a sale where a party owes fees under the *Water Act 1989*. These may be appropriate restrictions because they relate to purchaser's actions under the relevant Acts rather than on the identity of the purchaser alone.

3.1.4 Preliminary positions

- (3-A) There should not be specific restrictions on the ownership of water access rights by particular classes of entities such as non-landholders, environmental water holders⁵⁰ and urban water authorities.
- (3-B) Basin states should be able to restrict the ability of an individual to own a water access right on the basis that the individual has been in breach of water legislation or owes money for water charges.

3.2 Co-held water access rights

3.2.1 Background

A water access right may be held jointly by two or more parties. While this may often be in the case of family co-holdings, examples of such arrangements also include joint water supply schemes (JWSS) and syndicates, where one water access right (usually a water access entitlement) is held by a number of irrigators. The existence of co-holders may have implications for the manner in which the water may be traded.

Trades and other dealings in water access rights are usually subject to requirements to obtain the approval of parties with an interest in the water access right. Where a water access right is jointly held, the agreement of all, or a majority of, right-holders will normally be required. There is the potential for a large number of irrigators (i.e. over 100 in some cases) to co-hold a water access right.

The ACCC has previously noted that the existence of co-holdings may have implications for the operation of the water market rules.⁵¹ Where that is the case, the ACCC notes that whether JWSSs and syndicates are subject to the water market rules would need to be considered on a case-by-case basis. Accordingly, some participants in, for example, a JWSS, may not be able to take advantage of transformation should they wish to sell their part of a water access right. The ACCC understands that the JWSS arrangement only exists in New South Wales. New South Wales co-holding arrangements are explained further in box 3.1

⁵⁰ Restrictions based on the use of water access rights held for environmental use are also considered in section 3.4.

⁵¹ ACCC, [Water market rules—advice to the Minister for Climate Change and Water](#), December 2008, available on the ACCC website, www.accc.gov.au, p. 13.

Box 3.1 New South Wales co-holdings

Co-holdings in New South Wales are facilitated by that state's *Water Management Act 2000*, which provides for one or more persons (person meaning an individual or legal entity such as a corporation), and particularly JWSSs, to co-hold a New South Wales water access licence (entitlement).⁵²

If a number of people hold a New South Wales water access licence, this must be either as joint tenants or tenants in common. Where there are **tenants in common**, each co-holder has a defined holding expressed as a fraction of the entire licence, e.g. as a half-and-half holding or as a one-third/two-thirds holding. If a tenant in common dies, that co-holding remains intact and passes to the beneficiary of their estate.

With a **joint tenancy**, each co-holder jointly holds an equal share of the entire water access entitlement (or holding). If one joint tenant dies, their proportion of the holding goes into the name of the surviving joint tenant(s). A co-holding does not equate to, nor does it represent, direct rights to any particular component of a water access licence. For example, a co-holder is not entitled to deal separately with any of the unit shares in the share component or water in the water allocation account. This is the same as for land ownership, where land specified as being owned by multiple parties as joint tenants does not entitle any one of those parties to a particular part of the property.

In addition to these tenancy arrangements, the volume of water that may be taken under a water access licence by a particular co-holder from time to time may be governed by private agreement between the co-holders of the water access licence.⁵³

The JWSS is essentially a product of historical New South Wales water legislation. JWSSs were created as a way to manage infrastructure under the *Water Act 1912 (New South Wales)*. Once the infrastructure was developed, the co-holders of water access rights serviced by the infrastructure could then receive water via that infrastructure. In a JWSS, the water access right is co-held by a number of irrigators. In comparison, the alternative, more common arrangement in New South Wales is where the water access right is held by one entity such as a corporation or trust, and irrigators then hold irrigation rights against the entity. JWSSs are not practically different from corporations or trust, in the way that water is diverted from rivers or delivered to irrigators. Instead, they are essentially alternative arrangements that differently manage the sharing of water under a water access right.

In its issues paper the ACCC sought views on whether there were situations where co-holder approval for a subdivision of a water access right should not be required.

⁵² NSW Department of Water and Energy, draft decision submission on water market rules, 7 October 2008.

⁵³ NSW Government, Department of Natural Resources, [Guide to water access licence certificates and searches](http://naturalresources.nsw.gov.au), 2006, available online at <http://naturalresources.nsw.gov.au>.

3.2.2 Summary of submissions

Generally, parties who submitted a response to the issues paper supported the continuing requirement for co-holder approval for subdivision of a water access right.

South Australia noted that all holders of a right in that state must be party to any application to subdivide.⁵⁴ DERM and the New South Wales Government similarly noted that co-holder approval was generally required in Queensland and New South Wales respectively.⁵⁵

The HWI stated that there are no circumstances where co-holder approval should not be required.⁵⁶ The NSWIC, NFF, WMI and VFF stated that in general co-holder approval should be required for subdivision.⁵⁷ However the NSWIC and WMI also said that there should be rules that co-holder approval cannot be unreasonably withheld. Similarly, the NFF noted issues with the situation of a joint licence and joint supply infrastructure, and recommended that the ACCC consider an appropriate process for individual irrigators in such a situation to be allowed to trade.⁵⁸

3.2.3 Discussion

A potential issue with the need for co-holder approval relates to the need to obtain agreements from a large number of other co-holders in larger JWSSs or similar schemes in order to subdivide a water access right. Subdivision would be necessary to enable an individual to separate their share of a co-held water access right and have the ability to trade this independently of the remainder of the co-held right. Obtaining such approval may require agreement from a large number of co-holders; this could possibly hinder the ability of co-holders to trade their share of a water access right (including trade of a water allocation from a co-held water access entitlement) and may constitute a barrier to trade. This would be similar to the barrier caused by irrigation infrastructure operation (IIOs) not allowing transformation of irrigation rights.⁵⁹

Generally, co-owner approval is required by the basin states for trades of co-held water access rights to take place.⁶⁰

The ACCC considers that obtaining co-holder approval would generally be an appropriate step prior to a subdivision of a water access right. This would provide certainty to co-holders of water access rights about the nature of dealings with their co-held right and would reflect existing property law conventions that property owners

⁵⁴ South Australian Government, issues paper submission, p. 1.

⁵⁵ DERM, issues paper submission, p. 2; NSW Government, issues paper submission, p. 1.

⁵⁶ HWI, issues paper submission, p. 4.

⁵⁷ NSWIC, issues paper submission, p. 8; NFF, issues paper submission, p. 7; WMI, issues paper submission, p. 3; VFF, issues paper submission, p. 6.

⁵⁸ NFF, issues paper submission, p. 8.

⁵⁹ These concerns were considered in the development of the water market rules.

⁶⁰ South Australian Government, issues paper submission no. 2, p. 1; NSW Government, issues paper submission no. 21, p. 1; DERM, issues paper submission no. 20, p. 2; *Water Management Act 2000* (NSW), s. 72A, although note the discussion later in this section; *Water Act 1989* (Victoria), ss. 33S(2)(b) and 33U(2), although note s. 33S(2)(a).

should be involved in decisions about their property. The submissions from interested parties generally agreed with the view that co-holder approval should be required for subdivision of a water access right. However, two parties submitted that co-holder agreement to a trade should not be unreasonably withheld.

As noted above, the ACCC also considers that obtaining co-holder approval could be an onerous burden and interfere with the functioning of the market in certain circumstances. This could be where there is a large number of co-holders of a water access right, and obtaining agreement from all of those co-holders may be difficult (for example, certain JWSSs can have 50 to 100 members). Consistent with this concern, the Act provides for water market rules that allow parties to transform irrigation rights without the agreement of other irrigation right holders (subject to certain conditions and protections).⁶¹

To the extent that the water market rules do not apply to particular JWSSs or other joint holdings, individuals would be required to rely on any mechanism available in state or territory legislation. Relevant New South Wales provisions are set out in box 3.2 below.

Box 3.2 Exiting co-holdings in New South Wales

The New South Wales *Water Management Act* provides that upon application of one or more co-holders, the New South Wales minister may consent to the extinguishment of the holdings of one or more co-holders in the water access licence and the granting of a new water access licence. This process is known as **subdivision of a co-held water access licence**.

Such applications are, however, prohibited unless the applicant has the consent in writing of all co-holders of the water access licence concerned or of co-holders who hold a majority share of the holders under the licence. Alternatively, a person can make an application to the New South Wales Supreme Court, which may order that the consent is not required and may make ancillary orders to the subdivision of the water access licence if it considers it just and equitable to do so.

Where a co-held water access entitlement is held as joint tenants, the process of subdivision is not applicable.

The ACCC considers that there is a significant issue if co-holder approval cannot be readily obtained. The ACCC also notes that there would be a disparity between different IIO corporate structures if members of a co-holding (which includes most JWSSs) did not have similar exit options to those of IIOs' members who hold irrigation rights against the IIO and are therefore protected under the water market rules against the prevention or unreasonable delay of trade or transformation.

Given that the difference between JWSSs as compared to those IIOs where members hold irrigation rights against the IIO is essentially a historical issue, the ACCC does not

⁶¹ ACCC, [Water market rules—advice to the Minister for Climate Change and Water](#), December 2008, available on the ACCC website, www.accc.gov.au.

consider that this disparity appears justified. An inability to obtain approvals from other co-holders in a JWSS would interfere with the functioning of the wider market for trade in water access rights in the same way as prevention or unreasonable delay of transformation.

Existing basin state legislation deals to some extent with concerns about the ability of co-holders to trade their share of a water access right. However, the ACCC notes that obtaining the consent of a majority of co-holders may still be difficult in larger JWSSs, and that processes set out in this legislation (e.g. action in the New South Wales Supreme Court) may not necessarily be a realistic option for many individuals.

The ACCC also notes that administrative procedures to facilitate subdivision may also be relevant. Box 3.3 outlines proposed New South Wales legislation for co-holding administrative process.

Box 3.3 New South Wales co-holding administrative processes

The New South Wales Water Management Amendment Bill 2008 provides for individuals within a co-holding to appoint another co-holder to give on their behalf any co-holder's consent required under the Act.⁶² A person may be a nominee for more than one co-holder. Co-holders should be encouraged to access these arrangements to help administratively facilitate trade.

At this stage the ACCC considers that issues associated with co-held water access rights are more appropriately dealt with by the appropriate basin state governments.

The ACCC considers that basin state governments should review the existing arrangements for trade or subdivision of co-held water access rights.

The ACCC notes that any amendments to better facilitate trade or subdivision of a co-held water access right to address the issues presented by JWSSs should not necessarily be applied to all co-holdings (for example, existing arrangements may be sufficient where a water access right is co-held by related entities).

The ACCC considers that amendments should address trade or subdivision of a co-held water access right where that right is co-held by irrigators who share a piece of infrastructure (e.g. a backbone channel or network that serves a number of properties) and are not related entities. This would bring such arrangements in line with existing arrangements for those IIOs where member irrigators hold an irrigation right against the IIO. Accordingly, the ACCC considers that amendments should address trade or subdivision of co-held water access rights by members of a co-holding that are not related entities.

⁶² The ACCC notes that while most of the amendments passed in the Water Management Amendment Bill 2008 have commenced either through ascent or proclamation, Schedule 4(4) to (7), 10 and 11 are not currently in force.

3.2.4 Preliminary positions

(3-C) The ACCC considers that there may be barriers to trade generated by:

- an individual who is a co-holder of a water access right having to obtain the approval of other co-holders and
- the administrative process of obtaining the approval of other co-holders before subdivision or trade of the jointly held water access right.

(3-D) The ACCC considers that basin state governments should review the existing arrangements for trade or subdivision of co-held water access rights by members of a co-holding that are not related entities.

3.3 Unbundled water rights

3.3.1 Background

One of the key water reforms to date has been the commitment to unbundling water rights. This has involved separating rights into:

- the actual right to water (separate to land)—for example, a water access entitlement or some other water access right⁶³
- the right to use water on land—for example, a water use approval
- the right to construct or operate water related infrastructure—for example, a works approval
- the right to have water delivered—for example, a water delivery right.⁶⁴

Unbundling of water rights can increase trading opportunities and provide water users with greater flexibility to manage their water access, water use, delivery and land-holding needs. Unbundling is more likely to have occurred in regulated water systems (see the beginning of chapter 6 for an explanation of this term). The ACCC recognises that in many areas, particularly in the case of groundwater and unregulated systems, unbundling has not yet occurred or has occurred only to a limited extent. In advising on the water trading rules, the ACCC wishes to ensure that the gains of unbundling already undertaken are not compromised through overly restrictive trading rules.

⁶³ A water access right may or may not be bundled with a use, delivery and/or works approval; it may also be linked to a landholding.

⁶⁴ Water delivery rights are defined by the Act as a tradeable water right. As such, the trade of water delivery rights has also been considered by the ACCC—see chapter 7.

3.3.2 Summary of submissions

The NSWIC made a general comment about the bundling of rights being a barrier to trade:

The bundling of the rights is clearly a barrier to trade, although such barrier may be justifiable in certain instances. In particular, NSWIC refers to the large number of small infrastructure operators in this state and submits that the Rules must be drafted to take into account their specific circumstances.⁶⁵

Other stakeholders commented either on the trade of a water access right being linked to water use approvals or on water delivery rights.

Water use approvals

The South Australian Government noted:

Once South Australia has unbundled water rights, a person does not need to have a site use approval to trade water. Having to possess a water use approval prior to purchase defeats a key advantage of separation. The trade is about the water; while the use approval controls use.

Such a requirement could potentially limit the ability of those without land to trade (and hold) water. This has implications for environmental or urban water users, as well as prospective rural water users (i.e. who intend to but have not yet acquired land).⁶⁶

The HWI stated that the requirement that water trades should be conditional on the buyer possessing a relevant water use approval should ‘be maintained to ensure third party/environmental impacts are properly protected’.⁶⁷

The NSWIC noted:

... a water use approval is utterly irrelevant to the trade of a water access entitlement.

A purchaser of water does not necessarily have to use it in any fashion. Use approvals, therefore, should relate to extraction permits and not the source entitlement.

For example, NSW allows “zero Water Access Licenses” which effectively allow entitlement to be purchased and accrued for later trade/transfer to an extraction point.⁶⁸

State Water noted:

There are a number of reasons why the purchaser of a water allocation may not hold a water use approval ... As with all markets, expansion of the pool of potential purchasers could assist the irrigation community by increasing financing options.⁶⁹

⁶⁵ NSWIC, issues paper submission, p. 18.

⁶⁶ South Australian Government, issues paper submission, p. 11.

⁶⁷ HWI, issues paper submission, p. 7.

⁶⁸ NSWIC, issues paper submission, p. 16.

⁶⁹ State Water, issues paper submission, pp. 6–7.

LVW, in reference to requiring the possession of a relevant water use approval as a condition of approving a trade, noted:

Such a condition would restrict trade and is likely to add to the delay in obtaining approval for a trade. The onus is on the purchaser of a water licence or water allocation to ensure they have an appropriate water use approval in place specific to the land where they intend to use the water. We recommend that a water use approval should not be required as a condition of trade/transfer.⁷⁰

The QFF noted:

While the trading approval process in Queensland is separate from a process for approval of land and water management plans, the requirement for approval of these management plans before traded water can be used has potential to depress the market's ability to reallocate water in response to water availability and demand.⁷¹

The NFF noted:

In the new era of a fully functioning market where there will be participants who may not physically use the water itself, the possession of a relevant water use approval as a condition is no longer be appropriate.

The use of water at a specific location should be subject to the use approval and as stated previously, this should consider those issues currently tied to water trades, such as salinity trading zones. The use approval may be a more appropriate mechanism to consider these issues, i.e. separately from the actual trade of entitlement and or allocation. It may be useful to gain a better understanding of where such use approvals mechanisms are in place around the Basin without the need to have these tied to entitlement trades.

As stated earlier, the NFF does not support the use of "use approvals" to determine what crops farmers can produce – this is a management decision of farmers and is best left to farmers.⁷²

DERM noted:

In Queensland, anyone can purchase a water access entitlement without an associated water use approval. This separation of the entitlement from use is important for the facilitation of an efficient market ...

The impacts of water use after it has been taken from water resources should be managed through use approvals. Trading rules are not relevant to management of these impacts.⁷³

The New South Wales Government noted:

The terms under which the water may be used on land is regulated separately by the water use approval. This arrangement recognises that an entity may hold entitlement for purposes other than extraction and use on a particular parcel of land.⁷⁴

⁷⁰ LVW, issues paper submission, p. 3.

⁷¹ QFF, issues paper submission, p. 7.

⁷² NFF, issues paper submission, p. 21.

⁷³ DERM, issues paper submission, p. 8.

⁷⁴ New South Wales Government, issues paper submission, p. 19.

Water delivery rights

The South Australian Government noted:

... at a conceptual level the more the rights are unbundled the clearer their specification and the more that they can be traded ...

The extent to which bundling [of water access entitlements and delivery rights] acts as a barrier or restriction to trade in South Australia is unknown. As both rights are currently bundled, it is difficult to distinguish the value placed on one or other of these rights. However, since there are no obvious capacity constraints within South Australia's Basin irrigation networks (ie irrigation trusts), it seems more likely that water access is the driver, rather than delivery access.⁷⁵

The South Australian Government further noted:

The advantages of having a separately specified delivery right and water right include being able to deal with one without affecting the other ... The principal benefits of separation would be to enable trading of delivery rights where there are capacity constraints, and separate trading of water rights without affecting a user's long-term interest in network infrastructure ... Revealing overall demand for delivery right in a particular system will signal the need (or lack thereof) for capacity maintenance, augmentation or re-configuration ... separate rights will help to distinguish the value of the delivery right versus the value of the water right⁷⁶

WMI noted that delivery and water 'rights should be unbundled to provide consistency across the Basin'.⁷⁷

The QFF noted:

It is not considered that unbundling [in] the St Georges scheme channel scheme would facilitate trade/transfer to the extent necessary to justify the costs of implementing such a system.⁷⁸

DERM noted:

In Queensland, arrangements for the delivery of water from headworks to on-stream extraction points and also from rivers through channel systems to off-stream water users are managed through contracts between users and the water storage infrastructure operator ... [If] it became apparent that a more flexible system was needed this could be developed by operators and water users. It should be not be developed prematurely as there would be costs in developing such a system.⁷⁹

3.3.3 Discussion

Most stakeholders supported the position that trade approvals relating to water access rights should not be linked to other, separate (unbundled) rights such as water use approvals or water delivery rights.

⁷⁵ South Australian Government, issues paper submission, p. 13.

⁷⁶ *ibid.*, pp. 12–13.

⁷⁷ WMI, issues paper submission, p. 11.

⁷⁸ QFF, issues paper submission, p. 8.

⁷⁹ DERM, issues paper submission, pp. 9–10.

The ACCC is of the view that where water access rights have been unbundled into the right to water, its use, delivery and any associated works approval, any trade in the water access right should not be conditional on those associated rights or approvals. This will mean that any trade is assessed solely against criteria relevant to the water access right trade rather than matters relating to areas dealt with under separate regimes. This should ensure that water trades are not delayed while other associated approvals are being obtained or otherwise addressed.

This will allow for the timely assessment of water access right trade applications. It will also mean that water purchasers may purchase water access rights at any time according to their individual requirements. If all rights and approvals associated with delivery, use and other matters are required before a water trade can be approved, this is likely to delay the process and increase transaction costs.

Similarly, a person may wish to hold rather than use their water access right. This could be because the water is for environmental purposes or because the holder wishes to on-sell the water rather than use it themselves. Linking the ability to purchase water to holding a use approval or water delivery right in this context would effectively prohibit such persons from entering the water market.

A number of stakeholders noted that water use approvals are fundamentally important for managing the environmental impacts of water use. The ACCC agrees with this position. However, granting an approval or right to use water on land should be a completely separate process from granting or approving a water access right trade. Water use approvals are important for all water used on land, whether it is obtained from a trade or not.

While the ACCC believes that the trade of water access rights should not be dependent on other associated unbundled rights, the ACCC is not necessarily advocating that water rights in all water systems be fully unbundled. The ACCC recognises that there can be substantial administrative, transaction and legal costs associated with moving to unbundled water access rights.⁸⁰ The unbundling of water from land and water use has been completed in most regulated systems within the MDB and the ACCC sees benefit from these reforms.

3.3.4 Preliminary positions

(3-E) The approval of an application to trade a water access right should not be conditional on the purchaser holding, obtaining, trading or terminating:

- a water delivery right, or
- a water use approval

where these rights or approvals are governed through separate instruments or processes.

⁸⁰ The specification and separation of water delivery rights is considered in section 7.1.

- (3-F) The approval of an application to trade a water access right should not be conditional on the purchaser being the owner or occupier of land.

3.4 Restrictions based on the intended use of water

3.4.1 Background

Water access rights in some jurisdictions are linked to a specific intended use, separate from use approvals governing the manner and quantity of water use on land. These use approvals and their interaction with water trading are considered in section 3.3.

For example, in New South Wales water access licences are assigned a given category or sub-category, and in Queensland allocations have an associated purpose—‘urban’, ‘agriculture’ or ‘any’.

In particular, a water access right may be assigned for urban water supply—generally the highest priority class of right—and may not be tradeable under certain conditions or at all. Additionally, stock and domestic rights are one category of water access right which is generally not able to be traded and can only be used for stock and domestic purposes. The tradeability of stock and domestic rights is considered specifically in section 3.5.

There may be trade restrictions placed on certain types of water access rights such that trade may only be between two parties that will use the water for the same purpose. In this way, certain types of water access rights may not be able to be traded between different uses. Alternatively, water access rights with certain specific uses may not be able to be traded at all.

3.4.2 Summary of submissions

A number of submissions made general comments about whether having water access rights limited to specific uses can restrict trade in those rights. Other submissions addressed the issue of trading rights to urban use and trading rules for holders of environmental entitlements. These comments are summarised by topic below.

General comments

The South Australian Government noted:

A defined specific purpose only presents a barrier to trade if that water could only be used for the specified purpose, essentially quarantining that water from other purposes and severely limiting its value for trade.

There are some specific cases where the definition of purposes and conditions on the licence endorsed with the WAE [water access entitlement] can be justified, for example

... water that has been applied to land to avoid salinisation. In some cases trade in water access entitlements may be limited, but not allocation trade.⁸¹

The HWI stated:

... a proportion of water access rights for domestic, stock, irrigation, environment and urban use should be protected. A water resource plan should specify the appropriate shares.⁸²

In response to the question of whether defining a specific purpose for a water access right creates a barrier to trade the NSWIC responded:

Yes, although there are clearly circumstances in which such barriers are justifiable. For example, critical human needs water ought not be tradeable. To allow such trade would clearly show that the water is not critical. In the same fashion, water able to be extracted under a basic landholders or riparian right should not be tradeable.⁸³

State Water submitted:

Under the Water Sharing Plans, the NSW Minister for Water can 'create' new special purpose licences, such as Stock and Domestic, research, town water supply and Aboriginal Heritage Licences ... the creation of these new licences undermines the security of water for existing licence holders; furthermore, the provision for basic landholder rights should be modified to require a volumetric entitlement, allocation announcements and metering ...

In order for the market to function efficiently, there must be certainty amongst market participants and like entitlements should all be tradeable. However ... tradability of a licence category should only be possible where there is an embargo on granting new licences.⁸⁴

WMI submitted that defining a specific purpose for a water access right was not a barrier to trade 'if the specific purpose water is not tradeable for valid reasons such as stock and domestic and riparian rights'.⁸⁵

The QFF noted:

Changes in purpose between 'agriculture' and 'any' and to 'urban' from 'any' or 'agriculture' are permitted and are not a barrier to trade. However, changes from urban to other purposes are prohibited to preserve domestic supply.⁸⁶

DERM also made the same points.⁸⁷

⁸¹ South Australian Government, issues paper submission, p. 9.

⁸² HWI, issues paper submission, p. 4.

⁸³ NSWIC, issues paper submission, p. 15.

⁸⁴ State Water, issues paper submission, p. 6.

⁸⁵ WMI, issues paper submission, p. 9.

⁸⁶ QFF, issues paper submission, p. 7.

⁸⁷ DERM, issues paper submission, p. 7.

The VFF stated:

The VFF is of the opinion of attaching a ‘purpose condition’ to trade will create unnecessary barriers to trade ... a well performing water market will allocate water to its most valuable and productive use without needed to define an acceptable use attached to trade.⁸⁸

The NFF submitted that ‘where a water access right is not a tradeable water entitlement, trade should not be permitted’.⁸⁹

The New South Wales Government noted:

... there is merit in reconsidering allowing trading of specific purpose licences to other categories of licences, but further consideration would be required regarding the risk of future water supply for that purpose ...

The conversion from one category of access licence to what is currently a specific purpose category would in effect change the product and the subsequent characteristics of that water. This, in effect, implies that a conversion factor would be required to minimise the third party impacts. Direct conversion between other categories and specific purpose categories of licences are currently not permitted in NSW.⁹⁰

Trade to urban uses

The South Australian Government noted ‘[o]verall trade between urban and irrigation areas should be facilitated’.⁹¹

The NSWIC noted:

Urban areas rightly receive first priority on water to meet critical human needs. Water that urban areas would like over and above those critical human needs ought be able to be purchased on the market and delivered to them. For example, a local council may determine that limited watering of household gardens is warranted. Such water is not critical human needs but, if the council wished to spend ratepayers funds on obtaining such water on the market then they ought not be prevented from so doing.⁹²

State Water noted:

The creation of new town water supply licences should be ‘embargoed’ and holders of these licences should be permitted to trade with all other users.⁹³

WMI noted:

... urban areas should be encouraged to purchase water and have done so in the recent years to alleviate the severity of garden water restrictions.⁹⁴

⁸⁸ VFF, issues paper submission, p. 10.

⁸⁹ NFF, issues paper submission, p. 19.

⁹⁰ New South Wales Government, issues paper submission, p. 17.

⁹¹ South Australian Government, issues paper submission, p. 9.

⁹² NSWIC, issues paper submission, p. 15.

⁹³ State Water, issues paper submission, p. 6.

⁹⁴ WMI, issues paper submission, p. 9.

The VFF noted:

The VFF believes that allowing water to be traded or moved from rural to urban areas should be done so only for contingency measures on a temporary basis and only for the purposes of managing rural community-use assets.⁹⁵

The NFF noted that it:

... supports the development of high standards that urban areas must meet prior to being allowed to enter the market for entitlements that underpin agricultural production. Any entry into the market must be via normal commercial arrangements that apply to other entitlement holders (irrigators) and entry should not result in third party impacts.⁹⁶

DERM submitted that there are no restrictions on water trade to urban uses in Queensland.⁹⁷

Trade for environmental purposes

The South Australian Government noted:

Environmental water holders need flexibility to apply water to a series of sites, in accordance with identified priority for that particular time. They also need flexibility to sell allocations they do not require in a particular year.⁹⁸

The HWI stated:

As well as buy water within specified limits. The environmental water allocations may also be able used to sell back to the market in years it is not required.

Water trading rules for environmental water holders should be consistent with that for other users including treatment of carryover.⁹⁹

The NSWIC noted:

Water entitlements purchasing programs have been undertaken on the basis that the source entitlement will retain the characteristics of the entitlement purchased.

Under no circumstances must the entitlement be able to be changed based solely on the identity of its owner.¹⁰⁰

The GVIA had the same view, stating:

Any water entitlements purchased for the environment should retain exactly the same characteristics that it held immediately prior to purchase.¹⁰¹

⁹⁵ VFF, issues paper submission, p. 10.

⁹⁶ NFF, issues paper submission, p. 19.

⁹⁷ DERM, issues paper submission, p. 7.

⁹⁸ South Australian Government, issues paper submission, p. 9.

⁹⁹ HWI, issues paper submission, p. 7.

¹⁰⁰ NSWIC, issues paper submission, p. 16.

¹⁰¹ GVIA, issues paper submission, p. 5.

LVW similarly noted:

... the characteristics of a water access right should not be changed solely according to the identity of the owner of the right. To change the trading rules depending on the market participant may lead to the reliability or rights of other market participants being diminished as a result.¹⁰²

Silver Moon stated:

Water for the environment should have priority over all other water allocations and occur first.¹⁰³

Sally Richards stated:

“Environmental water-holders” should be given top priority. None of their water should be traded. If there is “excess” it must be allowed to flood and flow through the system and into the other connected and important system which is the ocean.¹⁰⁴

WMI stated that ‘Trading rules should be no different for environmental water holders.’¹⁰⁵ This was also the opinion of the VFF, which stated that ‘environmental water holders should be subject to the same trade rules as every other water share holder’.¹⁰⁶

Similarly, the NFF stated:

The premise for the purchase of water for the environment is that this water is tagged so that the characteristics remain unchanged to prevent third party impacts. Water trading rules likewise should not be engineered to provide specifically for environmental water holders differently to other entitlement holders.¹⁰⁷

DERM similarly noted:

Where water access entitlements are held for environmental purposes the general principle should be that they are subject to the same rules as other users.¹⁰⁸

Finally, the New South Wales Government noted:

The environmental water holders are part of the broader water trading market and therefore, for equity purposes, should be treated like other licensees in the market.¹⁰⁹

3.4.3 Discussion

In general, most of the submissions that addressed the issue of trade restrictions related to intended use expressed the view that defining a specific purpose for a water access

¹⁰² LVW, issues paper submission, p. 2.

¹⁰³ Silver Moon, issues paper submission, p. 7.

¹⁰⁴ Sally Richards, issues paper submission, p. 4.

¹⁰⁵ WMI, issues paper submission, p. 9.

¹⁰⁶ VFF, issues paper submission, p. 10.

¹⁰⁷ NFF, issues paper submission, p. 20.

¹⁰⁸ DERM, issues paper submission, p. 7.

¹⁰⁹ New South Wales Government, issues paper submission, p. 17.

right creates a barrier to trade. However, a number of stakeholders believed that this restriction was justified in certain circumstances—particularly for trade in stock and domestic or riparian rights.

A number of stakeholders submitted that trade should only be allowed where there is an ‘embargo’ on new licences of that category. An important precursor for trade is that the resource is ‘capped’—in the case of water, for trade to be effective the total extractable volume should be specified with a maximum upper limit or cap. Otherwise, there would be no need for new entrants to enter the market to purchase water access rights as they could attain water directly from the government in the form of a new right.

It is also important that any tradeable rights are clearly specified as either a share of the resource or a maximum volumetric limit.

Basic riparian rights and stock and domestic rights do not often satisfy these two preconditions of trade and therefore should not be traded unless they are first capped and then converted into clearly defined rights. This is further discussed in section 3.5.

However, where a cap exists and where rights are clearly defined as either a share of the available resource or a maximum extractable limit, the ACCC sees little reason for restricting trade between such rights according to the intended use of the water—before or after the trade has occurred. The ACCC sees restrictions on the tradeability of water due to its intended use as an unnecessary barrier to water trade.

Most stakeholders that commented on trade to urban uses believed that such trade should be unrestricted. In Queensland such trades are already unrestricted. A few stakeholders noted that market mechanisms for securing sufficient water for urban uses are preferable to the alternative of government redistribution measures. Two submissions were cautious about supporting trade to urban uses and thought that such measures should only be pursued through (temporary) water allocation trades.

Where a resource is scarce, the market provides an efficient mechanism for distributing that resource between competing uses. Restrictions on trade limit the efficiencies that can be realised through trade. As such, the ACCC agrees with most stakeholders that trade of water access rights to urban use should not be restricted.¹¹⁰

The vast majority of stakeholders that commented on the trade of water to be used for environmental purposes were of the view that such trades should be subject to the same rules as all other water trades. The ACCC shares this view. There does not appear to be any reason why water intended for environmental uses should be subject to different trading rules than water used for other purposes.

Where water access rights are important for delivering critical human water needs, governments may wish to put some limits on the tradeability of such rights. These limits should arguably be addressed separately from general water trading rules (e.g. in the licence conditions of an urban water authority) and would ideally still permit the (temporary) trade of any surplus water allocations.

¹¹⁰ Trade of water intended to be used outside the MDB is considered in section 3.6.

The ACCC also notes the significant barriers to trade were caused by exit fees previously levied by IIOs on the trade of water outside of an irrigation network.¹¹¹ The development of specific water delivery rights¹¹² and the provisions of the water charge (termination fees) rules have considered the need to balance the interests of departing and remaining irrigators with regard to payment for ongoing fixed infrastructures. Irrigators' decisions regarding their water access rights should remain decoupled from their decisions regarding their level of access to particular irrigation networks.

3.4.4 Preliminary positions

(3-G) In the case of tradeable water access rights, the ACCC believes that:

- (i) there should be no restrictions on trade due to the purpose for which the water has, is currently, or will be used
- (ii) exit fees (or fees of a similar nature) should not be charged by an IIO solely for the reason that a water access right has been traded and will be used outside of the IIO's irrigation network
- (iii) the purpose for which water arising from a trade is used should not be restricted as part of the trade approval process (water use on land should be separately addressed through use approvals)

(3-H) The ACCC also considers:

- There should be no exemptions from water trading rules for, or additional restrictions placed on, environmental water holders.
- Water access entitlements and water allocations held by environmental water holders should be treated no differently to water access entitlements and water allocations held by any other person.

3.5 Stock and domestic water use

3.5.1 Background

Basin states may provide that a water access right be used for specific purposes. The most notable example of this is stock and domestic rights.¹¹³

¹¹¹ See ACCC, *A regime for the calculation and implementation of exit, access and termination fees charged by irrigation water delivery businesses in the southern Murray–Darling Basin*, 6 November 2006, available online at www.accc.gov.au, pp. 22–26.

¹¹² See chapter 7.

¹¹³ Trading restrictions based on the intended use of water are discussed in section 3.4.

Existing stock and domestic rights generally allow the holder to take water for use in a residential house, on a garden and for the non-intensive watering of stock.

Appendix 3 provides an overview of stock and domestic rights arrangements throughout the MDB.

Generally speaking, stock and domestic water is provided for through either a basic landholder right (private right) and/or a stock and domestic licence (or water access right).

A basic landholder stock and domestic right generally allows a person to take water, without a permit or licence, for watering animals (generally to the exclusion of intensive stock operations such as feedlots) and for use on a domestic house and garden. Although no licence is required to access water under a basic landholder stock and domestic right, in some jurisdictions holders are required to obtain licences or permits to construct the necessary infrastructure to take or hold the water.¹¹⁴

In addition to basic landholder rights, basin states and infrastructure operators may also provide for stock and domestic water through other licensed water access rights (which may have a specific stock and domestic purpose). This kind of stock and domestic right may also have an explicit volumetric limit and be tradeable.

Stock and domestic rights may not have an express volumetric limit, but usage per right is likely to be a relatively small amount of water (compared to water access rights used for irrigation). Nevertheless, water use for stock and domestic purposes across all users can represent a significant amount of water.

Stock and domestic water may also be taken or stored using the same pumps, meters or farm dams used for other (irrigation) water purposes.

In Victoria, stock and domestic rights in irrigation districts were converted into Victorian water shares (water access entitlements) when water rights in northern regulated systems were unbundled on 1 July 2007 and can be traded like any other water share.¹¹⁵ However, in extreme circumstances (where allocations to these water shares may be insufficient to meet critical needs), Victorian water rights may be qualified to ensure that critical water needs are met.¹¹⁶

3.5.2 Summary of submissions

The South Australian Government submitted:

To the extent that stock and domestic rights represent a significant water use they would need to have access rights that should be tradeable. If it is riparian rights water, it obviously cannot be traded. Whilst South Australia does licence stock and domestic

¹¹⁴ Trading of farm dam rights (which may also be used for irrigation purposes) is discussed in section 6.6.

¹¹⁵ Clause 4, Schedule 15 of the *Water Act 1989* (Victoria).

¹¹⁶ Department of Sustainability and Environment, *Qualification of rights to water*, available online at www.ourwater.vic.gov.au; viewed 18 August 2009.

water rights on the River Murray prescribed watercourse and they are tradable, they are not licensed in areas such as the Mallee prescribed ground water resource.

Transfer of stock and domestic rights with the transfer of the associated block of land should be allowed. There are practical challenges with establishing tradeable stock and domestic rights on a broader basis, including the need to meter a very large number of small users and compliance issues, such as verifying that, where a licence has been sold, stock and domestic water use has ceased or is being supplied via another source (eg mains water or rainwater tanks). Trading of stock and domestic entitlements could also have consequences for future landholders who acquire land that no longer has a stock and domestic entitlement. Often, particularly in peri-urban areas, the number of stock and domestic users has increased as land parcels have been subdivided. This has been accommodated in water planning by reviewing the amount of water estimated for stock and domestic water use as part of the water budget.¹¹⁷

CIT contended that the trading rules should provide that for farmers ‘abandoning irrigation’ in district schemes, submitting that if the farm has a residence, one megalitre of the irrigation right must remain with the property to provide for domestic needs.¹¹⁸

HWI submitted that it should be possible to trade stock and domestic rights, although a proportion of water access rights for domestic, stock, irrigation, environment and urban use should be protected.¹¹⁹

NSWIC stated:

Stock and domestic rights should not be tradeable. The capacity to trade this entitlement undermines the reason for its existence. It is attached to land and must stay that way.¹²⁰

Similarly, WMI contended:

Stock and domestic should not be tradeable as it is attached to land. Operators do not have the capacity to create new water to clear up the mess of someone who sells all of their water to the detriment of the next purchaser.¹²¹

The NFF also submitted:

NFF does not support the trade of stock and domestic water rights. Stock and domestic rights remain attached to land as any introduction of trade will undermine their purpose.

It would be an unfortunate situation where the stock and domestic supplies of a property were traded away, and the current (or future) land manager was left in a situation of having no water to underpin both human and stock needs. This asset must remain bundled with the land.¹²²

¹¹⁷ South Australian Government, issues paper submission, p. 10.

¹¹⁸ CIT also submitted that a small reduction would be necessary to cover the sellers’ share of conveyance losses and to account for the sellers’ share of the imbalance between bulk licences and individual water allocations in South Australia; see issues paper submission, p. 3.

¹¹⁹ HWI, issues paper submission, pp. 4 and 7.

¹²⁰ NSWIC, issues paper submission, p. 16.

¹²¹ WMI, issues paper submission, p. 9.

¹²² NFF, issues paper submission, p. 20.

The GVIA also raised concerns about properties not having a stock and domestic licence attached:

... it would appear that unless sophisticated rules were put in place, stock and domestic licences should be tied to land, and not be able to be traded separately. The reason for this is some properties could sell off their stock and domestic licences, and simply replace their water requirements by utilising their riparian rights, leading to a net increase in water extractions.¹²³

However, GVIA also noted:

In some cases where additional S&D [stock and domestic], or indeed town water supply water was required, the demand could be met through the purchase of other classes of water such as high security or general security in NSW.¹²⁴

State Water submitted:

State Water believes that Stock and domestic licences should be embargoed, at least on regulated rivers, and then become tradeable licences. While they remain 'un-embargoed' they should not trade. A nominal minimum entitlement should be maintained on each property; and should not be tradeable. Proponents of subdivisions should source Stock and domestic supplies from the market and secure the infrastructure to provide this water.¹²⁵

Similarly, LVW stated:

Under some circumstances trade/transfer of stock and domestic rights will provide a net benefit. Clearly trade can only occur in systems where the issue of new licences is embargoed. Trade of stock and domestic licences would provide an incentive for licence holders to invest in efficiencies and enable stock and domestic water to be redistributed elsewhere within a system.¹²⁶

The QFF submitted that establishing water access rights and trading arrangements for stock and domestic would take significant time and resources with limited gains.¹²⁷

DERM also submitted:

- stock and domestic rights (particularly riparian rights) should not be tradeable
- a domestic and stock watering right (e.g. not including water supply for feedlots) is an interest in land
- to allow those rights to be tradeable would require extensive compliance administration to ensure there was no stock and domestic use on the land.¹²⁸

¹²³ GVIA, issues paper submission, p. 4.

¹²⁴ *ibid.*

¹²⁵ State Water, issues paper submission, p. 6.

¹²⁶ LVW, issues paper submission, p. 2.

¹²⁷ QFF, issues paper submission, p. 7.

¹²⁸ DERM, issues paper submission, p. 7.

DERM suggested:

A more pragmatic approach is to prevent the creation of additional domestic and stock water rights through the further subdivision of land in areas where the creation of domestic and stock watering rights is placing water planning outcomes at risk. The Queensland Government submits that the purchasers of future subdivisions would need to purchase water entitlements to gain authority to take water. This approach has been implemented in some areas of Queensland.¹²⁹

Silver Moon submitted:

... non-intensive raising of stock is a business no different from any other, and should not be bundled with domestic water rights. When the Murray Darling system is in trouble and water is not available for business, it would be unfair that non-intensive raising of stock is allowable when no other business enterprise is able to function. To unbundle this would also be useful in clarifying what 'domestic' water consumption might be and what might be and what be fair and equitable use during times of water crisis.¹³⁰

3.5.3 Discussion

A number of submissions noted the importance of domestic and stock water availability.

Both stock and domestic are generally combined into the one water access right and the ACCC notes the view that water for stock purposes should arguably not have the same status as water for domestic consumption. However the ACCC notes that the provision of water for critical human water needs is to be considered by the MDBA as part of the broader Basin Plan.¹³¹

A number of submissions also suggest that there should be an embargo on any new stock and domestic rights. It is clear that issuing new stock and domestic rights, or allowing such use to increase, can erode the water availability of other right-holders sourcing water from the water resource.

To protect against such third party impacts, new stock and/or domestic water requirements (e.g. where a property is subdivided for residential development) should arguably be met through the water market rather than the creation of new stock and domestic rights.

As discussed above, Victoria has demonstrated that it is possible to adequately provide for stock and domestic water needs while converting stock and domestic rights in irrigation districts into tradeable water access entitlements with a defined volume through the use of safeguards to meet critical needs in the event of low allocation levels.

There may be a concern that people will sell all their water access rights (including those used for stock and domestic purposes) and rely on any such safeguards to obtain

¹²⁹ *ibid.*

¹³⁰ Silver Moon, issues paper submission, p. 2.

¹³¹ See s. 86B of the Act.

stock and domestic water. Furthermore, it may be impractical to exclude such people from accessing water made available under such safeguards. However, this scenario is unlikely to arise as any safeguards would only generally apply in periods of very low allocations (i.e. not at all times). A person would be expected to hold sufficient water access rights to meet their domestic (and stock) needs in periods where the safeguards were not in place. In other words, there would be little incentive to sell all water access rights if there was a need to maintain access to water for domestic (and stock) needs.

The ACCC notes that such trade would need to be supported by the basin state requiring that all new or expanded stock and domestic water needs be met by a water access entitlement (either already held or sourced through the market). That is, there would no longer be a specific stock and domestic right (licensed or otherwise), or riparian right available as a matter of course.

Some submissions argued that allowing the trade of stock and domestic rights could leave current or future occupiers of the land without the means to meet their stock and domestic water needs. The ACCC notes that in these situations, water requirements to meet stock and domestic needs can be sourced through the market just as any water needs for irrigation purposes are. Similarly, where a property is being sold without any water access rights to meet stock and domestic needs, this will be reflected in the price of the property.

3.5.4 Preliminary positions

- (3-I)** Both stock and domestic rights could be made tradeable where existing stock and domestic rights are converted into water access entitlements, provided that there are adequate safeguards in place to meet critical human needs in the event of very low allocation levels, and that no new stock and domestic rights are created.
- (3-J)** New stock and / or domestic water needs should be sourced through the market, rather than simply issuing new stock and domestic rights.

3.6 Trade into and out of the MDB

3.6.1 Background

A number of water supply arrangements involve the physical movement of water into and out of the MDB. For example, there are major diversions from the Snowy Hydro works into the Murray and Murrumbidgee system, as well as pipelines to divert water from the MDB to provide for regions of South Australia outside the MDB (including Adelaide).

The extended period of low rainfall has strained water resources across the MDB as well outside it. This has spurred a number of new infrastructure developments connecting the MDB to outside regions. These developments include pipelines connecting to the water supplies of Melbourne and other regional centres in Victoria.

The issues paper asked whether there should be any specific restrictions on the ability to trade water for use outside the MDB. It should be noted that water ‘traded out’ from water sources in the MDB is actually extracted at a point within the MDB and then transported via infrastructure to outside the MDB. In other words, the new extraction location after trade remains inside of the MDB, it is only the use that is outside the MDB.

3.6.2 Summary of submissions

Stakeholder submissions held mixed views about trade out of the MDB. Concerns were raised about potential problems with already stretched resources in the MDB. Stakeholders also note that the main purchasers outside the MDB are likely to be urban authorities and there could be third party impacts in that urban water requirements may be classified under ‘critical human water needs’. This may change the priority class of the water in dry years. This particular issue will be discussed in section 3.9.

The GVIA submitted:

GVIA does not fundamentally oppose trade outside the MDBA, but the water would need to be physically extracted from the MDBA. GVIA would be very concerned about any trade proposal which sought to effect the trade by offsetting an MDBA licence against a licence outside the MDBA, or vice-a-versa.¹³²

Similarly, HWI stated:

A water resource plan should specify the appropriate shares for irrigation, urban and environmental use. This is in recognition of the third party, social and environmental impacts of unfettered water trade e.g. if Adelaide or Melbourne purchased all available water from the MDB in an extreme year... Restrictions should limit type of use but not location in or out of Basin and be subject to environment/salinity/third party rules.¹³³

However, some stakeholders were opposed to allowing trade out of the MDB. WMI stated:

WMI would support rules that prevent further trade of water access rights to locations external to the Murray Darling Basin until the Basin Plan is finalised. The Basin is already supporting (or will in the future) Canberra, Ballarat, Bendigo, parts of the Wimmera Mallee pipeline, Melbourne, Adelaide and many of the industrial sites in South Australia etc. The system is stressed and annual allocations are already well below acceptable levels to allow for long-term survival of basin irrigators and towns.¹³⁴

QFF submitted:

While concerns about water availability for environmental needs in all parts of the basin is still being addressed including provision for the impacts of climate change, trading of water access rights out of the Basin should not be allowed¹³⁵.

¹³² GVIA, issues paper submission, p. 4.

¹³³ HWI, issues paper submission, pp, 4 and 6.

¹³⁴ WMI, issues paper submission, p. 8.

¹³⁵ QFF, issues paper submission, p. 6.

The VFF submitted:

There should be no water being traded out of the Murray-Darling Basin, permanent or temporary. However, trade outside the Murray-Darling Basin is already occurring and likely to continue. For example water is being pumped over the divide (via pipeline to Ballarat) and water is pumped from within the Murray-Darling Basin to Adelaide. If trade outside of the Murray-Darling Basin is to occur, Carryover should not be available for use and the 10% Non-Landholder limit should apply.¹³⁶

The NFF suggested that the issue of trade water for use outside the MDB should be dealt with through public discussions and policy development, rather than through the trading rule process:

Irrigators will not win a publicity war over the right to supply water for human drinking water, health and sanitation. This is well acknowledged and uncontested. However, there is tension between the provision of existing needs from the Basin's resources and introducing new critical human needs when the Basin's water resources remain under pressure from ongoing drought conditions. The development of trading rules for the Basin Plan should not affect these public deliberations, but provide for the development of the market where tagged entitlements can be acquired and traded from the Basin for use outside the Basin. NFF does not support any moves to change the reliability and nature of entitlements purchased for such use due to the significant negative third party impacts. The deliberation on the need for rules will depend on the rules already in place (such as those for the Snowy) and the impacts to users within the Basin¹³⁷.

The NFF also noted concerns in trading water for use outside the MDB, where the volume has been traded based on water savings calculations:

NFF are aware of some concerns regarding the investment in infrastructure efficiencies. Normally, the risk of not achieving the savings identified rests with the —seller or the delivery infrastructure operator (usually via conveyance licences). These concerns relate to the ability to ensure that the savings being traded out of the Basin are verified and audited to ensure that the Basin source has no unwarranted third party impacts on deliverability of allocation water, or on water product reliability. NFF supports rigorous audit processes to ensure there are no third party impacts.¹³⁸

3.6.3 Discussion

Water has historically been, and continues to be, diverted both into and out of the MDB. Infrastructure developments have linked catchments where there is no natural hydrological connection.

Importantly, the extraction point for MDB water resources remains within the MDB and infrastructure is used to divert (transport) this water to areas outside the MDB. Therefore, trade of this water should be subject to the general trading rules governing the movement of water to a new point of extraction. These trading rules ensure third party interests (including the environment) are appropriately protected. Determining the purpose or location of the water's use once it is diverted should not be the role of the trading rules.

¹³⁶ VFF, issues paper submission, p. 9.

¹³⁷ NFF, issues paper submission, p. 17.

¹³⁸ NFF, issues paper submission, p. 17.

The new sustainable diversion limit for the MDB will apply to all extractions from MDB water resources (whether or not the water will actually be used within the MDB). As such, a trade 'out of the MDB' should not lead extractions beyond any sustainable limits set for the MDB water resources. The only possible impact could be from a reduction in return flows or groundwater recharge in the MDB; however, it should be noted that similar effects are seen from improving on-farm efficiency within the MBD itself.

The ACCC also notes that considerations about critical human water needs may also be relevant to this discussion.¹³⁹

3.6.4 Preliminary position

(3-K) A water access right trade should not be refused on the basis that the water will be used in an area outside of the MDB (and the use of water inside the MDB should not be restricted solely because it was taken from a water resource outside of the MDB). Relevant use approvals would be required in any case.

3.7 Environmental impacts resulting from trade

3.7.1 Background

Salinity and other environmental concerns can arise because of water trade between locations or uses, resulting in changes in the timing and level of river flows. Currently, these concerns are usually managed through water resource planning processes that define rules-based minimum flow criteria to maintain environmental flows.

The focus of this section is instream environmental impacts. There may be concerns over the salinity and environmental impact of high levels of water use in certain regions. Where these concerns clearly arise from the use of water on land, they can be (and usually are) addressed through water use approvals. Sections 3.3 and 3.4 discuss these use approvals further.

The ACCC notes that the Basin Plan (and its water trading rules) cannot directly regulate the control of pollution or the management of (non-water) natural resources.¹⁴⁰

Concerns about overuse and overallocation are discussed separately in section 3.8.

¹³⁹ The Basin Plan will include a statement on the amount of water required in each basin state that is a referring state (except Queensland) to meet the critical human water needs of the communities in the state that are dependent on the water of the River Murray System.

Where water is diverted (through infrastructure) outside the MDB, it may be supplying urban water needs. This may be relevant to defining critical human water needs, and the status of water traded to urban users (both inside and outside the MDB).

¹⁴⁰ See s. 22(10) of the Act.

3.7.2 Summary of submissions

Stakeholders commented that extraction volumes and instream environmental requirements should be managed through the water resource planning process. It was also noted that river operators have some flexibility about how they manage the system to achieve both environmental targets and delivery requirements.

For example, DERM stated:

The impacts of water extraction on the environment should be managed through the water planning process.¹⁴¹

The NFF submitted:

Regarding the in-stream impacts from trade, it is likely that these can as part of the river operators management of the system as a whole. As an example, River Murray Water vary the timing and level of flows along the Murray (i.e. pulse water down the river) to ensure better environmental outcomes such as reduced bank slumping and re-vegetation of stream banks. In other situations, weir gates are lowered to a natural flow regime, such as at Stevens Weir west of Deniliquin, to allow the bank to dry out and revegetate.¹⁴²

The South Australian Government noted:

This [externalities] should be handled through clearly identified end of system flow targets, dilution flow targets or flow targets at particular sites (the rules based part of water management).¹⁴³

Stakeholders considered that salinity, in particular, was best managed through other mechanisms. For example, WMI submitted:

Water Trading Rules cannot address these issues and they are dealt with by the Murray Basin Authority in other ways eg. Salt interception schemes.¹⁴⁴

Similarly, NSWIC noted:

Resource sharing plans and state legislation are in place to deal with issues of salinity and environmental management. This is not a role for Water Trading Rules.¹⁴⁵

3.7.3 Discussion

Impacts of trading shifts on rivers and other surface water courses can be both positive and negative. It is difficult to separate the impacts of traded water from the impacts of water extraction generally. Environmental water requirements, such as minimum passing flows, are currently specified through water planning processes, which in turn will be influenced by the Basin Plan requirements for new water resource plans.

¹⁴¹ DERM, issues paper submission, p. , 8

¹⁴² NFF, issues paper submission, p. 21.

¹⁴³ South Australian Government, issues paper submission, p. 11.

¹⁴⁴ WMI, issues paper submission, p. 9.

¹⁴⁵ NSWIC, issues paper submission, p. 17.

The Basin Plan will also contain provisions to manage environmental impacts of water use more generally. The ACCC considers that water trading should occur within the bounds of these specified environmental conditions. Chapter 6 discusses the use of trading zones and specified environmental constraints to ensure that water trading occurs within these specified bounds.

Finally, as discussed in sections 3.3 and 3.4, concerns regarding the use of water (including traded water) are better dealt with through separate use approval regimes.

3.7.4 Preliminary positions

- (3-L)** Water trading should occur within the environmental bounds set through the water planning process.
- (3-M)** Where environmental impacts result from the use of water on land (e.g. salinity), these impacts should be managed through separate use approvals should, not restrictions on trade.

3.8 Overallocation and overuse

3.8.1 Background

Concerns regarding overallocation and overuse of water resources are often raised in discussions about water trading. In particular, these concerns are often raised as a justification for specific or general restrictions on water trade.

One of the objects of the Act is:

To ensure the return to environmentally sustainable levels of extraction for water resources that are overallocated or overused.¹⁴⁶

Achieving this objective (also an objective of the NWI) is complicated by differing interpretations of overallocation:

In the 2008 update report to the Council of Australian Governments on progress in water reform, the National Water Commission found that there were divergent interpretations of the concept of sustainable levels of water extraction across jurisdictions. In a few states, doubts still remain about the adequacy and timeliness of current responses to overallocation. Despite there being no shared understanding of what is meant by overallocation, all states have indicated that parts of their surface water and groundwater systems continue to be considered as under stress, potentially under stress, at risk, requiring water beyond the basic ecological needs, or overallocated.¹⁴⁷

¹⁴⁶ Sections 3 and 3(d)(i) of the Act.

¹⁴⁷ See Overallocation page, NWC website; at www.nwc.gov.au/html/710-overallocation.asp; accessed 16 August 2009.

The Act defines overallocation and overuse as follows:

Overallocation: there is an overallocation for a water resource plan area if, with full development of water access rights in relation to the water resources of the area, the total volume of water able to be extracted by the holders of water access rights at a given time exceeds the environmentally sustainable level of take for those water resources.

Overuse: there is an overuse for a water resource plan area if the total volume of water actually taken for consumptive use from the water resources of the area at a given time exceeds the environmentally sustainable level of take for those water resources.¹⁴⁸

Two major initiatives are aimed at addressing overuse in the MDB (and potentially overallocation):

- Establishing a sustainable diversion limit—the Basin Plan will define sustainable levels of take for basin resources.¹⁴⁹
- Government buybacks—the Australian Government in particular is purchasing water from willing sellers to provide water for the environment and ‘restore the balance in the basin’.¹⁵⁰

In the context of water trading rules, the Act outlines the following basin water market and trading principles:

Trades within overallocated water resources (including ground water resources) may be permitted in some cases subject to conditions to manage long-term impacts on the environment and other users.¹⁵¹

Exchange rates must not be used to achieve other outcomes such as to alter the balance between economic and environmental protection or to reduce overall water use.¹⁵²

3.8.2 Summary of submissions

The NFF commented that trading rules may need to vary to allow for the level of allocation in a given system, with third party impacts more likely in systems that are overallocated or overused:

NFF also notes that the impacts arising from trade rules may well be different based on whether the system is a full development (including over allocated and over used) compared to systems where full development does not exist. The main notion is that

¹⁴⁸ Section 4 of the Act.

¹⁴⁹ Section 22(1), item 6, of the Act defines the **sustainable diversion limit** as:
the maximum long term annual average quantities of water that can be taken, on a sustainable basis from:
(a) the Basin water resources as a whole; and
(b) the water resources, or particular parts of the water resources, of each water resource plan area.

¹⁵⁰ The Department of Environment, Water, Heritage and the Arts website states the aim ‘[of improving the balance between water for consumptive use and water for a healthy river system](#)’; see the DEWHA website, www.environment.gov.au.

¹⁵¹ Schedule 3, clause 4 (7) of the Act.

¹⁵² Schedule 3, clause 4 (10) of the Act.

system at full development will need to protect reliability of existing entitlements and planned environmental water. For systems where full development has not yet occurred, the introduction of new rules, or the variation of rules may have little effect the reliability of entitlement or planned environmental water.¹⁵³

NSWIC¹⁵⁴ drew a distinction between overallocation and overuse:

The system is NSW of allocating water against a share in the available resource—as a percentage of entitlement—provides sufficient flexibility to meet our unique climate. When water is scarce, there are too many entitlements—when water is abundant, there are too few! Our unique climate makes it nigh impossible to develop a system where an “exact” number of entitlements are allocated; such a system would not provide the flexibility required to meet our climate.

If, however, we base water use on shares in an available resource, then the determination of that available resource is the key focus. It doesn’t matter how many shares are issued in that available resource (from an environmental perspective) as only the available amount will be used. That is, overuse—not overallocation—is the problem.¹⁵⁵

Stakeholders commented that water purchased for environmental purposes must maintain its original characteristics and conditions of use.¹⁵⁶

NSWIC has long advocated—and maintains its position that—entitlement obtained for environmental purposes must not be altered from its original state. That is, environmental water contained within a consumptive license must be subject to the same constraints as remaining consumptive water including environmental constraints.¹⁵⁷

3.8.3 Discussion

A water access right is typically defined with reference to a specific share or volume of water (where the volume of water actually available may not match the nominal volume). **Overuse** is about defining what parts of the water resource should be available to water access right holders while ensuring that the system remains sustainable.¹⁵⁸ As such, the nominal volume of water access rights on issue (i.e. the degree of overallocation) should have no impact on the establishment of an overall diversion limit. However, the diversion limit will define the volumetric ‘return’ for water access rights (e.g. the amount of water allocated to a water access entitlement) and, in turn, affect the reliability of those rights.

¹⁵³ NFF, issues paper submission, p. 5

¹⁵⁴ The NSWIC view quoted here was drawn from a NSWIC fact sheet (not a submission to the water trading rules issues paper).

¹⁵⁵ NSWIC fact sheet, [Over-allocation or Over-use?](#), June 2009; available online at www.nswic.org.au by following information link to fact sheets.

¹⁵⁶ Note that section 3.4 discusses rules for environmental water holders.

¹⁵⁷ NSWIC, issues paper submission, p. 9.

¹⁵⁸ When water access rights are not defined as a share in the resource (e.g. unregulated systems, farm dams or stock and domestic rights), a sustainable diversion limit may nonetheless reduce the amount of water available to these right holders.

Water access rights are statutory rights. If the reliability associated with these rights is not adequate, the system is said to be **overallocated**. The ACCC considers that restrictions on trade should not be used to adjust the overall volume of water access rights on issue or the total volume of water available for extraction by water access right holders. The burden of adjustment to address overallocation arguably should not be concentrated on people wishing to trade existing water access rights.

In some instances, basin states have allowed particular trades to occur subject to a reduction on the traded volume.¹⁵⁹ This may be done, in part, to address concerns about overallocation in the original water source. However, such rules may have a limited impact on addressing overallocation because they could be a significant disincentive to trade occurring at all and therefore would be of limited effect in addressing overallocation in any case. This type of rule also contradicts the basin water market and trading principle:

Exchange rates must not be used to achieve other outcomes such as to alter the balance between economic and environmental protection or to reduce overall water use.¹⁶⁰

The ACCC also notes another basin water market and trading principles is:

Trades within overallocated water resources (including ground water resources) may be permitted in some cases subject to conditions to manage long-term impacts on the environment and other users.¹⁶¹

In areas where overallocation exists, trade within this area should not lead to a greater level of overallocation because it will not impact on the total volume of water access rights on issue. It is true that water trading may increase the use of water in these areas if the purchaser is more likely to utilise the water access right; however, it should be noted that the water access rights give the buyer the same right to access water as previously held by the seller. Overall usage would still be limited to any sustainable diversion limit in place. If actual usage were already at (or beyond) this limit, increased use of the traded water access right would possibly reduce the reliability of others' water access rights.

While this is a third party impact, it is an impact caused by overallocation, not the trade per se. Other water access right holders have had higher reliability only because the seller has not exercised their water access right. The ACCC believes that it would not be appropriate to prohibit or restrict a trade on the basis that the buyer of a water access right would extract more water under the right than had historically been extracted by the seller.

As noted above, concerns about overuse will need to be addressed by the establishment of sustainable diversion limits. Obviously, the reliability of water access rights in an area will be influenced by any cap or sustainable diversion limit in that area.

¹⁵⁹ For example, Victoria currently implements a 20 per cent reduction in volume for water traded in unregulated systems; see Department of Sustainability and Environment, *Draft for community comment - Sustainable Water Strategy Northern Region*, Victorian Government, Melbourne, 2008, p 118.

¹⁶⁰ See clause 4(10), Schedule 3 of the Act.

¹⁶¹ See clause 4(7), Schedule 3 of the Act.

3.8.4 Preliminary positions

- (3-N) Water access right trades should not be conditional on a reduction in the trade volume to address overallocation.
- (3-O) Trade within an overallocated system should not be restricted solely on the basis that the system is overallocated.

3.9 Conversion between priority classes

3.9.1 Background

Water access rights may have different priority classes. This is typically the case in regulated systems, where rights take the form of water access entitlements. The priority class¹⁶² of a water access right determines the priority of access to available water that that water access right has.

For example, in New South Wales water access licences (WALs) in regulated river systems may be classed as either high security or general security. In allocating water to these WALs, water will generally be allocated to high security WALs before water is allocated to general security WALs.

In some jurisdictions, the holder of a water access right of a particular priority class may apply to convert it to a different priority class.¹⁶³ This usually involves a conversion factor (sometimes referred to as an exchange rate) whereby the initial water access right of a certain priority class is cancelled and a new water access right of another priority class is created with a volume that represents some proportion of the initial volume. For example, a water access entitlement with a lower reliability and a nominal volume of 100 ML may be ‘converted’ into a water access entitlement with a higher priority and a nominal volume of 40 ML (in this case, the conversion factor would be 0.4).

The issues paper asked stakeholders about the advantages and disadvantages of allowing conversions between priority classes of water. Views expressed in submissions are summarised below.

¹⁶² The priority class of a water access right may also be referred to with reference to the **security** or **reliability** of a water access right.

¹⁶³ The New South Wales Government has [embargoed such conversions](#); see Department of Water and Energy (DWE) website, www.dwe.nsw.gov.au, viewed 13 August 2009.

3.9.2 Summary of submissions

The QFF expected that demand for conversions would increase:

It can be expected that demand for conversion to higher security supply will increase to meet changing crop water requirements and to better manage for supply variability and increasing seasonal demands on medium priority water.¹⁶⁴

A number of submissions addressed the advantages and disadvantages of allowing conversions between priority classes.

In terms of the advantages of allowing conversions between priority classes, the South Australian Government noted:

The advantages of allowing a change in priority class of a water access right include users being able to secure water access rights to match their enterprise requirements ... Another advantage is that it enables the distribution of water across different priority classes to reflect (on an ongoing basis) the demands of water users. That is, it enables the relative distribution of the resource amongst different priority classes to be varied according to individual decisions (ie applications for conversion). The alternative is to only allow the size of each class to be collectively determined through the planning process, which occur may only every five or ten years.¹⁶⁵

The HWI noted that an advantage of allowing conversions between priority classes was that it would 'enable irrigators to charge [change] water product[s] to suit [their] preferred risk profile'.¹⁶⁶

SunWater stated:

... for announced allocation schemes, these types of conversions should be allowed provided that the objectives of the basin WRP [Water Resource Plan] can be achieved.¹⁶⁷

The NFF noted:

The ability for an irrigator to change the class of water access entitlement, within the same system, for example from general to high security, is one option to enable the irrigator to better manage risk. Before the advent of water trading when water was "tied" to land, changing water products was the only option available to entitlement holders to change reliabilities.¹⁶⁸

Given that different priority classes of water can now be traded, the NFF noted that the major advantages of conversions were:

... reduced capital outlay for the farmer and obtaining a reliability better matched to the commodity produced on farm.¹⁶⁹

¹⁶⁴ QFF, issues paper submission, p. 6.

¹⁶⁵ South Australian Government, issues paper submission, p. 9.

¹⁶⁶ HWI, issues paper submission, p. 6.

¹⁶⁷ SunWater, issues paper submission, p. 4.

¹⁶⁸ NFF, issues paper submission, p. 18.

¹⁶⁹ NFF, issues paper submission, p. 18.

DERM stated that ‘[a]llowing water users to change priority class allows them flexibility in the management of their businesses’. It also noted:

The change process should be the same as any rule based change. It should be managed equitably with environmental and third party impacts having been assessed ...¹⁷⁰

The New South Wales Government noted:

Enabling the conversion of water access rights provides market flexibility and allows the market to determine the desired diversity of water products, rather than this diversity being purely a function of the historical establishment of entitlement products.¹⁷¹

In terms of the disadvantages of allowing conversions, the New South Wales Government noted:

... disadvantages of allowing such conversions include unavoidable third party impacts arising from the conversion, irrespective of what conversion factor is derived. These third party impacts are difficult to define and quantify in terms of the economic and financial impacts on the affected industries and individuals.¹⁷²

The South Australian Government noted:

The major disadvantage [of allowing conversions between priority classes] is the reliance on exchange rates in order to maintain overall integrity of each class and avoid perverse outcomes. It has proven difficult to establish robust exchange rates for interstate trade in the southern MDB that completely avoid perverse outcomes (such as compromising reliability of other water access entitlements) and opportunities for arbitrage.¹⁷³

The HWI noted that a disadvantage of allowing conversions between priority classes was:

... there may be third party impacts if [the] exchange rate adopted is different to [the] actual annual allocation. Also [there is the] added complexity of allowing conversions, when trade of tagged water products can achieve the same result for preferred irrigation risk profiles¹⁷⁴

SunWater noted:

... the need for explicit conversion factors is removed in a water supply scheme that has moved to a continuous sharing system of water sharing and accounting ...¹⁷⁵

The GVIA noted:

... GVIA now opposes any conversion in the class of water for example regulated General to regulated High Security. Any such conversion requires the development of

¹⁷⁰ DERM, issues paper submission, p. 6.

¹⁷¹ New South Wales Government, issues paper submission, p. 12.

¹⁷² New South Wales Government, issues paper submission, p. 12.

¹⁷³ South Australian Government, issues paper submission, p. 9.

¹⁷⁴ HWI, issues paper submission, p. 6.

¹⁷⁵ SunWater, issues paper submission, p. 4.

an "exchange rate" and this rate will never be perfect and will result in third party impacts.

Licence holders have a number of other options to adjust their security including the sale of one class and its replacement through purchase of another class, the effective use of continuous accounting to manage their own security, or adjusting the risk profile of their water requirements.¹⁷⁶

State Water noted that it:

... believes that general security to high security licence conversions should cease until the security of the underlying entitlements is clearly understood and accurate conversion factors can be introduced. This is because licences cannot be converted without impacting existing licence holders ... If general security licence holders find that they require high security licences, then they should actively manage risk through the judicious use of carryover or purchase these licences through the water market, as any new market entrant would be required to do.¹⁷⁷

WMI noted:

Past conversions have negatively impacted the allocation to high security entitlement holders and delays allocations to general security entitlement holders ... The annual cropping and permanent plantings, which forms the basis of the two-tiered entitlement system in NSW, is suited to the variable inflows and drought as evidenced in the past three years.¹⁷⁸

The VFF noted it:

... does not support the ability to change class of water shares. Increasing reliability of water can be addressed through the water trade rules and the ability for irrigators to purchase more water. The VFF supports the market mechanism approach for irrigators to address issues of water reliability.¹⁷⁹

The NFF noted:

NFF does not support the conversion of water access rights priorities due to the inherent long-term impacts to the reliability of other entitlements ... It could be argued that with the advent of trading, and particularly trading between water sources and states, the option of changing the reliability of the water access right is no longer needed ... The disadvantages [of allowing conversions] are the longer term impacts to other water entitlements – and these cannot be allayed.¹⁸⁰

3.9.3 Discussion

As noted in a number of submissions, allowing the conversion of water access rights to a different priority class has a number of advantages. In particular, it provides water access right holders with another tool for managing the risk associated with variable water supply. It allows irrigators to convert the priority class of their entitlement to

¹⁷⁶ GVIA, issues paper submission, p. 4.

¹⁷⁷ State Water, issues paper submission, p. 5.

¹⁷⁸ WMI, issues paper submission, p. 8.

¹⁷⁹ VFF, issues paper submission, p. 10.

¹⁸⁰ NFF, issues paper submission, p. 18.

better match the water needs of their crop. This would provide the irrigator with greater water security without also requiring the irrigator to undertake any new investment (i.e. the purchase of additional water access rights). Allowing conversion between priority classes could also allow for the water allocation system to better reflect the overall water demand profile of the state in a dynamic sense without relying on less flexible planning processes.

However, as highlighted in a number of submissions, enabling conversion can lead to significant impacts on third party interests.

Conversion between priority classes relies on the use of conversion factors (often referred to as exchange rates). As such, it is open to many of the same criticisms as exchange rate trades.¹⁸¹ In particular, where actual water availability diverges from any long-term averages used to calculate the conversion rate, there can be negative affects on the interests of existing water access right holders and the environment.

For example, if a water access right holder converts their lower priority water access right into a higher priority water access right, there will be third party impacts:

- Where there is not enough water to fulfil all higher priority water access rights, each holder of these rights will receive less water than they would have before the conversion took place, as the total nominal volume of higher priority water access rights has increased.
- Where there is enough water to fulfil all higher priority water access rights but not all lower priority water access rights, holders of the lower priority water access rights may receive higher or lower allocations over the course of the season than compared to if the conversion had not taken place.
- Where enough water is available over the course of a year to fulfil both higher and lower priority water access rights, the total volume of water allocated to all water access rights will not be affected by the conversion. However, regardless of water availability, holders of lower priority water access rights will begin receiving allocations later in the season (albeit at a faster rate)¹⁸² than if a conversion had not taken place.

Conversions from higher to lower priority water access rights would have the opposite effects.

In this way, while only one individual may have converted their right, the implications of such a conversion are widespread. As demonstrated in the scenarios above, the magnitude and direction of third party impacts will vary with the relative water availability, the conversion factor used and the volume of conversions that have occurred.

¹⁸¹ Please see sections 6.1.2 and 6.1.3.

¹⁸² Because conversion from a lower to higher priority class (with a conversion factor of less than 1) would reduce the total nominal volume of lower priority water access rights on issue.

Some submissions also noted that where there is an active water market, irrigators can purchase water access rights of varying priority classes to reduce the risk associated with variable water supply. Where the water market provides this opportunity (without the associated third party impacts), there is little need for the conversion of a water access right between priority classes.

Other submissions noted that carryover or continuous accounting could be used to manage the risk associated with variable water supply.¹⁸³

In addition, irrigators are only likely to convert their water access right where the conversion (or exchange) factor is more favourable to them than the relative market prices. For example, if an irrigator can convert their 100 ML lower priority water access right worth \$1000/ML on the market to a 40 ML higher priority water access right worth \$3000/ML on the market, they would choose to convert their right rather than trade (i.e. rather than selling their lower priority right and buying a higher priority right) as it would cost them \$2000 less (ignoring any transaction costs). By allowing conversions, the market price of higher and lower priority water access rights would effectively be fixed in the same ratio as the conversion factor in the relevant plan.¹⁸⁴

While enabling conversions will result over time in the profile of higher versus lower priority water access rights reflecting the preferences of water access right holders, this will be at the expense of changes to the actual reliability of all water access rights, not just those water access rights obtained through conversions. Water markets provide a more efficient means of allowing people to adjust their portfolio of water access rights without negatively affecting third party interests.

Of the submissions that addressed the issue of conversion between priority classes, the majority stated that the disadvantages of allowing such conversions outweighed the advantages. In particular, a number of submissions stated that the potential third party impacts of conversion between priority classes were such that it should not be allowed. Instead, submissions advocated freeing up trade and carryover provisions to allow irrigators to manage the risks associated with variable water supply. These positions are supported by the ACCC.

3.9.4 Preliminary position

(3-P) The ACCC recommends against allowing for conversion between priority classes of water access rights. The benefits of allowing conversion may be realised through more efficient water market, and the potential disadvantages may be severe in terms of third party impacts.

¹⁸³ Please see section 3.10 for a discussion of carryover and continuous accounting.

¹⁸⁴ The existence of transaction costs (for both conversions and trade) would mean that the actual ratio of prices for each priority class may not exactly match the conversion factor.

3.10 Carryover

3.10.1 Background

All basin states allow irrigators in regulated systems (where water access rights usually take the form of water access entitlements and allocations) to carry over some water from one irrigation season to the next.

Generally, carryover involves a water access entitlement holder retaining an amount of their unused water allocation in storage to be made available in the next water year. The main advantage of carryover is that it allows irrigators to manage variability in water availability across seasons. In particular, carryover can be beneficial to irrigators where there are limited opportunities for on-farm storage or to trade water.

Carryover can also increase the likelihood of irrigators receiving water early in the irrigation season, as the water is already held in storage and could be expected to be available as soon as base flows for delivery purposes are satisfied (before any seasonal allocations are made available). As such, carryover can be an important management tool for irrigators that grow crops reliant on water early in the irrigation season (e.g. horticultural crops).

Carryover arrangements are strongly influenced by how infrastructure operators manage their storages. To the extent that carryover arrangements differ between systems, this will influence the relative price of and demand for water access entitlements and water allocations between these systems. For example, more 'generous' carryover arrangements in one system may lead to an increase in allocation trades into that system in the lead-up to the end of the season to take advantage of these arrangements.

The discussion of carryover will be limited in this position paper to the interaction between carryover provisions and water trading. In particular, this section considers the ability to trade water that has been carried over and the access to carryover of water obtained through trade.

The amount of unused water allocation a person can carry over is often restricted to a proportion of a person's water access entitlement volume. There are often other conditions limiting the availability of water in the following season to the person's nominal water access entitlement volume, even if they have carried over water. These restrictions arise because storage capacity is not unlimited and they are aimed at minimising the risk of storage spills and other effects on water allocations for other users.

Victoria has proposed a new approach to overcome the limitations of these limits. Under this proposed approach, irrigators could continue to accumulate carryover water in a designated **spillable water account**, as long as there is available capacity in the storage. When a storage spills, the spillable water accounts are impacted first.¹⁸⁵

¹⁸⁵ Victorian Government, [Proposal for future carryover arrangements](#), available on the 'Our water our future' website, www.ourwater.vic.gov.au.

Access to water in the spillable account is not permitted until the relevant authority has confirmed that there is negligible risk of spills for that season.

Queensland and New South Wales have initiated capacity sharing or continuous sharing¹⁸⁶ in a number of their catchments. In capacity share schemes, carryover is effectively perpetual as irrigators hold a licence to a share of storage capacity (and its inflows), and they manage inflows and outflows individually, as one might manage a bank account. Capacity sharing would be difficult to implement in the southern MDB due to the interconnected operation of a number of storages.¹⁸⁷

Carryover is also permitted in some groundwater areas according to specific carryover rules detailed in water resource plans for these areas.

3.10.2 Summary of submissions

Stakeholders argued that the ability of an irrigator to carryover water should not impact on other water users.

The principles of carryover should be that no water share holder is affected in a negative way with use of the carryover tool¹⁸⁸.

Carryover rights should be unrestricted until dams spill. In this case, carryover should be spilt before “non carryover” seasonal allocation¹⁸⁹.

The important thing is that during the water resource planning process, the performance of the proposed carry over arrangements is properly considered so that the potential impacts on other water users and the environment are understood¹⁹⁰.

The NFF stated that third party impacts are unavoidable if carryover is permitted to high security water access right holders.

The provision of carry over to NSW, Victoria and South Australian high security irrigators will have flow on third party impact to general entitlement holders in NSW and Victoria. In particular, care should be taken to avoid contravening cap or the new sustainable diversion limit.¹⁹¹

The QFF also noted the importance of the cap or sustainable diversion limit in defining carryover arrangements.

¹⁸⁶ Capacity sharing is where individuals have a share of the dam capacity and its inflows. Continuous accounting is a mechanism for continually assessing and reporting accounts. Continuous sharing is a system where both capacity sharing and continuous accounting are in place.

¹⁸⁷ The Australian Bureau of Agricultural and Resource Economics has investigated this approach in Hughes, N and Goesch, T, *Management of irrigation water storages: carryover rights and capacity sharing*, ABARE research report 09.10, Canberra, May 2009.

¹⁸⁸ VFF, issues paper submission, p. 7.

¹⁸⁹ HWI, issues paper submission, p. 5.

¹⁹⁰ DERM, issues paper submission, p. 3.

¹⁹¹ NFF, issues paper submission, p. 11.

The requirements of the Basin Plan for an environmentally sustainable level of take will dictate restrictions that may apply to carryover of water from season to season under continuous sharing or bulk sharing.¹⁹²

Some stakeholders emphasised the difference between the management approaches in the northern and southern systems. Some concern was expressed about the protection of carried over water.

[There are] significant differences between the southern and northern parts of the Basin. Carry-over as such does not exist in the Northern NSW regulated valleys where Continuous Accounting operates. Under a Continuous Accounting system once water is credited to an entitlement's account (subject to maximum account limits) that water belongs to the account holder. There is no discrimination between water used in the year it was credited, and water held over for future use or trade...once water is in an account it should be regarded as the property of the account holder, and there should be no discriminatory trade rules that are applied on the basis of use or trade history¹⁹³.

Stakeholders commented that the ability to carryover water should not be restricted based on whether the water was traded. For example, the South Australian Government stated:

Where holder of a water allocation has an unused water allocation at the end of the water year, the holder of that unused water allocation should be eligible to apply for carryover, irrespective of whether the person obtained the water allocation on account of their own water access entitlement or as a result of a transfer from another person's water access entitlement.¹⁹⁴

The South Australian Government also emphasised the role that the MDB Agreement plays in defining carryover access.

The MDB Agreement 2007 needs to be taken into account as part of any consideration of carryover for state storage rights and for critical human needs. The Authority is required to draft a new Schedule to this end as soon as practical (Schedule 1, C130 (1) to the *Water Act 2007*). This Schedule will also need to consider spill rules and the order of spills. Individual carryover and the associated capacity sharing issues will hopefully be considered in this schedule. This Schedule should be developed and in place before the finalisation of the ACCC water trading advice to the Authority¹⁹⁵.

The New South Wales Government noted that in extremely dry conditions it may be appropriate to reallocate carryover water to meet critical needs.

Where new record low inflows have occurred, individual water accounts, including water carried over from previous seasons, may be required to be suspended so as to protect stored available water to ensure supply and delivery of water for critical human needs. Such suspensions may be seen to discourage water conservation or present an impediment to trade, but in certain extreme circumstances this is considered appropriate.¹⁹⁶

¹⁹² QFF, issues paper submission, p. 4.

¹⁹³ GVIA, issues paper submission, p. 3.

¹⁹⁴ South Australian Government, issues paper submission, p. 4.

¹⁹⁵ *ibid*, p. 3.

¹⁹⁶ New South Wales Government, issues paper submission, p. 3.

3.10.3 Discussion

The concept of carryover is not relevant to areas where continuous sharing is in place. Continuous sharing arrangements clearly define an individual's share of storage capacity and inflows. Individuals' water accounts are reconciled continually rather than at the end of the water year, as occurs for carryover arrangements.

In the southern connected system, volumetric constraints are currently used to protect third party interests. See box 3.4 on the following page for a discussion of the Victorian proposal to introduce a spillable water account.

Where carryover is managed using spillable water accounts, it is important that market participants are kept informed of the triggers for gaining access to water allocations held in these spillable water accounts and, conversely, an indication of the likelihood of a spill occurring.

Regardless of whether or not carryover arrangements involve spillable water accounts (as proposed by Victoria), it is important that market participants have access to relevant information prior to making carryover decisions.

The water market will be negatively affected if property rights are not adequately protected. This includes allocations that are carried over in storage. If water is carried over, it is by definition water that is already recorded in a storage and allocated to a user. While delivery of these allocations may not be possible if there is not additional water in storage to meet delivery needs in the following year, the rules for limiting access to carryover water should be clearly defined in advance. Similarly, the provision for critical human needs water needs to be clearly defined with information available on the potential impact this will have on water access right holders. This is particularly relevant to carryover water.

Box 3.4 Discussion of the Victorian proposal for a spillable water account

The introduction of a spillable water account, as proposed by Victoria, removes restrictions on carryover volume, using an accounting process to ensure any water that spills does not negatively affect the reliability of other users' water access entitlements. This approach allows increased carryover volumes, but does not require the administration of continuous sharing nor the definition of individual storage capacity shares.

It should be noted that under this proposed carryover arrangement, access to water allocations in a spillable account (that is, water that exceeds the water holder's nominal water access entitlement volume) is restricted until the relevant water authority deems there is no risk of the storage spilling in that water year. In reality, this is likely to happen early in the season as either the year will be dry with low storage levels (in which case a spill can be deemed unlikely) or the storage will spill early in the season with spring inflows (in which case the spillable accounts can be adjusted early in the season). It should also be noted that in situations where a spill is likely to occur, the relative abundance of water means irrigators are less dependent on water carried over as their water access entitlements are likely to receive a full allocation, and the market price for water allocations is likely to be relatively low.

It may be possible to trade this product to another person's spillable water account (the access restrictions remain attached to the water allocation).

The Victorian proposal notes that water that sits in a spillable water account cannot be used until deemed so by the water authority (when a spill has been ruled out for that water season). One could argue, allowing access (for use) of water in a spillable water account would create empty storage capacity and should not be restricted (either through an outright prohibition, or by requiring water allocations made in the present season be used before water in a spillable water account is made available). However, changes in the utilisation of water allocations (in this example, deferring usage by first accessing water in spillable water accounts) can have a negative effect on the reliability of other water access entitlements (in particular, those in lower priority classes).

It could be argued that if there is inadequate water to meet other demands (such as delivery water and critical human needs water), use of water that had been carried over by water users should be negotiated with those water users. However, it is important to recognise that there is a relationship between allocation announcements in a given year, and the level of conservatism in setting aside water for the following year. For example, running storages more conservatively so that water is set aside for delivery purposes in future seasons will mean that more water will need to be available before allocations are made.

It is important that any rules about access to carryover for other purposes do not unintentionally impact on allocation announcements during times when allocations are already low.

The ability to deliver carryover water, or to appropriate carryover water for other uses, should be based around clearly defined triggers. The Basin Plan will assist by more clearly defining the tiered water sharing arrangements and required storage reserves to manage future risk.¹⁹⁷ This information needs to be clearly communicated to market participants to assist in their decision-making about carryover and water allocation trade. For example, under tier one and tier two arrangements, it may be appropriate to specify what arrangements will apply if carryover water is required for other uses.¹⁹⁸ One such arrangement would be using the water market to purchase water from willing sellers of carryover water.

3.10.4 Preliminary positions

(3-Q) There should not be restrictions on trade specific to water carried over, nor should there be any specific exclusion of traded water from having access to carryover (assuming other criteria, such as the possession of a water access entitlement, are met).

(3-R) Where continuous sharing arrangements are not in place, the ACCC supports the use of a ‘spillable water account’ with no limits on carryover volumes.

¹⁹⁷ See part 2A of the Act.

¹⁹⁸ Section 86D(1)(d) provides that the Basin Plan must—in relation to tier 2 arrangements—‘specify arrangements for carrying water over in storage from one year to another for New South Wales, Victoria and South Australia’.

- (3-S) Relevant agencies should determine appropriate signals about the likelihood of carryover water being available (and the timing of that availability in the season) and how this should be communicated to water access right holders. This could possibly be linked to the tiered water sharing arrangements in the Basin Plan.

3.11 Metering

3.11.1 Background

Metering is the measurement of water used by a particular water user from a water source or out of an irrigation area.¹⁹⁹

The basin states and the Commonwealth have been involved in implementing metering within the MDB. The NWI sets out requirements for the metering of rural water use in Australia:

Metering and measuring

87. The Parties agree that generally metering should be undertaken on a consistent basis in the following circumstances:

- (i) for categories of entitlements identified in a water planning process as requiring metering;
- (ii) where water access entitlements are traded;
- (iii) in an area where there are disputes over the sharing of available water;
- (iv) where new entitlements are issued; or
- (v) where there is a community demand.

88. Recognising that information available from metering needs to be practical, credible and reliable, the Parties agree to develop by 2006 and apply by 2007:

- (i) a national meter specification;
- (ii) national meter standards specifying the installation of meters in conjunction with the meter specification; and
- (iii) national standards for ancillary data collection systems associated with meters.

Implementing these NWI requirements has a number of elements. For the national meter specification, the Australian Government and the states and territories have established the Water Metering Experts Group (WMEG) to develop accuracy standards and accompanying testing, approval mechanisms and upgrade paths. The WMEG has released a draft policy paper, accompanied by a consultation regulatory impact

¹⁹⁹ It may also be possible to meter the timing / rate of extraction in systems where there are pumping conditions applicable to a water user.

statement issued by DEWHA.²⁰⁰ The WMEG has proposed an accuracy standard of performance in the field within an error of ± 5 per cent.²⁰¹

The current extent of metering varies between the basin states.²⁰² Each basin state has its own requirements on when metering is required. These requirements can be set through a variety of different forms of legislation and regulation, including water resource plans or equivalents; bulk licences; works or use approval conditions; and IIO requirements. All basin states also have some sort of metering policy.²⁰³ These policies typically state that complete coverage of metering is desirable, but they also provide for a variety of exceptions.

Notably, the requirements in the different basin states vary between water sources and also types of extraction. While regulated (supplemented) river extractions are generally metered, as are extractions within IIO networks, the extent of metering in unregulated (un-supplemented) rivers or groundwater sources is more varied.²⁰⁴ The ACCC also notes that stock and domestic use is often not metered.²⁰⁵ Basin states also in some cases have exemptions based on the size of the water access rights, with smaller volumes not being required to be metered.²⁰⁶

The water market rules relevantly state that an IIO may require a transformed irrigator who wishes to retain delivery to install a water meter to measure their water delivered from the operator's network.²⁰⁷

It may be appropriate for the water trading rules to contain provisions about the need for water metering. The ACCC also notes that item 11 of the Basin Plan may also set out requirements for water resource plans in relation to metering the water taken from the water resources of the water resource plan area and monitoring the water resources of the water resource plan area'.²⁰⁸

²⁰⁰ Water Metering Expert Group, *National framework for non-urban water metering policy paper*, December 2008; DEWHA, *National framework for non-urban water metering—consultation regulatory impact statement*, December 2008.

²⁰¹ Water Metering Expert Group, *National framework for non-urban water metering policy paper*, December 2008, p. 4.

²⁰² Sinclair Knight Merz, *Stocktake of Australia's non-urban water metering systems*, May 2008.

²⁰³ DSE, *Securing our water future together*, Victorian Government white paper, June 2004, p. 31; Department of Water, Land and Biodiversity Conservation (DWLBC), *South Australian licensed water use metering policy*, January 2003; Queensland Department of Natural Resources and Mines (DNRM), *Metering water extractions policy*, May 2005; DWE, *NSW water extraction monitoring policy*, August 2007.

²⁰⁴ For example, see DWLBC, *South Australian Licensed Water Use Metering Policy*, January 2003, p. 10; DNRM, *Metering Water Extractions Policy*, May 2005, p. 1; DWE, *NSW Water Extraction Monitoring Policy*, August 2007, p. 3.

²⁰⁵ DSE, *Securing our water future together*, Victorian Government white paper, June 2004, p. 31; DWLBC, *South Australian licensed water use metering policy*, January 2003, p. 4; DNRM, *Metering water extractions policy*, May 2005, p. 1; DWE, *NSW water extraction monitoring policy*, August 2007, pp. 4–5.

²⁰⁶ For example, Victoria has an obligation whereby surface water entitlements are to be metered if greater than 10ML and groundwater entitlements are to be metered if greater than 20ML.

²⁰⁷ Water market rules 2009, rule 20(2)(b).

²⁰⁸ See ss. 22(3) and 22(5) of the Act.

3.11.2 Summary of submissions

The ACCC did not specifically seek submissions about metering in its issues paper. However, a number of parties did make submissions about the metering of water use in the MDB.

A number of interested parties submitted that it would be necessary to meter usage before allowing trade in new types of water access rights or in new locations.

South Australia noted that a practical challenge with establishing tradeable stock and domestic rights would include the need to meter a very large number of small users.²⁰⁹

WMI submitted in relation to trade between unregulated systems that:

(i) if you are not measuring the water it should be not be traded ...

and

State Departments should no longer be guessing how much water is being delivered or being diverted.²¹⁰

The QFF submitted that, for overland flows to be tradeable, it would be necessary for them to be metered.²¹¹ State Water submitted that trade between groundwater and surface water could occur if, among other things, robust metering arrangements were in place.²¹²

More generally, Silver Moon submitted that water users should have meters where the off-takes are located and that water users should pay for all water used, including conveyance water.²¹³ State Water also submitted that basic landholder rights (which include domestic and stock rights, harvestable rights and native title rights)²¹⁴ should be modified to require a volumetric entitlement, allocation-announcements and metering.²¹⁵

The GVIA noted that State Water sometimes requires a meter reading before a temporary trade, and this takes time. GVIA submitted that it should be the seller's responsibility to ensure that they have enough water.²¹⁶

²⁰⁹ South Australian Government, issues paper submission, p. 10. See section 3.5 for a detailed discussion of stock and domestic water use.

²¹⁰ WMI, issues paper submission, p. 15, pp. 6–7.

²¹¹ QFF, issues paper submission, p. 17, p. 7.

²¹² State Water, issues paper submission, p. 12, p. 5.

²¹³ Silver Moon, issues paper submission, p. 6, p. 6.

²¹⁴ *Water Management Act 2000* (NSW), chapter 3, part 1.

²¹⁵ State Water, issues paper submission, p. 6.

²¹⁶ GVIA, issues paper submission, p. 5.

3.11.3 Discussion

The ACCC considers that the extent of metering in the MDB is highly relevant to trade. Where metering did not take place or was significantly inaccurate, robust market function and third party interests could be affected. Stakeholders generally agreed that metering should be required before trade can occur.

Third party interests, in particular, could be significantly affected by inaccurate or no metering. Obviously, this would occur where a party traded water but continued to take a significant proportion, or all, of the amount traded. This would have two effects—first, it would reduce the quantity and reliability of water in the area from which water was traded and, hence, reduce the ability of other water users to extract water; and second, it would lead to adverse environmental effects from increasing the total amount of water extracted from the water source.

While the effect of this occurring because of the actions of any one water access right holder may not necessarily be significant, the third party impacts would likely aggregate over time. The effect could be particularly noted in unregulated systems where extractions may affect the stream flow and the ability of downstream users to extract. Therefore, metering is necessary because it allow for a valid way to check the usage of water users and reduce the potential for negative third party impacts.

More generally, both an absence of metering entirely or inaccuracies in metering would lead to reduced confidence in the integrity of water access rights and inhibit the functioning of the market. If parties were unsure about the reliability and characteristics of their water access rights, they would have reduced market confidence and a corresponding reduced likelihood of trading water. Inaccuracies in metering may be random in their effect on other water users depending on whether they have a positive or negative error, but in any case will make the market less certain. The ACCC also notes that studies have found that on average inaccuracy may favour the customer.²¹⁷

Given potential third party effects and reduced market confidence from an absence of metering, the ACCC considers that metering should be a prerequisite for trade between two users. In particular, both the seller and buyer of the water access right should have an approved meter installed. This reflects the NWI requirement that generally metering should be undertaken on a consistent basis where water access entitlements are traded. Given that inaccurate metering may also have third party effects, the ACCC considers that meters should be required to be accurate to within national standards.

This does not necessarily imply that a meter reading is required before a trade can occur. The ACCC notes the concerns of the GVIA (see above). The ACCC considers that, where metering is taking place, ensuring that the right amount of water is extracted should primarily be an enforcement function. It would seem to be time-consuming and a potential impediment to trade to require meter readings for a temporary (water allocation) trade to take place.

²¹⁷ DEWHA, *National framework for non-urban water metering—consultation regulatory impact statement*, December 2008, p. 11.

The ACCC notes that installation of meters may be expensive and that a meter can cost in the order of \$1000 to \$28000 for the majority of meters.²¹⁸ However, this may be offset by various programs for the installation of meters outlined in the government policies discussed above. The ACCC notes that installing meters may take time and so there may be a need for a transition period. The ACCC notes the 10-year time frame contained in the draft national framework.²¹⁹

3.11.4 Preliminary positions

- (3-T)** Both the seller and buyer of a water access right should have an approved meter installed for all off-take points (except where the water is held independently of land, or where the seller does not retain any water access rights).
- (3-U)** The meters should be compliant with relevant National Standards or Framework, such as that being developed through the Water Metering Experts Group.

²¹⁸ DEWHA, *National framework for non-urban water metering—consultation regulatory impact statement*, December 2008, p. 11.

²¹⁹ *ibid.*, p. 12; Water Metering Expert Group, *National framework for non-urban water metering policy paper*, December 2008, p. 21.

4 The 4 per cent limit

A highly contentious water trading issue in recent times has been the existence of the 4 per cent limit on the permanent trade of water entitlements out of irrigation areas (also known as the 4 per cent rule or the 4 per cent cap). This chapter refers generally to ‘the 4 per cent limit’ but recognises that such a limit has been implemented in different ways and to different extents throughout the MDB.²²⁰ In particular, the application of the 4 per cent limit within Victoria has been the subject of considerable debate. This chapter considers the effect on water trade of volumetric restrictions²²¹ such as the 4 per cent rule.

The ACCC also commissioned a report from Frontier Economics on the implications of such restrictions on water entitlement trade.²²² This report is available on the ACCC website, www.accc.gov.au, with this position paper.

4.1 Background

4.1.1 National Water Initiative

The 4 per cent limit was agreed by state and territory signatories to the Intergovernmental Agreement on a National Water Initiative (NWI) on 25 June 2004.²²³ Under the NWI, jurisdictions agreed to move to full and open trade by 2014 at the latest, but with an allowance for the 4 per cent limit. Specifically, the jurisdictions agreed to take the following actions in respect of any existing institutional barriers to intra and interstate trade:

- (a) immediate removal of barriers to temporary trade;
- (b) immediate removal of barriers to permanent trade out of water irrigation areas up to an annual threshold limit of four percent of the total water entitlement of that area, subject to a review by 2009 with a move to full and open trade by 2014 at the latest, except in the southern Murray–Darling Basin where action to remove barriers to trade is agreed as set out under paragraph 63.²²⁴

²²⁰ See section 4.1.2.

²²¹ This chapter does not discuss environmental or hydrologic-based volumetric restrictions. The ACCC recognises that the volume of water able to be traded out of particular areas may be subject to a separate volumetric limit for valid hydrologic or environmental reasons (see chapter 6).

²²² Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009.

²²³ National Water Commission (NWC), *Intergovernmental Agreement on a National Water Initiative*, clause 60(iv); available online at www.nwc.gov.au; viewed on 18 August 2009.

²²⁴ *ibid.*

The NWI draws a distinction between the northern and southern MDB. A specific clause relating to the southern MDB was settled between the Commonwealth, New South Wales, Victoria and South Australia. These parties agreed to:

reduce barriers to trade in the Southern Murray–Darling Basin by taking the necessary legislative and other actions to permit open trade and ensure competitive neutrality, and to establish an interim threshold limit on the level of permanent trade out of all water irrigation areas of four per cent per annum of the total water access entitlement for the water irrigation area by June 2005.²²⁵

The same parties also agreed, in relation to the southern MDB, to:

review the impact of trade under the interim threshold in 2009, with a view to raising the threshold to a higher level if considered appropriate.²²⁶

The commitment to review the 4 per cent limit has been reaffirmed by Council of Australian Government (COAG), which has stated an ambition to raise the limit to 6 per cent by the end of 2009.²²⁷

The NWI provisions relating to the 4 per cent limit specify that the limit relates to permanent trade out of water irrigation areas. Relevantly, the NWI defines a ‘water irrigation area’ as:

the area under control of an individual water services provider (e.g. an irrigation corporation, cooperative or trust, or water authority).²²⁸

4.1.2 Implementation by basin states

Within this NWI framework, the 4 per cent limit has been implemented inconsistently across the MDB. Victoria and, to a lesser extent, New South Wales have implemented the 4 per cent limit through legislation, while South Australia and Queensland have not.

Victoria

The Victorian interpretation limits the revocation of association between Victorian water shares (water access entitlements) and land, rather than directly applying to the volume of water access entitlement permanently traded to a location outside that area.²²⁹

Once disassociated, the water is free to be traded to another area. The Victorian limit also differs from the NWI description in two other ways. First, the limit is calculated at a smaller geographic area than the NWI definition of a ‘water irrigation area’ noted above. Instead, it is applied to ten irrigation areas within the areas served by Lower

²²⁵ NWC, *Intergovernmental Agreement on a National Water Initiative*, clause 63(ii); available online at www.nwc.gov.au; viewed on 18 August.

²²⁶ *ibid*, clause 63(vii).

²²⁷ COAG, *Communiqué—3 July 2008* meeting, p. 10, available on the COAG website, www.coag.gov.au; viewed 18 August 2009.

²²⁸ *ibid*, Schedule B(i).

²²⁹ The Victorian Department of Sustainability and the Environment (DSE), *Trading rules for declared water systems*, 30 June 2009, clause 25.

Murray Water (LMW) and GMW, the two relevant Victorian water authorities in the MDB.²³⁰ Second, the limit applies separately to high reliability and low reliability water shares.²³¹

On 4 June 2009 the Commonwealth and Victoria agreed to provide a limited exemption from the Victorian 4 per cent limit for the Commonwealth's environmental water purchases.²³² Under this exemption, the Commonwealth will be permitted to purchase certain water that will not be subject to the 4 per cent limit. This water will be either water sold under the small block irrigators exit grants, where the Commonwealth has provided on-farm efficiency assistance, or which is in an area that has been identified as not being a priority for modernisation. This last basis for an exemption is limited to 60GL per year.²³³ According to the accompanying media release, Victoria will start to phase out the 4 per cent limit from July 2011:

Under the agreement, and subject to a review of progress on the modernisation project, Victoria will begin to phase out the four per cent cap on permanent water trades from irrigation districts from July 2011, with a view to removing the cap entirely by 2014.²³⁴

The South Australian Government has indicated that it will consider a High Court challenge against the Victorian 4 per cent limit.²³⁵

New South Wales

New South Wales similarly does not directly impose the limit on trade. Instead, its legislation refers to the level of transformation of irrigation rights in the five New South Wales irrigation corporations (Murray Irrigation Limited, Western Murray Irrigation Limited, Murrumbidgee, Jemalong and Coleambally) into customers' own water access entitlements.²³⁶

The legislation does not directly impose a 4 per cent limit, but instead provides an exemption from a civil penalty that would ordinarily apply under the New South Wales legislation to irrigation corporations that took actions to prevent transformation.

Queensland, South Australia and the Australian Capital Territory

Queensland, South Australian and the Australian Capital Territory do not have a specific 4 per cent limit. Some South Australian irrigation infrastructure operators

²³⁰ See DSE, *Trading rules for declared water systems* (Victoria), 30 June 2009, schedule 5, which lists the irrigation areas subject to the 4 per cent limit as Campaspe; Central Goulburn; First Mildura Irrigation District; Murray Valley; Nyah, Tresco and Woorinen; Pyramid-Boort; Robinvale, Red Cliffs and Merbein; Rochester; Shepparton and Torrumbarry.

²³¹ *ibid.*

²³² The Hon. Kevin Rudd (Prime Minister) and the Hon. John Brumby (Premier of Victoria), *New Commonwealth—Victorian water agreement*, media release, 4 June 2009.

²³³ DSE, *Trading rules for declared water systems*, 30 June 2009, clause 25A.

²³⁴ The Hon. Kevin Rudd (Prime Minister) and the Hon. John Brumby (Premier of Victoria), *New Commonwealth—Victorian water agreement*, media release, 4 June 2009.

²³⁵ Premier of South Australia, the Hon. Mike Rann, *Ministerial Statement—Mike Rann* (media release), 5 March 2009.

²³⁶ *Water Management Act 2000* (NSW), s. 71ZA, schedule 1.

(IIOs) have imposed their own limits on permanent trade out of their irrigation networks—for example, CIT had a limit of 6 per cent, and brought forward a year’s worth of the limit to make an effective 12 per cent limit.²³⁷

4.1.3 Water market rules and the 4 per cent limit

The water market rules prohibit an IIO from preventing or unreasonably delaying transformation or the trade of a water access entitlement arising from transformation.²³⁸ An exception to this is a term or condition that is required or expressly permitted by or under a law of the relevant state or territory.

The water market rules apply primarily to IIOs in New South Wales and South Australia. This is because the transformation arrangements in those rules apply only where irrigators do not already hold their own water access entitlement as they largely do in Victoria and Queensland. Given that the 4 per cent limit is not required or expressly permitted by the law of both New South Wales and South Australia, the water market rules effectively prevent IIOs in these states from applying the 4 per cent limit to transforming irrigators.

As such, considerations related to the 4 per cent limit largely relate to its application in Victoria.

4.1.4 Justification for the limit

Water trade and the corresponding movement of businesses, population and wealth between geographic regions can have a number of social and economic effects. Water trade can lead to structural change at a community level and issues such as stranded assets and the effect on remaining irrigators of water leaving irrigation districts.²³⁹

Addressing these two issues has been the primary policy reason provided for the application of the volumetric restrictions such as the 4 per cent limit.²⁴⁰ First, it has been argued that the 4 per cent limit is appropriate as a way to limit the pace of structural change for rural communities.²⁴¹ Second, the 4% limit has been argued as a way to limit the stranded asset risks from water rapidly leaving irrigation networks.²⁴²

²³⁷ CIT, issues paper submission, p. 2.

²³⁸ Water market rules 2009, r. 17, 20(1)(b).

²³⁹ Frontier Economics, *The economic and social effects of water trading*, September 2007, p. 43.

²⁴⁰ DSE, issues paper submission, p. 2.

²⁴¹ DSE, *Securing our water future together*, Victorian Government white paper, June 2004, p. 78.

²⁴² *ibid.*

4.1.5 Previous ACCC commentary

The ACCC has previously commented on the effect of volumetric restrictions such as the 4 per cent limit. In 2006 the ACCC noted:

It has been suggested that past restrictions on volumes of permanent trading may not have been a critical factor in determining the level of trade. However, the fact that trading limits have been reached early in the season in some Victorian districts suggests that restrictions have an impact. Furthermore, it is possible that these limits are distorting patterns of trade. For example when a limit is reached in one district it may potentially accelerate trade out of another district.²⁴³

The ACCC also considered that stranded assets concerns may be overstated.

It is not clear whether concerns regarding stranded assets are warranted in many districts. In some respects a number of other factors create a natural limit on the extent of trade in entitlements.²⁴⁴

In the ACCC's December 2008 final advice on water market rules, the ACCC noted:

Recent research concludes that explicit trading caps of this form negatively affect gains from trade and distort both intrastate and interstate trading outcomes and any structural adjustment.²⁴⁵

The ACCC also considered that volumetric restrictions such as the 4 per cent limit could have negative effects within water markets:

The ACCC reiterates that these volumetric restrictions will negatively affect trading outcomes in Victoria (as well as the Basin). When the cap is reached in one district, there is likely to be increased pressure for outward trade from other more efficient districts, possibly within the same operator's area of operations. These restrictions also reduce the opportunities to rationalise the least efficient parts of the network. These rules may also artificially increase the use of allocation (temporary) trade by users seeking access to water, thereby contributing to administrative processing times for all users.²⁴⁶

4.2 Summary of submissions

The ACCC's water trading rules issues paper noted that the 4 per cent limit is an example of a volumetric limit on the permanent trade of water access rights out of an area, and sought interested parties' views on the arguments for and against such limits. A number of interested parties made submissions in response.

²⁴³ ACCC, [*A regime for the calculation and implementation of exit, access and termination fees charged by irrigation water delivery businesses in the southern Murray–Darling Basin*](#), 6 November 2006, p. 11; available on the ACCC website, www.accc.gov.au.

²⁴⁴ *ibid*, p. 12.

²⁴⁵ ACCC, *Water market rules—Advice to the Minister for Climate Change and Water*, December 2008, p. 85; available on the ACCC website, www.accc.gov.au.

²⁴⁶ *ibid*, p. 86.

The South Australian Government submitted that the positive aspects of volumetric limits are related to both environmental and infrastructure assets.²⁴⁷ It argued, however, that '[s]uch limits have a negative effect on structural adjustment potentially imposing longer term difficulties on rural communities'. South Australia also submitted that volumetric restrictions limit the efficient use of water, and that water policy should not be used to support specific rural communities.²⁴⁸

CIT submitted that it had revised its 4 per cent limit up to a 6 per cent annual limit, and brought forward the second year limit to effectively make a 12 per cent limit. CIT stated that its 'intention was to provide immediate relief to people desperate to exit farming' and noted the 'increasing number of farmers looking to escape being trapped on the farm'.²⁴⁹ It submitted that there should be the same limits on trade for transformed irrigators as those who remained within IIO entitlements.²⁵⁰

The HWI submitted that communities and local economies need 'time to adjust to [the] rate of change created by water trade'.²⁵¹

The NSWIC submitted that the existence of volumetric restrictions was a less significant point than equivalent imposition and interpretation of trade barriers in all jurisdictions.²⁵² WMI similarly submitted that any volumetric limit should be consistent across all basin states.²⁵³

WMI also noted that the arguments for volumetric limits were slower adjustment times for areas losing water and a reduced risk of stranded assets and third party impacts on remaining irrigators. It noted that the arguments against the limit were that it restricted individual choice and the ability of infrastructure operators to plan for less water.²⁵⁴

The Victorian Department of Sustainability and the Environment (DSE) noted that the Victorian 4 per cent limit 'was initially introduced to manage the risk of stranded assets and to limit the rate of social change in a district due to trade of water out'.²⁵⁵ It further submitted that 'the introduction of delivery shares and associated termination fees has addressed the stranded asset risk', although it considered that concerns remained in the community about structural adjustment.²⁵⁶

The VFF submitted that 'allowing unfettered trade of irrigation water...will cause significant hardships in rural communities'.²⁵⁷ It submitted that volumetric limits such as the 4 per cent limit were needed to ensure rural adjustment occurs at a manageable pace.

²⁴⁷ South Australian Government, issues paper submission, p. 11.

²⁴⁸ *ibid*, p. 12.

²⁴⁹ CIT, issues paper submission, p. 2.

²⁵⁰ *ibid*.

²⁵¹ HWI, issues paper submission, p. 7.

²⁵² NSWIC, issues paper submission, p. 17.

²⁵³ WMI, issues paper submission, p. 10.

²⁵⁴ *ibid*.

²⁵⁵ DSE, issues paper submission, p. 2.

²⁵⁶ *ibid*.

²⁵⁷ VFF, issues paper submission, p. 11.

The NFF supported ‘the consistent application of the agreed NWI trade cap across water sources and states’.²⁵⁸

The New South Wales Government submitted that there are a number of difficulties with applying the 4 per cent limit in the way intended under the NWI.²⁵⁹ It identified difficulties with identifying when water has left a regional area, the failure to account for temporary trade back into an area and the scale at which the limit is applied not being clear. It further submitted that there would be added complexity arising from the water market rules.

The New South Wales Government also submitted that Australian Government purchases of water for the environment would lead to a higher potential for the limit to be reached in each year.²⁶⁰ It considered that there is merit in raising and eventually removing the 4 per cent limit but considered that ways needed to be implemented to manage the rate of structural change for communities.

4.3 Discussion

The issues surrounding the 4 per cent limit are complex. While the 4 per cent limit only applies to the sale of water access entitlements, the ACCC considers that it is necessary to consider the effect of the 4 per cent limit on water markets and water market participants in general. The ACCC has accordingly first considered the effects of the 4 per cent limit on water access entitlement markets and water market participants in general, and then considered the extent to which the ability to trade in water allocations, which are not restricted by the 4 per cent limit, ameliorates those effects.

The ACCC also considers that there are a number of further issues to consider in relation to the limit. These are:

- whether the justifications for the 4 per cent limit are best addressed by the 4 per cent limit
- the effect of the particular manifestation of the 4 per cent limit in Victoria compared to the formulation in the NWI
- whether any adjustment path is appropriate for amending the 4 per cent limit.

4.3.1 Effects on the water market and water market participants

The ACCC has first considered the effects of the 4 per cent limit on water access entitlement markets and water market participants. Section 4.3.2 then considers the extent to which the availability of trade in water allocations ameliorates these effects.

²⁵⁸ NFF, issues paper submission, p. 22.

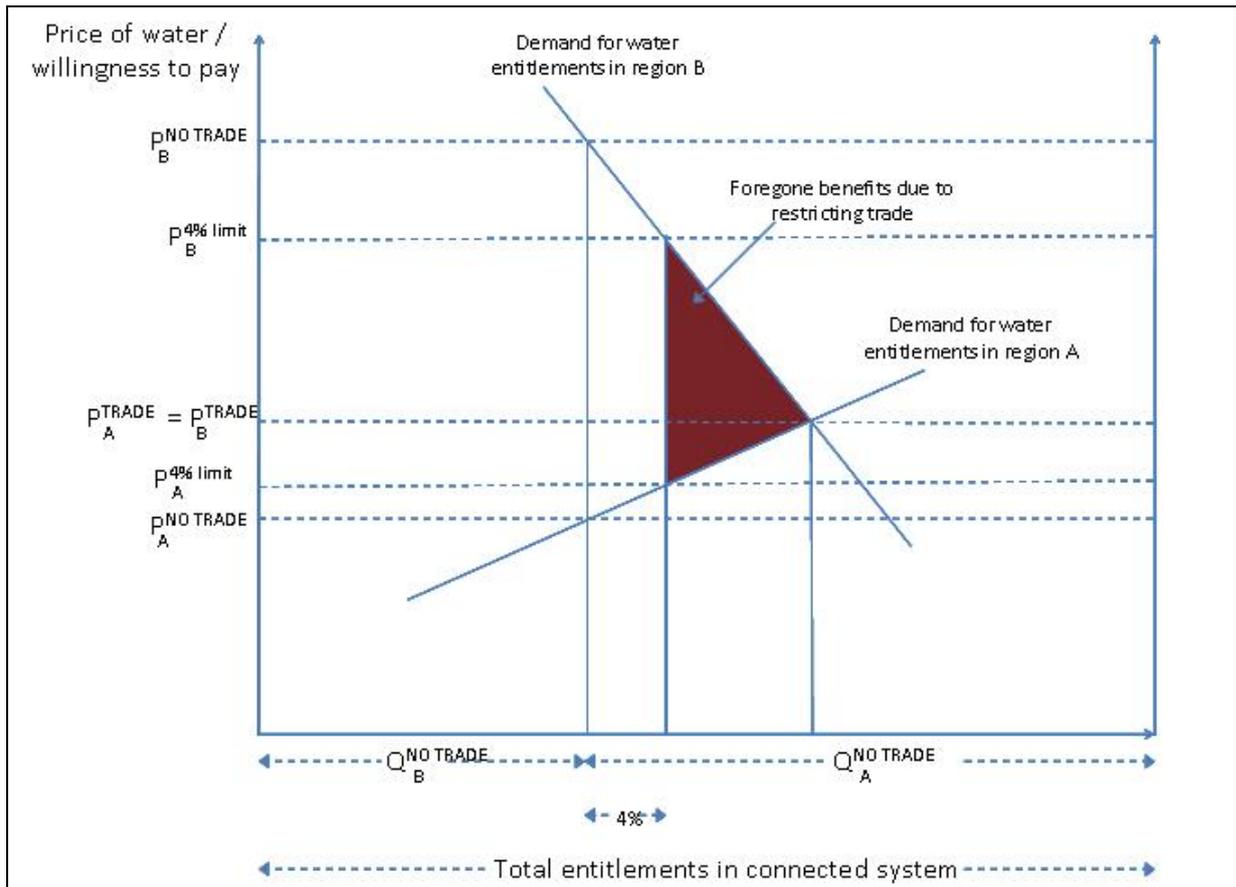
²⁵⁹ NSW Government, issues paper submission, p. 21–22.

²⁶⁰ *ibid.*, p. 23.

Efficiency impacts

At a fundamental level, the effect of the 4 per cent limit is to prevent water going to its highest value use. This is because the limit will restrict the sale of water access entitlements by irrigators to buyers outside their irrigation area, denying them the opportunity to access buyers in external regions who would value water more highly. This results in the potential benefits of water trade that arise where water can be traded between two areas, being limited. Frontier Economics illustrates this dead-weight efficiency loss in figure 4.1 below.²⁶¹

Figure 4.1 Efficiency losses from the 4 per cent limit



Source: Frontier Economics

The efficiency loss occurs because the 4 per cent limit restricts the sale of water between buyers who value it more highly in one geographic region and sellers who are willing to dispose of it in other geographic regions. As such the potential equilibrium

²⁶¹ Frontier Economics, Volumetric restrictions on water entitlement trade, August 2009, p. 13.

In this graph, p refers to price paid while q refers to the quantity of water entitlement traded. A and B refer to two separate geographic regions. $p^{NO TRADE}$ and $Q^{NO TRADE}$ refer to outcomes where no trade is possible between the two systems, while p^{TRADE} refers to the equilibrium price when unrestricted trade can occur. The origin for region A is on the right hand side of the diagram and the region A demand curve is flipped as a result.

price and quantity sold is not reached, and there is a resultant efficiency loss represented by the shaded area. The limit essentially creates an artificial segmenting of the market and limits the prospective purchases of water to an artificially smaller geographic area. The ACCC considers that this segmenting of the market, which limits the ability of water to move to its highest valued use, prevents the operation of efficient water markets.

Significantly, the 4 per cent limit is being reached in a greater number of Victorian regions each year. The effect of the limit is outlined in box 4.1 below.

Box 4.1 The Victorian 4 per cent limit over time

In 2007–08 the 4 per cent limit was only reached for high reliability water shares in two irrigation areas—the Pyramid-Boort and Shepparton irrigation areas.²⁶²

In 2008–09 the limit was reached in eight of the 10 irrigation areas for high reliability shares by the end of the year.²⁶³ As noted by Frontier, this means that ‘94.5% of Victorian high-reliability water shares held in irrigation districts were held in irrigation districts that had reached the 4% limit’.²⁶⁴

In 2009–10 the limit had already been reached for high reliability shares in the Murray and Torumbarry irrigation areas by August 2009, during the process of the ballot for approval of trades.²⁶⁵ At 19 August 2009 a further three irrigation areas (Campaspe, Central Goulburn and Pyramid-Boort) had less than 10 per cent of the limit remaining.²⁶⁶

Based on the above data and information concerning the results of Goulburn-Murray Water’s ballot for approval of trades under the 4 per cent limit, Frontier concluded:

This suggests that the applications received in the 2009–10 ballot would have been sufficient for the 4% limit to be reached in the vast majority of Victorian irrigation districts at the commencement of the 2009–10 water year.²⁶⁷

Given the above figures, the ACCC considers that the potential efficiency losses represented above could be expected to have occurred in a number of irrigation areas over 2008–09 and will be likely to occur in 2009–10.

These efficiency losses may be both short- and long-term in nature. In the immediate period, trade in water access entitlements could be used by irrigators to facilitate

²⁶² DSE, Victorian Water Register, [4 per cent trade-out limit—results for previous years](#), available at www.waterregister.vic.gov.au; viewed 18 August 2009, p. 2. The limit was also almost met for Campaspe and Murray high reliability shares.

²⁶³ *ibid*, p. 1.

²⁶⁴ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 32.

²⁶⁵ Goulburn-Murray Water, *GMW water trading ballot update: Limits reached in some irrigation areas and systems as farmers position for year ahead*, media release, 3 August 2009.

²⁶⁶ DSE, Victorian Water Register, [4% trade-out limit](#), available at www.waterregister.vic.gov.au; 19 August 2009.

²⁶⁷ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 36.

increases or decreases in farm production. The limit would accordingly reduce options available to farmers, with potential allocative and productive efficiency implications in that water cannot move to higher valued uses. To some extent, this short-term efficiency loss could be ameliorated by the ability of irrigators to use trade in water allocations or some sort of lease product.

However, as noted by Frontier, more significant efficiency losses from limiting water access entitlement trade by the 4 per cent limit are likely to be dynamic efficiency losses that occur over the longer term:

given that water entitlements confer perpetual rights to access water, they are also the foundation of water-related investment decisions and water-related risk management — such that restrictions to water entitlement trade affect dynamic efficiency by distorting long-run decisions.²⁶⁸

This is because water access entitlements are useful for irrigators seeking to manage their water usage in the longer term. This is related to the ability to make long-term decisions about farm production type and to invest in appropriate farm technology and infrastructure. If irrigators are limited in their ability to trade water access entitlements when making decisions about farm production type, these investment decisions will be distorted in favour of maintaining current levels of water usage.

Trade in water access entitlements allows irrigators to access a mix of products to enable some level of certainty over the expected quantity of available water. Furthermore, the ability to dispose of water access entitlements allows irrigators to make long-term decisions about whether to remain in irrigated farming at all. Unlike the short-term effects, which to an extent are ameliorated by the ability to access trade in water allocations, these long-term effects are best facilitated by trade in water access entitlements. The ACCC further considers why water allocation trade may not be a good longer term alternative for water access entitlement trade in section 4.3.2 below.

Quantifying efficiency losses

Quantifying these inefficiencies is difficult. As noted above, the number of irrigation areas affected by the 4 per cent limit has increased from 2007–08 to 2008–09 and is likely to again increase in 2009–10. This suggests that efficiency impacts would have been experienced in an increasing number of irrigation areas. However, Frontier notes that it is difficult to quantify even the direct welfare losses, given that there is limited publicly available price information at a suitable level of disaggregation.²⁶⁹

Results from an Australian Bureau of Agricultural and Resource Economics (ABARE) survey of irrigators conducted on behalf of the ACCC suggest that a cap or prohibition on out of region trade of permanent water access entitlement was the most significant reason for trades being refused among the irrigators surveyed. This similarly suggests that the efficiency impacts from the 4 per cent limit may be widespread. Those results are presented in Box 4.2.

²⁶⁸ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 13.

²⁶⁹ *ibid*, p. 39. The availability of information regarding pricing is specifically discussed in section 9.3.

Box 4.2 ABARE survey results on refusal of trades²⁷⁰

Did you have a trade in permanent entitlement or temporary allocation water refused in 2007-08 (or not initiate a trade because you expected it to be rejected), including trade both within and outside your region?

	per cent
Yes	5
No	95
If yes, for what reason?	
Not aware why the trade was rejected	15
Cap or prohibition on out of region trade (permanent entitlement)	62
Trading zones not connected	22
Other hydrological reasons (e.g. constraint on channel capacity)	7
Trading seasons/dates	27
Issues around water use approvals	29
Administrative rules and regulations	58
Other	12

However, it is difficult to obtain more precise monetary values on the effect of the 4 per cent limit. Frontier cites an unpublished report that estimated that overall agricultural production in Victoria would have been \$5.1 million higher in 2007–08 without the 4 per cent limit.²⁷¹ Furthermore, Frontier estimates that if it is assumed that pricing disparities within a trading zone relate to the 4 per cent limit, a direct welfare loss of \$1.5 million may have occurred in 2007–08. For 2009–10 this loss would be an amount of \$6.8 million to date, plus the welfare loss from all future denied trades in the 2009–10 water year.²⁷²

²⁷⁰ ABARE surveyed 582 irrigators throughout the MDB: ABARE, *Survey of irrigators on water trading in the Murray-Darling Basin 2007-08*, August 2009. See chapter 9 for more results from this survey.

Percentages do not necessarily add up to 100 per cent as irrigators were able to give more than one answer to some questions.

²⁷¹ *ibid*, p. 44.

²⁷² *ibid*, p. 45.

Individual irrigators

At the individual irrigator's level, the 4 per cent limit can reduce the returns from the sale of water access entitlements. This will limit decisions about matters such as the mix of inputs into production as well as financial decisions. In particular, irrigators who may be suffering financial distress, and are wishing to exit from irrigation or reduce the scale of their operations, will be limited to selling in their local geographic area. This will mean that they will be unable to access potentially higher market prices for water access entitlements in other geographic areas or for sale to environmental purchasers. This could have a significant financial effect on irrigators. Wealth in such a case would move to local buyers within the geographic area, who would be able to purchase water at a cheaper price than otherwise, at the expense of the irrigator suffering financial hardship. As Frontier notes, such buyers are arbitrary beneficiaries of the 4 per cent limit.²⁷³

Purchases of water for the environment

The impact of the 4 per cent limit is not restricted to the effect on irrigators, as it may also affect those seeking to obtain water for other purposes. First, the ACCC notes that a significant driver behind the increased number of irrigation areas reaching the 4 per cent limit is the increased role of environmental water purchasers, particularly governments. The limit has prevented such sales taking place, which will again limit the ability of irrigators to realise the financial value of their water access entitlements and effectively segment the market.

The ACCC also notes that the New South Wales embargo on sales of water for environmental use (with some exceptions), which was enacted in response to Victoria's 4 per cent limit, will limit the ability of environmental water purchasers to obtain water to address overuse and overallocation issues.²⁷⁴ This will similarly limit the pool of potential buyers of water and, hence, the potential returns from selling water access entitlements.

However, the ACCC notes that the Australian Government has negotiated a specific exemption from the 4 per cent limit with Victoria to enable it to purchase water for the environment outside the 4 per cent limit. While this will enable a greater number of trades to the Australian Government, and hence maintain a larger range of purchasers in the market than would occur under the 4 per cent limit without the exemption, the sale of water is still limited to certain circumstances. Furthermore, the form of the exemption will also advantage the Australian Government in its purchases of water access entitlements over other potential buyers (in particular, irrigators) and will leave it as the only potential external purchaser in areas that have reached the 4 per cent limit.

Reconfiguration

More generally, the ACCC notes that the 4 per cent limit may restrict the ability of governments (as well as IIOs or other bodies) to invest in reconfiguration activities. This is because irrigators will be unable to sell water access entitlements (and terminate

²⁷³ *ibid*, p. 26.

²⁷⁴ Overuse and overallocation are discussed in section 3.8.

access to an irrigation network), and hence the potential rationalisation of networks will be slowed in order to continue serving those irrigators. The Victorian Government noted that this was an effect of its 10 per cent limit on non-water-users holding water.²⁷⁵ The ACCC considers that this point would apply equally to the 4 per cent limit.

Uncertainty and transaction costs

Finally, the ACCC considers that the 4 per cent limit will lead to greater market uncertainty and increase the transaction costs faced by water market participants. The ACCC notes the basin water market and trading objective of minimising transaction costs and ensuring good information flows.

As noted by Frontier, the existence of the 4 per cent limit may create uncertainty about whether particular trades will be approved and may lead to changed behaviour in the market.²⁷⁶ In particular, selling irrigators will seek to ensure that their water is not subject to the limit and that they can therefore access a greater range of potential buyers. Under the current ballot system operated by Goulburn Murray Water (GMW) to decide which trades will fall within the 4 per cent limit, there is a strong incentive for trades to occur early in the season.²⁷⁷ This has led to over 1000 applications being entered into the ballot before the start of the 2009–10 season. The 4 per cent limit was reached or almost reached in some areas during the initial ballot period.²⁷⁸

The effect of this is that buyers make less considered purchases without the benefit of assessing the seasonal water availability, commodity and input prices, or other factors that would usually inform their water use patterns for the next year. This leads to a greater chance of suboptimal trade decisions, and perhaps investment and other decisions as a flow-on effect. As discussed below, this is exacerbated by the presence of irrigators seeking to disassociate their water from land but not necessarily sell it.

The ACCC also considers that the general procedural arrangements surrounding the management of the 4 per cent limit must lead to increased transaction costs. Notably, such costs include the cost and delay to irrigators of trading applications (such as participation in the GMW ballot) to determine what trades are permissible within the 4 per cent limit and the cost of later trading applications (either for water allocation trades or for water access entitlement trades in subsequent years) where trades are rejected. In Victoria, for example, applications for dealings with water shares cost \$129.70 each.²⁷⁹ There are also the costs to approval authorities who administer the 4 per cent limit and any exemptions.

²⁷⁵ Victorian Government, *Review of non-water-user limit*, undated, available on the 'Our Water Our Future' website, www.ourwater.vic.gov.au; viewed on 18 August 2009, p. 3.

²⁷⁶ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 24.

²⁷⁷ *ibid.*, pp. 18–20, and 24.

²⁷⁸ *GMW water trading ballot update: Limits reached in some irrigation areas and systems as farmers position for year ahead*, media release, 3 August 2009.

²⁷⁹ GMW, *Unbundled trading fees*, website, available on the GMW website, www.g-mwater.com.au; viewed on 19 August 2009.

Conclusion on effect on water markets

Overall the ACCC considers that the 4 per cent limit provides a significant barrier to trade and prevents water from reaching its highest value use, with resulting efficiency impacts on the operation of water markets.

Price signals are distorted away from the market value for water, with resulting effects on the investment signals that are given by the movement of water. The effects of the 4 per cent limit are, in particular, long-term dynamic efficiency impacts. There are also resulting effects on individual irrigators, government water purchasing and the general function of the market. Given these negative effects, the ACCC's general view is that the 4 per cent limit should be removed.

The ACCC considers some further aspects of the 4 per cent limit below.

4.3.2 Substitutability of water allocation trade

Section 4.3.1 considered the effects of the 4 per cent limit on water access entitlement markets and water market participants. This section considers the extent to which the availability of trade in water allocations, which is not subject to the 4 per cent limit, ameliorates these effects.

Interaction between water allocation and water access entitlement trade

The ACCC recognises that the 4 per cent limit does not necessarily mean that an irrigator loses the ability to trade all water access rights. In particular, an irrigator may instead trade water allocations obtained under its water access entitlement, as water allocation trade is not subject to the 4 per cent limit. Furthermore, it may be possible for an irrigator to enter a limited term lease, although this is not common at present.

These alternative trading arrangements mean that, when the 4 per cent limit is reached, water is not prevented entirely from moving between alternative uses, but must instead be moved on a more temporary basis. The ACCC would expect that water allocation trade would be the likely alternative to water access entitlement trade and that a greater amount of water allocation trade will take place as a result of the 4 per cent limit being reached for a geographic area.

Water allocation trade is a widely used mechanism for moving water. The volume of trade in water allocations is significantly larger than for water access entitlements. For example, in 2007–08 total water allocation trade in basin states (although not necessarily in the MDB) was 1578 GL, while water access entitlement trade was around 864 GL.²⁸⁰

A water access entitlement trade from one area to another is broadly equivalent to the repeated trade of water allocations made to that entitlement. Irrigators often employ this approach, rather than establish a formal tag, especially for interstate trades. However, the ACCC considers that employing this approach is not realistic for many irrigators for a number of reasons.

²⁸⁰ NWC, *Australian Water Markets Report 2007–2008*, December 2008, pp. 22–24.

Frontier considers the role of possible alternatives to water access entitlement trading.²⁸¹ Consistent with the ACCC's views above, it notes:

... if an irrigator is constrained from buying or selling entitlements by a volumetric restriction, they could buy or sell annual allocations or enter a limited term lease in order to manage their water supply in a given season.

The existence of these alternatives means that limits on trading of entitlements do not necessarily preclude the ability to move water between alternative uses.²⁸²

However, Frontier considers that there are some key differences between a one-off water access entitlement trade and ongoing water allocation trades, stemming from the effect of volumetric restrictions on dynamic efficiency.

Risk profile

The ACCC has previously noted that irrigators may wish to hold a portfolio of different water access entitlements from a number of regions. However, it also considers that any given irrigator may also choose to use a combination of the water allocations available under the water access entitlements that they hold and purchases of further water allocations on the water allocation market. The portfolio of entitlements and purchased allocations that they choose to use will be a product of the irrigator's particular risk profile.

Frontier notes that 'the substitutability of entitlements and allocations is dependent on the outlook of investors to risk and the interruptibility of their production system.'²⁸³ More risk averse irrigators, particularly with a relatively inelastic demand for water, will prefer to hold a relatively high proportion of water access entitlements. These irrigators will be reluctant to rely too heavily on the water allocation market each season. This reluctance particularly stems from the uncertainty about whether water allocations will be available to purchase and the price volatility of the water allocation market.²⁸⁴

This portfolio effect is particularly true from a cash flow perspective where water access entitlements may provide a portfolio benefit and become more valuable when drought may reduce the profits from production. Such irrigators will prefer to have the certainty of owning a water access entitlement rather than entering the water allocation market each year. The 4 per cent limit will prevent water from being traded to such irrigators who highly value entitlements.

The ACCC considers that the 4 per cent limit essentially has the effect of blocking the ability of farmers to choose a combination of entitlements and purchased water allocations that suits their risk profile. The increasing number of Victoria irrigation areas in which the 4 per cent limit is being reached, and the fact that the limit is being reached earlier in the irrigation season, signifies that there is still significant unmet

²⁸¹ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 21.

²⁸² *ibid.*

²⁸³ *ibid.*, p. 22.

²⁸⁴ The ACCC discusses further in section 9.3.3 below that water allocation prices are typically more volatile than water access entitlement prices.

demand for the purchase of water access entitlements. As such, the ability of farmers to choose their preferred portfolio is being restricted.

Long term adjustment by individual irrigators

Another example of ongoing sales of water allocations not being equivalent to trade of a water access entitlement occurs when irrigators are looking to make long-term adjustments away from irrigated agriculture.²⁸⁵ Such irrigators are looking to make a long-term decision about the amount of water that they require.

Irrigators will be unable to realise the cash flows that would allow them to either make purchases of other assets (e.g. farm equipment or more efficient irrigation equipment) or to sell the entire business and cease production. Ongoing water allocation trade is not a substitute for either of these reasons for trade—in the first case the amount of money the irrigator can receive in the short term will be low (recognising that the price of water allocations is typically lower than the price for water access entitlements and that only water actually allocated can be sold); and in the second case the irrigator is unable to realise the total value of their assets.

Irrigators will also face ongoing fixed charges, even if they do sell their water allocations. As such, the 4 per cent limit on water access entitlement trade will limit the long-term investment decisions of irrigators and may particularly affect distressed sellers, despite the ability to access water allocation trade.

Investment signals

This also has a wider dynamic efficiency effect on investment signals. Recurring water allocation trades would stifle the investment signals that would arise from water access entitlement trade into or out of irrigation areas. The movement of water on a long-term basis, potentially accompanied by termination of access to delivery, provides strong signals to infrastructure operators about long-term trends in irrigation and hence the need for supporting infrastructure. Comparatively, ongoing water allocation trades do not provide such a clear signal because they do not signal any ongoing position on continuing irrigation. There would be less predictability about geographic demand where irrigators relied on water allocation trades to move water.

Transaction costs

The ACCC notes that there are also ongoing costs of participating in the market by a series of water allocation trades that can be avoided where a single water access entitlement trade is made.

First, there is the obvious cost of making one or more applications for water allocation trade each year. This cost would include the application fees to approval authorities as well as costs paid to water market intermediaries.²⁸⁶ Second, information costs would

²⁸⁵ *ibid*, p. 23.

²⁸⁶ For example, the cost of an application to trade water allocation within GMW is \$61.90; see [Unbundled trading fees](http://www.g-mw.com.au), available online at www.g-mw.com.au; viewed on 19 August 2009.

be involved in monitoring the market to assess opportunities for sale of allocations.²⁸⁷ Similarly, it would be necessary to find buyers for each year's water allocations (or a single buyer willing to purchase the water allocations every year). In comparison, these costs are incurred once for a water entitlement trade.

As well as the monetary cost, there would also be a cost in terms of the time taken to make applications and monitor the market. The time taken for water allocation trade approval may in fact increase because of a greater number of irrigators seeking to have water allocation trades approved, which would place a greater burden on the resources of approval authorities.

Carryover

Similarly, restrictions on irrigators' ability to buy water access entitlements will also limit the ability of irrigators to obtain associated rights to carryover. Carryover rights are linked to the quantity of water access entitlement held by an irrigator. As discussed in section 3.10, carryover allows irrigators to manage variability in water availability across seasons and can therefore be an important management tool.

Uncertainty of allocations

Uncertainty about the future availability of water allocations is also a relevant consideration. Whether there is an ongoing series of water allocation trades or a water access entitlement trade, parties will face uncertainty about the timing of future water allocations. However, where a series of water allocation trades is used, the potential uncertainty about allocation levels remains with the seller of the water, while the uncertainty and risk move to the buyer in the case of the water access entitlement trade. As such, the differing risk and uncertainty associated with water access entitlements and water allocations means that they are not fully substitutable.

The ACCC notes again the related point that there is significant uncertainty about whether irrigators will make water allocations available to purchase in any given season. This will be related to the timing and availability of water allocations in that season. Furthermore, even where water allocations are available to purchase, the price of water allocations is relatively volatile compared to the price of water access entitlements.

Tax

The ACCC notes that there may be potential differential tax treatment between the money received from a series of water allocation trades compared to a one-off water access entitlement trade.

Conclusion on substitutability of water allocation trade

Given the above consideration, the ACCC considers that water allocation trade, although not restricted by the 4 per cent limit, is not a good substitute for water access

²⁸⁷ *ibid*, p. 22.

entitlement trade in many circumstances. It considers that the barrier to trade generated by the 4 per cent limit remains significant.

4.3.3 Justifications for the 4 per cent limit

The 4 per cent limit, as noted above, is primarily imposed as a method for managing the rate of adjustment that will result as water moves between geographic areas. This relates to two main concerns: stranded assets in irrigation areas and the effects on remaining irrigators, and structural community adjustment in areas that see reduced revenue from irrigated production and changes in population.

The ACCC considers that both these concerns are valid, and notes that water trade can have a number of effects on both irrigation areas and wider communities that either gain or lose water over time.²⁸⁸ However, the ACCC considers that both these issues are not best dealt with by volumetric restrictions such as the 4 per cent limit.

Stranded asset risks

The ACCC considers that concerns about stranded assets are best addressed through the termination fees provided for in the water charge (termination fees) rules.²⁸⁹ The rules allow for a termination fee based on a 10x annual access fee multiple that seeks to address concerns that operators may not be able to recover their committed fixed costs when irrigators leave irrigation areas (and terminate access to the irrigation network), and that they may therefore face revenue uncertainty.²⁹⁰ Interested parties submitted that the water charge (termination fees) rules addressed concerns about stranded assets.²⁹¹

Community structural adjustment

A number of interested parties submitted that managing community structural adjustment was a reason for the 4 per cent limit.²⁹² The 4 per cent limit may have the effect of slowing the pace of movement of water, and, in turn, economic activity and population from one geographic area into another geographic area. This movement of water may bring with it a number of socioeconomic impacts.²⁹³

However, the ACCC notes that limiting this movement may have some significant downsides at a community level as well as significant effects on the functioning of the market. In particular, the 4 per cent limit has significant effect on irrigators suffering financial hardship, limiting their ability to achieve the market value on the sale of water

²⁸⁸ Frontier Economics, *The economic and social impacts of water trading*, September 2007, pp. 34–43.

²⁸⁹ Water charge (termination fees) rules 2009.

²⁹⁰ ACCC, *Water charge (termination fees) rules—Final advice*, December 2008, available online at www.accc.gov.au.

²⁹¹ WMI, issues paper submission, p. 10; DSE, issues paper submission, p. 2.

²⁹² HWI, issues paper submission, p. 7; DSE, issues paper submission, p. 2; VFF, issues paper submission, p. 11.

²⁹³ Frontier Economics, *The economic and social impacts of water trading*, September 2007, p. 38.

to facilitate their exit from irrigation.²⁹⁴ This in fact makes structural adjustment more difficult at the individual irrigator's level.

The ACCC also notes more generally that it is difficult to isolate the effects of trade from other reasons for structural adjustment in communities, such as drought or changes in world commodity prices.²⁹⁵ As such, the use of a volumetric limit such as the 4 per cent limit may not successfully address major reasons for structural community adjustment concerns. The ACCC considers that alternative approaches to managing structural adjustment, through other, more targeted, policy tools, may be more appropriate and should be considered by governments.

The ACCC notes that some more targeted programs have been used in the water industry to date. For example, the Australian Government has implemented a small-block irrigators' exit grant package designed to help irrigators leave irrigated production through the use of direct exit grants.²⁹⁶ Similarly, under the Australian Government's 'Strengthening basin communities' program, competitive grants will be available for local governments in the MDB to 'assist them in community-wide planning for a future with less water' and invest in water saving programs.²⁹⁷ More targeted measures along the lines of these programs may better address community structural adjustment issues.

Overall view on justifications for the 4 per cent limit

Overall, the ACCC considers that the 4 per cent limit is a poorly targeted mechanism for dealing with concerns about the rate of structural adjustment on communities, and the risk of stranded assets. The ACCC considers that approaches that do not prevent efficient water market function and water moving to its most highly valued use should be used to manage community adjustment.

4.3.4 Victorian implementation of the 4 per cent limit

A number of interested parties commented on the fact that the 4 per cent limit has been applied differently (or not at all) in different basin states and that the limits imposed may differ from the limit contained in the NWI. Accordingly, it is relevant to consider the formulation of the rule in Victoria (given that only Victorian law requires or expressly permits the 4 per cent limit).

The Victorian 4 per cent limit differs from that in the NWI in three main respects:

- It applies to smaller geographic areas than the NWI definition.

²⁹⁴ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 46.

²⁹⁵ Frontier Economics, *The economic and social impacts of water trading*, September 2007, p. 46.

²⁹⁶ The Department of the Environment, Water, Heritage and the Arts, *Murray–Darling Basin small block irrigators exit grant package*, available on the DEWHA website at www.environment.gov.au; viewed on 21 August 2009.

²⁹⁷ DEWHA, 'Strengthening Basin communities' program, available on the DEWHA website at www.environment.gov.au; viewed on 21 August 2009.

- It applies separately to high and low reliability water shares, which is not mentioned in the NWI.
- It applies to the disassociation of water from land, a prerequisite to the trade to a different geographic region, rather than the trade itself.

The ACCC notes that each of these has the effect of making the 4 per cent limit more restrictive than the limit envisaged by the NWI.

Limited scope of the Victorian 4 per cent limit

The smaller the geographic area specified as subject to the 4 per cent limit, the greater the likelihood that the limit will be binding and the quicker that the limit will be reached. As such, the use of 10 irrigation areas within Victoria will mean that the limit is reached more quickly and that the economic efficiency impacts of the limit are felt more quickly. As noted by Frontier, relaxing the limit to apply to larger geographic areas will make the limit less distorting.²⁹⁸

In the Victorian case, under the NWI definition of ‘the area under control of an individual water services provider’, with a ‘water authority’ provided as an example of a water services provider²⁹⁹, it is likely that there would be at most two areas within Victoria—corresponding to the areas served by GMW and LMW.

Similar considerations apply in relation to the separate specification of 4 per cent limits for high reliability and low reliability water shares (water access entitlements).

Disassociation under the Victorian 4 per cent limit

On the application of the 4 per cent limit to disassociation with land rather than trade of water access entitlements, the ACCC notes that a number of applications to disassociate will not be by irrigators who are necessarily seeking to trade. In the 2009–10 ballot, about 45 per cent of applications were to separate water from land without changing ownership.³⁰⁰ This has the effect of further limiting the benefits of trade, as the total number of approved trades where water access entitlements move out of an irrigation area (to potentially more highly valued uses) will be lower than it would otherwise be, thereby interfering with the efficient operation of water markets. As noted by Frontier:

Given that disassociation is counted towards volumetric limits in Victoria, it also means that the disassociation strategy crowds out other sellers of water entitlements who are trying to sell before the volumetric limit is reached. As shown in the following discussion, this has important implications for dynamic efficiency (adjustment) and for equity, as it significantly affects the distribution of the benefits from trade.³⁰¹

This will have a limiting effect on the benefits of trade for individual irrigators:

²⁹⁸ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, pp. 15–16.

²⁹⁹ *Intergovernmental Agreement on a National Water Initiative*, available on the NWC website at www.nwc.gov.au; viewed on 18 August 2009, Schedule B(i).

³⁰⁰ *GMW water trading ballot update: Limits reached in some irrigation areas and systems as farmers position for year ahead*, media release, 3 August 2009.

³⁰¹ Frontier Economics, *Volumetric restrictions on water entitlement trade*, August 2009, p. 25.

From an adjustment perspective, the presence of NWUs [non–water users] crowding out real adjustment opportunities reduces the benefits (or financial resources) available to those seeking to use entitlement sales as a tool to enable adjustment.³⁰²

Overall view on the Victorian implementation of the 4 per cent limit

The ACCC considers that the Victorian 4 per cent limit should be removed and that consistency across the MDB should be achieved by having no such volumetric limits in place.

However, should the limit not be abolished, the ACCC notes that restricting the 4 per cent limit (were it to be required or expressly permitted under the law of any basin state) to apply only on permanent (water access entitlement) trades out of an irrigation area as defined by the NWI, would in itself substantially relax restrictions compared to the status quo. Any application of the 4 per cent limit based on the argument that it is consistent with the NWI should be restricted to the limit as set out in that agreement.

4.3.5 Adjustment path

As noted earlier, the ACCC considers that the 4 per cent limit is a significant barrier to trade and is unlikely to appropriately address the policy justifications for its original application. The ACCC considers that, ideally, the 4 per cent limit would be removed across the MDB immediately.

However, the ACCC recognises that the NWI and the basin water market and trading principles provide for ‘a move to full and open trade by 2014 at the latest’.³⁰³ As such, it may be appropriate for the limit to be increased over time towards the removal of the limit entirely by 2014. The ACCC therefore considers that it would be appropriate to describe a minimum transition path for the removal of the 4 per cent limit over time towards full removal. This will help to ameliorate the efficiency impacts of the 4 per cent limit and better allow water to move to its most highly valued use.

The approach of providing for a transition path is not uncommon in situations where regulatory policy change may have broad customer impacts. As noted in section 4.3.3, the ACCC considers that more targeted policy tools may be formulated to address the social impacts from trade. For instance, the Australian Government has offered competitive grants to local governments in the MDB for assistance with community-level planning for reduced water availability.³⁰⁴

The implementation and resulting effect of such tools may not be immediate and should be coordinated with the removal of the 4 per cent limit. Furthermore, the effects of the water buybacks, the determination of the sustainable diversion limit in the Basin Plan

³⁰² *ibid.*, p. 27.

³⁰³ *Intergovernmental Agreement on a National Water Initiative*, available on the NWC website at www.nwc.gov.au; viewed 18 August 2009; clause 60(iv); Schedule 3, clause 4(16) of the Act.

³⁰⁴ DEWHA, ‘*Strengthening Basin communities*’ program, available on the DEWHA website at www.environment.gov.au; viewed on 21 August 2009.

and the impact of the continuing drought and resulting net reduction in water available for irrigation communities will be most intensely felt over the next five years. This period corresponds with the development and implementation of the Basin Plan and the commitment to remove trade barriers by 2014 under the NWI and the Act.

A minimum transition path provides a clear and unequivocal commitment to full and open trade by 2014. Such a transition would not prevent a more rapid lifting of the limit by a basin state.

4.4 Preliminary positions

- (4-A)** As the rationales for the 4% limit are better addressed through other mechanisms, the ACCC believes that the 4% limit should be removed throughout the MDB.
- (4-B)** If not already removed, a limit on the volume of trade out of an area (other than for environmental or physical reasons) should only be applied on permanent trades of water access entitlements (of any priority class) out of an irrigation area *as defined in the NWI* (that is, the area managed by an operator, rather than a number of particular areas within an operator's network).
- (4-C)** If not already removed, any such limit should be raised according to a minimum transition path and must be completely removed by 1 July 2014.

5 Water access rights—approval processes

The trade of a water access right³⁰⁵ requires the approval of or registration by the relevant basin state(s). These roles are usually held by a state government department or delegated to an infrastructure operator (referred to as an ‘approval authority’ throughout this chapter).

The Council of Australian Governments (COAG) Working Group on Climate Change and Water has acknowledged the desirability of a simplified process for establishing well functioning water markets with streamlined transaction processes, reduced transaction costs and processing times.³⁰⁶

Each basin state administers its own trading rules and administrative processes for the trade of water access rights within their state. Although there are similarities between the processes of each basin state, there are also significant differences.

In general, a trade requires the parties (or an intermediary acting on their behalf, such as a broker) to apply to the relevant approval authority or authorities by completing the relevant application form(s). The approval authority or authorities decide whether the trade can be approved according to relevant trading rules, which are set out in water resource plans³⁰⁷ or other statutory instruments.³⁰⁸ Approval may also be contingent on other matters—for example, for a water allocation trade, the seller’s approval authority must also assess whether the seller has sufficient water in their account for the transaction to proceed.

The relevant approval authority depends on the type of trade. In some basin states, one approval authority is responsible for approving water allocation trades and another for approving water access entitlement trades. Further, some basin states require that all trades be approved, while others only require a trade to be approved where an applicant seeks to change the characteristics of the right, such as the location of extraction for the water access right (see box 5.1).

³⁰⁵ Approval arrangements for the trade of a water delivery right or an irrigation right are discussed in sections 7.2 and 8.2 respectively.

³⁰⁶ Working Group on Climate Change and Water, *Report to Council of Australian Governments*, ‘Water’, March 2008, available on the COAG website, www.coag.gov.au, viewed 30 July 2009; p. 26, appendix 1.

³⁰⁷ Water allocation plans in South Australia and water sharing plans in New South Wales. In Queensland, **resource operations plans** set out how water resource plans are implemented and include water trading rules.

³⁰⁸ For example, in Victoria the trading rules for regulated systems are set out in the *Trading rules for regulated water systems*, viewed 13 August 2009; available on the Victoria Water Register website, www.waterregister.vic.gov.au.

Box 5.1 Basin state approval authorities

Queensland

In Queensland, no approval is required for changes in the ownership of water access entitlements (known as water allocations). However, approval is required from the Department of Environment and Resource Management (DERM) for a change to an allocation's attributes (such as its location).

If an unsupplemented (unregulated) water allocation is to be transferred or leased, notification of the proposed transfer must be provided to DERM. This is not an approval but after the notification is submitted, DERM will issue a water allocation dealing certificate acknowledging the proposed transfer.

SunWater is the approval authority for 'temporary' trades in Queensland (seasonal water assignments).³⁰⁹

Victoria

A change in ownership of a water access entitlement (known as a **water share**) is required from an authorised Victorian water authority—for example, GMW or LMW before the trade can proceed. This is regardless of whether the trade involves a change in location.³¹⁰

For an inter-authority trade (e.g. a trade from the Goulburn River to Sunraysia), both approval authorities (i.e. GMW and LMW) must approve the transaction. Upon receipt of the application to trade, the seller's authority will check that the paperwork is complete, that the trading zones are compatible and that the seller has the entitlement/allocation to sell. The buyer's authority must also check that the documentation is complete and correct, and that the buyer is able to have the water delivered. The authorities must notify each other that they have approved the trade, and then notify the parties (or an intermediary acting on their behalf) of the approval.

New South Wales

A change in the ownership of a water access entitlement (known as a **water access licence**) within the same water source does not require regulatory approval. Transactions involving a change of location need to be approved by the Department of Water and Energy (DWE). Water access licence share component trades (i.e. trade of a specific volume of entitlement from one water access licence to another) also need to be approved by DWE.³¹¹

State Water is the approval authority for applications to assign a water allocation (i.e. a 'temporary' trade).³¹²

³⁰⁹ DERM, [Types of water trading](#) and [Market Information](#), available online on the DERM website at www.nrw.qld.gov.au; viewed 12 August 2009.

³¹⁰ Section 33W, *Water Act 1989* (Victoria).

³¹¹ Sections 71M to 71W, *Water Management Act 2000* (NSW).

³¹² Sections 71V and 71T of the *Water Management Act* apply to water allocation assignments. The [relevant application forms](#) are available on State Water's website, www.statewater.com.au; viewed 13 August 2009.

South Australia

The Department of Water, Land and Biodiversity Conservation (DWLBC) must approve water access entitlement and water allocation trades.³¹³

Australian Capital Territory

The Department of the Environment, Climate Change, Energy and Water must approve all trades in water entitlements.³¹⁴

Interstate water trades

For an interstate water allocation trade³¹⁵, the parties (or brokers) typically send a completed form to the relevant authority in both the state of origin and state of destination. Both authorities must check that the forms have been filled in correctly, that the seller has sufficient water in their account, and that the water can be delivered between the relevant zones. The approval authorities in each state then notify each other that they have approved the trade. The parties (or their broker) are then notified of the approval.

A water allocation trade takes effect once the transaction has been approved and the water is credited to the purchaser's allocation account.

Interstate water access entitlement trades are facilitated through a tagged trading arrangement (see section 6.1.2).

Registration of ownership changes

To register a change in the ownership of a water access entitlement, the title must be checked by the purchaser and their lender (if applicable) and then exchanged. Where there is a mortgage or other encumbrance on the title this will need to be discharged; if the purchaser is entering into a mortgage, that will have to be registered on the title. Each party (and any financial institutions involved) will often appoint a solicitor to manage this process (known as settlement).

Once settlement is complete, the purchaser must register the transaction with the registrar in the relevant state. Any associated approval for a trade may expire if the transaction is not registered within a specified period of time. For example, in Victoria, approval lapses if the transaction is not registered on the Victorian Water Register within two months from the date the water authority approves it.³¹⁶ A new application will be required if this time limit is not met.

³¹³ Section 157(1)(a) of the *Natural Resource Management Act 2004* (South Australia).

³¹⁴ Section 26(1) of the *Water Resources Act 2007* (ACT)

³¹⁵ **Tagging** arrangements to enable the use of water from an interstate water access entitlement are discussed in section 6.1.2.

³¹⁶ Section 33X of the *Water Act 1989* (Victoria).

For interstate water access entitlement trades, the water access entitlement does not move from the register in the ‘selling’ state and so there should not be any additional requirements for registration.

5.1 Approval times

5.1.1 Background

It is important to the efficient operation of the market that applications to trade water access rights are processed in a timely way. Uncertainty in approval times and undue or unexpected delays provide a disincentive to trade and can impose additional transaction costs on irrigators and other water market participants. This will cause trading opportunities to be foregone and prevent the market from allocating water to its most efficient use.

However, the time taken to approve trades varies considerably within and between basin states, and may also vary throughout the water year with some trades (particularly water access entitlement trades) subject to significant delays.³¹⁷ Undue delays in processing applications to trade water allocations can have serious consequences where a crop or stock urgently needs watering.

Service standards for water allocation trades

COAG has agreed to a number of initiatives to promote faster processing of water allocation (temporary) water trades in the MDB.³¹⁸ In particular, COAG has developed service standards for approval times (approval or rejection) for water allocation trades. These standards specified that by October 2008 approval authorities in the MDB would process 90 per cent of intrastate water allocation trades within 10 business days, and 90 per cent of interstate water allocation trades within 20 business days.³¹⁹

From 1 July 2009 these service standards were tightened so that approval authorities in the MDB seek to process 90 per cent of intrastate water allocation trades within five business days, and 90 per cent of interstate water allocation trades within 10 business days (except for South Australia).

Upon development of the National Water Market System (see chapter 9), the service standard will move to five business days for all water allocation trades.

Approval authorities that process water allocation trades within and between basin states report on their performance against these standards each month (see box 5.2).

³¹⁷ See the ACCC’s [Water trading rules—issues paper](#), available on the ACCC website, www.accc.gov.au, box 10.2.

³¹⁸ COAG, [Communique—29 November 2008](#), available on the COAG website, www.coag.gov.au; viewed 29 June 2009.

³¹⁹ State Water, [Trade statistic report, June 2009](#), available on the State Water website, www.statewater.com.au; viewed 7 August 2009, ; and SunWater, [Service standard for processing temporary transfers](#), available on the SunWater webpage, www.sunwater.com.au; viewed 29 June 2009.

Box 5.2 Performance against COAG service standards for water allocation trades

Between 1 January and 30 June 2009³²⁰:

- In Victoria, 97 per cent of intrastate water allocation trades were processed within 10 business days, and 96 per cent of interstate water allocation trades within 20 business days.³²¹
- In Queensland, 100 per cent of supplemented (regulated) intrastate water allocation trades were processed within five business days.³²² However, only 69 per cent of unsupplemented (unregulated) intrastate water allocation trades were approved within 10 business days.³²³
- In New South Wales, 98.6 per cent of interstate water allocation trades to/from Victoria were approved within 20 days, 98 per cent of interstate water allocation trades to/from South Australia within 20 days and 99 per cent of intrastate water allocation trades within 10 business days.³²⁴
- In South Australia, 97.6 per cent of interstate water allocation trades were processed within 20 business days, 90 per cent of intrastate water allocation trades were approved within 10 business days.³²⁵

³²⁰ Similar statistics do not appear to be available for South Australia

³²¹ There were 8006 intrastate trades and 1869 interstate allocation trades during this period; see the, Victorian Department of Sustainability and Environment (DSE), *Processing times*, available on the Victorian Water Register website, www.waterregister.vic.gov.au; viewed 29 June 2009.

³²² There were 559 intrastate supplemented allocation trades during this period (55 157 (ML)); see SunWater, *Water trading*, available on the SunWater website, www.sunwater.com.au; viewed 29 July 2009.

³²³ There were 38 trades intrastate unsupplemented water allocation trades during this period; see DERM, *Market information*, available online on the DERM website at www.nrw.qld.gov.au; viewed 25 June 2009.

³²⁴ There were 3699 water allocation trades to/from Victoria, 1517 allocation trades to/from South Australia and 1493 intrastate water allocation trades during this period. The figure for intrastate trades excludes all internal trades with irrigation corporations and trusts within New South Wales (these hold some 40 per cent of the licensed water entitlement in that state); see the New South Wales Department of Water and Energy, *Water allocation assignment statistics*, available on the DWE website, www.wma.dwe.nsw.gov.au; viewed 29 June 2009.

³²⁵ There were 2653 interstate and 767 intrastate water allocation trades during this period. Pers.Comm. with DWLBC.

Service standards for water access entitlement trades

In May 2009 the Natural Resource Management Ministerial Council (NRMMC)³²⁶ agreed to service standards for approval times for water access entitlement trades. These service standards build on the service standards for water allocation trades agreed to by COAG and specify that 90 per cent of entitlement trades will be approved within 20 business days and registered within a further 10 business days.³²⁷

5.1.2 Summary of submissions

There are significant stakeholder concerns regarding complex and time-consuming approval processes for applications to trade water access rights, particularly for interstate water access entitlement trades.

Reasons for delays

Submissions to the issues paper identified a number of reasons for delay in approving trades. The NFF argued that the resources (i.e. human and financial) assigned by approval authorities for trade approvals can be a limiting factor, particularly with a high number of trades in low water resource years.³²⁸

The HWI suggested that unclear and different authority requirements are a source of delays in approving applications to trade water access rights.³²⁹

In New South Wales, the GVIA identified a requirement that parties obtain an updated meter reading prior to approval as a reason for approval time delays.³³⁰

The NFF suggested that a New South Wales Government policy decision to prevent assessments of trades because of issues surrounding the ability to deliver the water in the drought might have delayed some approvals.³³¹ The NFF also submitted that delays in entitlement trades had caused issues where financiers were waiting for loans to be repaid or where business opportunities had lapsed because of the delay.³³²

The New South Wales Government stated that factors influencing approval times include the availability of resources, development of adequate administrative procedures, staff training, investment in database systems and stakeholder education in terms of ensuring adequate information is provided in the first instance.³³³

³²⁶ The NRMMC consists of the Australian federal, state and territory government ministers and New Zealand government ministers responsible for primary industries, natural resources, environment and water policy.

³²⁷ [NRMMC communiqué](#), 21 May 2009, p. 2; viewed online at www.mincos.gov.au on 30 June 2009.

³²⁸ NFF, issues paper submission, p. 28.

³²⁹ HWI, issues paper submission, p. 10.

³³⁰ GVIA, issues paper submission, p. 5.

³³¹ NFF, issues paper submission, p. 28.

³³² *ibid.*, p. 29.

³³³ New South Wales Government, issues paper submission, pp. 24–25

The South Australian Government submitted that incorrectly filled in, unsigned (or not fully signed) or incorrect application forms, non-payment of fees, lack of supporting information and the lodgement of inconsistent applications with interstate authorities are some of that factors that cause delays in the approval process.³³⁴ The South Australian Government also suggested that applications where the seller had no water allocation left, brokers delaying lodgement of applications, the need for technical advice on environmental issues and different legislative requirements for state registers are why approvals are delayed.³³⁵

The South Australian Government further stated:

Trade between a licence holder and a government entity may involve a range of checks that may not be required when the trade is between two private licence holders. These checks impact on the time taken to effect settlement and have a consequential impact on the trade approval time. Any measures taken to address this time lag will need to satisfy government purchasing requirements.³³⁶

The QFF stated that the time taken to register dealings on the Queensland water allocation register depends on whether all documentation is available.³³⁷ The QFF further submitted that some flexibility is required in dealing with trade applications to adequately address the issues involved in specific cases.³³⁸

DERM submitted that incorrect and incomplete applications and conveyance documentation are a major cause of delay, and also stated:

Complex trade proposals can take significant time because of the analysis required to show that third parties and the environment will not be affected. This is particularly relevant for unsupplemented systems including groundwater systems.

Pre-testing likely trades as part of the planning process, to establish bounds within which trades can be approved, significantly reduces approval times.³³⁹

The VFF submitted that:

System capacity restraints can negatively impact on trade approval times.³⁴⁰

The NFF submitted that there are also substantial differences between the approval processes (and therefore approval times) for water allocation and water access entitlement trade. In particular, the NFF stated:

For allocation trades, approvals should be effected electronically within days. The main issue is ensuring that water is available in the seller's account to sell.

...

³³⁴ *ibid.*, pp. 18–19.

³³⁵ *ibid.*

³³⁶ *ibid.*, p. 19.

³³⁷ QFF, issues paper submission, p. 11.

³³⁸ *ibid.*

³³⁹ DERM, issues paper submission, p. 12.

³⁴⁰ VFF, issues paper submission, p. 14.

For permanent trades, NFF understands that more time is required. Unlike the Australian Stock Exchange, water entitlements may underpin lending arrangements. Therefore, time is required to discharge mortgages and establish indefeasibility of title. NFF has made previous comments relating to environmental provisions and these perhaps may be better managed through the use approval. It is appropriate, therefore to aligned [sic] permanent trade service standards to those normally adopted for land/house sale, i.e. say three months, or less if ACCC adopts the approach of ceasing the need for environmental assessments for permanent trades.³⁴¹

Maximum approval times

There is some support from stakeholders for service standards or benchmarks for approval times. In particular, LVW submitted that measures that can be taken to reduce approval times include establishing benchmarks for processing trades and requiring all state government authorities to report processing times on the same basis.³⁴²

The VFF suggested that maximum approval times would be appropriate as these measures would give buyers and sellers some reliable information about processing times.³⁴³ The HWI supported maximum approval times as long as trade integrity was not compromised.³⁴⁴

The NSWIC and WMI submitted that maximum approval times would not be useful unless they were enforceable against state approval authorities.³⁴⁵ However, WMI also noted:

It is pleasing to see the COAG service standards and certainly within NSW this year the majority of intrastate allocation trades that involve the WMI licence have been processed by NSW State Water within 10 business days.³⁴⁶

The NFF submitted that, if the state approval authorities do not comply with the agreed time frames for most trades, they should be mandated. However, it submitted that a voluntary adoption of service standards is the preferred option. The NFF also suggested than an alternative option may be an accessible tracking process that would have the potential to ‘embarrass’ parties into compliance and that it should be possible to produce statistics on the most efficient approval authorities (and brokers).³⁴⁷

The NFF submission also supported the establishment of appropriate service standards for water access entitlement trades, but acknowledged that these will be much more generous than for water allocation trades given the requirement for third party approvals (such as approvals from lending institutions) and appropriate due diligence. The NFF stated that mandating maximum approval times would provide buyers and sellers with an expectation of when a water access entitlement trade would be approved

³⁴¹ NFF, issues paper submission, pp. 28–29

³⁴² LVW, issues paper submission, p. 4.

³⁴³ VFF, issues paper submission, p. 14.

³⁴⁴ HWI, issues paper submission, p. 10.

³⁴⁵ NSWIC, issues paper submission, p. 24; WMI, issues paper submission, p. 15.

³⁴⁶ WMI, issues paper submission, p. 15.

³⁴⁷ NFF, issues paper submission, p. 29.

and when settlement could occur.³⁴⁸

The QFF suggested that it would be useful to provide information from time to time on the functioning of the trading system relevant to defined benchmarks.³⁴⁹

DERM stated that trading rules were a separate issue to any performance service standards, that these should remain separate and that any maximum times need to take into account the nature of the level of investigation required in any trade application.³⁵⁰

The South Australian Government submitted that the advantages of specifying approval times in water trades would be principally for water market participants but:

... a major requirement that would need to be clearly articulated and incorporated would be a mechanism to cease processing (“stop the clock”). For example, a major contributor to trade delay relates to incorrect or incomplete transfer applications. Delays in the process relating to incorrect or incomplete applications should not be counted towards a maximum approval time, as these are beyond the control of the approval authority. In such instances, the approval time should start again on receipt of a correctly completed form. That is, only matters within the control of the approval authority could be reasonably accounted against any maximum approval time.³⁵¹

The South Australian Government further submitted that, to the extent that delay is attributed to factors either separate to the approval process or to incorrect or incomplete applications, maximum approval times are unlikely to significantly affect the overall time taken to complete a trade. The South Australian Government concluded that the current approach to service standards (as agreed through COAG) is appropriate at this time—and that this approach should be given sufficient time to allow its effectiveness to be assessed.³⁵²

5.1.3 Discussion

Approval times for water trades can be slowed by a number of factors, including:

- the level of resources (especially human resources) available to approval authorities
- staff training
- incorrectly filled-in forms
- slow communication processes between approval authorities (where more than one is required to approve a trade).

There may also be peaks in the numbers of trading applications (particularly for water allocation trades) at certain times. If approval authorities only have a limited ability to scale up or down the resources they dedicate to assessing trades in response to sudden

³⁴⁸ NFF, issues paper submission, p. 29.

³⁴⁹ QFF, issues paper submission, p. 11.

³⁵⁰ DERM, issues paper submission, p. 13.

³⁵¹ South Australian Government, issues paper submission, p. 19.

³⁵² *ibid.*

changes in the number of applications received, this can result in significant delays in approval times.

Some possible causes of delays in trade approvals relate to the complexity associated with the need for multiple jurisdictions and approval authorities to be involved in some trades. These issues are discussed further in section 5.2.

Although COAG and the NRMMC have set service standards for water allocation and water access entitlement approval times, no binding time limits currently exist across the MDB. The submissions provide some support for implementing binding time limits for trade approvals, which may benefit market participants by lowering transaction costs associated with the approval process.

The ACCC notes that the water market rules include maximum approval times for irrigation infrastructure operators (IIOs) to process transformation applications. The rules require that an IIO must process an application to transform an irrigation right within 20 business days. The rules include ‘stop clock’ provisions where delays are caused by someone other than the operator.³⁵³

However, the ACCC believes that a number of relevant differences exist between an IIO’s consideration of an application to transform and the consideration of a water access right trade by a state approval authority. In particular, while an IIO may have an incentive to delay transformation arrangements (and, therefore, prevent an irrigation right holder from trading their share of the group water access entitlement to someone other than a group member), state government authorities are unlikely to have any similar incentive to delay approving a trade.

Trades of a water access right requiring assessment by a state approval authority are also more likely to involve consideration of hydrology issues, such as the need to consider physical constraints, environmental limits and possible third party impacts. This is particularly the case for trades involving unregulated or groundwater systems (see sections 6.2 and 6.4 respectively).

State approval authorities may also be required to liaise with other organisations as part of a trade approval process, particularly for interstate trades.³⁵⁴

As discussed earlier, state government approval authorities are already subject to (voluntary) COAG and NRMMC standards for approval times. Nevertheless, it is important to continually review and report against these service standards to ensure they are appropriate and effective.

In summary, the COAG/NRMMC service standards now in place provide a framework for ongoing improvement in approval times for water access entitlement and water allocation trades. There is, however, a need to consider other underlying issues that can cause delays in assessing trades in water access right (these are considered in the remainder of this chapter). To maximise the potential benefits of the COAG/NRMMC service standards, ongoing review, monitoring and public reporting against these

³⁵³ Water market rules 2009, r 14.

³⁵⁴ See section 5.2 for a further discussion of the implications of multiple approval authorities.

standards is critical. As long as COAG and NRMCC service standards are subject to ongoing review, monitoring and reporting, there does not appear to be a compelling case to mandate maximum approval times for trades of water access rights at present.

5.1.4 Preliminary positions

(5-A) As long as COAG and NRMCC service standards are subject to ongoing review, monitoring and public reporting, there does not appear to be a compelling case to impose maximum approval times for trades of water access rights at present. However, should there be evidence of a continual failure to meet service standards, mandated approval times should be further considered.

5.2 Consideration of applications by multiple approval authorities

5.2.1 Background

A key objective for the basin water market and trading rules is to minimise transaction costs, including through good information flows in the market and compatible entitlements and other regulatory arrangements across jurisdictions.³⁵⁵

At present, multiple approval authorities are required to approve interstate (and some intrastate) trades. This can potentially lead to delays, miscommunication and higher transaction costs.³⁵⁶

5.2.2 Summary of submissions

Concern was expressed in several submissions that multiple approval authorities with different responsibilities, information requirements and procedures can lead to delays in water trade approval processes. In particular, submissions stated that water market participants may be required to submit the same paperwork to multiple authorities, often meaning the paper work arrives at different times or out of order³⁵⁷ causing time delays, high transaction costs³⁵⁸ and potential miscommunication.³⁵⁹

State Water suggested:

One possible solution may be that the paperwork is filed with the selling state requiring the selling state to submit to the buying state ensuring there is still integrity on both sides of the trade. Electronic lodging and processing, and the introduction of compatible

³⁵⁵ Clause 3(b) of Schedule 3 of the Act: the basin water market and trading objectives.

³⁵⁶ Information-sharing between approval authorities is considered specifically in section 5.3.

³⁵⁷ State Water, issues paper submission, p. 7.

³⁵⁸ HWI, issues paper submission, p. 9.

³⁵⁹ NSWIC, issues paper submission, p. 22.

trading platforms should assist [to] resolve the issues associated with remote locations, long rivers and paper-based transfers.³⁶⁰

The NFF submitted that there is some confusion about the causes of delays, and suggested that for allocation trades, possible causes are the tardy provision of paperwork or money by some water market participants or brokers retaining clients' funds longer than necessary. The NFF submitted that the approval system for water access entitlement trades is an 'antiquated system using an outdated manual process, with significant contractual documents'. The NFF stated that for both water access entitlement and water allocation trade, any issues associated with one approval authority are exponentially increased for multiple authorities, including the introduction of issues specifically relating to that authority only.³⁶¹

The South Australian Government submitted:

Current state laws require multiple authorities over the Basin and various forms and fees, that could be reduced if it was run by a single authorising authority. The processors need to be better informed, contact and work with a wider range of people and offices in different locations and to ensure that trading platforms are adequately complete to cover off on these complexities.

The result is that it probably costs more to trade than if there were a single system run by one organisation with common forms using a common computerised register/application system.³⁶²

5.2.3 Discussion

The existence of multiple approval authorities would appear to impose higher transaction costs on water market participants than would be the case if a single entity were responsible for processing and approving water trades in the MDB.

However, the establishment of a single MDB approval authority is unlikely to be feasible in the short term. Aside from any costs to establish such an authority, water access rights are rights by or under a law of a state and the majority of water trading rules are set out in state water legislation. State approval authorities have direct or delegated legislated responsibilities to approve trades. Accordingly, any move to a single approval authority would likely require significant legislative amendments.

As noted, the power to approve trades is sometimes delegated from the relevant basin state minister to an operator or state agency. A more feasible short-term option would be the possibility of basin states delegating limited approval powers to other authorities (including interstate authorities) in relation to particular trades. However, this option would need to be assessed to determine whether the likely benefits would outweigh any initial or ongoing costs.

³⁶⁰ State Water, issues paper submission, p. 7.

³⁶¹ NFF, issues paper submission, pp. 26–27.

³⁶² South Australian Government, issues paper submission, p. 17.

Other options for avoiding the difficulties associated with multiple approval authorities relate to improving the flow of information between approval authorities. These options are discussed in section 5.3.

5.2.4 Preliminary positions

- (5-B) Basin states should investigate the potential for trade approval authority cross-delegations to enable a trade approval authority in one state to carry out specified approval functions on behalf of an interstate approval authority. This could potentially reduce processing times but would need to be considered carefully.
- (5-C) Over time, basin states should consider the merits of consolidating trade approval functions into one approval authority.

5.3 Information-sharing between approval authorities

5.3.1 Background

The practices and procedures employed by approval authorities throughout the MDB are significantly different. In particular, some basin states have automated systems that provide significant market information, while others use systems that are manual, paper-based and provide only limited information.

Information-sharing between approval authorities is thus largely limited to manual interaction (e.g. phone calls and email and fax requests for information about water allocation accounts in other basin states). This process is time-consuming and subject to human error and miscommunication. It may also increase transaction costs for market participants.

Where a trade involves more than one approval authority, it is common for applicants to submit an identical application to both approval authorities so that they can both begin processing the application, without needing to wait for the other. However, there is the risk that the content of the applications will differ, which can cause applications to be refused or returned with corresponding delays and costs.

5.3.2 Summary of submissions

Stakeholders raised a number of issues about information-sharing between approval authorities.

The HWI submitted that enabling basin state approval authorities to access each other's registers and/or accounts for determining or giving effect to particular kinds of trade

would be advantageous if it reduced transaction costs and simplified the process of approval.³⁶³

The NFF submitted that the ability for information sharing, particularly via registers, would facilitate trade outcomes, reduce transaction costs and lead to more consistent procedural and information requirements—although the ultimate approval for trade must rest with the approving jurisdiction until basin states agree to a different process.³⁶⁴

However, other submissions suggested that access to other authorities' registers may not mean that transactions can be processed faster. In particular, the South Australian Government submitted:

Access is only of real advantage if as noted it carries the ability to use this information to effect an outcome eg trade approval. The issue is that access to data in itself does not always provide the whole picture of an authority's dealings with a customer or a clear understanding of the rules on which that authority's approve trades [sic]. So DWLBC in South Australia may not be able to easily make a decision based on an account balance on the NSW register without a clear understanding of the other trade rules in operation eg which zone is it in, is it above the choke etc.

Different title registration systems between states, firewalls, circular trading issues (preventing the creation of water) accuracy of accounting and management of river flows are some of the disadvantages and challenges to inter-registry contact.³⁶⁵

State Water submitted that giving approval authorities access to other approval authorities' systems may aid each state in setting up a trade (i.e. validating information), but that caution should be taken in giving approval for the other state as one jurisdiction may not be aware of other transactions pending in the other jurisdiction's systems—or their legislation and processes. State Water noted that this is likely to reduce the efficiency of trade processing, at least initially. Therefore, State Water submitted it would be more efficient to transfer information electronically between basin states rather than permitting direct access.³⁶⁶

WMI submitted that basin states would need to establish strict controls about accessing and changing other basin states' registers since correct water accounting for the MDB as a whole is paramount to the operation of the river each season.³⁶⁷

On the other hand, SunWater argued:

... it appears that locating a state's water information and water accounts within a single state water accounting system, as well as establishing improved interoperability between state systems would be an important step towards improving access by water users or other water market participants to water market data or related reports.³⁶⁸

³⁶³ HWI, issues paper submission, p. 9.

³⁶⁴ NFF, issues paper submission, p. 27.

³⁶⁵ South Australian Government, issues paper submission, p. 17.

³⁶⁶ State Water, issues paper submission, p. 7.

³⁶⁷ WMI, issues paper submission, p. 14.

³⁶⁸ SunWater, issues paper submission, p. 5.

A number of submissions referred to efforts by COAG to establish a National Water Market System to deal with some of these issues. In particular, DSE submitted that Victoria has been working with other jurisdictions to develop a realistic and effective model for a National Water Market System. Under the proposed model, each state would maintain its own statutory responsibility for its register and would provide data from its register to a national portal.³⁶⁹

DSE also submitted that it had initiated discussions with the New South Wales and South Australian Governments to facilitate interoperability with water registers in those states.³⁷⁰

The VFF submitted that a national register, not unlike how information is presented on the Stock Exchange, may be an effective approach that could address transparency issues associated with water trading—this would allow all willing buyers and sellers to have access to comprehensive information regarding all water trade within the MDB.³⁷¹

5.3.3 Discussion

Improvements in information-sharing between approval authorities can occur by enabling the automated provision of information between these authorities, particularly between approval authorities in different basin states. This can range from simple data-sharing protocols to establishing a common registry system (with each basin state maintaining its own register, but capturing, storing and reporting information in a consistent format), through to enabling full interoperability between registers.

In November 2008 COAG agreed to the development of a National Water Market System that will involve states and territories maintaining their statutory role for water registers, an interoperable Common Registry System based on the Victorian and Queensland registries and a national online portal created as a source of market information.

A National Water Market System is likely to have significant benefits for water market participants. In particular, it should facilitate information-sharing between approval authorities and therefore shorten approval times and lower transaction costs for water market participants.

The ACCC also notes that water access rights are rights by or under the law of a state. Even where a water access entitlement is traded using a tagged approach to a person interstate, the water access entitlement remains on the register of the ‘state of origin’ (see section 6.1.2). As such, there appears to be little need to enable water access entitlements to transfer between registers, or for there to be a single register for the MDB.

³⁶⁹ DSE, issues paper submission, p. 3.

³⁷⁰ *ibid.*

³⁷¹ VFF, issues paper submission, p. 13.

5.3.4 Preliminary positions

- (5-D) There are likely to be significant benefits in making approval authorities' systems interoperable, or otherwise providing authorities with the opportunity to access information contained on each other's systems. The ACCC notes the work being done by the National Water Market System in this regard.
- (5-E) Jurisdictions should prioritise work towards a common registry system as part of the National Water Market System.

5.4 Applications to trade

5.4.1 Background

As mentioned earlier, water market participants are usually required to apply to an approval authority (or authorities) to trade a water access right. The application forms—and the conditions on how applications must be made—vary between and within basin states depending upon the trade in question.

Application forms

Basin states have a range of application forms available, depending on the type of water access right in question and the circumstances of the trade.

Application forms are generally available from an approval authority's website and require similar (but not identical) information across the MDB. The forms usually require the signature of both the buyer and seller and must be correctly completed before being considered by the approval authority.

Lodgement

Some approval authorities accept electronic lodgement of applications to trade water access rights. Victoria and New South Wales accept electronic applications for water allocation trades.³⁷² However, for applications relating to a water access entitlement, the original signed form must be lodged by post or in person.³⁷³ In South Australia and Queensland, the application form (and fee) for a water trade must be lodged by post or in person.³⁷⁴ In the Australian Capital Territory, the applicant is required to write to the Territory's Environmental Protection Authority (within the Department of the

³⁷² The DSE has set out directions for applying for assignment of a water allocation, including how it must be lodged (e.g. by email; see [Directions related to the form and manner for making an application for assignment of a water allocation](#), available on the Victorian Water Register website, www.waterregister.vic.gov.au; viewed 27 January 2009.

³⁷³ For New South Wales, instructions on how to fill in [various forms](#) related to water access licence dealings are available on the Department of Lands website, www.lands.nsw.gov.au; viewed 27 January 2009.

³⁷⁴ See, for example, [guidelines](#) issued by the Department of Natural Resources and Water, available online at www.nrw.qld.gov.au; viewed on 27 January 2009.

Environment, Climate Change, Energy and Water) requesting permission to trade a water right.³⁷⁵

Some trades of a water access entitlement must also be registered on the water register in the relevant jurisdiction. No basin state register accepts electronic lodgement of entitlement trade documentation. The Victorian Water Register³⁷⁶, DWLBC³⁷⁷ and the Queensland Land Information and Titles Office³⁷⁸ accept lodgement of registrations by post or in person. However, the New South Wales Department of Land (DOL) only accepts postal applications from individuals outside the Sydney metropolitan area.³⁷⁹

5.4.2 Summary of submissions

Application forms

Several submissions supported standardising application forms for trade. In particular, the NFF submitted that the development of a common form may facilitate trade.³⁸⁰ WMI stated that there would be merit in standardising application forms between basin states for interstate trading³⁸¹, while State Water submitted:

Although different licence systems apply, it should be possible to develop a standard application form for trade. A standard form would aid a customer in completing the form correctly and hence minimise the number of trades rejected or delayed due to customer error, and therefore facilitate annual trade.³⁸²

However, the South Australian Government submitted:

There have been efforts at establishing common forms in the past. They have failed because of various legislative and statutory requirements and registry differences. As unbundling moves across the states the forms have become or will become (in South Australia's case) simpler to understand so benefits would be less than previously may have been the case.³⁸³

³⁷⁵ Information on the ACT water register is available at [Water information sheet](http://www.environment.act.gov.au), available on the Department of the Environment, Climate Change, Energy and Water website, www.environment.act.gov.au; viewed 12 August 2009.

³⁷⁶ Victorian Water Register, 'Frequently asked questions', available online at www.waterregister.vic.gov.au; viewed 12 August 2009.

³⁷⁷ DWLBC, follow the 'Licenses and permits > License and permit forms > River Murray' links, available online at www.dwlbc.sa.gov.au; viewed 12 August 2009.

³⁷⁸ DERM, *Guide to completing Form 1—Transfer* (form 1 applies to land and water dealings), available online at www.nrw.qld.gov.au; viewed 12 August 2009.

³⁷⁹ DOL, *Transfer dealing form W-01T: Instructions for completion* (note: this form applies to land and water dealings), available online at www.lands.nsw.gov.au; viewed 12 August 2009. Individuals from within the Sydney metropolitan area and corporations, local councils or other government entities (even when located outside Sydney) must lodge an application either in person at DOL's Sydney office or employ an agent to do so.

³⁸⁰ NFF, issues paper submission, p. 27.

³⁸¹ WMI, issues paper submission, p. 15; HWI also submitted that water trading pro forma could perhaps be developed—see HWI issues paper submission, p. 9.

³⁸² State Water, issues paper submission, p. 8.

³⁸³ South Australian Government, issues paper submission, p. 18.

Lodgement

The submissions provide some support for the position that electronic applications to trade water access rights should be acceptable. For example, State Water submitted:

Trade should be facilitated by whatever means to make the process fast for the buyer and seller as it is often a time sensitive decision both in terms of need of the water and the volatility of market pricing. These transactions [trade/transfer of tradeable water rights] should be enabled by electronic means and not require a person to submit originals in mail or person. An electronic version (fax, web) should be acceptable.³⁸⁴

However, the South Australian Government submitted:

The real issue is ensuring that the parties to the water right transfer have provided their full approval to the application, which we [DWLBC] do currently by way of signatures of the parties or their authorised representative. The *NRM Act 2004* [*Natural Resource Management Act 2004* (SA)] requires that application must be made in a form approved by the Minister (which is currently a paper form), and at this time South Australia's is limited to paper forms as there is no other mechanism in place.³⁸⁵

Some stakeholders feel that entitlement trades should be based on hard-copy documentation with original signatures. For example, WMI stated:

For permanent trading as water entitlement is a property right it must be treated with the same legal process as a property transfer. All permanent trades must remain underpinned by hard copy documentation with original signatures.³⁸⁶

The NSWIC submitted:

In a 21st Century Environment, it is clearly necessary to allow electronic lodgement of transfer documentation to both dramatically reduce the timeframe and costs involved in the transaction.

That said, as water is a property right it must be treated with the same due diligence as a property transfer. NSWIC submits that permanent trade must remain underpinned by hard copy documentation which may still be electronically lodged.³⁸⁷

The VFF also argued that allowing applications to be lodged through a national portal has the advantage of a simple, more streamlined process.³⁸⁸ However, WMI suggested that allowing applications to be initiated through a national portal will just add another step to the process if approval authorities are not to be removed.³⁸⁹ The South Australian Government submitted that allowing applications to be lodged through a national portal would slow down the approval process and increase the potential for error and loss of data.³⁹⁰

³⁸⁴ State Water, issues paper submission, p. 7.

³⁸⁵ South Australian Government, issues paper submission, p. 18.

³⁸⁶ WMI, issues paper submission, p. 15.

³⁸⁷ NSWIC, issues paper submission, p. 23.

³⁸⁸ VFF, issues paper submission, p. 14.

³⁸⁹ WMI, issues paper submission, p. 15.

³⁹⁰ South Australian Government, issues paper submission, p. 18.

5.4.3 Discussion

Application forms

Jurisdictions regularly review their application forms to take account of new trading rules or procedural requirements, or as a means of improving their ease of use. These reviews provide an opportunity for jurisdictions to consider the merits of developing a single application form for interstate trades, containing all the information required by the relevant jurisdictions.³⁹¹

Allowing interstate trading application forms to be lodged with just one of the approval authorities (as opposed to approval authorities in both jurisdictions) would appear to offer significant advantages. As well as reducing transaction costs, there would be less opportunity for applicants to provide inconsistent or incorrect information on the forms³⁹² or the forms being lost or misplaced (e.g. in the post).

Standardising application forms would also help to facilitate trade by reducing transaction costs and simplifying dealings between water market participants and approval authorities. Standardised forms may also assist water market intermediaries to provide a cost-effective service across Australia. However, it might be difficult to develop standardised forms because of differences in terminology, the characteristics of water rights and particular jurisdiction procedural requirements.³⁹³ As with the issue of consistent terminology (see section 9.1), moving towards standardised application forms has the potential to confuse some water market participants, at least in the short term.

Lodgement

There are significant benefits if an approval application for a water trade can be lodged quickly and in an easily accessible manner. In particular, where an approval authority accepts electronic lodgement (by email or online) of an application form, the approval process is likely to be simpler and more timely and accessible for many water market participants. Conversely, where application forms must be submitted by post or in person, significant delays in the approval process and higher transaction costs for applicants are likely to occur.

Timeliness and convenience are extremely important in the trade of water (especially for water allocation trades) where there is often an urgent need for water. Trade approval delays can potentially place crops and livestock at risk.

³⁹¹ There may still remain a jurisdictional requirement for applicants to submit a form to both approval authorities: however, the potential for inconsistently completed application forms would be reduced.

³⁹² Water market participants can be required to provide the same information (such as personal details and entitlement particulars) more than once, raising the possibility of inconsistent information being provided (e.g. slightly different trading volumes), which in turn may cause an application to be rejected.

³⁹³ To the extent that trade approvals are not contingent on the possession or procurement of water use approvals or water delivery rights (see section 3.3), trading application forms should require less information from applicants.

As discussed above, where a trade requires approval from multiple approval authorities, water market participants are sometimes required to send application forms to both authorities. A decision by one approval authority to accept electronic lodgement of application forms will be of limited benefit if other approval authorities relevant to the prospective trade require application forms to be lodged in person or by post.

Some submissions argued that, because the trade of a water access right is a property transfer, it should be underpinned by hard-copy documentation. However, the ACCC notes that land titles are stored securely online³⁹⁴ (New South Wales has used computer titles for land since 1983³⁹⁵) and that in Victoria, real estate transfers can occur electronically.³⁹⁶ State and territory governments are also working towards an electronic conveyancing system for land transfers.³⁹⁷ Measures would be available to ensure that trade applications are secure—for example, those used for online share trading and transactions in the banking industry.

The ACCC also notes that, in Victoria, brokers and exchanges may use an electronic signature for water allocation trades where they have entered into an auto-lodgement interface access agreement with DSE.³⁹⁸ Although there may be initial costs associated with setting up this kind of system, the long-term benefits in terms of timeliness, convenience and transaction costs savings are likely to be substantial.

5.4.4 Preliminary positions

- (5-F) Jurisdictions should seek to standardise their application forms as much as possible. It may also be useful for jurisdictions and the MDBA to develop standard application forms for interstate trades that would include all information required by the relevant approval authorities to approve the transaction.
- (5-G) Basin states should provide a facility to allow electronic lodgement of applications to trade a water access right, where this is not currently possible.

³⁹⁴ See DSE, ‘[About land titles](#)’, available online at www.land.vic.gov.au; viewed 14 August 2009.

³⁹⁵ DOL, *A guide to searching New South Wales land titles records*, available online at www.lands.nsw.gov.au, p. 8.

³⁹⁶ ‘[Electronic conveyancing](#)’ is an online property settlement and lodgement system developed by the Victorian Government in collaboration with the conveyancing industry; it is available online at www.landexchange.vic.gov.au; viewed 13 August 2009.,

³⁹⁷ ‘National Electronic Conveyancing System’, available online at www.necs.gov.au; viewed 13 August 2009.

³⁹⁸ Victorian Water Register, [Application forms](#), available online at www.waterregister.vic.gov.au; viewed 13 August 2009.

5.5 The role of water market intermediaries

5.5.1 Background

Water market participants often use the services of an intermediary (such as a water broker or exchange) when seeking to trade a tradeable water right. As such, approval authorities and IIOs (in relation to trade of irrigation rights)³⁹⁹ often deal directly with water market intermediaries rather than the parties to the trade.⁴⁰⁰

Intermediaries is a general term that refers to water brokers (who perform a similar function to mortgage brokers in that they investigate trading options on behalf of clients and arrange the necessary paperwork) and water exchanges (which are akin to a trading platform, rather than a stock exchange).

Water market intermediaries play an important role in expanding water trade. In particular, water brokers and exchanges can reduce transaction costs for water market participants by navigating trading rules and locating willing trading partners. They can also aggregate water products to meet clients' requirements.

Like any business, water market intermediaries are required to comply with the fair trading provisions of the *Trade Practices Act 1974* (the TPA) and / or similar fair trading legislation in each state and territory. However, no laws or rules specifically regulate the conduct of water market intermediaries.

There is some concern about water market intermediaries engaging in misconduct. In 2007 the Allen Consulting Group (ACG) reported that its consultations suggested that a small proportion of brokers in some locations were engaging in inappropriate and possibly misleading behaviour with the potential to harm traders' interests. ACG reported that incidents of misconduct reported appeared serious but not widespread.⁴⁰¹

While there is a perception of widespread misconduct by water market intermediaries, the ACCC and other government regulators receive very few complaints. This may be because those adversely affected may not be aware that misconduct is occurring or, where they do detect a problem, may not be aware of their rights. Water market participants may also be uncertain about who, where and how to complain when they believe their fair trading rights have been infringed.

To address these issues, the ACCC has released a series of brochures explaining water market participants' rights under the TPA and similar state and/or territory fair trading legislation as it relates to water brokers and exchanges.⁴⁰² There has been no increase in complaints to the ACCC about water market intermediaries since the release of this information.

³⁹⁹ See section 8.2 regarding the trade of irrigation rights.

⁴⁰⁰ The manner in which approval authorities interact with water market intermediaries (including potential conflicts of interest) is considered in section 5.6.

⁴⁰¹ Allen Consulting Group, National Water Commission 'Improving market confidence in water intermediaries' *Waterlines* occasional paper No. 3, July 2007, p. 37.

⁴⁰² See the ACCC '[Water trading—fair trading rights and obligations for irrigators, brokers and exchanges](http://www.accc.gov.au)' webpage, available online at www.accc.gov.au.

5.5.2 Summary of submissions

A number of submissions raised concerns about intermediaries.

WMI advocated regulation of the water broking industry. It stated that the trading rules should in no way limit competition but could consider the ethical questions of commissions being applied to both the buyer and the seller in one transaction.⁴⁰³

The NSWIC submitted:

NSWIC has advocated and maintains a policy that water market intermediaries ought to be subject to binding rules that include, as a minimum, requirements for professional indemnity insurance and the use of trust accounts.⁴⁰⁴

Further, the NFF submitted:

NFF has concerns about the lack of regulation of water market intermediaries. Real estate agents, solicitors and accountants are like businesses that are regulated—giving confidence to their clients. These professions hold funds on behalf of third parties, in fully audited trust accounts. NFF understands that some intermediaries, while not regulated, already operate under such protocols as would apply to real estate agents (regardless of whether or not they actually are).

NFF has undertaken work with intermediaries to develop a code of conduct that would be adopted by intermediaries. The code of conduct should ensure full disclosure and transparency and provide a measure of confidence to market participants.

If any market participant has to resort to litigation to resolve an issue arising from the conduct of an intermediary, then there will be market failure and Governments will have failed to address market concerns.⁴⁰⁵

The NFF also stated that it has real concerns that a major fraud is inevitable because of the lack of regulation of brokers.⁴⁰⁶

However, the South Australian Government submitted that at this stage there is no demonstrated need for particular requirements for intermediaries.⁴⁰⁷

5.5.3 Discussion

The ACCC notes that concerns about the conduct of water market intermediaries (whether justified or not) have the potential to undermine confidence in water markets.

However, water market intermediaries are not specifically required to act consistently with the Basin Plan. As such, the Basin Plan water trading rules appear limited in their ability to address concerns about the conduct of water market intermediaries.

⁴⁰³ WMI, issues paper submission, p. 16.

⁴⁰⁴ NSWIC, issues paper submission, p. 24.

⁴⁰⁵ NFF, issues paper submission, p. 30.

⁴⁰⁶ NFF, issues paper submission, p. 31.

⁴⁰⁷ South Australian Government, issues paper submission, p. 20.

Self-regulation may be a more appropriate tool to deal with concerns about water market intermediaries. Self-regulation (e.g. a voluntary code of conduct) is a means to exceed minimum legal requirements, raise industry standards and enhance understanding and compliance with applicable legislation (e.g. the TPA and fair trading legislation in each state and territory).⁴⁰⁸ Effective self-regulation may also provide greater stakeholder confidence in the industry, and more cost-effective complaint handling procedures.

The more serious concerns raised about water market intermediaries such as fraud, theft, trading while insolvent or misleading conduct are already covered by the criminal law, the *Corporations Act 2001* or fair trading legislation (such as the TPA). Additionally, it is not clear that direct regulation of intermediaries (e.g. through licensing or requiring the use of trust accounts) is likely to prevent serious cases of fraud or theft occurring.

The Australian Water Brokers' Association has developed a voluntary code of conduct⁴⁰⁹ and the NFF has undertaken work with intermediaries to develop a code of conduct for adoption by intermediaries.⁴¹⁰ However, a voluntary code of conduct will be most effective when the self-regulatory body has widespread support from industry participants, comprises representatives of all key stakeholders and operates an effective system of complaint-handling.⁴¹¹

The ACCC also notes that water market intermediaries often require significant amounts of money on deposit from purchasers of water access rights (in some cases, the entire purchase price or otherwise an amount in excess of the intermediary's total commission or fee) at or before trading application forms are lodged. To the extent these deposit requirements are excessive, water market participants would appear to face higher than necessary transaction costs and concerns regarding money on deposit will be exacerbated.⁴¹² Over time, competitive pressures can be expected to lead to intermediaries offering services (and deposit or prepayment requirements) that better meet the needs of water market participants.

5.5.4 Preliminary position

(5-H) There is insufficient evidence to support the introduction of specific regulation of water market intermediaries.

⁴⁰⁸ Australian Government Treasury, [Taskforce on industry self-regulation—Final report](#), available online at www.treasury.gov.au, chapter 3; viewed 12 August 2009. ,

⁴⁰⁹ [WaterExchange](#), available online at www.waterexchange.com.au; viewed 2 June 2009.

⁴¹⁰ NFF, issues paper submission, p. 30.

⁴¹¹ For more information on developing effective voluntary codes of conduct, see the ACCC's '[Non-prescribed voluntary industry codes of conduct](#)' webpage, available online at www.accc.gov.au.

⁴¹² This is particularly relevant to water access entitlement trades or other trades involving more detailed consideration by approval authorities.

5.6 Approval authorities' other activities

5.6.1 Background

Some approval authorities engage in other activities that may give rise to a conflict of interest.

For example, Goulburn-Murray Water (G-MW)—which has delegated responsibility to approve certain water trades and make water allocation announcements—is a government-owned infrastructure operator that also operates Watermove, a water exchange operating primarily in Victoria.

SunWater, which is owned by the Queensland Government, approves water allocation trades. SunWater is also involved in the design, construction, maintenance and operation of water infrastructure and the management of bulk water supply to rural, urban and industrial customers.⁴¹³ It also makes allocation announcements⁴¹⁴ and trades water. SunWater also operates SunWater Online, which offers its customers a number of services, including the ability to perform a seasonal water assignment (water allocation trade).⁴¹⁵

While member-owned IIOs (e.g. New South Wales irrigation corporations or South Australian trusts) do not have a direct role in the state approval process, it should be noted that some operate exchanges or brokerage services. For example, MIL operates a water exchange⁴¹⁶ and the CIT provides a brokering service, which it established in response to grower demand.⁴¹⁷ These roles may lead to a potential or perceived conflict of interest, which needs to be identified and managed appropriately.

Where approval authorities recommend specific water brokers or exchanges (especially if they are operated by the approval authority themselves), or process applications from particular brokers or exchanges differently, the integrity of and confidence in the water market may be placed at risk.

In particular, these practices may discourage some potential water market participants from trading, hindering the ability of the market to allocate water to its most efficient use. Competition in the market for water exchanges or brokers may also be lessened, causing transaction costs to rise.

5.6.2 Summary of submissions

While some stakeholders submitted that there were anecdotal reports of approval authorities recommending specific brokers or exchanges to water market participants and authorities expediting or processing applications differently from particular

⁴¹³ SunWater, [Overview](#), available online at www.sunwater.com.au; viewed 12 August 2009.

⁴¹⁴ *ibid.*, [Announced allocations](#).

⁴¹⁵ *ibid.*, SunWater, [SunWaterOnline](#).

⁴¹⁶ MIL, [Exchange terms and conditions](#), available online at www.murrayirrigation.com.au; viewed 12 August 2009.

⁴¹⁷ CIT, issues paper submission, p. 3.

exchanges or brokers, they also stated that there was no evidence to substantiate these claims.⁴¹⁸

The South Australian Government stated that all applications are treated in the same manner irrespective of whether the application is submitted by a particular broker or exchange, and it is not aware of evidence of applications by particular brokers or exchanges being treated differently by other approval authorities.⁴¹⁹ Similarly, DERM submitted that it does not discriminate between applications and that there is no way an approving officer can determine who has prepared or submitted a properly made application; it must be signed by the water access entitlement holder(s).⁴²⁰

WMI submitted:

some authorities use specific water exchanges or their own and provide this service on behalf of their customers, often at significantly cheaper rates than the brokers.⁴²¹

CIT provides a brokering service (which it introduced in response to grower demand) and contended that the water trading rules should include provision to enable trusts to continue providing this product.⁴²²

The NFF submitted that it does not support, nor is it appropriate for, approval authorities to recommend specific intermediaries. The NFF argued that a recommendation to use a particular broker from an approval authority may see that broker supported over others in what should be a business decision by the seller and the buyer.⁴²³

The NSWIC submitted that approval authorities' conflict of interest may be a serious issue that ought be dealt with by the water trading rules.⁴²⁴ The South Australian Government also submitted that there is a need to ensure that any potential conflicts of interest are appropriately managed and that, to avoid conflict of interest, the approval section and the purchasing section (for South Australia's *Living Murray initiative* commitments) of DWLBC are under different divisions.⁴²⁵

SunWater stated it is currently exploring who might be best placed to determine water allocations (announced allocations) in Queensland (SunWater currently performs this function). SunWater is concerned that, even where the announced allocation rules are prescribed in detail, there may be a perception that SunWater can influence the timing and/or percentage value of announcements, particularly where SunWater is a potential participant in the water market.⁴²⁶

⁴¹⁸ For example, see: NSWIC, issues paper submission, p. 24.

⁴¹⁹ South Australian Government, issues paper submission, p. 20.

⁴²⁰ DERM, issues paper submission, p. 13.

⁴²¹ WMI, issues paper submission, p. 16.

⁴²² CIT, issues paper submission, p. 3.

⁴²³ NFF, issues paper submission, p. 30.

⁴²⁴ NSWIC, issues paper submission, p. 25.

⁴²⁵ South Australian Government, issues paper submission, p. 20.

⁴²⁶ SunWater, issues paper submission, p. 5.

DERM submitted that SunWater's water trading code of conduct⁴²⁷ aims to ensure that SunWater's allocations are traded independently of its water supply activity, and that features ring-fencing arrangements to manage any water trading activity:

They stipulate that its water trading activities are ringfenced from its water supply business, ensuring that information flows between various SunWater business units and water trading functions do not provide a competitive advantage over competitors or other market participants. It also ensures that confidential information that is market sensitive is controlled so that it cannot be used for commercial gain.⁴²⁸

5.6.3 Discussion

In 2007, the Victorian Competition and Efficiency Commission (VCEC) found that GMW had not complied with the competitive neutrality policy. It proposed that GMW review its corporate communications to achieve compliance, including by:

- reviewing any references to Watermove and other water exchange operators
- reviewing the GMW and Watermove website design
- ensuring that any material of a general regulatory nature, such as trading rules, be posted on the GMW website, not that of Watermove.⁴²⁹

Where an approval authority is responsible for announcing allocations, managing infrastructure and trading water, another option may be to implement a code of conduct and/or ringfencing arrangements to regulate these activities.

For example, SunWater's water trading code of conduct specifies that SunWater will publish information about how it will trade any water access entitlement it holds, including the volume of water to be made publicly available by product (i.e. permanent, lease or seasonal assignment) and the timing of volumes to be made available.⁴³⁰

SunWater has also developed water trading ringfencing arrangements, which provide that SunWater's water trader will be free of any conflict of interest.⁴³¹

However, submissions suggested that there is continuing concern that other activities of approval authorities may give rise to potential or perceived conflicts of interest that may have the potential to undermine confidence in the water market. In particular,

⁴²⁷ See *SunWater: Water trading code of conduct*, available online at www.sunwater.com.au; viewed 14 August 2009.

⁴²⁸ DERM, issues paper submission, p. 13.

⁴²⁹ Victorian Competition and Efficiency Commission, 'Competitive Neutrality Complaint Investigation', *Final report—Water trading services provided by Watermove*, p. 15, available online at www.vcec.vic.gov.au; viewed 13 August 2009.

⁴³⁰ See *SunWater: Water trading code of conduct*, clause 2, available online at www.sunwater.com.au; viewed 14 August 2009. Information about the volume of water to be made available in each water supply scheme and the trading intentions for each scheme is available at www.sunwater.com.au > water trading > water trading strategies.

⁴³¹ SunWater, *Ringfencing arrangements*, clause 8, available online at www.sunwater.com.au; viewed 13 August 2009.

potential or perceived conflicts of interest may occur where a water authority also acts as a water broker or operates a water exchange in addition to operating water infrastructure, delivering water and/or setting seasonal allocations. This issue deserves closer attention by government.⁴³²

In addition, as mentioned above, a key objective of the basin water market and trading rules is minimising transaction costs on water trades, including through good information flows. Where an approval authority does not disclose any interest (other than its role as an approval authority) to other parties to a potential trade or to the market generally after a trade, potential or actual conflicts of interest may not be adequately addressed. Such conflicts of interest may, if left undisclosed and unaddressed, give rise to a situation where the approval authority has an unfair advantage over other water market participants. In this case, the water market may not operate as efficiently as it would otherwise. Concern about potential or perceived conflicts of interest may also discourage water market participation and therefore the ability of the market to allocate water to its most productive use.

5.6.4 Preliminary positions

- (5-I)** Approval authorities' other activities may give rise to potential or perceived conflicts of interest that may have the potential to undermine the water market. This is particularly where a conflict of interest is not disclosed to other parties to the transaction. This issue deserves closer attention by government.
- (5-J)** Basin states should consider requiring their trading approval authorities to disclose whether they have any interest in a water access right (other than in their approval role), to all other parties involved in a potential trade of that right. It may also be appropriate to require trade approval authorities to inform the market of any water trade to which they have been a party.

⁴³² The provision of information about allocation announcements and relevant policy changes is considered in section 9.4.

6 Water access rights—location matters

Trades of water access rights often involve changes in the extraction location. This chapter discusses the wide range of issues regarding trade involving a change in location.

Water systems can be classified based on the type of water source and the degree to which system operators can control flows. This chapter discusses trade within, and between, the following water systems:

- **Regulated systems**⁴³³—characterised by structures such as dams and weirs which can be used to store and control flows, thereby increasing reliability of supply. Water access rights in these systems generally take the form of water access entitlements (which in turn give rise to water allocations). Once made, water allocations usually take the form of a credit in a water allocation account, which can be used at any time subject only to ordering requirements and delivery constraints.
- **Unregulated systems**—systems where the flow instream is dictated by natural events rather than controlled or modulated by structures. Water access rights in these systems tend to be less dependable than those in regulated systems. The ability to access water depends on sufficient water being available at the point of extraction.
- **Groundwater systems**—water beneath the land surface that fills voids between soil particles or in rock fissures. When it stores water, the underground soil or rock formation is referred to as an aquifer. Groundwater supplies are less influenced by climate variability than surface water due to their storage capacity and various sources of recharge.⁴³⁴
- **Farm dams**—catchment dams, sometimes referred to as hillside dams, that harvest overland flow before it enters a river system. This does not include dams located on waterways. These dams vary in size and volume of water harvested. The discussion of farm dams includes harvestable rights in New South Wales. However, it does not include floodplain harvesting (or overland flow), as this is considered a different water product which is more akin to unregulated water access rights.

There are a wide range of issues when considering trade involving a change in location. There are also a variety of combinations of water systems between which trade may be possible. This chapter of the position paper accordingly has a number of sections:

⁴³³ In Queensland, regulated and unregulated water systems are referred to as supplemented and unsupplemented systems.

⁴³⁴ T Goesch, S Hone and P Gooday, 'Groundwater management: issues affecting the efficient allocation of groundwater', *Australian commodities*, 14(1), ABARE, March 2007.

- Section 6.1 discusses trade in regulated systems.
- Section 6.2 discusses trade in unregulated systems.
- Section 6.3 discusses trade between unregulated and regulated systems.
- Section 6.4 addresses trade of groundwater.
- Section 6.5 discusses trade between groundwater and surface water systems.
- Section 6.6 describes trade between farm dams, including trade to surface water.

There are a number of common concepts that apply to the trade of water access rights in various types of systems.⁴³⁵ For example, there is some overlap in discussions of property right components, losses and connectivity. However, there are differences that require these concepts to be discussed in each section.

6.1 Trade in regulated systems

The majority of water access rights on issue are in regulated river systems.⁴³⁶ Statistics from 2007–08 show that the majority of water trades occur either within or between regulated river systems.⁴³⁷

Due to the number of matters related to trade in regulated systems, the discussion in this section will be divided as follows:

- hydrologic connectivity and water supply considerations (includes understanding system operation issues, appropriate trading zones, transmission losses, delivery capacity and other delivery constraints)
- managing water access right characteristics
- administrative processes.

Where interstate trades occur, they are generally trades between regulated systems. Interstate trades are currently conducted according to agreements between basin state. For example, the Murray–Darling Basin Agreement (MDB Agreement) establishes rules for trade in the southern connected systems of Victoria, New South Wales and South Australia (although not yet for trades between the Australian Capital Territory and New South Wales).⁴³⁸ Trades between New South Wales and Queensland operate on a very limited basis at present, but the scope for such trades will increase (in the

⁴³⁵ Different kinds of water systems are explained at the beginning of chapter 6.

⁴³⁶ For example, according to the *Australian Water Markets Report 2007–08* (NWC, 2008, p. 55), 3072 GL of entitlements are on issue in regulated rivers, compared to 161 GL in unregulated rivers.

⁴³⁷ NWC, *Australian Water Markets Report 2007–08*, Canberra, 2008.

⁴³⁸ There were no trades or transfers between the Australian Capital Territory and any other Basin state in 2007–08. The MDBA is currently undertaking a process that would allow interstate trade with the Australian Capital Territory.

Border Rivers area in particular) as the necessary institutional arrangements are developed.

Trade between regulated systems includes both interstate and intrastate trade. While the administrative processes of interstate trade have their own complexities, the issues relating to the physical movement of water between regulated systems are the same, regardless of whether the movement is intrastate or interstate.

This section discusses the management of water access rights and hydrologic connectivity for regulated systems without drawing a distinction between intrastate or interstate trade. However, a distinction is drawn between interstate and intrastate trade in the subsequent discussion of administrative issues for facilitating trade in regulated systems.

Changes in the extraction location related to a water access entitlement or water allocation necessarily involve delivery considerations. Formal water delivery rights are not in place for delivery along waterways. Rather, water trading rules generally define where water can be delivered to, through the use of trading zones. While the ability to change the location of extraction from one trading zone to another does not provide an absolute guarantee that delivery will be possible in the 'destination' trading zone, water trading rules and zones should provide an indication of where delivery can be reasonably expected.

6.1.1 Hydrologic connectivity and water supply considerations

This section discusses trading zones, transmission losses and capacity constraint issues.

Background

The ability to deliver water⁴³⁹ from one regulated system (or zone within a system) to another will depend on hydrologic connectivity and water supply considerations, including:

- the ability to deliver water from the same storage(s) or to adjust water accounts to facilitate the trade (e.g. back trade)
- acceptable levels of transmission losses (and how these are accounted for)
- capacity and other delivery constraints.

Trading zones

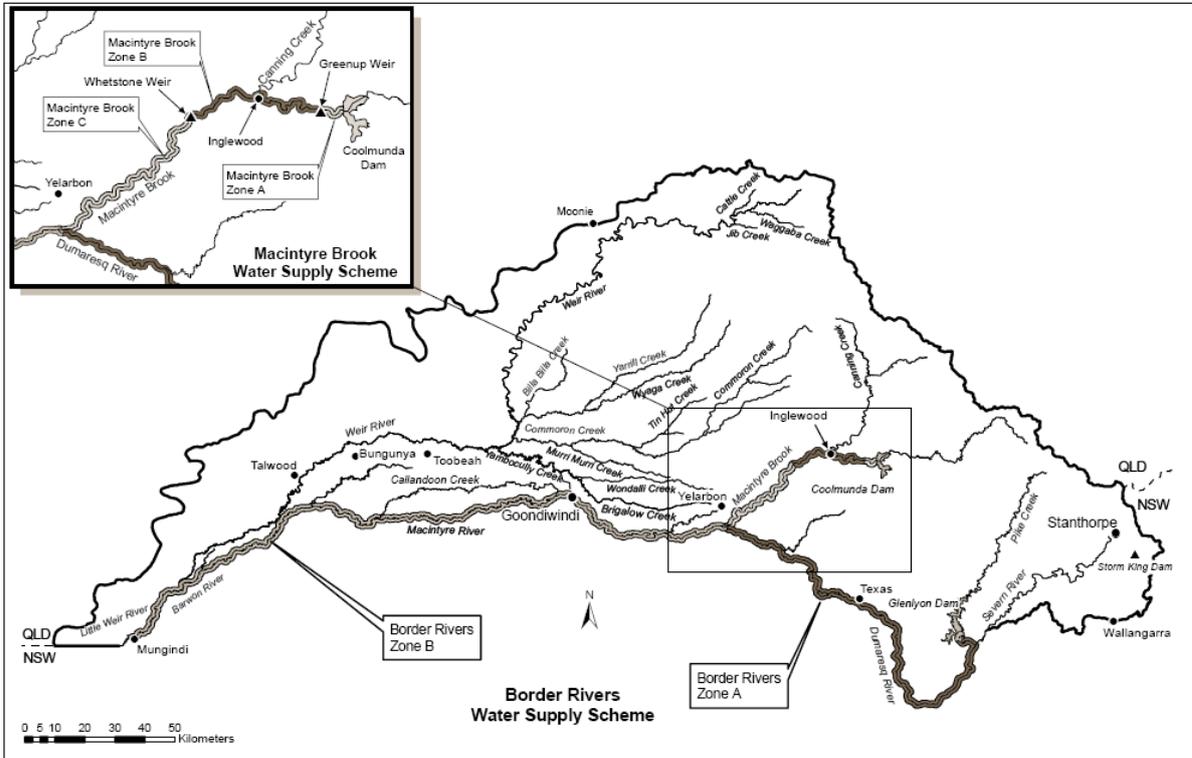
Trading zones are often used to improve the clarity of trading rules and to simplify the administration of water access right trades for both surface water and groundwater.⁴⁴⁰ A

⁴³⁹ This may take the form of an accounting procedure rather than the physical movement of water from one location to another.

⁴⁴⁰ In NSW (with the exception of interstate trading zones), trading rules based on physical and environmental constraints are described using specific locations rather than trading zones.

number of trading zones may exist within the one water resource plan area, or even along the one river (as demonstrated in figure 6.1).

Figure 6.1 Border Rivers water resource plan area and trading zones.



Source: Department of Natural Resources and Water (now DERM)⁴⁴¹

The Act states that water trading zones should be defined in terms of:

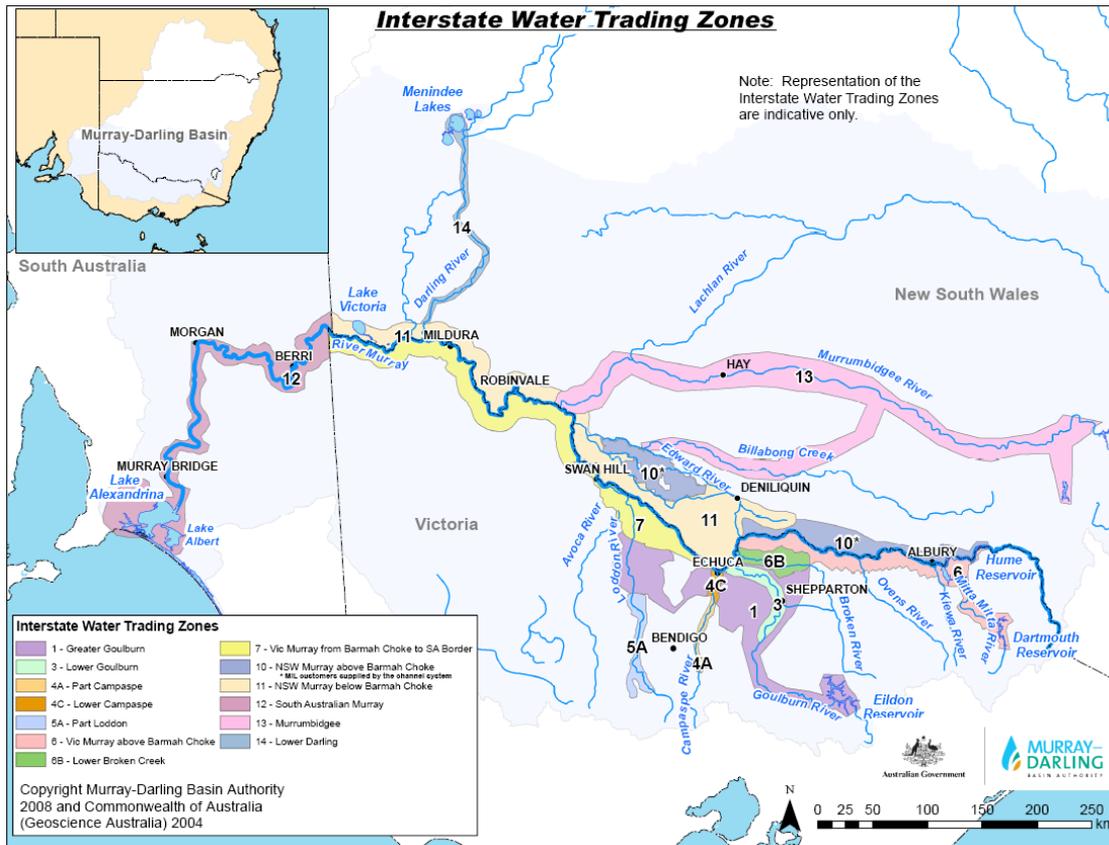
- (a) the ability to change the point of extraction of the water from one place to another; and
- (b) the protection of the environment.⁴⁴²

The regulated southern connected system (including the River Murray, Victorian regulated tributaries and the Murrumbidgee River) is operated as a connected resource. Interstate trading zones have been defined to facilitate trade within the southern connected system (refer to figure 6.2 below). Under current management arrangements, it is assumed that all regions of the southern connected MDB are hydrologically connected.

⁴⁴¹ Department of Natural Resources and Water, *Border Rivers resource operation plan*, The State of Queensland, Brisbane, 2008.

⁴⁴² See schedule 3, clause 4(9) of the Act.

Figure 6.2 Interstate water trading zones



Source: reproduced with permission of the MDBA

The Murray–Darling Basin Commission (MDBC) *Permanent interstate water trading how to manual* lists the following principles for managing trade between zones:

- transfers within a trading zone should not be restricted, except where local circumstances, such as salinity management, delivery channel capacity or environmental factors, so require;
- downstream transfers between hydrologically connected systems should generally be possible;
- where a downstream transfer is impeded by a physical constraint to channel capacity, it should only be approved as back trade;
- where an upstream transfer is made into a separate hydrological system, it should only be approved as back trade;
- transfers should be possible between the upper reaches of river systems that converge downstream, provided that any supply obligations of the transferor's river below the point of confluence, which may be affected by the transfer, are assumed by the transferee's river; and

- f upstream transfers from a location supplied by more than one source should be possible to a location supplied by only one of those sources, but may be subject to special limits and conditions.⁴⁴³

Transmission losses

Another consideration in facilitating trade involving a change in location is the volume of losses incurred as a result of a trade and the method of apportioning these losses.

If losses are socialised, there may be a joint decision about what level of loss is acceptable from a system perspective. This may limit the ability to trade, or give effect to trade, between certain trading zones or at certain times. On the other hand, if losses are apportioned to the buyer, the buyer can individually assess their willingness to bear these losses.

An initial distinction must be made between two types of losses: conveyance losses within irrigation networks and river system transmission losses. Losses within an irrigation network operated by an IIO with a group water access entitlement are the subject of delivery arrangements between the IIO and its customers. The remainder of this discussion addresses river transmission losses.

River transmission losses (which arise primarily through evaporation and seepage from the delivery of water within and between systems) are generally not accounted for in a transparent way throughout the MDB.

It is worth making a distinction between the southern and northern parts of the MDB as the hydrology and operation of the systems are markedly different. In the southern connected system, losses are factored into operational decisions for the system. The southern connected system involves a number of large storages operated in conjunction to supply downstream users. A certain minimum level of flow is usually maintained in the system to ensure delivery of water to meet critical human water needs and supply to South Australia. Any additional flow has historically incurred only marginal additional losses.⁴⁴⁴ As the system is operated using a number of storages, it is difficult to determine the path of water (from a particular storage to a consumptive extraction point) for any individual user. The scale of losses will vary depending on the overall operation of the system. When a trade occurs between connected water systems, generally no adjustment is made to the traded volume to reflect any potential change in transmission losses.

By comparison, the northern system is dominated by unregulated rivers, or regulated rivers controlled by a single storage. In its Border Rivers region, Queensland uses a full accounting system that incorporates system losses against individual users according to their extraction location. Storage factors are used to account for increased river transmission losses when a user's zone is further from the storage.⁴⁴⁵

⁴⁴³ MDBC (now part of the Murray–Darling Basin Authority, MDBA), *Permanent interstate water trading how to manual*, 2006.

⁴⁴⁴ Pers comm., Chris Biesaga, MDBA, 24 July 2009.

⁴⁴⁵ Department of Natural Resources and Water (now DERM), *Border Rivers Resource Operations Plan*, Brisbane, 2008.

Transmission losses can vary significantly according to the level of the river, time of year and other factors. Box 6.1 outlines the components of transmission losses when water moves between two connected water systems (regardless of whether the movement was the result of trade or simply a delivery from storages).

Box 6.1 Contributions to river losses (extract from Sinclair Knight Merz (SKM), 2009)⁴⁴⁶

Losses between two connected surface water systems can occur for a number of reasons...and can include:

- Evaporative loss from the water body surface—this water is lost to the atmosphere and does not return to the surface water system. These losses vary on a daily basis and display strong seasonal variation from the dry to the wet season.
- Evapotranspiration loss from riverine flora adjacent to or within a water body—this water is converted to plant growth and is lost to the atmosphere as it transpires from those plants. The extent of influence depends on the type of plant, the extent of its root system and climate conditions. These losses vary on a daily basis and display strong seasonal variation from the dry to the wet season.
- Loss to groundwater—where the water table is below the water level in a river or water body, water can seep out of the bottom of the river into the aquifer below. The rate of seepage depends on the hydrogeological properties of the aquifer such as conductivity and transmissivity, as well as the driving head between the river and the aquifer. The rate of seepage can vary seasonally in response to climate conditions, and some streams can be losing or gaining at different times of the year.
- Loss to channel wetting—losses from a river or water body into the surrounding soil are greatest when the river is dry. Delivering water along a dry river bed will absorb a greater degree of water than a river bed which is already wet due to a previous delivery or due to naturally occurring streamflows. Water can be absorbed into soil voids or used to fill holes in the river channel form.
- Bank storage—movement of water from a river into the surrounding banks is a short-term phenomenon which can cause short-term losses of water during the delivery of water. Water from the banks typically moves back into the river after the pulse of water being delivered has receded.
- Floodplain storage—similar to bank storage but associated with overbank flow events. It occurs less frequently than movement of water into bank storage, but is associated with much greater losses. Water which spreads out over the floodplain can remain trapped on the floodplain in local depressions and subsequently evaporate, or it may be used by plants on the floodplain. Some water from floodplains may return to the river (e.g. Chowilla Floodplain in South Australia) but the period of time for this to occur may vary from hours to months.

⁴⁴⁶ SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009, p17.

- Unaccounted for water—diversions which cannot be accounted for can be attributed to losses. These could include unmetered private diversions, theft or other unaccounted for water. Diversions which can be accounted for would ordinarily not be considered part of a delivery loss.
- Measurement error—if losses are determined via a water balance, then measurement error will be a significant factor in the loss estimation, particularly over short periods of analysis. Stream flow gauge error varies by location and is typically higher in rivers without a well-defined river channel. Measurement error increases substantially at very high flows.

Capacity constraints

The ability to facilitate a trade may also be limited by capacity constraints that limit the volume of water that can move between two zones. Capacity constraints result from either physical or environmental restrictions on the volume of flow that can pass a certain point in a river, channel or pipe:

- A **physical constraint** may be the capacity of an irrigation channel, a pipeline or a river channel with limited carrying capacity. These physical constraints may mean that at times of high irrigation water demand, it may not be physically possible to supply traded water to some areas.
- An **environmental constraint** is a maximum (or minimum) flow limit that prevents adverse environmental impacts.

Capacity constraints have generally been dealt with through trading rules by creating separate trading zones upstream and downstream of the constraint, and limiting trade between the zones. The most significant river channel constraint in the MDB is the Barmah Choke, where limits on flow from the Upper Murray to the Lower Murray are in place to prevent unseasonal flooding of the Barmah Forest.⁴⁴⁷ The capacity of the Barmah Choke is 8500 ML/day at Barmah, while delivery requirements downstream of the choke reach 16 000 ML/day at the height of the irrigation season.⁴⁴⁸

As water can be delivered from other sources (including Lake Victoria and the Menindee Lakes), the capacity of the choke does not usually pose a problem in meeting existing water demands. SKM estimates that the Barmah Choke would pose a delivery constraint once every 16 years and during these times would require rostering or restrictions⁴⁴⁹. With future climate change, this could increase to once every eight

⁴⁴⁷ MDBC, 'Trading rules', Factsheet no. 7, Interstate water trade series, May 2006, viewed 14 January 2009, www.mdbc.gov.au.

⁴⁴⁸ MDBC (now part of the MDBA), *Permanent interstate water trading how to manual*, 2006.

⁴⁴⁹ A constraint arises when

- (i) rainfall in the irrigation districts downstream of Echuca is low and irrigation demands are high
- (ii) Lake Hume and Dartmouth dam are reasonably full allowing water managers to announce high irrigation allocations
- (iii) Menindee Lakes storage is low which means that most of the South Australian share of resources must be supplied from Lake Hume and Lake Victoria

years.⁴⁵⁰ The Barmah Choke is currently operated on the historical status quo with trade only allowed downstream if there has been a corresponding upstream trade. These arrangements have been suspended for water allocation trade as there is free capacity to deliver traded water allocations due to low overall allocations (and therefore low volumes being released for use) resulting from the recent drought.

While the Barmah Choke is a notable example, it is likely that other capacity constraints will develop with increased environmental knowledge and changes in system operation. The principles discussed above should be applicable to all capacity constraints, not just the Barmah Choke.

Summary of submissions

Trading zones

While the number and size of trading zones vary across the MDB, stakeholders responded that trading zones are primarily based on environmental and physical constraints. For example, SunWater noted that, in Queensland the:

... ROP normally defines 'operational zones' in a water supply scheme which generally correspond to 'trading zones'. These zones are as broad as possible (to facilitate trade) and only as narrow as necessary (to ensure achievement of environmental flow objectives and water allocation security objectives).⁴⁵¹

The South Australian Government noted that there were some areas where managerial or administrative boundaries were also used to define trading zone boundaries:

Murray Darling Basin zones are based on a mixture of physical, hydrological and administrative regions.⁴⁵²

The NFF suggested that the process for updating trading zones should be transparent and reviews should occur as catchment conditions change:

NFF recommends that there is regular review of physical constraints to ensure that these are still relevant to the application of trade rules. For example, is the physical constraint still in place, or is the physical constraint less or more than previously assessed hydraulically. This recommendation should apply to allocation trades only as it is not possible to 'undo' an entitlement trade in the future.⁴⁵³

In Victoria, salinity zones are used to limit the impact of increased water use in high impact salinity areas. This previously limited trade of entitlements into high impact salinity areas, however with unbundling, restrictions are linked to actual usage rather

(MDBC, Fact sheet 6: Barmah Choke, 2006, http://www.mdbc.gov.au/rmw/river_murray_system/dartmouth_reservoir/hume_and_dartmouth_dams_operations_review/backgrounder_6:_the_barmah_choke).

⁴⁵⁰ SKM, *Barmah Choke study: investigation phase report*, Final 2, 24 July 2009, prepared for the MDBA (referenced in SKM, *Hydrological connectivity report*, 2009, prepared for the ACCC).

⁴⁵¹ SunWater, issues paper submission, p. 2.

⁴⁵² South Australian Government, issues paper submission, p. 2.

⁴⁵³ NFF, issues paper submission, p. 9.

than trade volumes⁴⁵⁴. There was some support for extending this approach. HWI submitted that:

Trading zones need to incorporate salinity hazard as per the Mallee Zone in Victoria. This should be extended to other areas where similar salinity hazard exists.⁴⁵⁵

Transmission losses

Stakeholders from Queensland, where transmission losses are accounted for against individual delivery zones, support the concept of adjusting trade for transmission losses. SunWater submitted:

... it is necessary to have some means to adjust for conveyancing (river transmission) losses when trading to minimise impacts on third parties (i.e. other water entitlement holders or environmental outcomes).⁴⁵⁶

DERM noted:

There will be changes to in-stream conveyance loss whenever the location of an extraction point moves upstream or downstream. Attempting to manage these changes with too much detail would slow the trading process and increase assessment costs. In Queensland, boundaries are set within which trade can occur without adjustment for changes in conveyancing loss.⁴⁵⁷

While many other stakeholders (particularly in the southern connected system) support the concept of accounting for transmission losses, calculating losses associated with any one trade is highly problematic. For this reason, many stakeholders advocate maintaining socialised transmission losses. The South Australian Government submitted:

One advantage [of imposing an adjustment for transmission losses on a trade or transfer of a water access right] would be that water access entitlement holders, rather than third parties, including the environment and system flows, bear the losses ... However, in practice, it is unlikely to be feasible to accurately calculate a conveyance loss adjustment, partly because the impact of an individual water access entitlement transfer on overall system flows (and therefore conveyance losses) at a point in time is likely to be indiscernible ... A disadvantage of imposing a conveyance loss factor relates to the fact that, from an overall system health perspective, moving water downstream is preferred as water can have additional system benefits before it is extracted for consumptive use. Imposition of a conveyance loss factor could be regarded as disincentive to trade, both by individual parties to a potential trade, and by the irrigation sector as a whole.⁴⁵⁸

⁴⁵⁴ Pers comm., John Cooke, DSE, 8 July 2009; also. Also, see sections 3.3 and 3.4 for a discussion on the role of use approvals.

⁴⁵⁵ HWI, issues paper submission, p. 4

⁴⁵⁶ SunWater, issues paper submission, p. 3.

⁴⁵⁷ DERM, issues paper submission, p. 3.

⁴⁵⁸ South Australian Government, issues paper submission, pp. 4–5.

The NSWIC stated:

NSWIC remains in favour of socialised delivery losses across connected systems.⁴⁵⁹

State Water submitted:

Existing trading zones only address physical supply constraints and do not address the problems of cross subsidy of conveyance losses. Trading zones could potentially incorporate conveyance losses but this would be difficult to do accurately.⁴⁶⁰

However, State Water also suggested that, until transmission losses are accounted for against existing users, they should not be applied to traded water in isolation:

... it does seem a little anomalous that there are no losses attributed to trades that are carried out along thousands of kilometres of rivers between states ... Until these cross subsidies are removed for untraded water, it would appear inequitable to apply them to traded water, unless traded water exacerbates the level of losses incurred.⁴⁶¹

The NFF submitted that while, historically, transmission losses have not appeared to vary significantly, it is possible that they will become an important issue if there is not enough water to meet delivery requirements:

NFF understands that the previous MDBC Pilot Interstate Water Trading Project ... did not recommend the adoption of exchange rates because the [sic] there was very little difference in the delivery of a megalitre along the Murray to the SA border. Increased losses tend to occur when there is a high river, with over bank flow from regulated or unregulated inflows, or when the river is in drought conditions (no base flow or flow out of a river to a tributary that previously ran into the river). The issue is not significant in the former situation but may cause significant concern in the latter situation with there is insufficient water to deliver and meet the critical needs of the river, towns and farmers.⁴⁶²

Stakeholders highlighted that a process for calculating, reporting and apportioning the losses would need to be developed. The GVIA noted:

... there may be justification for a conveyance loss allowance where additional delivery losses can be clearly identified and quantified. For practicality, the loss allowances could be determined on a zone basis.⁴⁶³

The VFF submitted:

If conveyance losses were applied, they should be applied with marginal increase in losses, not on a proportional bases. Conveyance losses would have to be accurately and transparently measureable ... When water trade occurs between designated water trading zones there is a chance that losses are not accounted for accurately, or designated to the wrong water entitlement holder.⁴⁶⁴

⁴⁵⁹ NSWIC, issues paper submission, p. 11.

⁴⁶⁰ State Water, issues paper submission, p. 3.

⁴⁶¹ *ibid.*, p. 4.

⁴⁶² NFF, issues paper submission, p. 11.

⁴⁶³ GVIA, issues paper submission, p. 3.

⁴⁶⁴ VFF, issues paper submission, p. 6.

State Water submitted that the trade of water from the Darling to the Murray system is possible if losses are accounted for:

Interestingly a very recent trial transfer of environmental water from Toorale (near Bourke, NSW) on the Darling River to the main stem of the Murray River for the Commonwealth Environmental Water Holder did have estimated actual losses attributed to the trade—as a result only half the water purchased in the upper reaches of the system is now available for delivery in the Murray system in the south of the Murray Darling Basin.⁴⁶⁵

Capacity constraints

Stakeholders commented that existing rules to manage trade through capacity constraints and back trade, and triggers for changes to these rules, are unclear. NSWIC submitted:

... information on capacity, usage and remaining allowance is vital to an effective and efficient market. As such, well defined ‘trigger points’ need to be established, published and reported against on a frequent basis.⁴⁶⁶

NSWIC continued:

In any trade where the point of delivery changes, consideration must be given to physical supply constraints.⁴⁶⁷

The HWI submitted:

Arrangements regarding ‘back trade’ where a constraint has imposed a limit that has not been reached due to reverse directions of trade (e.g. Barmah Choke) should be explicit.⁴⁶⁸

Discussion

Hydrologic connectivity

According to the Act, one of the basin water market and trading objectives is:

to facilitate the operation of efficient water markets and the opportunities for trading, within and between Basin States, where water resources are physically shared or hydrologic connections and water supply considerations will permit water trading;⁴⁶⁹

Current water trading rules assume that the southern connected system fulfils the criterion that ‘physically shared or hydrologic connections and water supply considerations’ permit trade. However, no clear definition of this criterion is provided in the Act. Box 6.2 highlights some of the difficulties in defining hydrologic

⁴⁶⁵ State Water, issues paper submission, p. 3.

⁴⁶⁶ NSWIC, issues paper submission, p. 9.

⁴⁶⁷ *ibid.*, p. 13.

⁴⁶⁸ HWI, issues paper submission, p. 6.

⁴⁶⁹ Schedule 3, clause 3(a) of the Act.

connectivity and the implications this has for trading rules. In summary, hydrologic connectivity:⁴⁷⁰

- is time dependent
- has direction
- is only relevant to incremental volumes over and above existing flow conditions
- can be constrained at both high and low flows
- can be sensitive to the volume of the transfer being undertaken
- is subjective in the sense that it depends on sensitivity to losses (either as a socialised loss or an individual's sensitivity to loss).

It is important to recognise that hydrologic connectivity is not static. The ACCC considers that, if hydrologic connectivity and water supply considerations are likely to change over time for a given location, information to the market about the likelihood of hydrologic connectivity (and therefore the ability to deliver water) must be made available. It also considers that the triggers that change the ability to deliver water must be clearly published, along with indicators of the current situation compared to these triggers. However, water access right holders must recognise that recent climate conditions are unprecedented and triggers for hydrologic connectivity may change in exceptional circumstances.

Hydrologic connectivity in unregulated systems is discussed in section 6.2.1.

Box 6.2 Defining hydrologic connectivity (extract from SKM, 2009)⁴⁷¹

The concept of hydrologic connectivity has been applied in a number of fields to date for various purposes. These include application in ecological studies examining connectivity of floodplain wetlands to their source of water,⁴⁷² fish passage and movement of biota,⁴⁷³ in urban drainage studies looking at the connectivity of impervious areas to drains and waterways,⁴⁷⁴ and in salinity studies that link salt wash-

⁴⁷⁰ SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009.

⁴⁷¹ Extract from SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009, p 17.

⁴⁷² For example, P Frazier and K Page, 'The effect of river regulation on floodplain wetland inundation, Murrumbidgee River, Australia', *Marine & Freshwater Research*, CSIRO, 57(2), 2006, pp. 133–141.

⁴⁷³ For example, M Gordos, S Nichols, C Lay, A Townsend, C Grove, S Walsh and C Copeland, 'Audit and remediation of fish passage barriers in coastal NSW', *Proceedings of the 5th Australian Stream Management Conference*, Charles Sturt University, Thurgoona, NSW, 2007.

⁴⁷⁴ For example, S Lloyd, M Francey and L Skinner, 'Cost of incorporating water sensitive urban design into greenfields site development and application of an offset trading scheme', *International Conference on Water Sensitive Urban Design*, Adelaide, 21–25 November 2005.

off from salt scalds to local waterways.⁴⁷⁵ Hydrologic connectivity also has meaning in the context of groundwater and surface water interaction where an aquifer is hydraulically connected to a surface water body.⁴⁷⁶

In a broad sense, hydrologic connectivity simply means that two water sources are connected in some way, such that water can move from one of those sources to the other. It is clear from this simple definition that hydrologic connectivity always implies a direction of connectivity, which reflects the hydraulic properties of flowing water in natural systems. The direction of connectivity can be in both directions or only in one direction and could vary at different times.

The concept of hydrologic connectivity is linked to the concept of flow loss. Losses have previously been defined as ‘volumes of water that having entered the river system at one point do not reach a point downstream’.⁴⁷⁷ This definition was intended for use in a project on the operation of the River Murray main stem and only contemplated downstream movement of water, but nevertheless provides a good working definition of losses. The definition of a loss depends on the system boundary around which the loss is defined. A loss from a river, for example, is a gain to a groundwater aquifer and vice versa.

...

If the water at two locations is physically disconnected, such as in a reach of river upstream and downstream of an on-stream dam with no outlet works, then delivery of a small volume of entitlement from upstream of the dam will be trapped in the dam and will not be able to physically be delivered to the recipient further downstream. If the volume of entitlement being traded is large, then it may be possible to re-establish the physical connection, simply by undertaking the trade itself. Where the loss to the delivery location is less than the entitlement being transferred then the degree of connectivity becomes a subjective assessment of the feasibility of the trade from the buyer’s perspective. For example, a loss to an upstream floodplain of 99.9% of water ordered by a diverter would render the two locations hydrologically disconnected for the purposes of a feasible trade. The ability to deliver that water may however vary as hydrologic conditions fluctuate.

The definition of hydrologic connectivity can also be refined to allow for constraints on trade due to unacceptable third party or environmental impacts. Water trade may be possible during flood events on otherwise disconnected streams, but the additional area of land inundated by the volume being delivered could result in damage to property, life, livestock or the environment. These impacts can potentially be offset as part of the trade, depending on the nature of that impact.

⁴⁷⁵ For example, JD Hughes, S Khan, RS Crosbie, S Helliwell and DL Michalk, ‘The role of surface hydrology in planning salinity mitigation strategies’, *10th Murray–Darling Basin Groundwater Workshop*, Canberra 18–20 September 2006.

⁴⁷⁶ For example, S Parsons, R Evans and M Hoban, *Surface–groundwater connectivity assessment: a report to the Australian Government from the CSIRO Murray–Darling Basin Sustainable Yields Project*, September 2008.

⁴⁷⁷ *ibid.*

Based on the above discussion and in the context of water trade, **hydrologic connectivity** can now be interpreted to mean that **two water sources are connected in some way for a given period of time, such that water can be diverted from the new diversion location without unacceptable incremental losses or adverse third party impacts.**

Trading zones

In general, while physical and environmental constraints have been the reasons behind trading zones, often no detailed description of these constraints or the reasoning behind a particular trading zone is provided. It is therefore difficult for external parties to assess the appropriateness of specific zone boundaries. In any case, the ACCC has not examined specific trading zone boundaries in detail as the basin state and water authorities are in a better position to make these decisions.

The Act states that, where necessary, water authorities will facilitate trade by specifying trading zones and providing related information.⁴⁷⁸ Using defined trading zones makes the trading restrictions more transparent and relevant trading rules more easily interpreted. It may be desirable to use trading zones to communicate trading rules in areas where they are not currently defined.

Hydrologic connectivity and physical and environmental constraints may change over time. The ACCC considers that it is important that trading zones, and trading rules that refer to these zones, are updated to reflect these changes. In the majority of cases, the scheduled development and review of water resource plans will be the best time to incorporate these changes. However, there may be instances where significant changes occur (such as a major infrastructure change or new knowledge of environmental limits) and it may be appropriate to review the trading zones (and associated rules) sooner.

Transmission losses

The existing MDB Agreement and schedules are based around the assumptions in the pilot trade study that determined negligible increases in losses due to trade. However, in June 2009, the NSW Government (DWE) announced a moratorium on the temporary trade of water from the Murrumbidgee Valley to the Murray Valley, including interstate trades.

The Murrumbidgee Valley and Murray Valley have previously been considered connected. The moratorium was announced because of potentially high transmission losses that would occur if the volumes of trades into the Murray Valley via the Murrumbidgee were to continue throughout the year.⁴⁷⁹ In other words, given the volume of water held in storage for trade, the transmission losses incurred delivering this water would no longer be negligible and third party impacts for irrigators remaining in the Murrumbidgee Valley would be excessive. Water allocations that had been carried over in Murrumbidgee storages could therefore not be delivered to

⁴⁷⁸ Schedule 3, clause 4(8) of the Act.

⁴⁷⁹ DWE, 'Critical water planning for the Murrumbidgee Valley', Issue 25, 15 July 2009, http://www.dwe.nsw.gov.au/water/pdf/crit_water_mbidgee_20090715.pdf.

irrigators who had carried over the water allocations from the previous season (when delivery was not restricted).⁴⁸⁰

This example highlights that the assumption of negligible increases in losses due to trade may not necessarily be appropriate, especially considering the unprecedented dry conditions. While the Murrumbidgee moratorium was considered necessary by New South Wales to ensure unacceptable transmission losses were not incurred, unanticipated changes in the status of hydrologic connection (and therefore deliverability) between normally connected systems can significantly impact on the market. This highlights the advantages of making available information about trigger points for changes to hydrologic connectivity along with regularly reported indicators of hydrologic connectivity to allow water access right holders to understand the delivery risks.

As well as providing more information on when transmission losses may cause a restriction on trade between regulated water sources, it is also important to consider the magnitude of transmission losses. However, the importance of such an assessment will depend on the volume of traded water being delivered in comparison to existing water deliveries, along with the marginal loss caused by these deliveries.

As MDB resources are generally managed on the basis that transmission losses are socialised, some judgement on what level of loss is acceptable for delivery is required. If transmission losses reach unacceptable levels, rather than prohibiting trades it may be preferable to allow a water trade (and delivery of the traded water) so long as the purchaser is willing to incur a loss factor on the trade to account for transmission losses.

However, the process of assigning specific transmission loss volumes to individual trades (or deliveries) is highly complex. Natural inflows and variation make calculating a flow-loss relationship difficult. There is huge uncertainty in calculating losses due specifically to a change in system operation or trade.⁴⁸¹ While the best estimate of losses can be calculated, the confidence limits around that estimate may be an order of magnitude different. Etchells et al state that ‘where additional volume lost is measurable and material (i.e. greater than measurement errors) an exchange rate will be required’.⁴⁸² In other words, if the calculated change in loss is within the error margin, a location exchange rate (or loss factor) should not be applied. A summary of current available information on transmission losses is presented in Appendix 4.

A simplified method may involve calculating losses for each trading zone and allocating the losses based on the volume of water delivered through each zone. These can be used to calculate a location ‘loss factor’ (to account for losses and not to be confused with an exchange rate for reliability). Queensland has employed this approach

⁴⁸⁰ This example is further complicated by the ability to use the Snowy Hydro system infrastructure to transfer water between the two valleys, subject to the agreement of Snowy Hydro.

⁴⁸¹ L Lowe, A Horne, M Stewardson and G Earl, ‘Using irrigation deliveries to achieve environmental benefits: accounting for river losses’, International conference on implementing environmental flow allocations (IEWA), 23–26 February 2009, Port Elizabeth, South Africa.

⁴⁸² T Etchells, H Malano, and T McMahon, ‘Developing a methodology to calculate water trading exchange rates’, *Australian Journal of Water Resources*, 2003, 7:41–48.

in the Border Rivers area, where ‘storage factors’ are used (for all deliveries, not just for traded water) to account for increased transmission losses the further a zone is from the storage. Such an approach is less workable in the southern connected system due to the complex operation and large number of storages that may be used to supply any one user.

While accounting for losses at this scale is theoretically possible, there are many difficulties, including:

- the complexity of isolating the impact of trade if there are multiple storages and a complex system operation
- dealing with the margin of error in calculating losses
- deciding on the appropriate time and spatial scale to calculate losses
- incorporating losses into the administration process.

The benefits of such an approach would need to be assessed against these difficulties.

In any case, reporting information on transmission losses (even in the absence of applying a loss factor) can help users assess the scale of transmission losses due to trade and the resulting impact (if any) on other users.

Capacity constraints

Capacity constraints are currently managed by placing limits on trade across the constraint to ensure that there is no net trade through the constraint. The impact of these limits depends on the size of the markets and the relative demand for trading either side of the constraint. A high demand downstream of the (maximum) constraint would create a price differential in the two segregated areas.

Part of the difficulty in managing capacity constraints through restrictions on trade is that the nominal volume of water access rights does not adequately represent the actual flow through the river. As an example, while the volume of water access entitlements downstream of the Barmah Choke may remain constant, crop types may change, thereby increasing demand over a smaller number of months. Similarly, in years of low allocation, as seen recently, there may be free capacity through the Barmah Choke. Restricting ‘permanent’ water access entitlement trade (or indeed ‘temporary’ allocation trade) does not ensure that network limits can be met without rationing delivery, and means that some of the potential benefits to be gained through trade are lost.

An alternative approach is to establish a market in the trading of delivery shares across capacity constraints. This option is considered in box 6.3.

Box 6.3 Delivery shares in river systems

Delivery shares would entitle the holder to delivery through a capacity-constrained river system and would be akin to water delivery rights for the river system.⁴⁸³ This would mean that a buyer must not only hold a water allocation but also have a share of the delivery capacity through the constraint to have access to the water allocation. The advantage of this approach is that it would allow water users to better manage their own risk in relation to upstream delivery. However, implementing such an approach requires consideration of a number of issues:

- the temporal scale of delivery shares (e.g. daily, monthly, annual)
- the initial allocation of delivery shares (based on historical use and timing of deliveries, or divided evenly across all water access entitlement holders downstream of the capacity constraint)
- the ability for individuals to manage their delivery shares relative to a centralised approach where storage operators manage delivery decisions
- the relative benefit compared to the increased administrative costs
- the implications for investors if infrastructure projects increase capacity (and thus potentially devalue delivery shares).

Moving to delivery shares to manage capacity constraints would require large-scale adjustments to the way water is managed in the MDB. It is likely that administration costs would increase for all parties involved. Therefore, it would only be a viable alternative if there is significant, frequent demand for this type of product in a particular location. It is not feasible to make these large-scale adjustments in the short term nor have the benefits of such adjustments been assessed in detail. It is outside of the scope of this paper to make these sorts of assessments. However, the benefit of establishing explicit delivery shares would be likely to be enhanced if these shares were fully tradeable, independently of water access rights.

The ACCC considers that, given the current approach to managing constraints, more information about the conditions under which rules are likely to be suspended or amended, and the likelihood of those conditions occurring in the coming season, would assist market participants manage their water needs. This would ideally involve developing transparent triggers for suspension or amendment of trading restrictions due to capacity constraints.⁴⁸⁴

If trigger levels are developed, they should also include the trigger levels or conditions under which the suspended or amended rule is likely to revert to its original form. The ability to develop transparent triggers will depend on the complexity involved in understanding the drivers of the constraint.

Even where trade from one trading zone to a second trading zone is restricted due to a capacity constraint, back trade may still be permitted to the extent that trade has already occurred from the second trading zone into the first trading zone (thereby freeing up

⁴⁸³ Water delivery rights, as they relate to irrigation networks, are discussed in chapter 7.

⁴⁸⁴ These information requirements would be similar to those outlined in the previous discussion about the communication of transmission losses; namely, that triggers for the presence or absence of capacity constraints should be clearly stated and, together with information on transmission losses, would represent a measure of hydrologic connectivity.

capacity in the constraint). With back trade, the ability to trade water varies continually as trades in the opposite direction occur. Publishing information on the capacity for back trade will improve these trades and make the process more transparent. As an example, the Victorian Water Register continually publishes information on available back trade volumes for intervalley transfers.⁴⁸⁵

Preliminary positions

- (6-A)** Water resource plans should define trading zones for regulated systems, on which location-specific trading rules are referenced. The rationale behind each zone should be explicitly stated in the water resource plan (for example, environmental or physical constraint).
- (6-B)** While differences in jurisdictions or management authorities may require different trading zones, they should not (in isolation) limit trade between these two zones.
- (6-C)** The ACCC supports the following principles in relation to regulated systems (based on the MDBC manual):
- trades within a trading zone should generally not be restricted
 - downstream trades between hydrologically connected systems should generally be possible
 - where a downstream trade is impeded by a physical constraint to channel capacity (and delivery shares across that constraint have not been created), it should only be approved as back trade
 - where an upstream trade is made into a separate hydrological system, it should only be approved as back trade
 - trades should be possible between the upper reaches of regulated river systems that converge downstream, provided that any supply obligations of the original location's river below the point of confluence, which may be affected by the trade, are assumed by the destination location's river
 - upstream trades from a location supplied by more than one source to a location supplied by only one of those sources should be possible, but may be subject to special limits and conditions.
- (6-D)** Trading zones and water trading rules that refer directly to these zones, should be re-assessed and if necessary amended in the event that hydrologic connectivity, or physical or environmental constraints change.

⁴⁸⁵ DSE, Victorian Water Register, [Allocation trade and back trade opportunities](http://www.waterregister.vic.gov.au), available online at www.waterregister.vic.gov.au.

- (6-E) The current and likely future magnitude and variability of river transmission losses in the MDB should be assessed, and, if found to be significant, options to account for these losses should be explored.
- (6-F) Operators should regularly provide information to market participants about the likelihood of short-term changes to trading restrictions due to changes in hydrologic connectivity. This information should include relevant values (such as trading volumes or storage levels) relative to defined trigger values, estimates of transmission losses, the use of available delivery capacity and back trade opportunities.

6.1.2 Managing water access right characteristics

Background

Water access rights within regulated systems generally take the form of clearly defined water access entitlements, with an expectation that extraction is possible at any time, subject only to the physical limitations that surround the delivery of water. The main concern in relation to facilitating trade between regulated system trading zones is how to maintain the characteristics of a water access entitlement as the associated point of extraction moves from one location to another. This is particularly important for protecting third party interests.

There are two commonly used methods for managing the trade of water access entitlements between regulated systems: exchange rates and tagging.

Exchange rate trade involves the cancellation of a water access entitlement in the source area and the creation of a new water access entitlement in the destination area, which may also be within a different state. Through an exchange rate trade, the new entitlement will take on the same characteristics of other water access entitlements in the destination area.⁴⁸⁶ This approach was adopted in the MDBC's pilot interstate water trading project.

Tagged trade, which is now widely adopted, allows water allocations under a water access entitlement to be available for extraction in a different area to the source, which may also be within a different state. The key difference of tagged trade to exchange rate trade is that the characteristics of the water access entitlement are maintained and the water access entitlement remains on the original register (i.e. the source area of the water access entitlement does not change and there is no cancel / re-issue process).

⁴⁸⁶ Exchange rates may also be employed for trades in non-regulated systems and / or involving water access rights other than water access entitlements. These trades also involve a cancel / re-issue of rights.

Summary of submissions

Stakeholders expressed concerns about potential third party impacts if exchange rates are used. The NFF submitted that it:

... does not support an exchange rate approach due to the inherent risks of negative third party impacts.⁴⁸⁷

The South Australian Government noted:

It has proven difficult to establish robust exchange rates for interstate trade in the southern MDB that completely avoid perverse outcomes (such as compromising reliability of other water access entitlements) and opportunities for arbitrage.⁴⁸⁸

The use of tagged trade was generally accepted by interested parties at a conceptual level. Concerns about tagged trading focus on the complexities of the tagging process and the ensuing delays rather than the conceptual basis of tagging itself. These concerns are discussed in detail in section 6.1.3 and pertain mainly to interstate trade.

Discussion

Tagged trade and exchange rates are the two mechanisms currently used to facilitate water access entitlement trades to a new location.

There are a number of different approaches to defining an exchange rate. However, regardless of the approach adopted, the ACCC considers that exchange rates will never appropriately protect against negative third party impacts.⁴⁸⁹

In its simplest form, an exchange rate trade can be thought of as the relationship between the long-term allocations in the seller's area and in the buyer's area. If the allocations are perfectly correlated (a regression with an $r^2 = 1$), an exchange rate could be used to accurately convert the water access entitlement to the new region with no third party impacts. However, if there is a less than perfect correlation (in other words, there is a limited relationship between allocation announcements in the two areas), a fixed exchange rate will not, in any given period, accurately represent the properties of the original water access entitlement once traded to the new location.⁴⁹⁰ Appendix 5 provides a worked example to demonstrate this point.

⁴⁸⁷ NFF, issues paper submission, p. 12.

⁴⁸⁸ South Australian Government, issues paper submission, p. 9.

⁴⁸⁹ Etchells, 'A methodology for calculating water trading exchange rates in the Murray Darling Basin', PhD thesis, The University of Melbourne, 2004, p. 68.

⁴⁹⁰ The concept of converting a water access right between priority classes, discussed in section 3.9, is subject to similar challenges.

There are a number of potential impacts from allowing exchange rate trades. However, they all involve existing right holders having less water available than would otherwise be the case.⁴⁹¹

Alternatively, a water access entitlement trade can be facilitated through tagged trading, with the entitlement tagged to allow extraction of water in an area other than the water source of the entitlement. The source of the entitlement does not change and other characteristics of the entitlement also remain as they were. For example, the holder of a water access entitlement to water in area A can, through the establishment of a tag, extract water allocations made to this entitlement in area B. However, the amount of water allocated to the water access entitlement is determined with reference to the amount of water available in area A, not area B.

The *National Water Initiative water trading study: final report*⁴⁹² summarised the benefits and difficulties of both the exchange rate and tagging approach, as set out in table 6.1.

Table 6.1 Summary comparison of tagging and exchange rates (adapted from PricewaterhouseCoopers (PWC), 2006)

Criteria	Exchange rates	Tagging
Efficiency and equity	<p>Primary concern is the potential for third party impacts, both in a ‘normal’ season, during extreme allocation events (e.g. very low announced allocations) and when underlying water sharing/resource plans are revised</p> <p>Any third party impacts would be shared by all water access entitlement holders in the receiving valley/state</p>	<p>Limits third party impacts by retaining the link between the entitlement and the risks and responsibilities carried by the entitlement holder</p> <p>Removes third party impacts and places risks with the buyer</p>
Climate change and risk	<p>Impact of climate change on rainfall/inflows will be different between states and valleys. To address this risk, exchange rates will need to change over time, and to avoid third party impacts would need to be retrospectively applied (which states have signalled would not occur)</p>	<p>Risk is assigned to the buyer, including future changes in reliability or system performance resulting from climate change or other factors</p>

⁴⁹¹ What group of existing rights holders is most affected depends on the relative water availability between the origin and destination areas, what arrangements are in place to provide water from the origin to the destination area and the exchange rate used.

⁴⁹² PricewaterhouseCoopers, *National Water Initiative water trading study: final report*, prepared for the Department of the Prime Minister and Cabinet, June 2006, p. 99.

Product choice	Product choices limited to water access entitlements available in the state of destination	Market participants can choose between water access entitlements from any system (able to be physically transferred) and with varying reliability and characteristics
Administrative practicability	Simpler from irrigator's perspective, as avoids the need for the purchaser to obtain information on another jurisdiction's water management frameworks. Entitlement holders may have more confidence in their 'home' jurisdiction, and hence be more likely to look interstate to trade with an exchange rates system	Transactionally and conceptually less complex at the state level Some ongoing administrative issues in communications protocols/information sharing between jurisdictions, though not significant

Whereas a tagging approach perfectly matches water availability in the destination area with water availability in the source area, an exchange rate approach must estimate this in advance—either as a once-off or on a periodic basis. The more frequently exchange rates are adjusted, the closer this approach comes to the real-time matching achieved through tagging, and the more likely that third party impacts can be minimised. However, there will be a corresponding increase in the complexity of the transaction process.

The potential for negative third party impacts from exchange rate trade are high and will only be exacerbated by the different effects of climate change throughout the MDB. Overall, the ACCC considers that it is important that trade maintains the original water access right characteristics. A tagged approach to trading in regulated systems ensures that the water access right remains the same product and does not cause a decrease in water availability and/or an erosion in the reliability of others' water access entitlements.

Preliminary position

(6-G) Tagging, and not exchange rates, should be used to manage the trade of water access entitlements between trading zones in regulated systems.

6.1.3 Administrative processes

Background

Trade approval processes (other than tagged trade processes) are discussed in chapter 5.

Tagged trade is used to enable both intrastate and interstate trade. As an example of an intrastate tag, consider a person who purchases a Goulburn water share (water access entitlement) for use on the Murray in Sunraysia (both within Victoria). A tag is established to allow the Goulburn water share to be used in a different location and to allow reconciliation between water accounts in the two areas.

The water access entitlement holder continues to order water from their account just like any other order. Once water has been ordered, a behind-the-scenes accounting process is undertaken. The wholesale water accounts (Inter-Valley Transfer accounts) are adjusted to indicate that the Goulburn system 'owes' the Murray system the volume of water ordered. The water can then be called on as required by the River Murray operator. This process works efficiently as the accounting for the two systems is linked.

The tagged trading process for interstate trades is complicated because the two accounting systems are not linked. The processes can be particularly complicated when ordering water from the tagged entitlement and reporting and accounting for the water used.

When an order is placed by the owner of a tagged water access entitlement, their retailer will be required to contact the relevant wholesaler (bulk water provider) in the state of origin to confirm if an ordered volume of water is available in the account. Once the actual usage has been measured (i.e. a meter reading) in the state of destination, the actual usage must then be reported back to the state of origin so that the accounts can be reconciled. Appendix 6 provides a flow chart summary of the tagging process, from establishing the original tag to ordering the water and reconciling accounts.

Summary of submissions

Stakeholder comments on the administrative processes focused on interstate trade arrangements and their complexity. The NFF noted:

It is not tagging per se that is the issue, but the approval processes required around the permanent sale of water.⁴⁹³

The NSWIC submitted:

Maximum timeframes for approval by state administrative bodies must be mandated in the Rules with penalties for noncompliance.⁴⁹⁴

State Water noted:

This process is cumbersome, time consuming and, as a consequence, is often avoided by the customer in favour of annual temporary trades. This could be improved by some simple interoperability between state systems. State Water notes that the cost to develop these systems is not currently being recovered through water charges or transfer (trading) fees. State Water would welcome trading rules that facilitate such improvements.⁴⁹⁵

⁴⁹³ NFF, issues paper submission, p. 13.

⁴⁹⁴ NSWIC, issues paper submission, p. 11.

⁴⁹⁵ State Water, issues paper submission, p. 4.

WMI noted:

It is too hard and not well understood by State departments. This is reflected in the small number of tagged interstate trades occurring. WMI is not prepared to have tagged licences attached to its works licences where there is no ability to manage the licence.⁴⁹⁶

DERM submitted:

The more simple the process, the more likely that water users will participate. Hence, any improvements should seek to enhance processes that accord as much as possible with a pure tagged model.⁴⁹⁷

Discussion

The complexity (relative to water allocation trade) of ordering water from a tagged water access entitlement may be a factor in the relatively limited number of tagged trades that have occurred. Rather than establish a tag, people may instead elect to periodically trade water allocations to themselves from their interstate water access entitlement.

There are some trading zone combinations where water allocation trade is permitted but where water access entitlement trade is not. The main reason for this relates to the time scale of the trade. A water access entitlement trade is valid in the long term and hence any changes arising from the trade must be suitable for the foreseeable future. Conditions on water allocation trades, however, need only be valid for the season (or part of a season) in which the trade is made.

This distinguishes trade between areas that have continual hydrologic connectivity from areas where delivery is not continually possible. However, the timing of a water allocation trade does not necessarily define the timing (or, with carryover, the season) of delivery of that water.

Under current arrangements, a tag can only be established if there is ensured delivery in the foreseeable future. However, it is unclear whether a tagged trade actually provides increased security of delivery. Arguably, if a water allocation trade is not permitted between two locations in a given year due to delivery concerns, delivery of tagged water should also not be permitted. In effect, a tag trade (or a water access entitlement) is a pre-approved trade of all water allocations made to the tagged entitlement on a continual basis.

Where water allocation trade requires paperwork for each transaction, establishing a tag for a water access entitlement involves a once-off approval process. However, rather than being an advantage for water access right holders, the current complexities of ordering water under a tag system makes the approach less appealing.

There are a number of ways that current administrative processes could be improved. Improved communication flows between state authorities—considered in section 5.3 in

⁴⁹⁶ WMI, issues paper submission, p. 6.

⁴⁹⁷ DERM, issues paper submission, p. 4.

the context of trade approvals—may assist with the management of tagged trades. For example, the state of origin (SOO) authorities could email any changes to account balances for a water account associated with a tagged entitlement to the state of destination (SOD). This could include information on trades in progress, temporary delivery issues, credits for new allocations and so on. Similarly, for a tagged entitlement, the SOD could send SOO authorities metered use information as it is collected. This would require more efficient communication approaches between the state authorities (an issue that is currently being considered by Basin state governments and their agencies).

An alternative approach would build on the relatively well-established processes used to manage water allocation trade while retaining a key advantage of the current approach to tagging—that is, the certainty that water from the SOO area can be used in the SOD area. The ACCC considers that there may be merit in establishing a system where holders of a tagged entitlement can elect to have water allocations made to that entitlement automatically transferred to their SOD account according to pre-set criteria. These criteria could include, for example, moving the water allocations as they are announced in the relevant area of the SOO once a particular volume of allocations are reached, by reference to allocation levels in the SOD, some other criteria or simply upon demand.⁴⁹⁸ The appropriate criteria for automatic transfers that would be offered to water access entitlement holders would need to be considered with reference to information requirements (for the SOO authority in particular) and likely irrigator demand.

This approach means that water would be made available to the owner of the tagged water access entitlement in their preferred water allocation account (in the SOD) and could be ordered in the same way as any other water in the account. There would be no greater need for an account reconciliation between interstate authorities than there is with current arrangements for water allocation trade. The authority in the SOD would be responsible for managing water orders, metering and billing for usage (as the entitlement will remain in the SOO, any fixed entitlement charges would still be payable to the relevant authority in the SOO).

In the medium to long term, this approach may also reduce the pressure on approval authorities as it will automate water allocation trading applications from people simply trading the water allocation from interstate (where they may own a water access entitlement) to their local area for use.

Once a water allocation is traded (automatically or manually) it may no longer have access to carryover in the SOO (and it may not be possible to trade the water allocation back to the SOO). This is a more significant issue where basin states have markedly different carryover policies but the ACCC notes that carryover may still be available in the SOD. Also, irrigators will be able to take into account any variation in carryover

⁴⁹⁸ If there is an argument that such arrangements cannot be allowed because of capacity constraints (minimum or maximum), a tag as we currently know it should not be allowed either. If a constraint is binding (such as the choke) then the proposed new ‘tag’ would, in effect, allow ‘queue-jumping’ in determining what water should be allowed through. These positions seek to replicate the existing (relatively efficient) allocation transfer system to give effect to water access entitlement (permanent) trades.

policies when deciding whether to establish an automatic transfer and on the criteria to apply for that transfer.⁴⁹⁹

Preliminary position

(6-H) The administrative process associated with tagging should provide irrigators with the option of how they access allocations made to their tagged entitlement, including the option for allocations to be automatically transferred to the irrigator's account in the area of destination according to set criteria.

6.2 Trade in unregulated systems

Unregulated river systems are those that do not have large flow regulating structures to provide water for extractive uses. Some rivers which have a large storage may nevertheless be considered to be unregulated if there are a large number of water users who are not able to access the water stored in the storage. In addition, a regulated system may become unregulated once delivery of the stored water can no longer be assured to water users at some distance downstream.

This section follows a similar structure to the previous section regarding regulated systems. However, the management of water access right characteristics and administrative arrangements are discussed together (in section 6.2.2) as there is a trade-off between the complexity of the administrative processes and the ability to manage water access right characteristics during the trade process.

6.2.1 Hydrologic connectivity and water supply considerations

Background

The concept of hydrologic connectivity was discussed in section 6.1.1 in relation to regulated systems. Hydrologic connectivity is also a significant issue for unregulated systems, in particular in the northern part of the MDB.

This section considers hydrologic connectivity with a focus on the implications for setting trading zones and the ability to trade along rivers that are intermittently connected.

The ability to deliver water⁵⁰⁰ from one unregulated system (or zone) to another will depend on hydrologic connectivity and water supply considerations, including:

- degree of continual flow
- river transmission losses

⁴⁹⁹ See section 3.10 for a discussion of carryover provisions generally and section 9.4 regarding the availability of information about changes to carryover policies.

⁵⁰⁰ This may be an accounting procedure rather than the physical movement of water from one location to another.

- timing of available flow.

While there are parts of the MDB that have continuous flow (either naturally or through regulation), there are some systems that are only intermittently connected and/or have high river transmission losses. While trade between two continuously connected systems should be possible, it is more complicated to define rules to give effect to trade between two systems that are intermittently connected. Currently, water access entitlement trade is only allowed in systems that are continually hydrologically connected with delivery continually possible. Only allocation trade is possible between systems that do not meet these criteria continually—for example, between the Murray River and Darling River.

Various Basin-wide measures of connectivity are available. However, to date, these have mostly focused on average connectivity rather than specifically on high or low flows in a particular point in time.

The CSIRO's Murray–Darling Basin Sustainable Yields Project examined annual average hydrologic connectivity under historic climate conditions, without development (i.e. no storages or diversions in the MDB).⁵⁰¹ River system models—Integrated Quantity, Quality Model (IQQM) and Resource Allocation Model (REALM)—were used to determine delivery efficiency: the fraction of available water at a given location that would flow to downstream areas and the Murray mouth. This information is presented in table 6.2.

As an example, a flow in the Paroo River (in the north of the MDB) would lose on average 23 per cent of water from the point of maximum flow in the catchment to the outlet of that catchment (or 77 per cent would reach the end of catchment). None of the flow from the Paroo catchment would reach Bourke or the Menindee Lakes on the Barwon-Darling River, or the River Murray downstream. By comparison, 75 per cent of the flow in the Goulburn-Broken River (part of the southern connected system) would reach the River Murray mouth (with only 25 per cent lost on average).

It is important to understand that the accuracy of this information is limited to the accuracy of the models on which they are based. However, the information still provides an indication of the areas of the MDB that are strongly connected and those that are only weakly or intermittently connected. The figures presented in this study are annual averages. Where low delivery efficiencies are reported, this indicates that either regular losses are occurring throughout the year or the system is hydrologically disconnected for long periods of time.⁵⁰²

⁵⁰¹ CSIRO, *Water availability in the Murray–Darling Basin: a report to the Australian Government from the CSIRO Murray–Darling Basin Sustainable Yields Project*, October 2008.

⁵⁰² SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009, p. 24.

Table 6.2 Average annual surface water delivery efficiencies from CSIRO Murray–Darling Basin Sustainable Yields Project under historical climate and without development conditions⁵⁰³

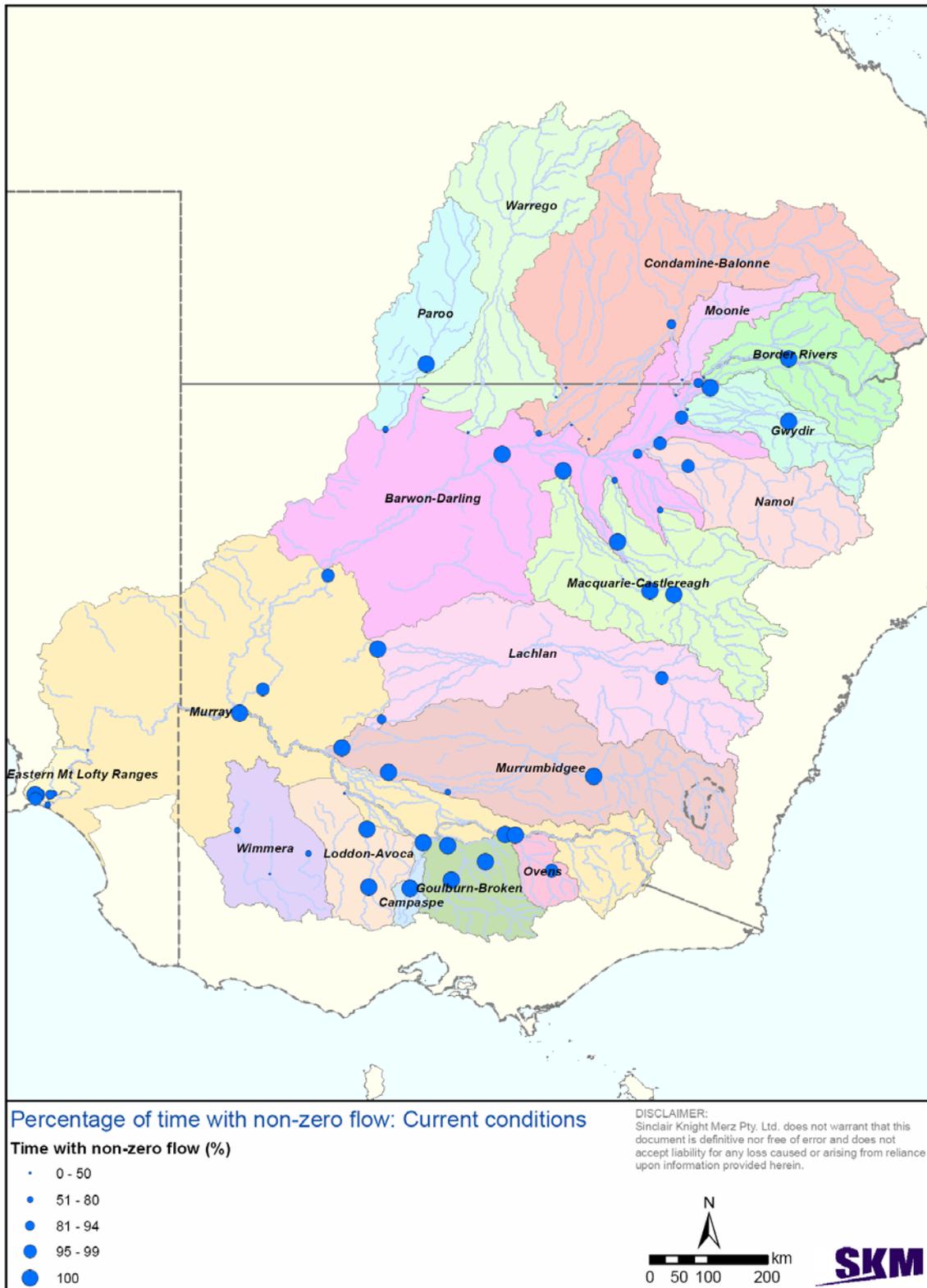
	Maximum flow (GL/y)	End-of-system*	Bourke	Menindee (upstream of lakes)	Burtundy	Yarrawonga	Wentworth	Murray mouth
Paroo	445	0.77	-	-	-	-	-	-
Warrego	423	0.16	-	0.07	0.04	-	0.04	0.03
Condamine-Balonne	1,298	0.43	0.41	0.33	0.21	-	0.21	0.18
Moonie	98	0.98	0.84	0.74	0.40	-	0.40	0.34
Border Rivers	905	0.92	0.77	0.62	0.38	-	0.38	0.32
Gwydir	782	0.48	0.41	0.33	0.20	-	0.20	0.17
Namoi	888	1.00	0.92	0.76	0.43	-	0.43	0.36
Macquarie-Castlereagh								
Macquarie	1,460	0.48	0.43	0.35	0.21	-	0.21	0.17
Castlereagh	107	0.68	0.61	0.50	0.29	-	0.29	0.25
Barwon-Darling								
Bourke	3,484	0.84	1.00	0.84	0.54	-	0.54	0.46
Menindee	2,944	1.00	-	1.00	0.64	-	0.64	0.54
Lachlan	1,139	0.25	-	-	-	-	-	-
Murrumbidgee	3,842	0.69	-	-	-	-	0.68	0.61
Ovens	1,776	1.00	-	-	-	0.99	0.81	0.70
Goulburn-Broken	3,233	1.00	-	-	-	-	0.86	0.75
Campaspe	275	1.00	-	-	-	-	0.86	0.75
Loddon-Avooca								
Loddon	201	0.61	-	-	-	-	0.52	0.45
Avooca	84	0.30	-	-	-	-	-	-
Wimmera	219	0.08	-	-	-	-	-	-
Eastern Mount Lofty Ranges	122	0.99	-	-	-	-	-	-
Murray	14,493	0.84	-	-	-	-	1.00	0.84

* as represented in river model

Figure 6.3 shows information about low flow hydrological connectivity across the MDB. The figure shows that most of the MDB is hydrologically connected at low flows because water flows (or does not cease to flow) at many locations across the MDB at all times (under historic climate conditions and current river operation). The situation is similar under predicted climate change scenarios.

⁵⁰³ CSIRO, *Water availability in the Murray–Darling Basin: a report to the Australian Government from the CSIRO Murray–Darling Basin Sustainable Yields Project*, October 2008, p. 31.

Figure 6.3 Spatial variability in cease to flow from CSIRO Sustainable Yields Project under historical climate and current water plan operation⁵⁰⁴



⁵⁰⁴ SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009, p. 25.

In the context of water trading, the ability to forecast losses in real time can be advantageous. The accuracy of forecasting periods of hydrologic connectivity for high flows and low flows (including losses) depends on local circumstances. Appendix 7 provides examples of some of the possible approaches and complexities.

The MDB covers a vast area and unregulated systems, particularly in the north of the MDB, can stretch for hundreds of kilometres. A flood event in one part of an unregulated river will take time to travel down the system and the event will attenuate⁵⁰⁵ as this occurs. For example, along the Darling River travel times can be several weeks and flood peaks can be tracked from the upper Barwon River through to the Lower Darling River. If a trade occurs in an unregulated system, the distance between the buyer and seller may change the ability to extract water (e.g. the number of days that flow is available in the flow event).

Trading zones can be used to define zones within unregulated systems that are considered hydrologically connected. Many jurisdictions have further refined trading zones to indicate areas within which trade can occur without third party impacts. Queensland's Border Rivers resource operation plan (ROP) provides a good example of this.⁵⁰⁶ The ROP also allows trade between zones but requires a detailed individual assessment to ensure third party interests are managed.

Summary of submissions

Submissions regarding hydrological connectivity, and in particular losses, were summarised in section 6.1.1 with reference to regulated systems.

Discussion

Trade is currently allowed between zones where there is a continual connection. It is arguable that trade should also be permitted between systems where there is only intermittent connectivity. However, a clear system or approach to define the timing and frequency of hydrologic connection (flow between zones) would be required to allow the buyer to make informed decisions about the likelihood of delivery (or risk of not receiving water).

In systems with high losses, trade should arguably be allowed provided the buyer is prepared to incur the river transmission losses and bear the risks of not having water delivered at the preferred time. As an example, this approach could allow trade between the Darling River and the Murray River. A process for calculating, reporting and apportioning the losses would need to be developed. However, the movement of water arising from the Australian Government's Toorale purchase, described in box 6.4, suggests that such calculations can be made.⁵⁰⁷

⁵⁰⁵ The peak of the event will be a lower volume but the event will be spread over a longer duration as it passes the downstream location.

⁵⁰⁶ Department of Natural Resources and Water, *Border Rivers resource operation plan*, The State of Queensland, Brisbane, 2008.

⁵⁰⁷ Note that the delivery of Toorale water to the Murray System involved the movement of water from an unregulated catchment into the regulated system. This issue is discussed in section 6.3. The description is included here as an example of loss estimations in unregulated systems.

Box 6.4 Delivery of Toorale allocation

In September 2008, the Australian Government announced that it had supported New South Wales in the purchase of Toorale Station, which is located on the junction of the Warrego and Darling Rivers in north-west New South Wales. The property included entitlements to extract 14 GL of water from the Darling and Warrego Rivers, along with rights to harvest water from the floodplain. The water rights will be transferred to the Commonwealth Environmental Water Holder (CEWH) when New South Wales regulations allow water to be held separately from land. The Australian Government announced that in securing these entitlements and floodplain harvesting rights, the purchase will return an average of 20 GL to the Darling River each year, peaking at up to 80 GL in flood years.⁵⁰⁸

A large rainfall event in February and March provided flows in the Darling and Warrego Rivers that would collectively provide inflows of 189.2 GL to the Menindee Lakes storages. It was estimated that, had Toorale Station been privately owned, 11.4 GL would have been diverted or stored on Toorale Station. Rather than diverting the 11.4 GL, this water was allowed to continue downstream to Menindee Lakes. At the time, New South Wales had control of Menindee Lakes under the MDB Agreement and allowed part of these flows, including the water from Toorale, to flow downstream to the Murray River. The delivery of water from Toorale Station to the Murray system was negotiated as a trial. As noted by DWE: ‘Under normal circumstances, when the Water Sharing Plan for the Murray and Lower Darling Rivers is in effect, there is no provision to enable a water entitlement purchased in the unregulated Barwon-Darling River to be transferred for use as a licensed entitlement in the Murray or Lower Darling River valleys.’⁵⁰⁹

To determine the proportion of the 11.4 GL that would reach the River Murray, DWE estimated the losses associated with various stages of the transfer.⁵¹⁰ Firstly, the transmission losses associated with the total flow of 189.2 GL that reached Menindee Lakes was calculated. Based on this calculation, 10.4 GL of the Toorale water was calculated to have entered the Menindee Lakes (with 1GL lost in seepage or evaporation). During storage at Menindee lakes, an additional 0.5 GL was lost through evaporation, with additional transmission losses of 1.1 GL as water flowed from Menindee Lakes downstream to the River Murray. In total, of the original 11.4 GL, 8.7 GL was calculated as reaching the River Murray.

Additional flows from the Darling River into the Murray River are shared between New South Wales, Victoria and South Australia under the MDB Agreement. However, in the case of the 8.7 GL of water from Toorale Station, New South Wales (7.2 GL) and South Australia (1.5GL) agreed to make this water available to the CEWH for environment watering.

⁵⁰⁸ Senator the Hon. Penny Wong and Carmel Tebbutt, Joint Media release, [Commonwealth and NSW purchase Toorale](#), 10 September 2008.

⁵⁰⁹ DWE, [Proposal to enable environmental water entitlements acquired in the Darling River at Toorale Station, to be diverted downstream of the Menindee Lakes](#), May 2009, available online at www.dwe.nsw.gov.au, viewed 7 September 2009, Pg 1.

⁵¹⁰ *ibid.* p 2.

To achieve this, the 8.7 GL that flowed into the Murray was used to meet other allocation requirements on the River Murray, and the CEWH was given an allocation credit. The CEWH was then able to order the release of environmental water from one of the Murray storages at an appropriate time to meet environmental requirements.

The Toorale process demonstrates one of the key points in considering hydrologic connectivity: ‘connectivity for the purposes of trade depends on the preparedness of the buyer to accept losses associated with the subsequent delivery of that water’.⁵¹¹

This approach is only feasible if the losses associated with the delivery of traded water are quantifiable prior to the trade (or delivery) taking place. In the case of Toorale, where the trade was into a regulated system, there was an option to reconcile this loss calculation after an initial conservative estimate of losses. This would not be possible for trade between two unregulated zones.

Another issue to overcome is ensuring that, as this water moves across state boundaries (or in some cases across management areas), it is still protected as environmental water. Current state sharing arrangements often reassign water as it crosses the state boundary.

Producing information on losses, and making this information available to inform market participants, can happen in a number of ways. SKM provides the following approaches as examples:

Firstly, this could include making publically available an estimate of the likely losses throughout the Basin, particularly in areas where trading along intermittently connected streams is likely to be in high demand. This would involve the MDBA or State Agencies defining the estimated losses associated with potential trades using the information available to those agencies [as outlined earlier in box 6.4]... Such an exercise could be time consuming, depending on the geographic scale of the assessment, and would best be concentrated to areas of anticipated high demand for trade.

Alternatively, the onus could be placed on the buyer to demonstrate to the regulating authority that losses have been accurately accounted for prior to the trade being approved. This would require significant effort on the part of the buyer and would potentially slow the trade approvals process. In systems where windows of opportunity to divert water are short, this may not be an appropriate method of assessing potential temporary trades.

In conjunction with either option, the onus would need to be placed on the buyer to demonstrate that the volume actually diverted at the downstream location is compliant with the licence conditions after taking into account the delivery losses. This would involve specifying metering requirements on the buyer.⁵¹²

Losses are flow dependent. In the case of the Toorale transfer, as a large flood event was travelling down the Barwon-Darling River (189.2 GL), the percentage of losses apportioned to the Toorale volume was relatively small. However, had only the 11.4 GL been instream, it is likely that most, if not all, of that water would not have been lost from the surface water system.

⁵¹¹ SKM, *Water trade and the hydrological connectivity of surface water systems: a report to the ACCC*, 2009, p. 38.

⁵¹² *ibid.*, p. 39.

Again, in the process of releasing water from the Darling River to the Murray River, for larger release volumes (providing there is no overbank flow), the proportion of water lost in transfer will be smaller. This means that the viability of a trade, where the delivery losses are borne by the buyer, will potentially change depending on whether other trades are occurring at the same time.

Reducing the losses at low flows across multiple users by concurrent timing of deliveries would require those users to be able to communicate with each other about the nature and timing of proposed trade. This communication for combined trade could occur either informally among individuals directly via the relevant state agency (i.e. the state agency informs individuals when they think a flow event may make a distance downstream and the volume of trade required to minimise losses based on the volume they have received) or via an open list of water orders, possibly internet-based. Diverse water products, such as options contracts, could also be considered where downstream buyers could nominate a time period, volume and percentage loss at which the trade option would be suitable to their needs. In summary, the ACCC considers that, if trade along intermittently connected rivers is to be feasible, consideration should be given to methods of communication between diverters so as to reduce overall losses when delivering the water.

Preliminary positions

- (6-I)** Water resource plans should consider the potential for trade of water along rivers which are intermittently connected. To inform this process:
- more detailed information should be established and publicly reported about delivery losses
 - arrangements for better communication between water users about options to minimise delivery losses for such trades should be investigated
 - if triggers are used to define hydrologic connectivity, these should be clearly stated, reported against and communicated.
- (6-J)** Where the likely benefits outweigh the likely administrative costs, trading zones should be established for unregulated rivers, defining areas within which trade can occur without detailed assessment. These trading zones should consider:
- that hydrology should be homogeneous within the zone
 - the location of important environmental assets and major offtakes
 - the existing volume of available water and likelihood of further development
 - transmission losses and local catchment inflow.

6.2.2 Managing water access right characteristics and administrative processes

Background

Water access rights in an unregulated river system are generally issued to water users who extract water directly from the river. Water may be diverted to meet immediate needs, or water users may divert water into off-stream storage for later use. The latter is more common in northern MDB catchments where unregulated flows are event based and pumping is opportunistic.

The specific characteristics of water access rights in unregulated rivers vary between basin states and the conditions applicable to various characteristics can be enforced through a range of mechanisms. However, generally the water access rights consist of some combination of the following:

- location of the extraction point
- daily extraction rate
- timing of extractions
- restriction rules
- maximum extraction volume
- storage volume
- purpose of use.⁵¹³

SKM describes these components as follows:

The **daily extraction rate** is the maximum volume that a water right holder can divert from the river in any given day. It may not be specified on a water licence and it is rarely metered. However, there are often physical constraints on individual water users such as their pumping capacity, size of their off-stream storage, the area they are irrigating or the availability of water in the waterway.

The **timing of extractions** may also be restricted to a particular season. For example, in Victoria a distinction is made between annual licences and winterfill licences. The holder of a winterfill licence is only able to divert water during specified months (usually May to November) and will often store water in an on-stream or off-stream dam for use over summer.

A water access right may be **restricted** or constrained by flow conditions. A common constraint is a cease-to-pump rule which does not allow water users to divert water when the flow at a given point in the waterway falls below a specified threshold. In the southern areas of the Murray Darling Basin the cease-to-pump rule is most likely to be a response to low flow conditions. However, in the northern region where the availability of water is restricted to flooding events, pumping periods are announced.

There may also be conditions placed on a water access right that allow the management of extractions across the catchment when there is not enough flow to meet the

⁵¹³ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p. 4.

requirements of all users. These conditions, restrictions or rostering rules, may limit the daily extraction rate of all users, they may restrict the days on which individual users can divert water or they may restrict some users from diverting any water during specified ranges of flow.

The **maximum extraction volume** is the maximum volume of water that can be diverted over a period of time, such as a year or winterfill period. The maximum divertible volume may be determined by the number of days in which pumping is possible and the **daily extraction rate**.

... some water users may construct an off-stream storage. This allows them to divert water when it is available and store it until it is needed, either in a different season or a subsequent year. In some cases the volume of the off-stream storage may be specified on the licence. On-stream storages are also used, with the storage constructed across a waterway. These storages capture water during the wetter months and is extracted from the dam when required...

The reliability of a water access right and the average annual volume of water available to the water user will depend on their maximum extraction volume, the daily extraction rate, *restrictions* on extractions (such as the cease-to-pump rule), available water (determined by location) and their ability to store water. In an unregulated system, the combination of all characteristics contributes to the reliability.⁵¹⁴

Obtaining a licence to extract water from a waterway at a particular location is generally separated from the water access right. For example, in the Australian Capital Territory both a water allocation and a water licence must be held to take water. Water access rights tend to provide a maximum annual volume, with restrictions under certain circumstances. SKM continues:

A daily extraction rate is specified for water users in the ACT and Victoria. In Queensland, diversion conditions may include the rate at which the water may be taken. The maximum daily extraction rate is commonly linked to the infrastructure used to extract the water and water extractions tend not to be metered on a daily basis. Experience in NSW found that maximum daily pumping rates can be difficult to determine and monitor, particularly in catchments with a variable flow regime.⁵¹⁵

While water access rights are specified (with various characteristics as described above), the reliability and priority of water access rights in unregulated systems varies considerably. The water access right in an unregulated system does not guarantee a share of the resource but rather the ability to pump up to a certain volume over a given time period and at a certain pumping rate. Depending on how an unregulated system is managed, an upstream water user pumping water may impact on the reliability of downstream users.

The level of management in unregulated systems varies substantially across the MDB. Systems that have a high number of users, with streamflow not always meeting demand, have more complicated management rules and enforcement. In comparison, unregulated rivers with a small number of users, or a small volume of water access rights relative to streamflow, have less formal management rules. SKM describes it as follows:

⁵¹⁴ *ibid.*, p. 5.

⁵¹⁵ *ibid.*, p. 9.

Detailed management plans have not been developed for all unregulated catchments across the Murray–Darling Basin and there may only be informal management of water access entitlements in some unregulated catchments, particularly where there are few diverters.⁵¹⁶

River health requirements (environmental flows) are provided in unregulated catchments by restricting extractions from the waterway using mechanisms such as long-term and daily extraction limits, cease-to-pump levels and rostering rules.

Rules for trades within unregulated systems are generally not as clearly stipulated as rules for regulated systems, or in some cases are not in place at all. Although there has been an increase in water trading within and between regulated systems, there is comparatively little trade in unregulated systems.

This is partly to do with a lack of clearly defined excludable⁵¹⁷ property rights. It is also related to the nature of unregulated systems where flow from one location to another cannot be controlled through infrastructure and, instead, diversions are opportunistic when passing flows are adequate. Further, there are limited numbers of users on some streams and limited unbundling of water access rights in unregulated systems. Finally, the information required to manage trade in unregulated catchments may not be available and transaction costs may be high.

Existing water trading rules for unregulated systems include bans on upstream trade due to potential third party impacts. Alternatively, upstream trade may require trade to a winterfill licence to minimise summer impacts on the environment and other water users. Victoria also has a 20 per cent reduction in entitlement volume for downstream trades to address overallocation issues and potential transmission losses.⁵¹⁸

Note that floodplain harvesting ('the collection, extraction or impoundment of water flowing across floodplains'⁵¹⁹) occurs along some unregulated rivers, specifically in the northern Basin. While floodplain harvesting has previously been unlicensed, this is in the process of changing.⁵²⁰ Floodplain harvesting rights are currently not tradeable.

⁵¹⁶ *ibid.*, p. 10.

⁵¹⁷ A good is excludable if the benefits generated from the good cannot be confined to those willing to pay for the provision of the good.

⁵¹⁸ Department of Sustainability and Environment, *Draft for community comment - Sustainable Water Strategy Northern Region*, Victorian Government, Melbourne, 2008, p 118.

⁵¹⁹ DWE, 'Advice to water management committees—policy advice 3: floodplain harvesting', accessed 17 August 2009, http://www.dwe.nsw.gov.au/water/pdf/policy_advice_3-floodplainharvesting.pdf.

⁵²⁰ DWE is developing a Floodplain Harvesting Policy to be applied state-wide to bring floodplain harvesting activities into a statutory framework for water management under the *Water Management Act 2000* (NSW): accessed 17 August 2009, http://www.dwe.nsw.gov.au/water/law_flood.shtml.

Summary of submissions

There are concerns that water traded downstream may not be adequately protected from users positioned between the buyer and seller. DERM noted:

Trade between unregulated systems should only be permitted where there is a hydrological connection and it has been established through a proper planning process that there are no impacts on the environment or third parties.⁵²¹

The GVIA noted:

There does need to be the development of the concept of ‘shepherding’ to aid in the temporary and permanent trade of water along unregulated systems. Under present circumstances water passing down stream due to trade on an unregulated system can actually trigger extraction conditions for downstream entitlement holders.⁵²²

The VFF submitted:

... rules for trade within unregulated systems should not be so rigid and not to be applied in such a blanket manner. The trade rules for unregulated systems should demonstrate some flexibility in application, as characteristics of each system vary quite greatly. For example, some unregulated systems have a much greater capacity to deliver water upstream, and other do not. There should be trade upstream where possible.⁵²³

There is also concern from some stakeholders that introducing water trading in unregulated catchments will activate sleeper and dozer rights (rights that are either inactive or only intermittently used). While the impact is likely to be larger if trade is allowed from unregulated to regulated catchments, there will also be impacts from trade within an unregulated system. The NFF noted:

A key issue is that the activation of water that is currently inactive (or unactivated) must be avoided at all costs to ensure that the current issues surrounding over allocation and overuse are not exacerbated in both the unregulated and regulated systems ... Not only would over allocation and over use issues be exacerbated, but there may a real impact and decline in the reliability of all entitlements.⁵²⁴

Discussion

The ACCC considers that, among other requirements, property rights need to be clearly defined (including with reference to the characteristics mentioned in the background), well understood and excludable to allow unregulated trade without undue third party impacts. The level of management and clarity of property rights varies substantially throughout unregulated systems.

Water trading involving unregulated systems has the potential to be complex and require substantial resources to administer. This is because there are a large number of water users in unregulated catchments and each water access right comprises a range of

⁵²¹ DERM, issues paper submission, p. 5.

⁵²² GVIA, issues paper submission, p. 3.

⁵²³ VFF, issues paper submission, p. 7.

⁵²⁴ NFF, issues paper submission, p. 14.

characteristics. Currently not all of these characteristics are licensed, managed or metered.

Water availability for a water access right may also change with the hydrology at the new extraction location. For example, for an upstream trade, the magnitude and timing of available water may reduce as the size of the river catchment is reduced. However, it may still be possible to allow upstream trades as long as any impact is within an acceptable level.

The trade of water to a downstream location presents similar difficulties for giving effect to the trade. It cannot be assumed that if an existing user ceases to divert water the entire volume will be available for diversion at the location of the new entitlement holder. The water may be extracted by other water users or it may be lost due to transmission losses. In some catchments, a high-flow event may attenuate as it moves downstream and may not exceed cease-to-pump limits downstream.

The ACCC considers that, without proper management and clearly defined property rights, there are a large number of potential third party impacts that need to be understood and considered with each trade.

A framework for water trading in unregulated catchments which can inform the market without undue complexity is desirable. The systems established to manage these trades should allow water users to assess if their trade is likely to be approved and enable trades to be approved quickly and effectively.⁵²⁵ To avoid unnecessary complexity the approach should be applicable to a range of different types of unregulated rivers, large and small, perennial and ephemeral and different climatic patterns.⁵²⁶ The level of management, monitoring and compliance/enforcement in a particular region should be appropriate for the level of development in the region.⁵²⁷

Trading zones

As with trade in regulated systems (see section 6.1), trading zones provide a mechanism to reduce the administrative requirements associated with trade in unregulated catchments. Rather than develop water trading rules that require each individual trade to be assessed, trading zones can be established in which trades can easily occur.

It should be noted that trading zones exist already in some unregulated systems in the MDB.

The management rules within each trading zone need to be established to ensure that water trades do not have unacceptable third party impacts. Arguably, if the

⁵²⁵ E Harris, E Hatfield et al., 'Macro approach for water sharing in unregulated rivers', 9th International River Symposium, Brisbane, Australia, 2006. (referenced in SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments*, 2009, prepared for the ACCC).

⁵²⁶ *ibid.*

⁵²⁷ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p. 8.

management rules adequately protect against inappropriate third party impacts prior to trade, they should continue to work during trade.

Trading zones used to approve a water trade need to be defined in such a way that any trade occurring within the zone will not result in an unacceptable third party impact. Therefore, the following factors should be taken into consideration when defining the trading zones:⁵²⁸

- a zone should be hydrologically homogeneous
- the location of important environmental assets and major offtakes
- the existing quantification of available water and the likelihood of further development
- transmission losses and local catchment inflow.

Trading zones for day-to-day operations should also take into account significant hydrological changes and the ability to monitor streamflow at a downstream compliance point.

Trade and the characteristics of water access rights

Many of the water access right characteristics described above are dependent on the location of the extraction and can be difficult to translate between catchments. A water access right may specify a **maximum extraction volume** per period (often per year) and a (maximum) **daily extraction rate** for a given **location**. When traded to a new location, it may not be possible to extract the same volumes at the same rate at all, or to do so without negatively affecting existing right-holders. This is clearly the case if the trade is from a larger stream to a small tributary. Similarly, the **restrictions** placed on extractions, such as a cease-to-pump rule, are necessarily different between catchments. As such, it is necessary to place some restrictions on trade, or adjust extraction conditions, to ensure that any trade provides appropriate protection of third party impacts.

The ACCC considers that the level of management and complexity of trading rules for each zone and between zones should be proportional to the level of use within that zone and the demand for trade. In zones where competition for water is high, a complex management regime with clearly defined property rights and trading rules that tag the characteristics of these rights (such as daily extraction rates) may be appropriate. However, a complex management and compliance regime may not be appropriate in a catchment with only a small number of users. Instead, it may be more appropriate to place restrictions on trade between these smaller, less utilised areas but allow trade

⁵²⁸ *ibid.*, p. 13.

subject to a detailed individual assessment (similar to the current approach in Queensland).⁵²⁹

Managing trade in a heavily utilised system could involve, for example, placing limits on extraction that can occur for each trading zone—that is, limits at the level of the trading zone. These limits could be designed to account for local and downstream environmental requirements, protect the availability of water to existing users, allow available water to be managed at times of shortage and ensure no breach of any use limits (for example, the MDB Cap or any sustainable diversion limit).

The extraction limits for each trading zone may comprise the following components:⁵³⁰

- **A minimum passing flow** (or a cease-to-pump trigger). This should be set to account for the environmental requirements locally and downstream, but also to allow for sufficient water for downstream water users including domestic and stock users. The minimum passing flow may vary for different times of the year.
- **A maximum allowable daily extraction rate**. This rate should be determined based on environmental requirements but it should also be set at a rate that provides an acceptable reliability for all water users if these limits are reached. The rate should reflect the hydrological regime in the zone and may vary for different times of the year or for different flow ranges. Each water user will have access to a share of the extraction rate (represented by their individual **daily extraction rate**).
- **Restriction policy** (or rostering rules). This is for when the volume of available water is less than the maximum allowable daily extraction rate. At times it will not be possible for all water users to divert their maximum daily rate. In these times a restriction policy will be required and should apply to all water users physically located within the trading zone.
- **Maximum annual extraction limit**. The availability of water is essentially limited by the previous three rules, but an annual extraction limit provides a good means for planning and assessing compliance. Each water user should be issued a share, or a proportion of the maximum annual extraction limit for the trading zone (represented by their individual **maximum extraction volume**).

If trading zones are hydrologically connected, the **maximum allowable daily extraction rate** and **maximum annual extraction limit** set for a trading zone should be inclusive of the corresponding limits for all upstream zones.

⁵²⁹ In Queensland, a long form application (including a fee) is submitted by the trading parties. A detailed hydrological investigation to determine potential third party impacts is undertaken by the department. The process involves consultation with potentially impacted parties.

⁵³⁰ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p.15.

Trading between zones

Trade should be possible between some trading zones. Trade should be allowed into a catchment in which the **maximum annual extraction limit** and **maximum allowable daily extraction rate** is not already fully allocated. In order to facilitate trade between zones, the connectivity of the trading zones must first be understood, and the interrelationships between the **maximum annual extraction limit** and the **maximum allowable daily extraction rate** for the zone(s) should be clear. For example, the degree to which the **maximum allowable daily extraction rate** of a trading zone is apportioned to upstream trading zones must be known. Similarly, connectivity must be assessed in terms of attenuation times and losses.

In order to manage trade between zones, the following will need to be adjusted and tracked along with each trade:

- the **maximum daily extraction rate**, minimum passing flow requirements and **maximum annual extraction limit** of the zone that will meet the environmental requirements and reliability characteristics of the zone
- the changes to the limits that have occurred due to trade
- the share of the **maximum allowable daily extraction rate** that has been allocated.⁵³¹

These adjustments would effectively ‘shepherd’ the water to the new location. An example of this approach is provided in Appendix 8.

The approach described may not yet be possible in many unregulated catchments due to the low level of existing metering and management. However, to improve the opportunities for trade and provide appropriate protection for third party impacts, the ACCC considers that unregulated systems should move towards a management regime in unregulated rivers that provides clarity of water access right characteristics and allows trade to occur.

It may also be possible to allow the trade of an individual’s **maximum extraction volume** (usually defined as an amount per year) separately to their **daily extraction rate**. This would allow irrigators to manage the reliability of their water product through both the total volume and daily rate at which they can acquire water. This approach would require further unbundling in unregulated systems.

Other matters

Stakeholders raised concerns about the activation of sleeper and dozer licences if trade is permitted in unregulated systems. This is particularly of concern in systems that are already stressed with existing levels of use. While activation of these licences may cause reduced access to other users, these water access rights have been issued by basin

⁵³¹ *ibid.*, p. 20.

state and are thus able to be used or traded like any other water access right regardless of historical usage.

Trading restrictions are used in some jurisdictions to address overallocation issues in unregulated systems. Issues of overallocation and overuse are discussed in section 3.8.

Preliminary positions

- (6-K)** Options for improving the clarity and excludability of water access rights in unregulated systems should be examined. This should include an investigation of a range of management strategies including rostering, restrictions and options to ‘shepherd’ water through zones, while recognising that different management approaches may be better suited to different stream types.
- (6-L)** In unregulated systems that are heavily used, trading rules should be established with reference to trading zones to enable trade between zones. In other unregulated systems, processes should be implemented to enable the assessment of individual trades between zones on a case-by-case basis.

6.3 Trade between regulated and unregulated systems

6.3.1 Background

The characteristics of water access rights in unregulated systems and those in regulated systems differ substantially in their security and timing of access to water.

There are two potential directions for trade when considering trade between unregulated and regulated systems.

Trade from an unregulated system to a regulated system

A trade from an unregulated system to a regulated system is currently not allowed in most basin state. However, there are a number of exceptions.

In Victoria, trade is permitted from an unregulated to a regulated system, but only as back trade (in other words, up to the volume that has previously traded in the opposite direction). An exchange rate is used to convert the unregulated river water access right into a regulated river water access entitlement. These are generalised exchange rates based on the historical reliability of the regulated system (0.95) and an approximate usage factor from a winterfill dam (0.8).

The delivery of Toorale station water into the Menindee Lakes storage was permitted as a trial in New South Wales (see section 6.2.1).

In Queensland, while trade is not permitted between unregulated and regulated systems, unregulated and regulated licences can exist concurrently within the same river reach. Two trading zones, one regulated and one unregulated, exist in the same location.

Extraction of unregulated water rights is only allowed during times of announced pumping.

Trade from a regulated system to an unregulated system

Victoria currently allows trade from a regulated system to an upstream unregulated system for some specific systems. The trade must occur to a winterfill licence on the unregulated system. An exchange rate is used to convert the regulated river entitlement to an unregulated winterfill entitlement (at the inverse of the exchange rate used in the opposite direction).

At some distance downstream from a storage, a regulated river may return to being predominantly unregulated. This is mainly relevant in the northern systems (in Queensland and New South Wales). In this context, the difficulty for managing a trade from a regulated system to an unregulated system is in ensuring that the regulated release can indeed travel far enough downstream to be guaranteed in the predominantly unregulated reach. Therefore, such trades are not currently permitted.

6.3.2 Summary of submissions

Many stakeholders did not support the concept of trade between regulated and unregulated systems due to the different reliability of the two products. Both WMI and the NSWIC stated that they:

... [do] not support trade between regulated and unregulated systems.⁵³²

The QFF submitted:

Qld MDB water planning does not permit the trade/transfer of water allocations between connected supplemented and unsupplemented systems. Entitlements in regulated and unregulated systems are totally different water products and must be managed separately in these ephemeral river systems.⁵³³

State Water noted:

In trading between regulated and unregulated systems, rules should be in place to minimise third party impacts. For example, trades from unregulated systems should be expressed in MLs, rather than in shares to ensure that only the water that is actually traded is transferred between systems. However, there are complex issues relating to the subsequent potential to carry-over unregulated allocations between seasons (when clearly, by definition, they cannot be stored), in particular given the fact that many regulated rivers enjoy significant contributions to allocations from un-regulated flows.⁵³⁴

⁵³² WMI, issues paper submission, p. 7; NSWIC, issues paper submission, p. 12.

⁵³³ QFF, issues paper submission, p. 4.

⁵³⁴ State Water, issues paper submission, pp. 4–5.

6.3.3 Discussion

Trade from an unregulated system to a regulated system

Difficulties in shepherding water (as discussed with unregulated trade in section 6.2) apply when considering trade from an unregulated system to a downstream regulated system. If the water management rules in the unregulated system are established to allow trade between unregulated zones, theoretically a trade to a downstream regulated system should also be possible.

The difficulty then lies in maintaining the water access right characteristics. The potential for third party impacts when using exchange rates to manage trade in regulated systems was discussed in section 6.1.2. The same difficulties and potential third party impacts apply if exchange rates are used to manage trade between unregulated and regulated systems, where the properties of the water access right for the two systems are fundamentally different.

The alternative option is a tagging approach to manage trade between the two resources. This approach is only possible if adequate management systems are already in place in the unregulated system (as discussed in section 6.2.2).

If the unregulated river enters the regulated system downstream of the storage, and assuming management structures are in place in the unregulated system to shepherd the flow downstream, the properties from the unregulated system can be tagged to a location along the regulated river. In effect, this would allow a regulated and unregulated zone to exist concurrently on the one river reach. However, there will be limitations as to how far downstream the unregulated water can trade to ensure that the flow characteristics remain similar and enforcement of extraction conditions is possible.

If the unregulated river enters the regulated system upstream of the storage, there are two options. Firstly, the buyer on the regulated river could have access to water using the same conditions (bans, restrictions and cease-to-pump rules) as the original unregulated river entitlement. This would require water to move through the storage and be available in the regulated system at the right times.

The ACCC notes that this approach may be limited by the constraints of the infrastructure and operation in the regulated system. Incremental changes to the operation of the system to accommodate the magnitude of the traded water may not be possible. The transaction and management costs of such a trade would need to be assessed.

Secondly, the volume of water entering the unregulated system (which would otherwise have been extracted, based on the conditions of use, by the seller) could be credited to the buyer's storage account. This is similar to the approach adopted in the Toorale trial delivery to the Murray System (see box 6.4 earlier).

If this approach is adopted, a number of factors need to be considered. Firstly, access to storage must not have negative third party impacts on other water users. Therefore, the

buyer must have an account in the storage to which the water can be credited.⁵³⁵ There may also be additional storage fees or administrative fees in accounting for this water. Finally, it may be that the timing of the unregulated inflow is different from the proposed use in the regulated system, which may place restrictions on the usability of the water. For example, in implementing the tagged approach, it may be that only winterfill inflows from the unregulated licence are allowed to be stored in the regulated system, and this water then becomes available for use in the following irrigation season.

There may be some concerns from water access holders in regulated systems that allowing such trade may impact on the security of users in the regulated system. However, as long as the management of entitlements in the unregulated system has well-defined property rights, and rostering and restriction rules are enforced, the impact on the downstream regulated water users should be no different from when the water was extracted under the water access right in the unregulated reach itself (that is, there will be no net reduction in the amount of inflows from the unregulated system).

Trade from a regulated system to an unregulated system

It is not possible to provide an equivalent to a regulated system water access right (entitlement) in an upstream unregulated system. The water access right characteristics in a regulated system are significantly different from those in an unregulated system. As previously discussed, exchange rate trades can lead to negative third party impacts (as discussed in section 6.1.2) and, for this reason, the ACCC does not support an exchange rate approach for trades between hydrologically connected systems. In addition, water extraction on an unregulated system relies on a certain volume or level in the river to allow pumping. An additional water user in the unregulated system (resulting from a trade from a downstream regulated system) may impact on the ability of other users to access water. Therefore, the ACCC considers that an exchange rate approach to trade from regulated to unregulated rivers should not be permitted.

Using a tagged approach to manage trade from an unregulated system to a downstream regulated system (as discussed above) would enable a trade from a downstream regulated system back into an upstream unregulated system in some limited circumstances. In this instance, the water access right in the unregulated system is tagged for extraction in the regulated system but remains a water access right in the unregulated system. It would therefore be possible to move the use of this water access right back to the unregulated river by cancelling this tag (akin to a back trade).

When trade requires delivery from a regulated system to otherwise unregulated river reaches downstream, trade could be managed using a tagged approach. The buyer would release a water allocation into the river for extraction in the unregulated reaches

⁵³⁵ Note that if a 'spillable water account' approach is adopted (as proposed by Victoria; refer to section 3.10 for more detail), inflows from the unregulated system could be credited to a spillable account without requiring an existing account. This would also address concerns about the trade adding to the risk of spills, which would negatively impact on holders of water access entitlements in the regulated system.

downstream. However, administration of such a tag would be complex as the water would need to be protected from other unregulated river users.⁵³⁶

This might be achievable by adjusting restrictions in the unregulated catchment to account for both the **maximum allowable daily extraction rate** and the releases made from the regulated system (see section 6.2.2 for more detail on administering trade in unregulated systems). Alternatively, depending on the degree of connectivity, it may be possible to have an unregulated and a regulated trading zone existing concurrently. The additional management costs of these approaches would need to be considered carefully and compared to the benefits of such trade.

Discussions of this sort of trade relate back to the concept of hydrologic connectivity (as discussed in section 6.1.1). It may be possible to deliver water from the regulated system to the otherwise unregulated downstream system. However, the connectivity of the system (including transmission losses and the timing of delivery) needs to be considered with delivery risks borne by the purchaser.

6.3.4 Preliminary positions

- (6-M) Exchange rates should not be used as a mechanism to manage trade between regulated and unregulated systems.
- (6-N) Further options to manage trade between unregulated and regulated systems should be considered. The conditions for such trade may vary between catchments. It may be appropriate to have unregulated and regulated trading zones in place for the same river reach. This investigation should be run parallel to any process of investigating trade options within unregulated systems.

6.4 Trade in groundwater systems

6.4.1 Background

Groundwater in Australia is managed both at a state-wide scale (through the application of state-wide policies) and at a more detailed local scale.⁵³⁷

Groundwater is located within aquifers, which are classified as either confined or unconfined.⁵³⁸ Within aquifers, groundwater management units⁵³⁹ (GMUs) are defined

⁵³⁶ Regulated river users would have their usage measured against their own (regulated) water allocation account.

⁵³⁷ NWC, 'Australian water resources 2005—groundwater management plans', accessed 14 August 2009, http://www.water.gov.au/WaterAvailability/Watermanagement/Groundwatermanagementplans/index.aspx?Menu=Level1_3_4_2.

⁵³⁸ There are two categories of aquifer: confined and unconfined. Confined aquifers are permeable rock layers that are confined by relatively impermeable layers of rock or soil that limit groundwater movement and are thus under pressure. An unconfined aquifer is an aquifer that is not confined by an

on the basis of water availability, water use and aquifer characteristics including depth, thickness and salinity.⁵⁴⁰

Access to groundwater is rationed through a system of water access rights. These rights specify an annual maximum volume of extraction. A groundwater access right may also incorporate groundwater extraction conditions, such as a maximum daily extraction volume and/or pump rate, and bore depth. In other cases, these extraction conditions are governed by an associated water use approval or works licence.

Sustainable yields define the maximum volume that can be extracted ensuring that water quality, river base flows and supply are not adversely impacted. The sustainable yield can be used to determine water availability for individual water access rights where these rights are defined as a share of the available resource. With the establishment of sustainable diversion limits for many groundwater systems, the extraction of water has been reduced from historic levels. Where sustainable diversion limits for groundwater resources have not yet been established, these will be determined through the Basin Plan.

The relatively high reliability of most groundwater access rights provides an attractive alternative or supplement for surface water users. Groundwater supplies are less influenced by climate variability than surface water due to their storage capacity and various sources of recharge.⁵⁴¹

In general, extraction (and thus market demand) is higher in easily accessible shallow aquifers with high water quality and optimal extraction properties. In contrast, under-developed aquifers tend to be more remote, deeper, with low water quality and low sustainable yields.⁵⁴²

The current annual volume of groundwater extracted across the MDB is estimated to total 1832 GL⁵⁴³ and rising.⁵⁴⁴ This will soon reach the total estimated sustainable yield

impervious layer (or whose upper water surface is at atmospheric pressure). In the one location, there may be layers of confined aquifers under an unconfined aquifer.

⁵³⁹ The National Water Commission water dictionary defines 'groundwater management unit' as: 'A hydraulically connected groundwater system that is defined and recognised by state and territory agencies. This definition allows for management of the groundwater resource at an appropriate scale at which resource issues and intensity of use can be incorporated into local groundwater management practices.'

⁵⁴⁰ H Turrall and I Fullagar, 'Institutional directions in groundwater management', *The agricultural groundwater revolution: opportunities and threats to development*, CAB international, 2007.

⁵⁴¹ T Goesch, S Hone and P Gooday, 'Groundwater management: issues affecting the efficient allocation of groundwater', *Australian commodities*, 14(1), ABARE, March 2007.

⁵⁴² I Fullagar and R Evans, 'Trading groundwater concepts', 28th Hydrology and water resources symposium, Wollongong, NSW, 10–14 November 2003.

⁵⁴³ This estimate excludes extraction from confined aquifers of the Great Artesian Basin and some areas outside management units, and hence extraction may be up to 25 per cent higher (2290 GL).

⁵⁴⁴ CSIRO, *Water availability in the Murray–Darling Basin: a report to the Australian Government from the CSIRO Murray–Darling Basin Sustainable Yields Project*, October 2008, p. 47.

(2356 GL)⁵⁴⁵ for the entire MDB. Extraction already exceeds sustainable yield in approximately 15 per cent of groundwater areas.⁵⁴⁶ The volume of groundwater access rights on issue—3261 GL⁵⁴⁷—also exceeds the sustainable yield. Continued overuse may lead to adverse environmental impacts and reduced reliability for groundwater users.

The NWC reports that, as of 2006, only 20 to 40 per cent of major groundwater users were metered. It is difficult to ascertain the actual usage of groundwater or the potential impacts on neighbouring water users if groundwater is not metered (see section 3.11 for a discussion of metering).

Enhanced groundwater trade has many of the same advantages as surface water trade. However, the potential gains from groundwater trade may be relatively small in comparison to gains from surface water trade due to the discrete nature of many groundwater systems. The individual investment in infrastructure and the high costs of bore construction also limit the growth of groundwater markets.⁵⁴⁸

Nevertheless, the recent drought and low surface water availability, along with the establishment of sustainable yields, has seen a rapid growth in groundwater trade. For example, Goulburn-Murray Water approved 130 groundwater trades for the 2006–07 season—a 250 per cent increase from the previous year.⁵⁴⁹

Groundwater trades are usually assessed on an individual basis, usually restricted to within the same management zone or aquifer, and assessed against the potential for negative third party impacts. Potential third party impacts from groundwater trade are described in box 6.5.

Box 6.5 Groundwater and the potential for third party impacts

The location, volume and rate of pumping are all important when determining potential impacts on other users. Groundwater is extracted by drilling a bore into the aquifer. As groundwater is pumped from the bore, there is a resulting decline in groundwater levels surrounding the bore. This is referred to as the ‘drawdown cone’ or ‘cone of depression’. The shape of the drawdown cone, and the distance of influence, will depend on a range of factors including the nature of the aquifer (e.g. the porosity), the volume extracted and the extraction rate.

⁵⁴⁵ Connected Water website, accessed 19 August 2009, http://www.connectedwater.gov.au/water_policy/streamflow_depletion.html. Note that this figure is an aggregate across the entire basin.

⁵⁴⁶ T Goesch, S Hone and P Gooday, ‘Groundwater management: issues affecting the efficient allocation of groundwater’, *Australian commodities*, 14(1), ABARE, March 2007, p. 204.

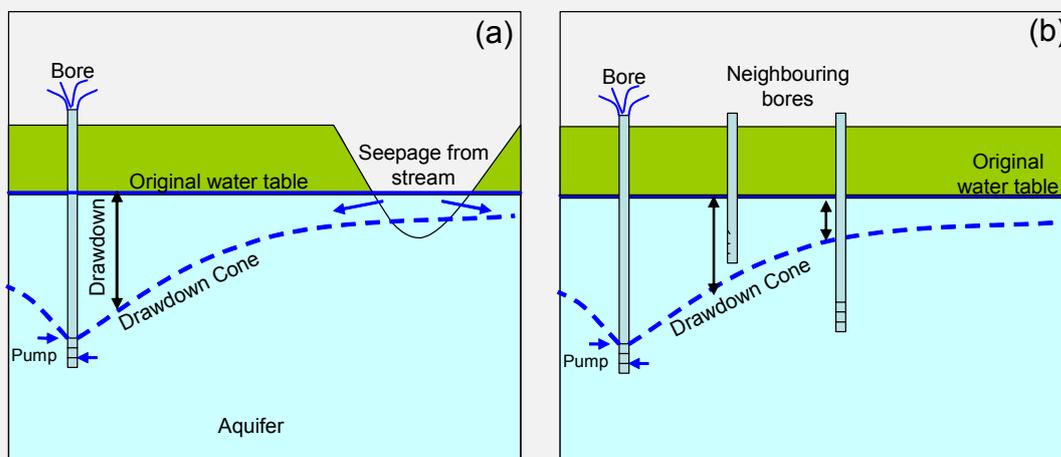
⁵⁴⁷ Connected Water website, accessed 19 August 2009, http://www.connectedwater.gov.au/water_policy/streamflow_depletion.html. Note that this figure is an aggregate across the entire basin.

⁵⁴⁸ H Turrall, and I Fullagar, ‘Institutional directions in groundwater management’, *The agricultural groundwater revolution: opportunities and threats to development*, CAB international. 2007.

⁵⁴⁹ M Barden, *Groundwater: adapting to drought*. Goulburn Murray Water, 2007, p. 8.

The figures below show the potential impact a new bore could have on surface water users and neighbouring bores. In figure (a), the drawdown cone from a new bore extends to influence streamflow in a nearby creek. As the water table surrounding the creek is lowered, the water in the creek will seep into the groundwater until the levels re-equalise. This loss of streamflow to groundwater may impact on surface water users or instream environmental water requirements.

In figure (b), the drawdown cone from the new bore impacts on potential pumping from neighbouring bores. The closest neighbouring bore is no longer reaching the water table and would therefore be unable to extract water. The other neighbouring bore, while still submerged in water, has a lower available drawdown, which reduces the volume and rate of water extraction. This principle also applies to groundwater-dependent ecosystems in the landscape which rely upon access to the water table through their tree root systems.



Groundwater drawdown: (a) potential impact on surface water users; and (b) potential impact on neighbouring bores.

6.4.2 Summary of submissions

Protection of third party interests was a major concern for stakeholders in relation to groundwater trade. The NSWIC submitted:

Ground water systems are not well understood, particularly in respect to movement of water within an aquifer. Until—and unless—the impacts to third parties can be understood and quantified, trade has the potential to cause such impacts.⁵⁵⁰

Similarly, WMI noted:

Ground water systems are not well understood and third party impacts could be far reaching.⁵⁵¹

⁵⁵⁰ NSWIC, issues paper submission, p. 13.

⁵⁵¹ WMI, issues paper submission, p. 8.

The GVIA noted in its submission:

The problem with groundwater trades is that it is impossible to prevent third party impacts. The impacts are often not apparent as an impact on total volume extracted (although this can occur), but on daily extraction yield and energy costs.⁵⁵²

6.4.3 Discussion

One of the limitations for trade in groundwater systems is the process of defining water access rights that are both excludable and result in minimal third party impacts. Defining sustainable diversion limits for groundwater resources, and ensuring that groundwater access rights are defined as a share of the groundwater resource, will provide more secure property rights in the form of a water access entitlement. Allocations made to these entitlements will be more transparent and the volume extracted by any one user should not, generally speaking, impact on supply to other users.

However, there are also localised impacts arising from extracting groundwater. Daily pumping rates must be considered because of the potential effects of extraction on nearby water users. When assessing the impact that a new or increased extraction may have on neighbouring users, the assessment may be based on the licensed volume and pumping rate in surrounding areas, as opposed to the **actual** pumping volumes and rates, which may be quite different. It is important not to issue new pumping access in case existing users recommence pumping.

There are many similarities between the issues associated with surface water management and the issues associated with groundwater management. As part of the unbundling process, water rights have been or will be separated from land. However, there are often issues that are location specific.

In the case of groundwater, there is a maximum pumping rate and volume that can occur in a given radius without adverse impact on nearby users. Effectively, this caps the volume of water that can be extracted (or delivered) over a set time period. This should be linked to the issuing of a groundwater use licence and/or works approval. This is a separate issue to the trade of the nominal volume of groundwater access rights or entitlements. Another option may be to establish a separate market for extraction rights (daily pumping allowances) similar to potential markets for water delivery rights in surface water systems.

Within the same aquifer (or GMU), groundwater zones can be used to define areas within which trade of a groundwater access right is permitted without detailed investigation.

Given the objectives of the Act, trade should only be permitted between connected zones where there is spare capacity (for additional entitlement) in the buyer's zone. While conceptually trade should be permitted between groundwater zones, it may be difficult to assess third party impacts in an efficient and cost-effective way. Localised impacts may need individual assessment.

⁵⁵² GVIA, issues paper submission, p. 4.

There has been some discussion in literature that overallocation issues should be addressed before trading commences:

... if trade were to be introduced, it would be important to resolve any overallocation prior to its introduction. If trade was introduced before overallocation issues were resolved, unused and partially used entitlements could be activated, increasing the complexity and cost of reducing overallocation.⁵⁵³

The use of trading rules to address overallocation is dealt with in section 3.8.

6.4.4 Preliminary positions

- (6-O)** Trade of groundwater access rights should be allowed within groundwater trading zones.
- (6-P)** Trade should not be permitted between groundwater trading zones that are not in the same aquifer.
- (6-Q)** Consideration should be given to assessing groundwater extraction rights (which specify location and conditions of use) as a separate process to trade of groundwater access right. Impacts on neighbouring bores and surface water users could be assessed as part of the groundwater extraction right assessment.
- (6-R)** The MDBA and state authorities should investigate the feasibility of tradeable extraction rights (pumping rates) in groundwater zones that are heavily utilised.

6.5 Trade between groundwater and surface water

6.5.1 Background

Approximately half of the additional groundwater volume still available in the MDB (at sustainable levels) is located in groundwater systems that are connected to surface water systems. The Murray–Darling Basin Sustainable Yields Project estimates that current groundwater extraction will lead to a reduction of 447 GL/yr in streamflow across the MDB.⁵⁵⁴

Just as groundwater extractions have the potential to impact surface water availability, surface water extractions can impact groundwater availability. In its submission to the ACCC's water market rules consultation process, SKM noted:

In mixed groundwater and surface water supplied areas, recharge from surface water irrigation may be an essential component of the allocated groundwater use.⁵⁵⁵

⁵⁵³ T Goesch, S Hone and P Gooday, 'Groundwater management: issues affecting the efficient allocation of groundwater', *Australian commodities*, 14(1), ABARE, March 2007, p. 208.

⁵⁵⁴ CSIRO, *Water availability in the Murray–Darling Basin: a report to the Australian Government from the CSIRO Murray–Darling Basin Sustainable Yields Project*, October 2008, p. 47.

⁵⁵⁵ SKM, submission to the ACCC issues paper on water market rules, 9 May 2008.

If surface water trade occurs out of the area, this recharge component will, in turn, reduce, adversely impacting groundwater users. An increase in on-farm efficiency may cause a similar impact on groundwater users.

The Council of Australian Governments (COAG) has endorsed the concept that, in areas where groundwater and surface water are highly connected, they should be managed together. Furthermore, one of the National Water Initiative (NWI) objectives is the ‘recognition of the connectivity between surface and groundwater resources and connected systems managed as a single resource’.⁵⁵⁶

New South Wales legislation prohibits trade between surface water and groundwater systems. In systems where there is significant base flow,⁵⁵⁷ Queensland legislation has rules that integrate base flow and groundwater management.⁵⁵⁸ The Victorian white paper *Our Water Our Future* states that where there is a high degree of connectivity, trading rules will be developed between surface water and groundwater systems.⁵⁵⁹ These rules have not yet been specified.

In South Australia, there have been trades from the River Murray (surface water) to the Barossa Valley for artificial recharge (or managed aquifer recharge); however, this water is extracted from the surface water rather than being extracted as groundwater. This is termed ‘imported water’.⁵⁶⁰ In highly connected systems, the Australian Capital Territory defines all water access rights as surface water rights but a proportion of these rights can be accessed by extracting groundwater. The two systems are thus managed conjunctively, with trade allowed between the sources. Trade between groundwater and surface water is only allowed in these circumstances.

The relatively high reliability of groundwater access rights provides an attractive alternative or supplement to surface water users. A comparison of surface water and groundwater characteristics is provided in table 6.3.

⁵⁵⁶ Intergovernmental agreement on the National Water Initiative, cl 23(x), <http://www.nwc.gov.au/resources/documents/Intergovernmental-Agreement-on-a-national-water-initiative.pdf>.

⁵⁵⁷ Base flow is the portion of stream flow that comes from groundwater and not runoff.

⁵⁵⁸ I Fullagar, *Workshop Proceedings: Rivers and Aquifers: Towards conjunctive water management*, Bureau of Rural Sciences, Adelaide, 2004.

⁵⁵⁹ Victorian Government, *Securing our water future together: our water our future*, White Paper, 2004, p. 24.

⁵⁶⁰ I Fullagar, *Workshop Proceedings: Rivers and Aquifers: Towards conjunctive water management*, Bureau of Rural Sciences, Adelaide, 2004.

Table 6.3 Characteristics distinguishing surface water and groundwater⁵⁶¹

Characteristic	Surface water	Groundwater
Primary nature of development	Centralised	Decentralised
Infrastructure funding	(Historically) publicly subsidised	Private
Management of flow	Linearly regulated	Unregulated
Public awareness	High	Low
Security of supply	Low	High
Water quality	High (managed)	Variable
Physical extraction limit	Volume in storage	Bore capacity, drawdown
Capacity to enforce legal limits	High (linearly regulated)	Variable (private infrastructure on private land)
Monitoring and reporting	Regulatory and centralised	Variable, generally less than surface water
Primary financial costs of water use and entitlement	Levies	Infrastructure installation, maintenance and operation
Markets	Well established and widely available	Wide range, generally developing
Ease of monitoring and building resource data	Relatively high	Low

6.5.2 Summary of submissions

Stakeholders generally did not support trade between surface water and groundwater, due to the limited understanding of surface water-groundwater interactions. LVW submitted:

The present level of understanding of the hydrologic relationship between groundwater and surface water systems is generally poor, and in NSW, onground work has only just commenced in some systems to gather information about the degree of connectivity. As the ACCC paper notes, there is often a time lag of years before extraction in one system has a measurable effect in the other system ... Trade and transfer between groundwater and surface water systems should not be permitted unless the degree of connectivity is well understood and proven by on-ground monitoring.⁵⁶²

⁵⁶¹ H Turrall and I Fullagar, 'Institutional directions in groundwater management', *The agricultural groundwater revolution: opportunities and threats to development*, CAB international, 2007, p. 330.

⁵⁶² LVW, issues paper submission, p. 2.

WMI stated:

WMI does not support trade between a ground water system and a surface water system as the science and understanding of the interrelationships between the two systems remain poor and water cannot physically be moved.⁵⁶³

The VFF noted:

The complexities of managing groundwater require more directed resources to the task to ensure that the interactions between groundwater and surface water on any particular system are well understood before joint management is possible. There is still numerous complexities surrounding trade between ground and surface waters that have yet to be resolved, there can be no circumstance where this trade should be permitted.⁵⁶⁴

The NSWIC noted:

The relationship between groundwater and surface water – connectivity – is not understood to the point where trade should even be contemplated.⁵⁶⁵

In areas where there is high connectivity between surface and groundwater, some parties submitted that accounting for surface water and groundwater under the same management system may give rise to administrative difficulties. DERM stated:

Where the interconnection between surface and groundwater is very strong, trading should be permitted. In Queensland, water resource plans identify strongly connected groundwater systems and provide a legal framework to enable those groundwater resources to be dealt with as if they are surface water resources.⁵⁶⁶

The South Australian Government noted:

Even if the groundwater surface water connection could be established, the ability of the associated accounting system would need to be at the same level of sophistication and precision to account for such transfers.⁵⁶⁷

State Water submitted:

This could happen in systems where the resources are managed jointly and are subject to the same allocation announcement and robust metering, allocation and administration regimes are in place. The hydrological understanding, administration and monitoring of Groundwater systems is non-existent/infantile in the case of most ground-water systems within the Murray Darling Basin.⁵⁶⁸

⁵⁶³ WMI, issues paper submission, p. 7.

⁵⁶⁴ VFF, issues paper submission, p. 8.

⁵⁶⁵ NSWIC, issues paper submission, p. 13.

⁵⁶⁶ DERM, issues paper submission, p. 5.

⁵⁶⁷ South Australian Government, issues paper submission, p. 7.

⁵⁶⁸ State Water, issues paper submission, p. 5.

6.5.3 Discussion

The characteristics of surface water access rights are substantially different from those of groundwater access rights in the majority of situations. Some of the difficulties in developing trade between surface and groundwater include:

- limited understanding of surface water and groundwater interactions
- water quality differences
- reliability differences
- timing of impact (although systems are linked, impacts are delayed).

Reliability and extraction conditions vary significantly between surface water and groundwater. An exchange rate to convert one product to another is not possible without the risk of negative and ongoing third party impacts of the kind set out in sections 6.1.2 and 6.1.3. Any approach would also need to consider changes in evaporative and evapotranspirative losses due to the change in location of extraction and to the change in the water table level due to changes in groundwater use itself.⁵⁶⁹

A tagged trade, on the other hand, is also problematic as there is no ability to control the timing of flows between the two resources. This means that, even with the same extraction conditions applying to both surface and groundwater, there is likely to be some impact on the resources and other users.

Due to the uncertainty in surface water-groundwater interactions, it is difficult to see how a tagging process could work effectively as water will not necessarily be available in the alternative system at the appropriate times.

The concept of conjunctive management for highly connected groundwater and surface water systems is supported by various government agreements. However, a clear definition of ‘highly connected’ and a high level of confidence in this understanding of connectivity is required. Factors such as lag time for flow between the groundwater and surface water systems must be considered.

If groundwater and surface water in highly connected areas are truly managed as a single resource, with the same water access rights to access the resource, trade could occur without unduly risking third party interests. This would require a single set of extraction conditions (with regard to timing and rate) as well as a diversion limit covering both the surface water and groundwater resource. While the administrative requirements may be complex, it is facilitating conjunctive management, rather than trade per se, that adds this complexity.

⁵⁶⁹ If the bore is a certain distance from a stream, and the point of extraction changes, the losses to evaporation and evapotranspiration will change. This will depend on the distance the bore is from the stream, and also the groundwater level.

6.5.4 Preliminary position

(6-S) Trade between groundwater and surface water would only appear feasible when:

- there is a high level of connectivity and well defined and clearly understood lag time
- the groundwater and surface water systems are managed as a single resource (that is, with a common water access right governed by common extraction conditions, and a single diversion limit).

6.6 Farm dam trade

6.6.1 Background

The definition of a farm dam varies across the MDB. Farm dams, for the purposes of the following discussion, refer to private dams that are used to intercept catchment runoff that would otherwise have contributed to streamflow (or recharge to aquifers), rather than dams that are filled using extractive water access rights to other surface or groundwater resources. This is sometimes referred to as a harvestable right. However, this discussion does not include floodplain harvesting (refer to section 3.5 for a brief discussion of floodplain harvesting). The issue of farm dam trade was not raised specifically in the issues paper.

In the MDB, it is estimated that the current volume (or storage capacity) of farm dams is 2200 GL, leading to a reduction in streamflow of approximately 1900 GL per year.⁵⁷⁰ This compares with long-term average inflows of 23 417 GL/yr for the MDB as a whole.⁵⁷¹

It has been estimated that the volume of farm dams in the MDB will increase at a rate of 4 per cent per year.⁵⁷² This ongoing development has the potential to erode the reliability of existing water access rights.

The current management of farm dams differs between the basin state but there are a number of similarities. Firstly, in most basin state a differentiation is made between farm dams used for domestic and stock purposes and all other purposes with regard to licensing requirements (which may also be determined by the capacity of the farm dam).⁵⁷³ Secondly, mechanisms exist to restrict further development of farm dams not

⁵⁷⁰ Van Dijk, 2006, quoted in SKM, 'New water entitlement products for Australia—a think piece', *Waterlines report series*, No. 12, 2008.

⁵⁷¹ CSIRO, *Water Availability in the Murray–Darling Basin*, summary of a report from the CSIRO to the Australian Government, October 2008. p. 9.

⁵⁷² Van Dijk, 2006, quoted in SKM, 'New water entitlement products for Australia—a think piece', *Waterlines report series*, No. 12, 2008.

⁵⁷³ Stock and domestic water use is considered specifically in section 3.5.

used for domestic and stock purposes. Thirdly, the regulatory mechanisms that govern the construction of a farm dam are often separated from the right to take water using a farm dam.

Trade requires defined farm dam water access rights. Significant numbers of farm dams are still unlicensed across the MDB. Furthermore, the construction of certain types of farm dams is not restricted.

Although requirements to hold a water access right for a farm dam exist across the MDB, they have not always been required. As such, not all farm dams that fall into a category requiring a licence necessarily hold a licence. The process for licensing existing farm dams varies between the basin state.

In Victoria, a process for registering all existing farm dams was initiated after its water legislation was amended in 2004, and this is nearly complete. In Queensland, the need to obtain a licence is triggered when an existing farm dam is reconfigured so that the dam captures more water or where the farm dam is also used to store water from another resource and the entitlement associated with the other resource is traded away from the farm dam.

There is no clear definition of the characteristics of a farm dam water access right. Basin states use different approaches to define a water access right and which portions of this right should be tradeable. Conceptually, the characteristics could be defined as the:

- location of the farm dam
- size of the farm dam
- purpose for which the dam is used
- volume of water harvested by the farm dam
- timing of when the farm dams can harvest water.⁵⁷⁴

The volume of water captured by the farm dam is one of the most important characteristics of the water access right as it determines the impact of the farm dam on the environment and other water users. The volume of water captured by the farm dam depends on the following factors:

- **Capacity of the farm dam.** The capacity or volume of a farm dam will influence the volume of water it can harvest. The larger the capacity of the farm dam, the more water it will be able to capture.
- **Catchment runoff.** The volume of catchment runoff will vary depending on the location of a farm dam (including the location within the same catchment). In a given catchment, the availability of catchment runoff can be approximated by the catchment area of the farm dam. However, soil type, gradient and other factors will also play a role. A

⁵⁷⁴ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p. 26.

farm dam with a relatively large upstream catchment will be able to harvest more water than a dam with a small catchment area.

- **Extractions from a farm dam.** A farm dam will only capture runoff when there is spare capacity. Therefore, the more water that is extracted from the farm dam, the more water it is able to harvest. Extractions from farm dams are generally not metered and can vary considerably between individual users.⁵⁷⁵
- **Evaporation and seepage from a farm dam.** As with extractions from the dam, evaporation and seepage rates will influence the volume a dam can harvest by reducing the existing volume in storage and creating spare capacity. The volume of evaporation from the farm dam will depend on the rate of evaporation in the region (and this varies considerably across the MDB) and the surface area of the farm dam. Seepage will vary depending on the dam construction and local soil types.⁵⁷⁶

It is difficult to directly measure the volume of water harvested by farm dams. However, a number of studies have estimated the volume of water harvested by all farm dams in a given catchment.⁵⁷⁷

Given the difficulties in determining the harvestable volume for a farm dam, there are various other approaches used to determine a tradeable water access right volume. Options include the volume of the farm dam or the historical extraction volume. Where trades are currently permitted, if the seller wishes to keep their dam (often for stock and domestic purposes), a portion of the traded volume is withheld to cover evaporative losses and seepage (from having a larger than necessary dam to meet stock and domestic purposes). This is assessed on an individual basis.

It is difficult to control when farm dams harvest water. Until it is full, a farm dam will capture all catchment runoff intercepted by the farm dam. Farm dams intercept the first catchment flows after summer, thereby extending the period of time over which the waterway could be experiencing dry conditions. However, it is possible to install bypasses on farm dams and divert runoff through or around the dam.

There have been limited cases of trade between farm dam licences and surface water systems. Many of the issues discussed in relation to farm dam trade also apply to trade between farm dams and surface water.

⁵⁷⁵ L Lowe and R. Nathan, 'Consideration of uncertainty in the estimation of farm dam impacts', *Water Down Under 2008*, Adelaide, Engineers Australia and the International Centre of Excellence in Water Resources Management, 2008.

⁵⁷⁶ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p. 27.

⁵⁷⁷ For example, P Jordan, C Wiesenfeld, P Hill, R Morden, and F Chiew, 'An Assessment of the Future Impact of Farm Dams on Runoff in the Murray-Darling Basin', *Proceedings of Water Down Under*, Adelaide, 2008; pp1618-1629..

6.6.2 Summary of submissions

The trade of water access rights for farm dams was not raised directly in the issues paper and no submissions directly addressed the issue. However, the ACCC has consulted with major state agencies on this topic and considers it of sufficient importance to note the following discussion.

6.6.3 Discussion

Trade between farm dams

At a general level, trade of farm dam water access rights would only appear feasible where no further development of similar farm dams is permitted.

Only farm dams that are on the same drainage path can be considered physically connected. Downstream trade on the same drainage path is theoretically possible without third party impacts. Trade of farm dam water access rights within a wider area would require further consideration to ensure that the volume of water harvested remains the same and that there are no adverse impacts on other individual users due to the location of the new (or expanded) farm dam.

A trade between farm dams could potentially have a large impact on individual water users. For example, a farm dam built immediately upstream of an existing farm dam would significantly reduce the catchment runoff available to the existing farm dam. The SKM report noted:

... trade to a location that will have an unacceptable impact on an individual water user should not be permitted. For example, a new farm dam should not be constructed immediately upstream of an existing farm dam.⁵⁷⁸

Trading zones could be used to define areas with similar evaporation, seepage and harvesting conditions. Assuming that the catchment area of the new and old farm dam is similar, trade within the zone should be possible. However, a trade to a new drainage path, even if within the same zone, would effectively require cancelling and reissuing a licence in the new location. This would require spare development capacity in the new location (to allow for the new licence) based on an assessment of existing downstream dams and their harvesting catchment.

The SKM report states:

The **location within the catchment** of the new and existing farm dam should be considered before any trade is approved. The following aspects should be considered:

- The volume of water available for interception by a farm dam and the consequent reduction in catchment runoff depends on its location. Trade should be restricted if the catchment area of the two farm dams are different enough to result in an unreasonable increase in the volume of catchment runoff that can be captured by the farm dam; and,

⁵⁷⁸ SKM, *Water trade between water sources—water trade involving farm dams and unregulated catchments: a report to the ACCC*, 2009, p. 37.

- Trade from a farm dam should not be permitted outside of an area of connectivity.⁵⁷⁹

Farm dams constructed with low flow bypass structures (allowing low flows to pass around the storage) should be considered differently as their impact on downstream users is very different. If there is a low flow bypass on the existing farm dam, it should arguably also be a requirement on the new farm dam.

Many dams have been constructed as ‘drought proofing’ storages and may be infrequently used. In these cases, the impact the farm dam has on downstream users is very different from those dams which are fully utilised. Allowing trade with unused farm dams may reduce the volume of water available in the catchment for other water users. However, identifying the degree of use of each dam could be problematic due to lack of data. Furthermore, trade involving other types of water rights (such as a trade in regulated or unregulated systems) are not based on historical use. It may therefore be difficult to justify a different approach for farm dams.

Once a water access right for a farm dam is traded, decommissioning is the only way to ensure that the farm dam no longer harvests catchment runoff and provides an easy way to assess compliance. However, a landowner may wish to retain the dam itself for stock and domestic use, which may not require a licence. In this case, if the size of the farm dam was within the range acceptable for domestic and stock purposes, no action would be required. If this is not the case, it may be reasonable to:⁵⁸⁰

- reduce the size of the existing farm dam
- place a bypass on the existing farm dam or
- reduce the size of the new farm dam.

The discussion above has considered trade of the full water access right. Trade of only part of the farm dam water access right is more difficult. SKM noted:

If water is extracted from a farm dam to meet irrigation or commercial requirements it becomes more difficult to allow a partial trade of the entitlement to occur. It becomes difficult to ascertain if the water harvested by the new dam is comparable to the reduction in interception that will occur from the existing farm dam. Furthermore, it will be difficult to assess compliance with the trade. As such, it may not be feasible to allow partial trades in these circumstances.⁵⁸¹

Trade with surface water (unregulated)

The characteristics of water access rights in unregulated catchments differ considerably from those of a farm dam (see table 6.4). This complicates water trade as it is difficult to make adjustments required to generate a comparable water access right.

⁵⁷⁹ *ibid.*, p. 37.

⁵⁸⁰ *ibid.*, p. 40.

⁵⁸¹ *ibid.*

The differences include the fact that the annual volume of extractions made by a farm dam are not reliably known, that they are not restricted to a maximum daily extraction rate and that the timing of their extractions may vary considerably from a pumped diversion.

Table 6.4 Comparison of unregulated catchment and farm dam water access right characteristics⁵⁸²

Characteristic of unregulated water right	Applicability to farm dams
Location	Farm dams are not always located on a waterway. This may affect the volume of water available at the point of extraction.
Maximum daily extraction rate	It is more appropriate to place a limit on the volume of water harvested by the farm dam. Techniques to implement this limit are not available.
Timing	Restrict times a farm dam can harvest water with a bypass.
Restriction rules	Not currently applied to farm dams.
Maximum divertible volume	The volume of water harvested by farm dams is not currently metered.
Storage volume	Applicable
Purpose of use	Applicable

The impact of a farm dam on streamflows and downstream users is heavily dependent on both the climate and the streamflow regime. Impacts of farm dams tend to be highest during high rainfall/high flow months. However, the impact as a proportion of streamflow tends to be highest during the driest months. For this reason, determining the equivalence of water harvested in farm dams and water harvested from other surface water sources is potentially very complex.

The Act includes the following basin water market and trading principle:

Trade from a licensed runoff harvesting dam (that is, not a small farm dam) to a river may occur subject to:

- (a) a reduction in dam capacity consistent with the transferred water access entitlement;
or
- (b) retention of sufficient capacity to accommodate evaporative and infiltration losses;
or
- (c) conditions specified in water resource plans to protect the environment.⁵⁸³

However, the ACCC also notes the basin water market and trading objective of providing appropriate protection of third party interests.⁵⁸⁴

⁵⁸² *ibid.*, p. 38.

⁵⁸³ Schedule 3, clause 4(12) of the Act.

Without a clear definition of property rights, and considering the difficulty in understanding farm dam and surface water relationships and ensuring a comparable reliability level, it would be difficult to ensure appropriate protection of third party interests if trade between farm dams and surface water were allowed.

6.6.4 Preliminary positions

(6-T) Trade of farm dam water access rights within the same catchment should be assessed on an individual basis and—in order to provide appropriate protection of third party interests—would need to consider the following:

- the farm dam has been duly authorised under the law of the basin state
- the new location is in the same zone as the original farm dam
- new dam construction in the zone is capped for that particular water use type
- the size of the dam is comparable
- the catchment areas (or inflow volume) of the two dams are similar in size
- third party impacts are assessed at the new location and potentially impacted parties are consulted.

(6-U) Trade does not appear feasible between farm dams and surface water systems while providing appropriate protection to third party interests.

⁵⁸⁴ Schedule 3, clause 3(e) of the Act.

7 Water delivery rights

The water trading rules may deal with the trade of ‘tradeable water rights’, which means:

- water access rights, or
- water delivery rights, or
- irrigation rights.⁵⁸⁵

As such, it is relevant to consider the extent to which the water trading rules should deal with the trade or transfer of water delivery rights. Irrigation rights are dealt with in chapter 8.

The Act states: ‘water delivery right means a right to have water delivered by an infrastructure operator’. Given this definition, water delivery rights could exist:

- within the irrigation networks of irrigation infrastructure operators (IIOs)
- more generally, in areas serviced by the water service infrastructure of an infrastructure operator.

Concepts of delivery entitlements or delivery capacity entitlements are also contained within Victorian and South Australian legislation respectively.

Water delivery rights could potentially include implied delivery rights within a river system or between surface water sources. Such rights could be used to manage delivery of water through constraints such as the Barmah Choke. A possible example of such a water delivery right is the provision in South Australian legislation for delivery capacity entitlements within water resources.⁵⁸⁶

However, at this stage, the ACCC has focused its analysis on water delivery rights against IIOs in relation to delivery within irrigation networks⁵⁸⁷ and on the significance of impediments to the trade of water delivery rights held against IIOs.

In addition to the relevant provisions in the Act, state legislation and the former MDB Agreement; provisions relating to water delivery rights are also contained in the water market rules which relate to the transformation of irrigation rights against an IIO into a

⁵⁸⁵ See ss. 4 & 22(1), item 12, of the Act.

⁵⁸⁶ *Natural Resources Management Act 2004* (South Australia), Chapter 7, Division 3, Part 5. Under s. 164I, a delivery capacity entitlement may be applied to any aspect of the taking of water from the relevant water resource at a point of extraction but must not be applied to any part of an irrigation system that distributes water after extraction from the relevant water resource.

⁵⁸⁷ This would exclude private river diverters.

water access entitlement held by someone other than the IIO.⁵⁸⁸ Under the water market rules, an IIO must provide details of the contractual terms and conditions of an irrigator's delivery right within 20 business days if that irrigator requires the continuation of that delivery right after transformation.⁵⁸⁹

The ACCC considers that two broad issues are relevant to a discussion of water delivery rights:

- the clear specification of water delivery rights (separately from irrigation rights or water access rights) and the definition of those rights
- the arrangements for the trade of water delivery rights.

Although interrelated, given that specification and separation of water delivery rights is to some extent relevant as a precursor to facilitating trade of water delivery rights, it is appropriate to consider these two areas separately.

7.1 Specific and separate water delivery rights

7.1.1 Background

Water delivery rights can take a number of forms:

- rights supported by legislation, such as Victorian delivery shares (which are a right to delivery in an irrigation area)
- explicit delivery entitlements issued by an IIO (such as a MIL or WMI delivery entitlement)
- other contractual arrangements in place with an infrastructure operator.

Furthermore, the way delivery rights are defined can vary between operators. The simplest definition of a delivery right would be an annual volumetric (ML) limit—for example, an irrigator may have a right to have 200 ML delivered in any given year. Any water delivered above this value would be typically subject to some form of casual usage fee. This approach to delivery rights would be more common in unconstrained systems where water delivery rights are not needed to manage congestion.

Alternatively, a water delivery right may be defined according to both a quantity of water and the time over which that water may be delivered, such as a certain share of the capacity in the network, an amount of water in a certain time or a maximum pumping rate.

For example, Victorian legislation states that a water authority must, for a given property, 'determine the volumes at which and the periods for which the water is to be

⁵⁸⁸ These provisions are discussed in ACCC, *A guide to the water market rules 2009 and water delivery contracts*, June 2009, chapter 6.

⁵⁸⁹ Water market rules 2009, Part 4.

delivered for irrigation or stock and domestic use to that property’.⁵⁹⁰ Within this legislative framework, Goulburn-Murray Water defines its infrastructure access charge for water delivery in units of ML/day.⁵⁹¹ This type of water delivery right may be more likely in a constrained network where the delivery right is used to manage capacity. In these circumstances, a water delivery right could also be defined as a share of network capacity.

Water delivery rights may also be defined with reference to a particular part of an IIO’s network (as opposed to the network generally) or even to a particular property.

In practice, IIOs also typically levy infrastructure access charges based on the amount of water delivery right held by a customer/member. Furthermore, where the holder of a water delivery right wishes to terminate that right (and, as a result, access to the infrastructure), a termination fee is payable. The water charge (termination fees) rules cap this termination fee at a multiple of 10 times the annual total network access charge.⁵⁹²

In many cases, water delivery rights remain bundled with either water access rights or irrigation rights (i.e. there is no water delivery right defined independently of the volume of an irrigation or water access right). For example, a person may have a contractual relationship with an IIO that incorporates their entitlement to water under an irrigation right as well as their right to delivery against the IIO. Similarly, where a statutory water access right is held directly by a person, their right to delivery from an IIO may be defined with reference to the volume of that water access right. Under the schedule E protocol on access, exit and termination fees made under the former MDB Agreement⁵⁹³, delivery entitlements were to be clearly specified and unbundled from water entitlements, and recognised through a separate, explicit delivery entitlement.⁵⁹⁴

The ACCC asked in its issues paper whether such ‘bundling’ of water delivery rights with either an irrigation right or water access right presented a barrier to trade of tradeable water rights and what the advantages and disadvantages of ‘unbundling’ would be.

7.1.2 Summary of submissions

The South Australian Government submitted that ‘at a conceptual level the more the rights are unbundled the clearer their specification and the more that they can be traded’.⁵⁹⁵ It submitted that unbundling would minimise transaction costs, allow users greater flexibility, and enable trade of delivery and hence the better management of

⁵⁹⁰ *Water Act 1989* (Victoria), s. 223(1).

⁵⁹¹ Goulburn-Murray Water, [2009–10 Rates and Charges](http://www.g-mwater.com.au), available online at www.g-mwater.com.au, viewed on 13 August 2009.

⁵⁹² Water charge (termination fees) rules 2009, Part 3.

⁵⁹³ Section 239N of the Act provides that such protocols are to continue to have effect as if references in the protocol were references to protocols made under the new Agreement.

⁵⁹⁴ MDB Agreement, schedule E protocol on access, exit and termination fees, cl. 6.

⁵⁹⁵ South Australian Government, issues paper submission, p. 12.

capacity constraints and improved investment decisions.⁵⁹⁶ However, the South Australian Government considered that, overall, there was likely to be at best negligible benefits arising from establishing tradeable delivery rights when there were no capacity constraints. It submitted that there are no obvious capacity constraints within IIO networks in South Australia.⁵⁹⁷ The South Australian Government also submitted that, to the extent that the infrastructure operator defines the delivery right, it would be up to the infrastructure owner to determine whether the delivery right can be separated from an irrigation right.⁵⁹⁸

The HWI supported the establishment of shares of delivery capacity, provided they can be traded.⁵⁹⁹

The NSWIC submitted that the bundling of water delivery rights with irrigation rights or water access rights is clearly a barrier to trade, although such a barrier may be justifiable in certain instances.⁶⁰⁰ It stated that, where practicable, water delivery rights ought to be unbundled in order to allow for the trade of water supply to individual properties.

State Water noted that delivery rights had been proposed but not implemented in New South Wales for over a decade. It submitted that delivery rights should exist where there are supply constraints.⁶⁰¹

WMI submitted that it has separated water entitlements (i.e. irrigation rights) from water delivery entitlements and found that it made little difference to trade.⁶⁰² It suggested that unbundling has added layers of complexities to sales but submitted that unbundling should occur for Basin consistency.

The QFF submitted that unbundling would be unlikely to be beneficial in the St George scheme.⁶⁰³ The VFF noted that unbundling has already taken place in Victoria.⁶⁰⁴

The NFF stated that it believes water delivery rights will become a tradeable product over time but that a common approach to water delivery rights is needed.⁶⁰⁵ It submitted that unbundling may provide an additional mechanism to add value to irrigator assets. The NFF noted that explicit separation of water delivery rights may require formal capacity shares.

DERM submitted that arrangements for delivery of water within Queensland are managed through contracts between users and the water storage infrastructure

⁵⁹⁶ *ibid.*, p. 13.

⁵⁹⁷ *ibid.*

⁵⁹⁸ *ibid.*, p. 14.

⁵⁹⁹ HWI, issues paper submission, p. 3.

⁶⁰⁰ NSWIC, issues paper submission, p. 18.

⁶⁰¹ State Water, issues paper submission, p. 7.

⁶⁰² WMI, issues paper submission, p. 10.

⁶⁰³ QFF, issues paper submission, p. 8.

⁶⁰⁴ VFF, issues paper submission, p. 12.

⁶⁰⁵ *ibid.*, p. 23.

operator.⁶⁰⁶ This includes delivery from headworks to on-stream extraction points and from rivers to off-stream water users. This includes establishing on-stream delivery arrangements. DERM submitted that this works well in Queensland and that different arrangements should not be prematurely established.

7.1.3 Discussion

As noted in the background section, water delivery rights are able to serve a number of functions for an IIO and irrigators served by the IIO's network.

Firstly, they can be used as a basis for determining liability for annual access fees for access to the irrigation network and for determining when other charges such as casual usage charges may be applicable. Similarly, the termination of water delivery rights (and, with it, access to an irrigation network) can be the trigger for the payment of a termination fee. In unconstrained networks, this charging mechanism will usually be the primary purpose for having water delivery rights. Water delivery rights in such a case will typically be allocated as a simple volume (often to the same volume as the irrigator's total irrigation right or water access right).

Secondly, separate water delivery rights may be relevant as a method for an IIO to define the level of delivery capacity in the network and as a way to manage congestion.

Thirdly, where a person has transformed their irrigation right under the water market rules and wishes to retain delivery, a clear definition of delivery rights is required to establish the transformed irrigator's right to have water delivered.

Fourthly, if water delivery rights are separately tradeable within an IIO's area, it would be necessary for these to be separately defined.

Accordingly, having explicitly defined water delivery rights may serve a number of purposes, with benefits for both irrigators and IIOs. The ACCC notes that the submissions of interested parties were generally in favour of a more explicit definition of water delivery rights and in favour of unbundling of those rights from irrigation rights or water access rights.

Irrigation rights and water delivery rights are in many cases still bundled together, either because no separate water delivery right is specified or because of IIO requirements that a certain volume of water delivery right be held for a given volume of irrigation rights or water access rights.

Within many irrigation networks, both water and delivery will therefore move together when a trade of water occurs. To some extent, this bundling will be limited by the ability of irrigators to transform their irrigation rights as IIOs subject to the water market rules must provide transformed irrigators with information about their delivery rights upon request and allow for water delivery rights separate from the transformed water access right (entitlement).

⁶⁰⁶ DERM, issues paper submission, p. 9.

The ACCC considers that the bundling of water access rights or irrigation rights with water delivery rights presents some significant issues, regardless of whether trade of those water delivery rights can occur independently. In an environment where irrigators are trading water access rights or irrigation rights, a requirement to hold a particular volume of water delivery rights could limit the ability of irrigators to trade water.

The ACCC noted in its advice on water market rules that there were several examples of irrigators wanting to trade water while retaining their right to delivery.⁶⁰⁷ Bundling the rights to water with the rights to delivery will mean that an irrigator who wishes to trade water must also adjust their right to delivery through obtaining or terminating water delivery rights. This will deny the irrigator the ability to use trade to manage water access and delivery independently.

In constrained networks, the possession of clearly defined water delivery rights may also provide IIOs with a method to allocate limited capacity to irrigators and allow irrigators to better understand their ability to access the limited capacity of the network. For example, irrigators may be able to only access some percentage of the total flow in the network or be limited in the amount of water they can have delivered during a certain time. In such cases, the possession of a higher volume of water delivery rights could be used to provide these irrigators with a larger portion of the constrained capacity of the network. However, the ACCC notes that this is unlikely to be a concern in unconstrained networks and, even in networks with capacity constraints, may only be of relevance for a limited part of the year.

Furthermore, the ACCC understands that, even where water delivery rights are explicitly defined by IIOs, in reality, access to delivery is often currently provided on a simple first come, first served ordering basis.

In summary, it would be necessary to have clear and separately defined water delivery rights for the purposes of:

- providing a basis for charging
- establishing the delivery rights for a transformed irrigator or an irrigator that is considering transformation
- facilitating trade in water delivery rights where appropriate.

A failure to have clearly and separately defined water delivery rights will reduce certainty for irrigators and IIOs, and hinder the operation of efficient markets for water access rights.

Given the above discussion, the ACCC considers that there would be significant benefits to having clearly and separately defined water delivery rights. While there may be administrative simplicity to having rights to water and rights to delivery bundled, this benefit is outweighed by the increased flexibility and certainty that explicit water delivery rights would give to irrigators and IIOs. This in turn would better facilitate the operation of efficient water markets.

⁶⁰⁷ ACCC, *Water market rules—advice to the Minister for Climate Change and Water*, December 2008, p. 56.

The ACCC has considered the extent to which specifying water delivery rights would place a burden on IIOs. The ACCC does not consider that this burden would be onerous. Firstly, a number of operators have already established water delivery rights as the basis for their charging, in accordance with the MDB Agreement. Secondly, to a significant extent, the making of the water market rules and water charge (termination fees) rules means that many other IIOs will have to clearly define water delivery rights independently of irrigation rights and water access rights in any case. The ACCC does not consider that implementing water delivery rights should be complicated. In many cases, the establishment of water delivery rights will simply require an allocation of a ML amount and/or unit share of water delivery right to customers/members on the basis of the volume of irrigation rights or water access rights presently held.

As a related point, where rights to water are unbundled from rights to delivery, it would not be appropriate that termination is required when the trade of a water access right or the internal trade of an irrigation right occurs.⁶⁰⁸ Changes in the volume of a water delivery right must be allowed to occur separately from changes in the amount of an irrigation right or water access rights held. The ACCC proposes a position to address this point.

7.1.4 Preliminary positions

- (7-A)** IIOs should clearly specify the volume/unit share of their customers'/members' access to their irrigation network under a water delivery right. The water delivery right should be explicitly provided for in a contract or agreement for delivery services.
- (7-B)** An IIO may not require a person to obtain, terminate or vary the volume of a water delivery right as a result of, or condition for approval of, a trade of a water access right or an irrigation right.

7.2 Trade of water delivery rights

7.2.1 Background

In some IIO areas, water delivery rights may be tradeable subject to certain conditions. Such conditions may include:

- restrictions on the parties that can purchase water delivery rights
- limitations on the areas within which water delivery rights may be traded

⁶⁰⁸ Requiring termination upon the transformation of an irrigation right (which would then become a tradeable water access entitlement) is already prohibited under the water market rules.

- requirements in relation to the volume of water access rights/irrigation rights that must be held
- other conditions.

In other areas, the trade of water delivery rights may be prohibited entirely (except perhaps where delivery rights are traded with landholdings).

The ability to trade water delivery rights will depend on the approach taken by the relevant IIO. However, in the schedule E protocol on access, exit and termination fees under the MDB Agreement, basin states have agreed that:⁶⁰⁹

By a date no later than 30 June 2010, a delivery entitlement (and any obligations associated with it) should be made transferable, subject to the approval of the infrastructure operator.

The ACCC's issues paper asked the following questions relating to the trade of water delivery rights:

- What conditions and restrictions on the trade of water delivery rights are reasonable?
- What factors should govern the specifications of areas within which water delivery rights may be traded?
- What are the advantages/disadvantages of requiring the development of arrangements to allow for the trade of water delivery rights?

7.2.2 Summary of submissions

The South Australian Government submitted that, to the extent that the infrastructure operator defines the delivery right, it would be up to the infrastructure operator to determine whether the delivery right can be traded and under what conditions and restrictions.⁶¹⁰ The South Australian Government considered that the primary restriction on trade of delivery rights should be physical network capacity. It also submitted that it may be appropriate to limit ownership of delivery rights to a person who owns or occupies land able to be serviced by the infrastructure and to specify areas of the network within which trades can occur.⁶¹¹

The HWI supported the establishment of shares of delivery capacity, provided they can be traded.⁶¹² It stated that trade in water delivery rights should be subject to rules that are based on physical and environmental constraints and notes the possible increased complexity of allowing trade in water delivery rights.⁶¹³

⁶⁰⁹ MDB Agreement, schedule E protocol on access, exit and termination fees, cl. 6(3).

⁶¹⁰ South Australian Government, issues paper submission, p. 14.

⁶¹¹ *ibid.*

⁶¹² HWI, issues paper submission, p. 3.

⁶¹³ *ibid.*, p. 8.

The NSWIC submitted that any restrictions on water delivery rights must be based on physical constraints.⁶¹⁴ It also submitted that, given the variety of sizes of IIOs, any rules must be the subject of extensive consultation and be sufficiently flexible.

State Water submitted that trading rules for delivery rights should be a logical expression of supply constraints.⁶¹⁵

WMI stated that it has no delivery constraint issues and hence no market demand for delivery entitlements. WMI stated that, if water was permanently traded into WMI, it would issue new delivery entitlements.⁶¹⁶ It also submitted that constraints on trade of water delivery rights should include recognising that delivery rights are unique to the specific irrigation district; allowing for consent, payments in arrears and security issues; and recognising capacity constraints.⁶¹⁷ It also submitted generally that, given the likely reduced allocations in the future, termination of delivery is more likely to be used than trade, given that greater delivery rights will lead to greater liabilities for irrigators.

The VFF noted that there may be capacity restrictions on the trade of delivery rights.⁶¹⁸

The NFF submitted that trades of water delivery rights must occur within a connected system and that system capacity and modernisation plans should be taken into account.⁶¹⁹

7.2.3 Discussion

As noted above in the discussion on specific and separate water delivery rights, there are two main purposes for water delivery rights. Firstly, water delivery rights will provide a basis for charging annual access fees and termination fees. Secondly, water delivery rights may provide a basis for managing capacity in constrained networks.

Both of these functions may be assisted by the ability for water delivery rights to be traded between irrigators. The ACCC notes that interested parties were generally in favour of trade of water delivery rights but notes the need to recognise physical characteristics of the network.

The ACCC agrees that it would be appropriate to recognise physical characteristics of networks. As a preliminary point about the physical characteristics relevant to water delivery rights, the ACCC notes that a water delivery right of the type being considered in this chapter is a right held against a particular IIO for delivery of water through that IIO's irrigation network. Even if traded, these water delivery rights still pertain to that irrigation network. As such, it would not be possible for a water delivery right against one operator to become a water delivery right against another operator of a different

⁶¹⁴ NSWIC, issues paper submission, p. 18.

⁶¹⁵ State Water, issues paper submission, p. 7.

⁶¹⁶ WMI, issues paper submission, p. 11.

⁶¹⁷ *ibid.*

⁶¹⁸ VFF, issues paper submission, p. 12.

⁶¹⁹ *ibid.*, p. 23.

irrigation network. Such an outcome would not make sense as the water delivery right is related to delivery through the IIO's infrastructure.

Whether a water delivery right should be able to be held (but not exercised) independently of land is a separate question. As discussed below, the value of a water delivery right to its holder will be a function of the scarcity value of delivery capacity and the fees associated with holding the right. Theoretically, it should be possible to hold a water delivery right without owning or occupying land within an IIO's area. However, this possibility raises significant and legitimate concerns regarding an IIO's security over ongoing access fees. Owning or occupying land serviced by an IIO's network appears to be a reasonable prerequisite for holding a water delivery right against that IIO. Further restrictions regarding location are considered below.

The ACCC has considered the possible implications if water delivery rights could be traded between irrigators, compared with the situation where water delivery rights could not be traded between irrigators.

Firstly, where an irrigator is unable to trade water delivery rights, they will be limited in the possible actions that they can take upon sale of their water access right or irrigation right. Without the ability to trade water delivery rights, an irrigator will be left with the option to either terminate their water delivery rights—which would require the payment of termination fees—or maintain their delivery, which may not be valuable to them if they have sold a significant proportion of their water access rights or irrigation rights. Comparatively, where the irrigator can trade water delivery rights, they would have the option of trading those rights to another party. This may be the person to whom the water access rights or irrigation rights were sold or may be another person in the relevant irrigation network who is seeking to increase their ability to receive the delivery of water.

Equally, an inability to trade would mean that an irrigator who is seeking to increase their ability to receive delivery (perhaps because they had purchased new water access entitlements or allocations) would not be able to acquire new rights from another irrigator. The irrigator would have to either incur some form of casual usage charge on the delivery of the additional water or acquire new delivery rights from the IIO.

As such, where trade was possible, irrigators would have increased flexibility in dealing with their water delivery rights. In particular, in a situation where one irrigator is seeking to increase their delivery right and another is seeking to decrease their delivery right, trade allows those two irrigators to agree on a price for the trade of the delivery rights.⁶²⁰ In contrast, where trade was prevented, one irrigator would need to terminate, incurring termination fees, while the second irrigator would need to obtain additional delivery rights from the IIO. This would essentially mean that the IIO would receive a windfall gain, with no change in the volume of delivery rights against them.

⁶²⁰ It is unclear which direction the consideration may flow in such a deal as, although the gaining irrigator would be acquiring additional delivery right, they would also be accepting a liability to pay annual access charges and, potentially, termination fees. The 'seller' of a water delivery right may therefore elect to provide some consideration to the 'buyer', potentially up to the value of the applicable termination fee.

The ACCC also considers that the trade of delivery rights would better allow IIOs to assess capacity constraints and likely investments. If the location aspects of water delivery rights are moved or are attempted to be moved within an IIO's network towards particular areas and away from other areas, the IIO will be better able to see where greater delivery of water is needed and, accordingly, where greater investment may be needed. Similarly, the movement of water delivery rights away from parts of a network may signal areas that could be rationalised or in fact removed from the network. The ACCC notes that such a signal would also be received where some irrigators terminated their water delivery rights and others applied for new delivery rights from the IIO. However, where trade was not possible and an irrigator did not wish to terminate, the IIO may receive incorrect signals for efficient investment. This is because an irrigator may be inclined to retain delivery rights in such a case. This would necessitate the IIO maintaining and investing in that part of the network, even when the irrigator had no intention of continuing irrigation.

This investment signalling effect of water delivery rights may be somewhat limited in some cases. Firstly, it would be of limited benefit in networks which were not suffering from capacity constraints. Secondly, the ACCC notes that the use of delivery rights to directly manage capacity is not widespread. In systems where water delivery is not directly related to the water delivery right held (e.g. where a first come, first served approach is used), other signals may provide the irrigator with information on necessary capacity and investment issues. However, the number of water delivery rights held in particular geographic areas of a network will still give an indication of the overall usage of that part of the network.

Overall, the ACCC considers that there would be benefits to facilitating trade in water delivery rights. However, it notes that there may be a number of legitimate reasons for trade in water delivery rights to be restricted in some cases. Some of these reasons have been identified in Victoria in a ministerial direction on water delivery rights (called 'delivery shares' in Victoria).⁶²¹ The ACCC considers that the following may be appropriate restrictions on the trade of water delivery rights:

- As noted above, water delivery rights are rights against a particular IIO for the delivery of water through that IIO's irrigation network, and hence a water delivery right against one IIO cannot be converted into a water delivery right pertaining to another irrigation network.
- More generally, it may be necessary to restrict the trade of delivery rights within an IIO network to reflect legitimate capacity constraints. Where a part of the network was constrained and additional delivery rights could not be traded into that part of the network without significant third party impacts on existing irrigators, it may be appropriate to prevent the trade of water delivery rights into that area.

That said, the ACCC considers that such a restriction should not be used as an excuse to prevent trade of water delivery rights generally. Such a

⁶²¹ John Thwaites, then Minister for Water, Environment and Climate Change, *Directions on Delivery Entitlements*, available at <http://www.waterregister.vic.gov.au/Public/UnbundledEntitlements.aspx>, viewed on 13 August 2009, p. 4.

restriction would not be appropriate in an unconstrained network. A way to overcome this may be the definition of zones within which delivery rights could be freely traded but into which new delivery rights could not be traded, based on the largest areas within which capacity constraints were homogenous. This would allow water delivery rights for a particular constrained pipe or channel to be traded within the area serviced by that pipe or channel, or to other unconstrained areas of the network, but not allow new water delivery rights to be traded into that area while the capacity constraints remain. Similarly, trades of water delivery rights could generally be traded into a larger capacity channel (i.e. back up towards the network's off-take point).

The need to refuse a trade of water delivery rights based on capacity constraints may provide a useful indication to IIOs of potentially valuable investments.

- Also, as noted previously, a restriction on holding a water delivery right in the absence of owning or occupying land serviced by the IIO's network may be appropriate.
- It may be appropriate to limit trade of delivery rights to a person where this would result in a volume of delivery rights in excess of the amount reasonably required to irrigate the land owned or occupied by that person and able to be serviced by the water delivery infrastructure. For example, an IIO may limit the volume of water delivery rights that can be held per hectare. Such a limit may be based on the amount of water that could realistically be used for irrigation on that land. This may prevent irrigators moving water delivery rights and their associated termination fee obligations onto one piece of land, which may provide a security risk for the IIO.
- Similarly, there may be a need for restrictions that account for security risks or where access fees are in arrears. The ACCC has recognised in other water rules advice that there may be a need for irrigators to provide security to IIOs.⁶²²
- It may also be appropriate to prohibit trades of delivery rights into areas of an irrigation network which are being decommissioned or where significant reconfiguration is taking place. Victoria has such rules in place in relation to its delivery shares.⁶²³

The ACCC notes that Victoria has some further rules that allow delivery share trades to be restricted where they would have adverse effects on holders of other delivery shares or affect the water delivery authority's ability to provide effective and efficient delivery

⁶²² For example, ACCC, *Water market rules—advice to the Minister for Climate Change and Water*, December 2008, p. 88.

⁶²³ John Thwaites, then Minister for Water, Environment and Climate Change, [Directions on Delivery Entitlements](#), available on the Victorian Water Register webpage at www.waterregister.vic.gov.au; viewed on 13 August 2009, clause 11(e).

services. The ACCC considers that such rules would be captured within the restrictions listed above.

The ACCC has considered possible ways to best facilitate the trade of water delivery rights. Firstly, it has considered a detailed approach based on definitions of capacity and delivery zones. Secondly, it has considered a more light-handed approach that would allow IIOs to set their own conditions for trade of water delivery rights but require IIOs to not unreasonably prevent trade of water delivery rights. The two approaches are discussed further below.

Detailed approach

The ACCC has noted above that a primary reason for restricting the trade of water delivery rights would be the existence of capacity constraints on parts of an IIO's network. To that end, a possible approach to facilitating the trade of water delivery rights would revolve around defining physical delivery zones within an irrigation network to manage capacity issues, (between which the trade of water delivery rights may be restricted) and then allowing trade to otherwise occur freely within these zones.

7.2.3.1.1 Definition of delivery zones

A first step would be to require the IIO to establish the delivery zones in the IIO's network—for example, at the level of the channel/pipe or group of channels/pipes beyond which delivery constraints apply. The amount of spare capacity in each delivery zone would have to be made known to irrigators.

This could be facilitated by a requirement such as:

- IIOs must set zones within their irrigation networks based on the largest areas of the irrigation network within which water delivery capacity constraints are substantially similar.
- The IIO must publish information regarding delivery zones and capacities in a capacity statement, which must be updated periodically to account for any trades of water delivery rights or for any infrastructure changes affecting capacity.

These zones would be required to reflect a valid capacity constraint. Within this delivery zone framework, water delivery rights should be generally tradeable to persons located anywhere within a delivery zone with spare capacity. This could be facilitated if trade was free other than for reasons of capacity issues or the other restrictions discussed above:

Freedom of trade

- IIOs may not restrict the trade of a water delivery right:
 - within a delivery zone
 - between an owner in one delivery zone with an owner located in a delivery zone serviced by the same infrastructure but closer to the IIOs relevant off-take point

- to an owner in any delivery zone if the trade would not cause the capacity of that delivery zone to exceed full capacity

except:

- for reasons of security for ongoing access fees
 - if access fees associated with the delivery right are in arrears
 - where it would result in a person holding delivery rights in excess of an amount reasonably required to irrigate their land.
- If a particular delivery zone is identified as being at capacity, no water delivery rights can be traded to a landholder in that zone.

Where a zone is at capacity, in addition to preventing the trade of existing water delivery rights being traded into a zone, it would also be appropriate that new delivery rights could not be granted. This would prevent any ‘gaming’ of the delivery zone requirements.

Reasonableness approach

While the ACCC considers that the detailed approach outlined above provides a robust framework for facilitating the trade of water delivery rights, it recognises that this may be overly prescriptive in many cases.

In particular, the ACCC recognises that there are significant differences in the operation and composition of irrigation networks. A more prescriptive approach may not be appropriate in all circumstances.

As such, the ACCC proposes to adopt a less prescriptive position in favour of adopting the preliminary position that IIOs must not unreasonably prevent, delay or deter such trades.

A behavioural requirement such as requiring that trades must not be unreasonably prevented, delayed or deterred may be open to considerable debate by both IIOs and irrigators. As such, the ACCC considers that it would be appropriate to define a number of factors that would inform whether or not a trade of water delivery rights had been reasonably or unreasonably prevented.

Preferred approach

The ACCC considers that, at this stage, it is too early to require a more detailed approach surrounding the trade of water delivery rights. Accordingly, it proposes to recommend that an approach be adopted that trades should not be unreasonably prevented, based on the factors discussed above.

7.2.4 Preliminary position

(7-C) IIOs should not unreasonably prevent, deter or delay the trade of water delivery rights between persons who own or occupy land that is serviced by their irrigation network. Factors that may inform whether a trade has been unreasonably prevented, deterred or delayed include:

- overall capacity in the network
- capacity in the parts of the network where the water delivery rights would potentially be traded to
- connectivity of the network (i.e. whether there is one large network or several component networks that are not physically connected)
- payment of previous water access fees or security for future water access fees and other relevant charges
- the amount of water delivery rights reasonably required to irrigate a person's property
- ensuring the necessary administrative arrangements are in place to assess and give effect to a trade in water delivery rights.

8 Irrigation rights

The water trading rules may deal with, among other things, the imposition or removal of restrictions on, and barriers to, the trade of tradeable water rights and the availability of information to enable the trade of tradeable water rights.⁶²⁴ Section 4 of the Act provides that a tradeable water right includes an irrigation right. In turn, an irrigation right is defined as a right that a person has against an irrigation infrastructure operator (IIO) to receive water that is not a water access right or a water delivery right.⁶²⁵

The water market rules prohibit operators from preventing or unreasonably delaying transformation arrangements (subject to some permitted restrictions). Transformation arrangements occur when the share component of an IIO's water access entitlement is reduced to allow for the permanent transformation of a person's irrigation right into a water access entitlement held by someone other than the IIO. The water market rules also deal to a limited extent with the trade of transformed water access entitlements.

IIOs in Victoria and Queensland are unlikely to be subject to the water market rules or any water trading rules specifically dealing with irrigation rights because most irrigators in those jurisdictions hold water access entitlements in their own name, rather than irrigation rights.

Where irrigation rights do exist, most of the larger IIOs have written contracts outlining irrigators' irrigation rights. However, many IIOs provide limited information to irrigators about their irrigation rights or, in some cases, have not made a formal determination about irrigation rights. Some current arrangements between IIOs and irrigators who hold an irrigation right against their operator permit various forms of trade of irrigation rights. As discussed in section 8.1, lack of details about an irrigation right represents a significant information asymmetry and can have a negative impact on an irrigator's choice and ability to deal with their irrigation right, including the trade of those rights.

Some forms of trade of irrigation rights are not captured by the water market rules. Trades of a temporary nature are not captured by the water market rules because transformation under s. 97(1)(a) of the Act requires a 'permanent transformation'. Where permitted, irrigators may temporarily trade additional water allocation into, out of or within the IIO's area of operation. All of these transactions are not covered by the water market rules.

Similarly, permanent trades of irrigation rights within an operator's irrigation network also do not result in transformation because there is no reduction in an operator's water access entitlement, and are therefore outside the scope of the water market rules. The trading rules may deal with these trades (see section 8.2).

⁶²⁴ See ss. 26(1)(h) and 26(2) of the Act.

⁶²⁵ Unlike a water access entitlement, irrigation rights are not rights by or under the law of a state. Some IIOs may refer to an irrigator's irrigation right as a 'water entitlement'.

8.1 Specifying the volume/unit share of irrigation rights

8.1.1 Background

The ACCC's final advice to the minister about water market rules noted that irrigators will require details of their entitlement to water under an irrigation right in order to transform.⁶²⁶ The water market rules require an IIO to provide an irrigator with details of their irrigation right when they submit to the IIO a written request for those details.

During consultation on the water market rules it was apparent that, for various reasons, irrigator's irrigation rights remain insufficiently defined. For example, some operators have not formally determined all irrigation rights held against the water access entitlement the operator holds. In that case, irrigators may still receive a volume of water each season but this may vary or not be guaranteed in a written contract.

8.1.2 Summary of submissions

A concern identified during the water market rule consultation process was that some South Australian trusts had not made a binding determination of irrigation rights because of legislative difficulties.

The South Australian Government advised in its submission that revised legislation was soon to be implemented in South Australia to address these concerns:

The Irrigation Bill 2009 and Renmark Irrigation Trust Bill 2009 provide that a trust must fix an irrigation right for each of its members. An irrigation right will be fixed by resolution of the trust therefore ensuring transparency and democratic processes ... on a fair and equitable basis having regard to the nature of the crops growing on the relevant land, and such other matters considered relevant by the trust. The new Bills also create a clear definition of rights and provide for these rights to be traded within trusts regardless of transformation ... Appeal provisions under both Bills provide for an individual to appeal to the Environment, Resources and Development Court in relation to the fixing of an irrigation right.⁶²⁷

The ACCC understands that this issue is not limited to South Australia. The NFF submitted that 'in many instances, there is no formal irrigation right. These should be made explicit ...'⁶²⁸ Similarly, WMI recognised that 'transformation has meant over time all operators will unbundle "rights" into real entitlement. This is necessary to reflect an asset to the individual.'⁶²⁹

The HWI stated in its submission that the separation of irrigation rights through explicit recognition 'allows properties to optimise mix of water access rights and water delivery

⁶²⁶ ACCC, *Water market rules—advice to the Minister for Climate Change and Water*, December 2008, p. 36.

⁶²⁷ South Australian Government, issues paper submission, p. 15.

⁶²⁸ NFF, issues paper submission, p. 24.

⁶²⁹ WMI, issues paper submission, p. 12.

rights to their enterprise'.⁶³⁰ WMI also submitted that such recognition of irrigation rights 'will stop legal argument over presumed historical usage and access to water in those schemes that have not established separate entitlements'.⁶³¹

The HWI noted, however, that a disadvantage to requiring operators to make explicit irrigation rights is 'increased complexity and transactional cost'.⁶³²

8.1.3 Discussion

Under the water market rules, if a person wishes to ascertain details of their irrigation right, they must apply to their IIO in writing noting they intend to apply for transformation and seek those details. In situations where people do not know the value of their irrigation right, a person may not apply to transform because they do not have available to them all the information necessary to consider whether to transform.

Additionally, for IIOs who have not made a proper determination of irrigation rights, one person's irrigation right necessarily impinges on every other irrigator's irrigation right. For example, where an IIO has not defined all irrigation rights, a determination of the first irrigator's irrigation right and subsequent transformation may be higher than is reasonable because no other irrigator's rights have been 'crystallised'. However, as more irrigators transform, remaining irrigators may not realise the full value of their irrigation right because the IIO's water access entitlement has already been reduced by previous transformations.

8.1.4 Preliminary positions

- (8-A)** Where an IIO does not have a written contract with each of its irrigators outlining each irrigator's individual entitlement to receive water under their irrigation right, the IIO should make a determination of the volume of water or unit share of all irrigation rights held against that IIO.
- (8-B)** To facilitate informal and possible formal negotiations in the event of a dispute between the parties, the IIO should provide written details to support the determination of the volume of water or unit share of all irrigation rights held against the IIO.

8.2 Trade of irrigation rights

8.2.1 Background

Some IIOs have developed internal arrangements to allow the trade of an entitlement to water under an irrigation right. Such trades may be limited to the IIO's area of

⁶³⁰ HWI, issues paper submission, p. 8.

⁶³¹ WMI, issues paper submission, p. 12.

⁶³² HWI, issues paper submission, p. 8.

operation and be governed by the policies and procedures of the IIO, or otherwise at the discretion of the IIO.

8.2.2 Summary of submissions

Some stakeholders noted that current operator policies and procedures for the trade of irrigation rights ‘are complex and highly variable between IIOs’,⁶³³ can be of an ‘ad-hoc’⁶³⁴ nature and are not necessarily transparent and accessible.⁶³⁵

The South Australian Government suggested that restrictions on trade should be minimised, transparent and non-discriminatory.⁶³⁶ The revised South Australian legislation provides that water available under an irrigation right can be surrendered or transferred. The South Australian legislation states that a person must not transfer an irrigation right (permanently or temporarily) without first notifying the trust of the proposed transfer in accordance with any requirements specified by the trust.⁶³⁷ The VFF supported this approach, suggesting that ‘providing that permanent trade can be delivered, without effecting (sic) existing users, there should be no restrictions on permanent trade’.⁶³⁸

Some stakeholders were concerned about trading rules regarding the trade of irrigation rights being overly prescriptive in nature⁶³⁹ or that delivery rights should be held ‘prior to the irrigation right being able to be enforced’.⁶⁴⁰

WMI stated that ‘there has to be a linkage [between the trade of irrigation rights and the trade or termination of water delivery rights] otherwise the financial viability of operators ... will be at risk’. However, WMI noted that ‘the water market rules and the water charge (termination fees) rules have already established the guidelines for the relationships [between water and delivery]’.⁶⁴¹

In its submission to the water market rules consultation process (which it attached in its submission to the water trading rules issues paper), the NSWIC questioned the appropriateness of transformation arrangements.⁶⁴² In the original submission, the

⁶³³ HWI, issues paper submission, p. 8; WMI, issues paper submission, p. 12.

⁶³⁴ NFF, issues paper submission, p. 26.

⁶³⁵ *ibid.*, p. 24.

⁶³⁶ South Australian Government, issues paper submission, p. 15. However, WMI (issues paper submission, p. 12) also notes that ‘transparency needs to be considered in light of State approval processes and the various water exchanges and brokers trading platforms’.

⁶³⁷ South Australian Government, issues paper submission, p. 15; *Renmark Irrigation Trust Act 2009* (South Australia); *Irrigation Act 2009* (South Australia).

⁶³⁸ VFF, issues paper submission, p. 12.

⁶³⁹ WMI, issues paper submission, pp. 12–13.

⁶⁴⁰ NSWIC, issues paper submission, p. 20.

⁶⁴¹ WMI, issues paper submission, p. 13. WMI suggested that under current arrangements ‘there are no termination fees associated with [internal permanent trade of water entitlements] where delivery entitlement moves with water entitlement’, noting that these types of trades will often involve property sales.

⁶⁴² NSWIC, issues paper submission, p. 19.

drawbacks of transformation listed by NSWIC included compliance issues, financial insecurity and perverse results as a result of permitting transformation and separating irrigation rights from delivery rights. The ACCC considered each of these concerns in its draft advice to the minister on the water market rules.⁶⁴³ The ACCC concluded that the water market rules do not require transformation but rather provide for transformation on a voluntary basis at the request of irrigators, and that irrigators are in the best position to weigh up the costs and benefits of transformation.

NSWIC observed generally that ‘should trade of water pursuant to an irrigation right be restricted by an IIO, the owner is entitled to transform that right and trade from a separate entitlement’.⁶⁴⁴

Several stakeholders suggested that there are a number of circumstances in which it is appropriate for an IIO to impose restrictions on the trade of a specific volume of water from outside the IIO’s area into a location within the IIO’s area including:

- ‘a third party land use or environmental reason e.g. salt levels/salinity zones’⁶⁴⁵
- ‘water delivery, environmental or third party constraints that are specified in a water resource plan’⁶⁴⁶
- ‘... restrictions based on reasonable operations requirements’⁶⁴⁷
- ‘... restrictions based on physical capacity’⁶⁴⁸
- ‘... an [IIO’s] obligation to ensure trade into the systems has no impact on existing users’⁶⁴⁹
- ‘future considerations may need to include the modernisation planning process currently underway in many IIOs, particularly the issues around retirement of areas and infrastructure’⁶⁵⁰
- constraints in delivery capacity.⁶⁵¹

However, WMI noted that ‘most operators would welcome “new water” into their system to replace the water leaving under the various environmental buyback programs’.⁶⁵² Similarly, NFF stated that ‘generally, most IIOs do not put restrictions on the inward trade of water – either on a permanent or allocation basis. This is because

⁶⁴³ ACCC, *Draft water market rules and advice to the Minister for Climate Change and Water*, October 2008, pp. 20–21.

⁶⁴⁴ NSWIC, issues paper submission, p. 20.

⁶⁴⁵ South Australian Government, issues paper submission, p. 16.

⁶⁴⁶ HWI, issues paper submission, p. 9.

⁶⁴⁷ NSWIC, issues paper submission, p. 20.

⁶⁴⁸ *ibid.*

⁶⁴⁹ VFF, issues paper submission, p. 13.

⁶⁵⁰ NFF, issues paper submission, p. 25.

⁶⁵¹ WMI, issues paper submission, p. 14; VFF, issues paper submission, p. 12; NFF, issues paper submission, p. 25.

⁶⁵² WMI, issues paper submission, p. 14.

IIOs income is based on the delivery of water. The more water delivered, the more financially viable the IIO's business'.⁶⁵³

8.2.3 Discussion

Temporary trade of water allocated to an irrigation right

The temporary trade of water allocated to an irrigation right into, outside or within an IIO's network is not covered by the water market rules. However, the water trading rules may deal with these types of temporary trades of water allocated to irrigation rights.

In general, if an operator places unreasonable restrictions on an irrigator in the temporary trade of water allocated to their irrigation right, it is likely an irrigator may seek to transform that right. This was recognised by stakeholders.⁶⁵⁴ Once transformed, an irrigator is free to trade the water allocated to their water access entitlement created through the process of transformation.

As noted by stakeholders, the income of the IIO is predominantly derived from delivery services it provides to customers.⁶⁵⁵ An increase in the volume of water allocated to an IIO's water account may lead to an increase in the volume of water that IIO delivers to customers in its network. Therefore, an IIO has no incentive (or even has a disincentive) to restrict the temporary trade of water allocated to an irrigation right into the IIO's area of operation. IIOs may have an incentive to encourage temporary internal trades of water allocated to an irrigation right to retain water in the IIO's network for similar reasons.

Additionally, the ACCC understands that irrigators may seek to temporarily trade water allocation in times of financial difficulty—for instance, during very dry irrigation seasons.⁶⁵⁶ The sale of temporary water may protect an irrigator's long-term interests to remain irrigating in the IIO's area of operation. Therefore, IIOs should have an incentive not to restrict the trade of water allocations available under an irrigation right as restrictions may force irrigators to make permanent sales through the use of transformation arrangements. This in turn could negatively impact the IIO through decreased revenue from reduced delivery demand.

The ACCC understands that a number of IIOs may issue an (internal) allocation to irrigators that makes a negative adjustment to the state-issued allocation by an amount estimated to cover fixed and variable network losses. If an irrigator trades a volume of allocation to a person outside the network, the estimated variable losses will no longer be incurred within the IIO's network. In theory, where an IIO adjusts state-issued allocations to account for total (fixed and variable) network losses, an irrigator's

⁶⁵³ NFF, issues paper submission, p. 26.

⁶⁵⁴ NSWIC, issues paper submission, p. 20; WMI, issues paper submission, p. 13.

⁶⁵⁵ WMI, issues paper submission, p. 14; NFF, issues paper submission, p. 26.

⁶⁵⁶ NFF (issues paper submission, p. 26) suggests that trade in allocation (trade of water allocated to an irrigation right) has occurred quite significantly in recent seasons.

allocation could be ‘grossed up’ to account for those variable losses attributable to the volume of water no longer being delivered within the IIO’s network.

If the variable losses of a network are significant and an IIO fails to make an adjustment to non-transformed irrigators’ allocations when they are traded out of its network (but negatively adjusts state-issued allocations or allocation trades in), irrigators are likely to be encouraged to transform their irrigation right. Once transformed, an irrigator would have contributed to fixed losses of the network at the time of transformation. However, a transformed irrigator will not be required to make any contribution to variable network losses if the allocation made against the water access entitlement the irrigator holds is not used within the IIO’s network.

There may be valid restrictions related to the ability of IIOs to deliver a person’s entitlement to water under their irrigation right—for example, because of legitimate capacity constraints. However, such restrictions should be sufficiently encompassed within the irrigator’s water delivery right (see chapter 7) and not restrict the trade of the irrigator’s irrigation right. In Queensland, as noted by DERM, where most water and delivery has been unbundled, ‘water access entitlement holders can trade their water entitlements in accordance with trading rules, but must deal separately with their contractual obligation in relation to delivery’.⁶⁵⁷

Permanent trade of an irrigation right

Where a person wishes to permanently trade to a party outside of their IIO’s area, this would typically involve a transformation arrangement. An IIO’s conduct in response to transformation is regulated under the water market rules.

The water trading rules may deal with other types of permanent trade involving irrigation rights. Irrigators may seek to permanently increase their irrigation right by amalgamating a water access entitlement that they hold with the water access entitlement of an IIO. However, an IIO has little incentive to restrict such a trade because it would result in an increase in the share component of the IIO’s water access entitlement and the possibility of increased IIO revenue from delivering water.

Irrigators may also permanently trade irrigation rights to another irrigator (who has not transformed) within the IIO’s area of operation. This type of trade maintains the IIO’s statutory right over the water access entitlement as the IIO’s water access entitlement is not reduced. During consultation on the water market rules, some stakeholders made strong submissions against transformation arrangements and submitted that there were benefits to IIOs in maintaining control over the water access entitlement.⁶⁵⁸ This demonstrates that IIOs may have a strong incentive not to restrict internal permanent trades.

An unreasonable restriction on the permanent trade of irrigation rights may be a condition requiring the ‘seller’ to trade or terminate that part of the water delivery right attributable to the irrigation right traded. Alternatively, an IIO may seek to impose conditions on the buyer requiring the possession or acquisition of additional rights to

⁶⁵⁷ DERM, issues paper submission, p. 10.

⁶⁵⁸ See NSWIC submission to the ACCC water market rules position paper, pp. 5–6.

water delivery. The ACCC concluded in chapter 7 that changes in the amount of irrigation rights or water access rights should be allowed to occur separately to changes in the amount of water delivery rights held. In the case of permanent trade of an irrigation right out of an IIO's area, such conditions are prohibited under the water market rules.

Conversely, a reasonable restriction may be that an IIO withholds its approval to trade an irrigator's irrigation right until outstanding water charges are discharged. The water market rules permit an IIO to not approve an application for transformation because there are outstanding fees or charges payable. Therefore, IIOs are protected by the permissible restrictions of the water market rules if an irrigator seeks to transform and trade their irrigation right in an effort to avoid their obligation to pay outstanding charges.

The ACCC notes that significant regulation has been imposed on IIOs in the MDB with the commencement of the water market rules and water charge (termination fees) rules in 2009. The ACCC recognises the impact on IIOs of implementing and complying with these rules. Further regulation of similar conduct under the trading rules may be in excess of what is required to meet the basin water market and trading rule objectives and principles of the Act.

8.2.4 Preliminary position

(8-C) IIOs have significant incentives not to restrict the trade of irrigation rights. In addition, there is a strong countervailing threat of irrigators seeking to transform their irrigation right and employing the protections offered to irrigators under the water market rules. In light of these considerations, there does not appear to be a compelling need to specifically prohibit IIO restrictions on the permanent or temporary trade of irrigation rights within, outside or into an IIO's network.

9 Reporting and the availability of information

The water trading rules may relate to the availability of information to enable the trading or transfer of tradeable water rights, and the reporting of trades and transfers.⁶⁵⁹ This chapter considers issues relating to information and reporting requirements.

Access to timely and accurate information is critical to a well-functioning water market because it allows participants to make informed decisions about managing their water access and delivery needs.

Although irrigators and other water users may be familiar with the terminology, general level of prices, product characteristics and trading rules associated with tradeable water rights in their own area, they may lack this information as it applies in other areas, particularly interstate. A lack of information can inhibit otherwise beneficial trades from occurring and raise transaction costs for market participants.

While relevant information is generally available at present, there may be issues relating to its accessibility, timeliness and, in some cases, accuracy and clarity. This chapter considers these issues in more detail, as well as how the reporting of trades could assist market participants and others.

There are certain government processes under way that are also relevant in the context of reporting and the availability of information. The ACCC considers that two processes are particularly relevant: the development of a National Water Market System and the Bureau of Meteorology's water information gathering under the Act. These are discussed in more detail in boxes 9.1 and 9.2.

Box 9.1 The National Water Market System

In November 2008, the Council of Australian Governments (COAG) agreed to the development of a National Water Market System (NWMS). The NWMS will record water entitlements, manage transactions and provide water accounting and market information. The NWMS is being developed by the Department of the Environment, Water, Heritage and the Arts (DEWHA) in conjunction with states and territories over a three-year period.

The proposed NWMS will have several elements, including:

- a National Portal—a web-based portal to provide access to new summary market information and to existing state and territory information. Over time, subject to cost-benefit analysis, the portal could also provide an access point for initiating transactions

⁶⁵⁹ See ss. 26(1)(h) & (i) of the Act.

- the development of a common registry system (CRS) (to be implemented in New South Wales, South Australia, Western Australia, Tasmania, the Northern Territory and the Australian Capital Territory) and enhancements to existing register systems in Victoria and Queensland
- interoperability between registers to facilitate more efficient interstate trade.

Box 9.2 Bureau of Meteorology and the Australian Water Rights Information Service

The Bureau of Meteorology (BOM) has an obligation under the Act to collect water information, including ‘information about rights, allocations and trades in relation to water’. The information to be captured is specified in the Water Regulations 2008 (Cwlth) and includes information about:

- type, volume and location of entitlements
- details (including price and volume) of permanent water entitlement trades (collected annually) and of temporary water allocation trades and leases (collected weekly)
- details of allocation announcements
- information about permits to operate minor storages, self extract water from a bore or self extract water from a watercourse.⁶⁶⁰

The BOM is developing the Australian Water Resources Information System (AWRIS) to present water information collected. AWRIS is an online information system that will collate information about river flows, groundwater levels, reservoir storage volumes, water quality, water use, water entitlements and water trades from more than 200 water data sources across Australia.

A variety of water information products are being developed under AWRIS. The BOM states that AWRIS will contain ‘data, dashboards, reports and forecasts’ for ‘people engaged in water policy development, planning, operations, public enquiry, education and research’ and that AWRIS information products will include:

- a water data download service
- regular national water resources assessments
- an annual national water account
- real-time water reporting services
- real-time water availability forecasts.⁶⁶¹

The ACCC also commissioned a survey of irrigators by the Australian Bureau of Agricultural and Resource Economics (ABARE) to obtain certain data about the information and reporting needs of irrigators in the MDB. The survey was conducted with 582 irrigators, and was a supplementary survey to a previous ABARE study of

⁶⁶⁰ *Water Regulations 2008* (Cwlth), Part 7, Division 7.3 and schedule 3, Part 7.

⁶⁶¹ BOM, [Australian Water Resources Information System](http://www.bom.gov.au), March 2009, available at www.bom.gov.au; viewed 19 August 2009.

irrigators.⁶⁶² Results from this survey are discussed where relevant in this chapter. The report can be obtained from the ACCC upon request.

This chapter addresses issues relating to reporting and information about:

- characteristics of tradeable water rights
- trade in tradeable water rights
- trading volume and pricing data
- allocation and policy change announcements.

9.1 Information regarding tradeable water right characteristics

9.1.1 Background

Tradeable water rights are rights by or under the law of a state or are otherwise granted relevant to a specific water system or area within a basin state. As such, the characteristics of tradeable water rights differ considerably between (and often within) basin states.

The most obvious example of this variation is the terminology used to describe the rights and related trades. For example, a ‘water access entitlement’ in the Act is a ‘water share’ in Victoria, a ‘water access licence’ in New South Wales, a ‘water access entitlement’ in the Australian Capital Territory, a ‘water allocation’ in Queensland and a ‘water licence’ or ‘water access entitlement’ in South Australia.⁶⁶³

Many characteristics of tradeable water rights may be relevant to a person’s decision to trade. These characteristics include:

- the priority class of a water access right and the process for determining when and how much water is available under a water access right (particularly in regulated systems)
- the reliability of a water access right (or an irrigation right)⁶⁶⁴

⁶⁶² ABARE, *Irrigation in the Murray-Darling Basin: Farms trading temporary water in 2006-07*, ABARE Research Report 09.8, May 2009.

⁶⁶³ The ACCC discussed the differing terminology between states in more detail in its issues paper: ACCC, *Water trading rules—issues paper*, March 2009, p. 58.

⁶⁶⁴ ‘Reliability’ here refers to a historical measure and/or guide to water availability, rather than the priority class that may be associated with a water access right. The Productivity Commission defines reliability as ‘A probability attached to the volumetric entitlement of some water rights that describes the number of years in every 100 that the volumetric entitlement will be met in full’: Productivity Commission, *Water Rights Arrangements in Australia and Overseas, Commission Research Paper*, 2003, pp. 317–18. This reliability stems from the priority the water access right has when allocations

- carryover policies
- fees and charges payable on the holding or use of the right
- other terms and conditions relating to delivery, extraction or use.⁶⁶⁵

These characteristics vary between particular types of tradeable water rights relating to a single water system and, of course, they vary across different water systems and different basin states. Such variation arises largely from differences in the availability of water and the management objectives between water systems and areas.

There is no single place where potential water market participants can access information about the characteristics and the trading rules and requirements for tradeable water rights throughout the MDB.⁶⁶⁶ As such, it is difficult to assess the relative merits of trading a tradeable water right (particularly when comparing rights from different water systems and/or basin states).

The ACCC's issues paper sought information about the characteristics of water rights and the way irrigators and other market participants access information about those characteristics.

9.1.2 Summary of submissions

Some stakeholders did not express significant concern over the different terminology used in different basin states. The South Australian Government submitted that developing consistent terminology did not seem to have 'any significant advantages'.⁶⁶⁷ The NSWIC submitted that the water market 'is a market in which knowledge levels are, in equities market terms, sophisticated'.⁶⁶⁸ The GVIA similarly submitted that the range of different water products was 'not that bewildering that the complexities cannot be mastered by a prudent investor'.⁶⁶⁹

WMI submitted that 'buyers and sellers in the water market should take the responsibility to be fully informed' and that it 'disagrees with creating new terminology when there would be little benefit'.⁶⁷⁰

However, some stakeholders, such as the HWI and the QFF, expressed support for consistent terminology.⁶⁷¹ Likewise, the NFF stated that terminology would be one of

are made, and the characteristics of the system. See section 3.9 for issues around conversions between priority classes.

⁶⁶⁵ See also chapter 7 of this paper.

⁶⁶⁶ Part 5 of the Act provides that the MDBA may establish a Murray–Darling Basin Water Rights Information Service to allow access to information on 'registrable water rights' (including water access rights, irrigation rights and water delivery rights) included in water registers operated by basin states, irrigation infrastructure operators and others.

⁶⁶⁷ South Australian Government, issues paper submission, p. 21.

⁶⁶⁸ NSWIC, issues paper submission, p. 26.

⁶⁶⁹ GVIA, issues paper submission, p. 5.

⁶⁷⁰ WMI, issues paper submission, p. 18.

the more common issues faced by irrigators.⁶⁷² However, the NFF specifically noted that it did not support greater uniformity of characteristics of water access rights across the MDB.⁶⁷³ The New South Wales Government also submitted that more consistent terminology may reduce the complexity of water trading, although it noted the cost of amending legislation and associated systems.⁶⁷⁴

A number of stakeholders submitted that the particular characteristics of the water rights were quite central to decisions to trade:

- The HWI stated that the characteristics, and particularly the reliability of allocation, were highly relevant.⁶⁷⁵
- The NSWIC, the South Australian Government and WMI all submitted that the characteristics were important for entitlement (permanent) trades but unimportant for allocation (temporary) trades.⁶⁷⁶
- The NFF said that the characteristics of water rights were important as they described the property right, particularly emphasising security, price and applicable trade rules as important.⁶⁷⁷
- The New South Wales Government submitted that the attributes of a water right are critical to the market's proper evaluation of its worth.⁶⁷⁸

A number of stakeholders also submitted that there are some gaps in available information and/or that market participants knowing more about water rights would be beneficial to the market.⁶⁷⁹

The QFF submitted that '[i]mplementation of a system of scheme performance indicators on issues such as long-term water supply, long-term system reliability, seasonal water availability, and water shortage severity would help scheme customers define their supply needs and options for scheme improvements to meet these needs'.⁶⁸⁰ The NFF considered that information on a volume and price on a per ML basis for each water entitlement type should be available, and it supported a move towards

⁶⁷¹ HWI, issues paper submission, p. 11; QFF, issues paper submission, p. 12.

⁶⁷² NFF, issues paper submission, pp. 31, 34.

⁶⁷³ *ibid.*, p. 32.

⁶⁷⁴ NSW Government, issues paper submission, p. 27.

⁶⁷⁵ HWI, issues paper submission, p. 11.

⁶⁷⁶ NSWIC, issues paper submission, p. 2; South Australian Government, issues paper submission, p. 21; WMI, issues paper submission, p. 17.

⁶⁷⁷ NFF, issues paper submission, p. 32.

⁶⁷⁸ New South Wales Government, issues paper submission, p. 26.

⁶⁷⁹ VFF, issues paper submission, p. 14; QFF, issues paper submission, p. 11; WMI, issues paper submission, p. 17; Macquarie River Food and Fibre, issues paper submission, p. 2; NSWIC, issues paper submission, p. 26.

⁶⁸⁰ QFF, issues paper submission, p. 13.

standardised information templates.⁶⁸¹ The HWI likewise submitted that a single point and template for reporting was desirable.⁶⁸²

DERM considered that there would be advantages in having information relevant to their water supply system or trading pool available in one point. However, in its submission it considered that there may be a need for compromises in design to establish a single point for all systems.⁶⁸³ It also submitted that any single template would need to factor in differences between the planning of jurisdictions.

9.1.3 Discussion

A lack of information about the differences in water products and their associated rules (including trading rules) may operate as a disincentive or barrier to trade between different water sources or interstate. There is differing terminology and varying characteristics of water products between basin states. As such, there would be the possibility for trades to be abandoned or not initiated because irrigators or other water market participants did not understand the tradeable water rights that were available for trade, or the procedures required to undertake the trade.

The ACCC considers that there are two potential information issues in relation to the characteristics of water access rights: firstly, the differing terminology used in the MDB and, secondly, the ability to access information about differing characteristics of rights.

The ACCC considers that there is no obvious need to address issues relating to consistent terminology. The ACCC notes that consistent terminology would presumably make it easier to compare products between jurisdictions, and that some stakeholders considered that there would be benefits from moving to more consistent terminology. However, overall, there does not seem to be any significant level of concern that the variety in terminology across the MDB causes any problems for participants who wish to trade in the market. No stakeholders pointed to significant existing problems under the current arrangements.

However, the ACCC notes that the characteristics of the different water access rights were regarded as highly significant to water market participants (for water access entitlement trade in particular). Firstly, the ACCC notes that tradeable water rights include water access rights, irrigation rights and water delivery rights. However, irrigation rights and water delivery rights are by their nature confined to the geographic area of the irrigation network operated by the IIO. As such, the ACCC considers that there is less need to consider the widespread availability of information about these rights.⁶⁸⁴ The ACCC has therefore focused its considerations on the characteristics of water access rights.

⁶⁸¹ NFF, issues paper submission, p. 33.

⁶⁸² HWI, issues paper submission, p. 11.

⁶⁸³ DERM, issues paper submission, p. 15.

⁶⁸⁴ However, information about these irrigation and water delivery rights is highly relevant to irrigators and others operating within irrigation networks in particular. The availability of information regarding water delivery rights and irrigation rights is considered in sections 7.1 and 8.1 respectively.

The ACCC agrees with stakeholders that the characteristics of the different water access rights could be expected to be significant. This is because a purchaser of water access rights (and, in particular, water access entitlements) will need to know several significant factors, such as the reliability profile of the product, the location, applicable trading rules and carryover policies, when making purchases. The ACCC notes that characteristics of water access rights will vary across basin states, and then within a basin state across water source type, location and priority class of the water. There are then, in turn, a large number of characteristics that will define the product within a given geographic area and priority class. Not being able to readily access this information will make assessment of potential trades more difficult for water market participants.

The ABARE survey of irrigators conducted on behalf of the ACCC asked irrigators whether a number of characteristics of water access rights/entitlements were important for their decision to hold or trade those rights. The results are in box 9.3.

Box 9.3 ABARE survey results on characteristics of water access rights⁶⁸⁵

Are the following characteristics of water access rights/entitlements important for your decision to hold or trade those rights?

	per cent
Water source type (regulated/unregulated/groundwater)	48
Water source location (i.e. which river or aquifer)	46
Regulations that affect out of region trade	54
Priority/security class (e.g. high vs general vs low)	55
Reliability profile (how much water is typically received on that entitlement)	68
Applicable carryover policy	58
Fees and charges payable on the entitlement	62
Information on how allocations are determined	49
Total volume of water access right/entitlements held	64
Applicable trading rules	56

The survey results suggest that, in particular, the reliability profile, fees and charges payable and the total volume of that type of water access right on issue were considered significant by irrigators. The results indicate that a variety of characteristics of water access rights are important to irrigators participating in the water market.

⁶⁸⁵ ABARE, *Survey of irrigators on water trading in the Murray-Darling Basin 2007-08*, August 2009.

Given the wide range of water access rights potentially available (depending on the location/trading zone of the purchaser), the ACCC considers that there may be merit in developing a consistent reporting framework for water access rights. This had some support among stakeholders.⁶⁸⁶ The idea of a consistent reporting framework would be to allow ready comparison of the characteristics of the different water products available within and across different jurisdictions and geographic regions. This in turn would facilitate trade by reducing the costs of information gathering for market participants.

A similar function is served in the regulation of the private health insurance industry by Standard Information Statements.⁶⁸⁷ These provide a consistent reporting format for information about health funds, such as services covered, waiting periods and excess amounts. Similarly, a standard format could be introduced that describes the nature of a water access right across characteristics such as water source type, priority class, reliability profile, links to applicable trading rules etc. The ACCC considers that these characteristics are common attributes shared by water access rights in all jurisdictions. It does not consider that the differences between jurisdictions would mean that a template would not be useful.

The ACCC notes that such standard format statements should only apply to certain water access rights. The ACCC does not consider that they would be necessary for rights that do not require a specific licence, such as stock and domestic rights or riparian rights.⁶⁸⁸ These rights typically have a relatively small volume and are highly location specific.⁶⁸⁹ It also does not consider that such information is relevant or necessary for water allocations as trade in water allocations is simply trade in water that is actually available and the nature of the water access right being sold is straightforward. A number of stakeholders similarly submitted that characteristics are not significant for water allocation trade.⁶⁹⁰ Accordingly, the ACCC considers that any standard format statement requirements should apply to licensed water access rights but not 'temporary' water allocations.

The cost of generating such statements should be low given that this information should already be available to basin states and would only have to be placed into a standard template. Revision should not be necessary on a frequent basis unless basin states fundamentally alter the nature of their water access rights. Certain information could be provided through links to relevant websites where it has the potential to change regularly (e.g. where fees and charges may change or policy on issues such as carryover might alter). However, it would be important that such links were to user-

⁶⁸⁶ NFF, issues paper submission, p. 33; HWI, issues paper submission, p. 11.

⁶⁸⁷ Australian Government, Standard Information Statements, <http://www.privatehealth.gov.au/sis.htm>, viewed on 19 August 2009.

⁶⁸⁸ Although a licence may be required to operate the works/pumps necessary to actually extract the water.

⁶⁸⁹ These rights may also be tradeable only to a very limited extent, or not currently tradeable at all. See section 3.5.

⁶⁹⁰ NSWIC, issues paper submission, p. 2; South Australian Government, issues paper submission, p. 21; WMI, issues paper submission, p. 17.

friendly websites and not simply to large documents such as water resource plans or similar.

Provision of such information in a standard format could tie in with other data provision or information services such as those provided by the NWMS National Portal or the MDBA. It would be logical to have the template information provided at a central location.

9.1.4 Preliminary position

(9-A) The ACCC considers that state governments should provide information about the different licensed water access rights (but not ‘temporary’ water allocations) available under the water management regime in their state.

The information would be provided according to a template and could contain the following information (if applicable):

1. Location (water source name)
2. Water source type (regulated, unregulated, groundwater)
3. Priority class
4. Total entitlement on issue of that kind
5. Reliability profile (both long-term and more recent)⁶⁹¹
6. Fees and charges payable by the holder of the entitlement
7. Applicable carryover policy
8. Dates of allocation announcements etc.
9. Information on how allocation levels are determined (for regulated systems)
10. Links to applicable trading rules, especially applicable trading zone rules
11. Areas where the entitlement, and where allocation made against that entitlement, can be traded (tagged) to
12. Areas from which water can be traded to the water source location.

For some of these categories of information, it may be sufficient for a link to be provided, as long as this is to a readily accessible source of information. The ACCC considers that links may be appropriate for item 6 and onwards.

The templates should be available at a central location (e.g. the NWMS National Portal or as determined by the MDBA).

⁶⁹¹ The ACCC notes that there is some information available concerning reliability profiles in NSW (see the communiqués available at the New South Wales Department of Water and Energy (DWE), available at http://www.dwe.nsw.gov.au/water/avail_alloc.shtml, viewed 21 August 2009). Also see DWE, *Water availability in New South Wales Murray-Darling Basin regulated rivers*, April 2009.

9.2 Information about trading rules and processes

9.2.1 Background

Trading rules and procedural requirements are located in a variety of instruments and are administered by a range of approval authorities and other entities. These rules relate both to where trades can be made from and to, as well as the administrative steps required for a trade to be carried through. Having ready access to information about these rules and processes is clearly critical to a well functioning water market.

Water market intermediaries often fulfil this information role, among others, and generally charge a commission or flat fee. The intermediaries also facilitate trade by matching sellers and buyers, as well as performing the necessary tasks to get approval and registration of trades.

In addition, basin state government departments and other approval authorities provide access to this information, typically through their websites. However, this information may be difficult to locate or interpret and may not provide a complete picture of the relevant rules and procedures. This is particularly true given that applicable rules can be found in a number of different documents, such as legislation, regulations, ministerial directions, water resource plans and IIO contracts and rules.

The use of trading zones (as discussed in chapter 6) can simplify the process of determining whether a potential trade will be permitted. In some cases where trading rules are defined with reference to upper and lower limits (e.g. trade in unsupplemented systems in Queensland), water market participants are able to determine in advance whether a trade is likely to be approved.

9.2.2 Summary of submissions

For some stakeholders, there was not a high level of concern with the availability of information about trading rules and processes. This may reflect the fact that rules are typically available in some form, and also the role of intermediaries in facilitating trades, which may mean that every individual irrigator does not need to be across all the complexities of water trade:

- The QFF noted that trading rules are identified in plans but are subject to the development of inter-scheme and interstate trading agreements.⁶⁹²
- The New South Wales Government noted that the Department of Water and Energy (DWE) website provided some information on water access right characteristics, trading rules and processes. It also noted that trading rules are contained in New South Wales water sharing plans, which are publicly available.⁶⁹³

⁶⁹² QFF, issues paper submission, p. 12.

⁶⁹³ New South Wales Government, issues paper submission, p. 27.

- The South Australian Government submitted that most trading rules are available on websites or are included in water allocation plans or on forms. It also noted the role of brokers or authorities to assist complex trades.⁶⁹⁴
- DERM submitted that water trading rules should be clearly set out in documents available to the public, and noted they are available on websites in Queensland.⁶⁹⁵

However, a number of stakeholders submitted that greater information would be useful:

- The HWI supported a single website of water trading rules, although it noted the role of intermediaries to assist irrigators in complex trades.⁶⁹⁶
- The NSWIC noted that trading rules are needed due to physical delivery complexity. It stated that a system is needed that can indicate whether a hypothetical trade is going to be improved.⁶⁹⁷
- The GVIA stated that there may be an advantage in having a central information depository of water information generally.⁶⁹⁸
- WMI submitted that there needs to be a recognition that the water market is complex and that trading rules reflect hydrology. It submitted that the interstate trading rules need to be more accessible to all participants, and trading rules should be available at a single point.⁶⁹⁹
- The NFF submitted that it does not believe that there is sufficient work being undertaken to provide clearer, more accessible and more transparent information on trading rules. It considered that a single portal for trade lodgement may be an appropriate mechanism to see applicable trade rules.⁷⁰⁰

While the New South Wales Government noted that DWE and New South Wales water sharing plans provided public information on trading rules, it considered that broader trading rules such as those relating to interstate, intravalley and intra-water source trading could be better communicated.⁷⁰¹ It also noted that the provision of trading rules information on a single portal was being considered as part of the NWMS.⁷⁰²

⁶⁹⁴ South Australian Government, issues paper submission, p. 22.

⁶⁹⁵ DERM, issues paper submission, p. 15.

⁶⁹⁶ HWI, issues paper submission, pp. 11–12.

⁶⁹⁷ NSWIC, issues paper submission, p. 27.

⁶⁹⁸ GVIA, issues paper submission, p. 5.

⁶⁹⁹ WMI, issues paper submission, p. 17.

⁷⁰⁰ NFF, issues paper submission, p. 33.

⁷⁰¹ New South Wales Government, issues paper submission, p. 27.

⁷⁰² *ibid.*

9.2.3 Discussion

The ACCC notes that there is a large number of trading rules currently in operation throughout the MDB. As such, there is the potential for significant uncertainty about the possibilities for trade and the procedures to be followed in making trades.

However, the ACCC considers that a number of issues are raised when considering the availability of information about trading rules and processes:

- irrigators and other water market participants may not need to understand all the complexities of trades
- there is broad support for a greater amount of information or for information that is centrally located and accessible
- there are a variety of sources of trading rules—water resource plans, forms, legislation, interstate trading protocols, contracts etc.

The ACCC understands, and submissions tended to support, that trading rules are not necessarily accessible and could be sourced from a variety of different documents. While information on trading rules is often available in water resource plans or similar, such documents are often very large and complex and may not be easily comprehended.

This complexity increases the costs for irrigators (or for intermediaries engaged by irrigators) of searching for information on how trades can be conducted and where water can be traded to and from. As such, a more centralised source of information about trading rules and processes would tend to facilitate trade, and particularly trade in water access entitlements ('permanent' trade), which can involve more detailed trading rules than allocation trade. However, the ACCC notes that there would also be some costs attached to the compilation of that information and its provision by basin states to some central location.

The ACCC notes that trading rules applicable within an IIO's area are also significant as they may contain restrictions both on the ability to trade water within that area or on moving water on and off the IIO's group water access entitlement. These rules may not be available to the public, may not be fully detailed and/or may be difficult to access. The ACCC considers that it would be appropriate that IIO trading rules and procedures be made public. Although the rules for trade within an IIO's area are only directly relevant to member/customer irrigators within that area, the rules on external trade have an effect on external irrigators seeking to purchase water from within an IIO area.

The National Portal, as part of the NWMS, is planned as a website that could facilitate access to state and territory information. It may be an appropriate place for provision of information about trading rules. The use of the portal should limit the burden of providing information about trading rules. The ACCC also notes its preliminary position in section 9.1.4, which would require links to all applicable trading rules in the standard templates about licensed water access rights (but not water allocations), which would ease some of the information gathering burden on water market participants.

Given the above considerations, the ACCC considers it appropriate that trading rules for water access rights should be provided by state agencies in a compiled form to a

central location. The National Portal would provide an appropriate central location for such information. It may also be necessary to capture information about IIO trading rules. This could simply be a requirement to make the trading rules available publicly on the IIO's website, available on request, or through some other means. Alternatively, information could be provided to a central agency like the MDBA or possibly made available with the trading rules for water access rights on the National Portal.

These measures would improve the provision of information and centralise trading rules from a significant range of different sources into one location. This would reduce the search costs for parties wishing to participate in trades. It should be relatively low cost for providing authorities as the rules will already be in place and the central location for the information is already in existence or would not be difficult to create.

9.2.4 Preliminary positions

- (9-B) Governments should provide all applicable rules regulating the trade of water access rights to a central information point (which could be provided by the MDBA or the NWMS National Portal).
- (9-C) IIOs should have to provide their own internal trading rules to the same central information point, on their website and/or upon request.

9.3 Trading volumes and prices

9.3.1 Background

As discussed above, it is important that information about water trades is made publicly available in order to provide clarity and transparency to the water market. It is relevant to consider the way price and volume information may be collected from water market participants and the way such information may then be conveyed to the market.

Collection of data

For pricing and volume information to be available for use and analysis by water market participants, their advisers and other stakeholders, market participants must be required to report the agreed price to a water register.

Trading volume and price data is currently collected by a range of entities, including basin state governments, IIOs, approval authorities and intermediaries. However, the extent to which this data is collected and the method by which it is collected and disclosed may differ between jurisdictions.⁷⁰³

⁷⁰³ PricewaterhouseCoopers, *Pricing and personal information disclosure consultancy project, Final report*, a report commissioned by the NWC, November 2006, p. 10, viewed 14 February 2009, www.nwc.gov.au/www/html/567-pricing-and-personal-information-disclosure-consultancy-project.asp.

As noted above, the BOM has a number of roles under the Act, including the collection of water information on the trade of water allocations and water access entitlements.⁷⁰⁴

Basin state governments collect pricing information on registration of trades of water access entitlements ('permanent' trades), with the exception of the Australian Capital Territory.⁷⁰⁵ Currently, price data on water allocation trades is collected by New South Wales, South Australia and Victoria.⁷⁰⁶

However, basin states do not generally collect information regarding trades of irrigation rights within IIO irrigation networks.

There may be some concerns about the quality of pricing data reported and made available. Values provided can range widely and it is relatively common for transactions to be recorded as having occurred at a zero or very low price. This may occur where:

- rights are 'traded' between related parties (within a family or farming enterprise)
- water transactions are part of a bundled sale of land, water and other assets

⁷⁰⁴ Under regulation 7.11 and schedule 3 of the Water Regulations 2008, the following kinds of water information must be provided to the BOM under s. 126 of the Act:

For permanent Australian water access entitlement trades—the type of entitlement traded, transaction commencement and finalisation dates, volume of water traded or entitlement share traded, gross and net share sale price, and the water management areas water has moved from and to.

For temporary Australian water allocation trades and leases—the type of allocation traded or leased, transaction commencement and finalisation dates, volume of water traded or leased, gross and net sale price, and the water management areas water has moved from and to.

⁷⁰⁵ PricewaterhouseCoopers, op. cit., p. 11.

See also forms used for (permanent) water access entitlement trade in the MDB states—for example, (all viewed 20 August 2009):

NSW—*Transfer*, available at:

http://rgdirections.lands.nsw.gov.au/_media/lands/pdf/wal_dealing_forms2/W-01T_v1-0.pdf

Victoria—*Application to Transfer a Water Share*, available at:

<http://www.waterregister.vic.gov.au/Public/ApplicationForms.aspx>.

South Australia—*Application for transfer of Water Licence or Water Access Entitlement*, available at: http://www.dwlbc.sa.gov.au/assets/files/ra_rml3_v1.pdf.

Queensland—*Transfer*, available at:

http://www.nrw.qld.gov.au/property/titles/pdf/form_1_version5.pdf.

⁷⁰⁶ Pricing data for allocations for the 2007–08 water year was included in NWC, *Australian Water Markets Report, 2007–2008*, December 2008.

See also forms used for (temporary) water allocation trade in the MDB states—for example (all viewed 20 August 2009):

NSW—*Application to Assign Surface Water Allocation*, and *Application to Assign Groundwater Allocation*, both available at <http://www.statewater.com.au/Custom+Service/Forms/Forms>.

Victoria—*Application to Trade Water Allocation*, available at:

<http://www.waterregister.vic.gov.au/Public/ApplicationForms.aspx>.

South Australia—*Application to transfer Water Allocation*, available at

http://www.dwlbc.sa.gov.au/assets/files/ra_rma1_v1.pdf.

- the value of the transaction is simply not reported.⁷⁰⁷

In addition, trades between parties may be undertaken through a barter arrangement.

Data on trading volumes is necessarily captured as a result of approval processes. However, the data may also be reported, classified and recorded on different bases, including on whether the trade:

- involves a change of ownership
- involves a change of location within a water system and/or zone.

Information available to the market

To make an informed decision about when and how to trade water, potential water market participants need timely information about the market value of the water right they wish to trade.

Some pricing and trading volume information is available from intermediaries and operators including Waterfind, Water Exchange, Watermove and the SunWater Exchange.⁷⁰⁸ Water registers also often include trading volume data and, to a lesser extent, pricing data.⁷⁰⁹

Information about the pricing patterns of water rights in the previous season will also be available from sources such as the National Water Commission's (NWC's) *Australian Water Markets Report*, which will be published annually (the inaugural report covered the 2007–08 water year).

Even when available, this pricing and volume information may not necessarily be current or complete. It may also be difficult or costly to access. This can inhibit confidence in the market and impose transaction costs, thereby hindering the efficiency of the market.

9.3.2 Summary of submissions

There was overall support among stakeholders for a greater amount of information being provided in relation to trading volumes and prices. The GVIA says that timely

⁷⁰⁷ PricewaterhouseCoopers, op. cit., p. 11.

⁷⁰⁸ For example, **Waterfind** provides the weighted average price for water of a specified reliability in a specified zone (where sufficient data is available) and lists bids to buy and offers to sell. See Waterfind site, viewed 20 August 2009, www.waterfind.com.au/jsf/water-market.jsf.

The **Water Exchange** platform (which hosts a number of water exchanges) provides information about spot market bidding for specified zones, including weekly trading histories. See Water Exchange site, viewed 20 August 2009, <https://www.watereexchange.com.au>.

Watermove provides the pool price for specified zones. See Watermove site, viewed 20 August 2009, www.watermove.com.au/selectregion.asp?next=results/pricesummary.asp.

The **SunWater Exchange** provides a pool price for specified zones. See SunWater site, viewed 20 August 2009, www.sunwater.com.au/exchange.htm.

⁷⁰⁹ See, for example, Victorian Water Register, *Trading of water shares*, viewed 20 August 2009, available at <http://www.waterregister.vic.gov.au/Public/Reports/WaterTrading.aspx> and *Trading of Water Allocations* at <http://www.waterregister.vic.gov.au/Public/Reports/WaterAllocation.aspx>.

and accurate reporting of sales information is ‘absolutely critical’.⁷¹⁰ Similarly, MRFF stated that it supports greater availability and accuracy of market data.⁷¹¹ The VFF also submitted that transparency of information about price is a ‘key factor of a free market’ and would be ‘useful on all trades’.⁷¹²

WMI supported greater availability and accuracy of market data and considered that all application forms should include a price. WMI also stated that price information should be reported to a central point.⁷¹³ The South Australian Government considers that the advantages of requiring price information to be reported would outweigh the disadvantages about price data potentially not being accurate.⁷¹⁴ The NSWIC supported greater availability and accuracy of market data but noted that small IIOs may not have administrative support to report information. The NSWIC also supported regulatory oversight of trades with prices outside a 20 per cent range from average price, as well as reporting via the NWMS.⁷¹⁵

The NFF also stated more generally that intermediaries and approval authorities should report price information as trade occurs, including for internal IIO trades, and emphasised that timing of information was significant.⁷¹⁶

The NSWIC and NFF stated that further information should be provided by government environmental water holders on the prices and volumes of their purchases.⁷¹⁷ While it supported greater transparency of price, the VFF also submitted that private purchasers of water should not need to report the price they paid, but public purchases should be transparent.⁷¹⁸

9.3.3 Discussion

The ACCC considers that pricing and volume data is fundamental information for market participants to know to be able to make informed decisions in the water market. In addition to a need for price and volume information to be available, the information also needs to be provided in a timely manner. This is particularly significant for water allocation prices, which can fluctuate significantly over the course of a water season. While water access entitlement prices will be more stable, information about such prices will also need to be provided on a regular basis.

The ACCC notes that, by their nature, application and registration forms will always require volume information to be provided. However, pricing information may not necessarily be required for a trade approval or registration to take place, and so the following discussion focuses on price information. However, as discussed above,

⁷¹⁰ GVIA, issues paper submission, p. 5.

⁷¹¹ MRFF, issues paper submission, p. 2.

⁷¹² VFF, issues paper submission, p. 15.

⁷¹³ WMI, issues paper submission, p. 19.

⁷¹⁴ South Australian Government, issues paper submission, p. 22.

⁷¹⁵ NSWIC, issues paper submission, pp. 28–9.

⁷¹⁶ NFF, issues paper submission, p. 34.

⁷¹⁷ NFF, issues paper submission, p. 31; NSWIC, issues paper submission, p. 28.

⁷¹⁸ VFF, issues paper submission, p. 15.

pricing information is at present required to be provided on forms in the basin states other than for seasonal water assignments ('temporary trades') in Queensland.

There was general support among stakeholders for greater information about prices being made available. The ACCC considers that there are a number of issues:

- Is sufficient information already reported on price?
- Is information available in a timely manner?
- What role is to be played by the NWMS and the BOM's AWRIS?
- Does the accuracy of data need to be improved?

The ACCC notes that there are arguments both in favour of and against additional requirements being imposed. Firstly, there would appear to be information currently collected, or that will soon be collected, on trading prices and volumes by a variety of sources:

- water brokers and exchanges
- water registers
- IIOs
- government agencies
- the BOM's AWRIS.

These parties report this information back to the market. On the whole, all approval agencies, as well as many IIOs, would appear to collect some information on the consideration paid on trades of water access rights. There is also further information provided by various intermediaries. As such there is a reasonable amount of pricing information available to the market, and arguably there would be no need to mandate any further reporting than is already taking place. However, the ACCC notes that the information is not necessarily comprehensive or comparable nor reported back to the market consistently.

The ABARE survey asked irrigators about where they obtained information about water prices. The results are in box 9.4 and indicate that irrigators currently obtain information about water prices from a wide variety of sources, and not from any central point.

Box 9.4 ABARE survey results on obtaining information about water prices⁷¹⁹

Where do you obtain information about water prices?

	per cent
Internet:	
Government register	16
Water exchange	21
Water brokers	28
Irrigation infrastructure operator	33
Other	6
Direct from:	
Broker or other intermediary	42
Irrigation infrastructure operator	40
Other irrigators	46
Media	48

Price and volume information collected by governments and certain IIOs will also be collected under the BOM's AWRIS once it is operational.⁷²⁰ This would facilitate the reporting of that information to the market. However, it is also notable that the BOM will only collect information on water price and volumes for water access entitlement (permanent) trades on a yearly basis, although information on water allocation (temporary) trades will be collected weekly. The ACCC considers that a more frequent reporting period may have been useful to better inform the market of going rates for water access entitlements. However, given that entitlement prices are likely to be less volatile than allocation prices,⁷²¹ this may not necessarily be significant.

Also, while parties will have to provide information to the BOM, this does not cover information not already in their possession (i.e. they will not need to collect further information) nor will it cover all relevant groups and information (e.g. it will not

⁷¹⁹ ABARE, *Survey of irrigators on water trading in the Murray-Darling Basin 2007-08*, August 2009.

⁷²⁰ Water Regulations 2008 (Cwlth), r. 7.13(2); BOM, *Persons and classes of Persons*, 15 July 2009, viewed 20 August 2009, available at: http://www.bom.gov.au/water/regulations/schedules/documents/Persons_and_Classes_of_Persons.pdf.

⁷²¹ NWC, *Australian Water Markets Report 2007-08*, December 2008, pp. 42-3, 63-4, 69-70, 80, 83-4, 98, 102-3.

require reporting by water market intermediaries or the collection of data in relation to irrigation rights).

The ACCC considers that the best way to facilitate collection of comprehensive information on price would be a requirement on buyers and sellers to report trading prices to the appropriate government approval authority or IIO as required. The ACCC considers that such information could be best generated by requiring the price to be provided by market participants when applications to trade are submitted and/or transfer documents are lodged with a water register. Such a requirement would best lead to a comprehensive data set. A requirement on a water market participant to report the value of their trade to an approval authority or register would not be expected to be an onerous burden. The ACCC considers that this would largely involve an existing or additional section on a form that would require the reporting of price.

The government agency or IIO would then have to report to the BOM pursuant to the regulations. A main limitation of this is that there would be no timely reporting of entitlement (permanent) trade price data. The manner in which pricing information will be published once collected by the BOM is also significant. The ACCC considers that such information will need to be provided in a timely manner and provided at a reasonably disaggregated level (at least at a trading zone or equivalent level). The ACCC considers that a more frequent reporting requirement for parties providing information on water access entitlement (permanent) trades to the BoM would be beneficial.

Overall, the ACCC's position is that the prices and volumes of trades of water should be reported in order to better collect data which could be used to inform the market. This requirement should apply to all trades of water access rights and apply to all market participants. This requirement would better facilitate the reporting of such information to the BOM and ensure consistent data collection across the MDB.

Stakeholders submitted that only government bodies such as environmental water holders should be required to report on price. However, the ACCC considers that there would be limited utility in requiring only public agencies to report on the price of trades given that many trades will occur between private entities.

In relation to water delivery rights, given that these rights are usually specific to an irrigation network (or part of an irrigation network), and will be traded relatively infrequently, there does not seem to be a compelling argument for requiring reporting of price for such trades.

In relation to irrigation rights, information on water access entitlements and water allocations located in the same water source as the IIO's group water access entitlement would provide a relevant reference point for the price of irrigation rights. Further, given the limited geographic area of trade, it would seem likely that information about prices would already be known. As such it does not seem necessary to require reporting on irrigation right trading prices.

In relation to the accuracy of data, the ACCC considers that it would be appropriate to require parties to provide accurate information. It is not clear that there are significant inaccuracies in current reporting. While there are a number of zero price trades, these

may reflect related party transactions and can be accounted for when producing summary data. Currently, some basin states have legislative requirements on parties to provide accurate information, and this may include statements to this effect on application and registration forms. The ACCC considers that it would be appropriate to similarly ensure that parties provide accurate price information on application/registration forms.

9.3.4 Preliminary positions

(9-D) Trading parties should be required to accurately report to approval authorities or registers on the consideration paid for all trades of water access entitlements and water allocations.

9.4 Allocation and policy announcements

9.4.1 Background

Allocation announcements

Water in regulated systems is made available for use through regular allocation announcements from the relevant MDB state authority or infrastructure operator. The magnitude of these allocation announcements depends on the amount of water currently available (or forecast to be available), storage levels, the amount of rights issued (and their priority), other water commitments and management decisions. The rules for calculating the figure may be contained in the relevant water resource plan.

Each MDB state has a different system for how allocation announcement decisions are made and announced. The timing and process of an allocation announcement has the capacity to affect the current price of water access rights and, in particular, water allocations.

The ACCC notes that one of the categories of information to be collected by the BOM in its water information gathering role includes ‘formal announcements of Australian water allocations made to water access entitlements’.⁷²²

Policy announcements

State governments and other authorities will also make announcements from time to time about various government policy decisions that affect the water market.

Policy changes could include things such as changes to carryover conditions, changes to the ability to trade between particular zones (such as the rules relating to trades across the Barmah Choke) and other market-sensitive changes to trading rules. The ACCC notes the recent New South Wales announcements on 29 May 2009 regarding

⁷²² *Water Regulations 2008* (Cwlth), Part 7, Division 7.3 and schedule 3, Part 7.

the embargo on trades of water to environmental water holders⁷²³ and on 1 July 2009 regarding an interim moratorium on the temporary trade of water allocations out of the Murrumbidgee system into the Murray or interstate.⁷²⁴

The availability of information about changes to water trading and management rules and processes may also similarly impact on the efficiency of water markets.

9.4.2 Summary of submissions

A number of stakeholders submitted that the timing of allocation announcements was important and that unpredictable timing of allocation announcements creates uncertainty in the market. These stakeholders also suggested that set times and dates for announcements increase predictability and stability in the market:

- The HWI stated that it was concerned about inconsistent timetables for allocation announcement dates.⁷²⁵
- The South Australian Government similarly submitted that the timing of allocation announcements is important but also that it is necessary to ensure the announcements are easy to understand.⁷²⁶
- The NSWIC submitted that all that is required for allocation announcements is predictability and stability of the timing of announcements.⁷²⁷
- The GVIA considered that allocation announcements deserve the same level of discipline as Reserve Bank interest rate announcements.⁷²⁸
- State Water stated that allocation announcements have benefits for market knowledge but noted that there was uncertainty about new information being provided between scheduled announcements.⁷²⁹
- WMI submitted that current processes for allocation announcements are adequate provided there is no insider knowledge.⁷³⁰
- The NFF supported regular allocation announcements.⁷³¹

⁷²³ New South Wales Government Gazette No. 80 Special Supplement, 29 May 2009; Phillip Costa (Minister for Water and Regional Development), *New South Wales Government to guarantee environmental water purchasing is fair*, 28 May 2009.

⁷²⁴ DWE, *2009-2010 NSW water trade rules for the southern rivers*, media release, 1 July 2009, available at http://www.naturalresources.nsw.gov.au/mediarelnr/mm20090701_4025.html.

⁷²⁵ HWI, issues paper submission, p. 13.

⁷²⁶ South Australian Government, issues paper submission, p. 23.

⁷²⁷ NSWIC, issues paper submission, pp. 29–30.

⁷²⁸ GVIA, issues paper submission, p. 5.

⁷²⁹ State Water, issues paper submission, p. 8.

⁷³⁰ WMI, issues paper submission, p. 20.

⁷³¹ NFF, issues paper submission, p. 35.

- The New South Wales Government submitted that it is important that all allocation announcements are communicated to the entire market in a ‘timely, transparent and consistent manner’.⁷³²

Stakeholders also generally favoured water authorities providing forecasts for future water allocation announcements—provided that they are well based—as such forecasts are important to irrigators’ decision making. The HWI and NFF considered that there should be forecasts of future allocations.⁷³³ Similarly, WMI supported forecasts as being extremely useful and noted the DWE forecast approach.⁷³⁴ The QFF noted that forecasts would provide information to irrigators to help them plan and that continuous sharing approaches may be more useful than an allocation announcement system.⁷³⁵

However, the New South Wales Government submitted that, while forecasts are useful, there must be a balance between communicating information and managing expectations.⁷³⁶ The South Australian Government likewise noted that forecasts could be useful but needed to be clear and unambiguous.⁷³⁷ In contrast to other submissions, DERM noted that forecasts were not provided in Queensland but that market participants could do their own forecasts.⁷³⁸

A number of stakeholders favoured more transparency in allocation calculations on the basis that the market will operate more efficiently if it is more informed. The South Australian Government stated that it is necessary that allocation announcements are easy to understand and that a number of parties would like more transparency in allocation calculations and announcements.⁷³⁹ The HWI considered that there was not sufficient information about the calculation of allocation announcements.⁷⁴⁰ The NFF also submitted that the knowledge base of market participants about allocation announcements is an issue.⁷⁴¹

However, some submissions stated that there is sufficient information available about how water allocations are calculated. The NSWIC submitted that there was sufficient information available on allocation calculations for sophisticated market participants.⁷⁴² The VFF and DERM likewise considered that there is sufficient information regarding the calculation of seasonal allocations.⁷⁴³

⁷³² New South Wales Government, issues paper submission, p. 29.

⁷³³ HWI, issues paper submission, p. 13; NFF, issues paper submission, p. 35.

⁷³⁴ WMI, issues paper submission, p. 13; NFF, issues paper submission, p. 35.

⁷³⁴ WMI, issues paper submission, p. 20.

⁷³⁵ QFF, issues paper submission, p. 13.

⁷³⁶ New South Wales Government, issues paper submission, p. 29.

⁷³⁷ South Australian Government, issues paper submission, p. 23.

⁷³⁸ DERM, issues paper submission, p. 17.

⁷³⁹ South Australian Government, issues paper submission, pp. 23–4.

⁷⁴⁰ HWI, issues paper submission, p. 13.

⁷⁴¹ NFF, issues paper submission, p. 35.

⁷⁴² NSWIC, issues paper submission, pp. 29–30.

⁷⁴³ VFF, issues paper submission, p. 16; DERM, issues paper submission, p. 17.

Stakeholders that commented on policy changes generally submitted that such changes should be widely communicated well in advance, transparent and consistent. A number of submissions stated that policy announcements should be made to the entire market at one time. In particular, many stakeholders suggested the use of insider trading or continuous disclosure rules similar to those that apply to businesses listed on the Australian Stock Exchange:

- The HWI submitted that policy announcements should be open, transparent and consistent with stock exchange principles.⁷⁴⁴
- The NSWIC submitted that information must be provided to all market participants simultaneously and that insider trading provisions from equities markets ought to be replicated for water.⁷⁴⁵
- SunWater noted that there may be issues with SunWater making allocation announcements when it is also a potential participant in the market.⁷⁴⁶
- The GVIA submitted that all policy changes should be communicated to all stakeholders equally.⁷⁴⁷
- State Water submitted that it supports continuous disclosure of price sensitive information.⁷⁴⁸
- WMI also submitted that all policy information should be provided to all market participants simultaneously, and submitted that the ACCC should consider Australian Stock Exchange rules for major announcements.⁷⁴⁹
- The VFF submitted that it is essential that changes made to water trade rules are known to water holders as this may influence trading decisions. It submitted that, for major policy announcements, trade must be suspended until there is proper notification, much like stock exchange rules.⁷⁵⁰
- The NFF considered that it may be pertinent to introduce policy changes at a later time after an announcement is made.⁷⁵¹
- DERM submitted that all stakeholders should have the same opportunity to access policy changes at the same time.⁷⁵²

⁷⁴⁴ HWI, issues paper submission, p. 14.

⁷⁴⁵ NSWIC, issues paper submission, p. 30.

⁷⁴⁶ SunWater, issues paper submission, p. 5.

⁷⁴⁷ GVIA, issues paper submission, p. 6.

⁷⁴⁸ State Water, issues paper submission, p. 8.

⁷⁴⁹ WMI, issues paper submission, pp. 20–1.

⁷⁵⁰ VFF issues paper submission, p. 16.

⁷⁵¹ NFF, issues paper submission, p. 36.

⁷⁵² DERM, issues paper submission, p. 17.

9.4.3 Discussion

Transparency and consistency about allocation announcements, as well as changes (or potential changes) to water trading and management rules and processes, can enable market participants to make more informed decisions.

Allocation announcements may have a price effect due to their effect on demand and supply for water access rights. Because an announcement of an increased allocation will mean that all entitlement holders have a greater amount of water available to them, it is likely that demand for water allocations will decrease. Similarly, there would be a greater supply of water available to be sold. The ACCC considers that price decreases for at least water allocations, and a reduced volume of trade, could be expected from this contraction in demand and increase in supply. As water access entitlement trade responds to longer-term incentives (see chapter 4), the effect of allocation announcements on prices and volumes of water access entitlement trade would be less straightforward.

There may also be an effect on price where allocation announcements differ from expectations. For example, if buyers believe that further allocation announcements will not result in an increase in available water, the price of water allocations will tend to rise. However, if allocation announcements are at a higher level than expected, prices may fall.

As with allocation announcements, policy announcements can have a significant effect on the market. Changes to carryover conditions could particularly alter the trading behaviour of parties late in irrigation seasons where water allocations may be traded to areas with more favourable carryover conditions.⁷⁵³ Announcements such as embargos or restrictions on trades of water access rights between geographic regions will have the effect of segmenting the market and will limit the ability of irrigators to sell their water. As such, there will be a price effect from such announcements.

The ABARE survey of irrigators conducted on behalf of the ACCC asked irrigators about where they obtained information about changes to allocations, carryover and water policies. The results are in box 9.5 and indicate that irrigators currently obtain information about this information from a variety of sources. However, the most commonly used sources of information were the media, which was used by 58 per cent of irrigators, and intermediaries, which were used by 48 per cent of irrigators. The results suggest that there is relatively little use of internet sources for information about allocations, carryover and water policies.

⁷⁵³ See section 3.10.1.

Box 9.5 ABARE survey results on obtaining information about allocations, carryover and water policies⁷⁵⁴

How do you find out about trading rules or announcements such as changes to allocations, carryover and water policies?

	per cent
Internet	21
Internet—government	20
Internet—intermediaries	15
Internet—irrigation infrastructure operator	31
Direct from intermediaries (brokers, exchanges etc.)	48
Mailing list (including email)	44
Other irrigators	45
Media	58

Given the market effects that can result from allocation announcements, the manner in which allocation announcements are made is important. The ACCC considers that there is merit in allocation announcements being made on a regular basis so that there is more predictability in the market. This is currently occurring to a significant extent within the MDB.⁷⁵⁵ The ACCC considers that a consistent timetable for announcing allocations publicly is important for ensuring that the market remains well-informed and that certain market participants do not gain an undue advantage over others. This will contribute towards more efficient and well-informed market outcomes. There may also be merit in allocation announcements being more consistent between basin states.

While the ACCC recognises that the headline allocation announcement is the most important piece of information for market participants, there would also be benefit to ensuring that water authorities disclose how allocations are calculated. This would provide more transparency in the market and reduce the risk of allocation announcements taking the market by surprise. This information could be presented in

⁷⁵⁴ ABARE, *Survey of irrigators on water trading in the Murray-Darling Basin 2007-08*, August 2009.

⁷⁵⁵ Victorian Allocation announcements are made by Goulburn-Murray Water (GMW) twice a month, typically around the 1st and 15th days of the month. See <http://www.g-mwater.com.au/water-resources/allocations/current.asp>.

New South Wales allocation announcements (or available water determinations) are made by DWE on the 1st and 15th days of the month. See http://www.dwe.nsw.gov.au/water/avail_awd.shtml and <http://www.wix.nsw.gov.au/wma/DeterminationSearch.jsp?selectedRegister=Determination>.

South Australia allocation announcements are made by the Department of Water, Land, and Biodiversity Conservation (DWLBC) around the 15th day of each month. See <http://www.dwlbc.sa.gov.au/media.html>.

both the general sense (that is, the formula used), or by giving the most recent announcement figures and their determinants. Again, there is some publicly available information on how allocations are made but currently this information may be contained in water resource plans or equivalent documents that may not be readily accessible. The ACCC considers that authorities should explain the basis for allocation decisions. This may simply be a requirement to refer to the applicable formula or rules, or relevant part of the applicable water resource plan. The information should also be readily available on the websites of announcing authorities to the extent that it is not already.

The ACCC notes that there is some forecasting information on likely future water availability that is currently available.⁷⁵⁶ Such information can provide useful information to water market participants. However, the ACCC notes that there may be expectation management risks in providing such information. As such, the ACCC suggests that basin states consider further ways to present forecast information in a useful manner.

The ACCC notes that stakeholders consistently submitted that announcements and policy information from governments should be reported at the same time to all market participants. The ACCC considers that this has two implications. Firstly, any allocation announcement and policy changes should be widely communicated to the market. Secondly, it would be appropriate to consider that all policy changes should be reported to all market participants at the same time. The ACCC considers that such announcements could adopt equities markets principles relating to insider trading and disclosure that are contained in Australian corporations law. ‘Insider trading’ occurs when a person trades a product while in possession of information that is not generally available and that would be likely to have a material effect on prices or value if it were.

The prohibition against insider trading ensures the market operates freely and fairly with all participants having equal access to relevant information. Investor confidence depends on the prevention of the improper use of confidential information. Adopting such principles would require that pending policy announcements would not be disclosed to certain market participants ahead of time. The possible effect of early disclosure to some market participants of policy decisions was discussed in a publication put out by Waterfind. This is summarised in box 9.6.

Box 9.6 Waterfind discussion on timing of carryover announcements⁷⁵⁷

Waterfind stated that, two days prior to a carryover announcement on 7 February 2008, the volume of water traded on the temporary (water allocation) market increased to twice the average daily volume.

Waterfind notes that there is evidence that there was consultation with some members of the public prior to the official announcement being made.

⁷⁵⁶ See, for example, the communiqués at DWE, available at http://www.dwe.nsw.gov.au/water/avail_alloc.shtml, viewed 21 August 2009.

⁷⁵⁷ Waterfind, 2007–08 Annual Water Market Report, p. 28.

This example may reflect the importance of policy change announcements to the market and the conduct of market participants. The ACCC considers that the same approach should also apply to allocation announcements as they will also have implications for the efficiency of market outcomes.

9.4.4 Preliminary positions

- (9-E)** Water authorities should disclose how allocation levels are calculated whenever an announcement is made.

- (9-F)** Allocation announcements and announcements of market-sensitive policy changes (including changes to carryover conditions and changes in the ability to trade between trading zones), along with amendments to announcements, should be made to the entire market at the same time. Parties privy to these policy changes before such an announcement should not be permitted to trade relevant water access rights until the announcement is made.

Appendix 2—ACCC preliminary positions

This paper sets out the ACCC's preliminary positions on a range of matters related to water trading. The preliminary positions in this paper are **not** proposed or draft water trading rules.

To inform the development of the ACCC's draft advice to the MDBA, the ACCC is seeking stakeholder views on:

- the ACCC's preliminary position, and
- the advantages and disadvantages of giving effect to the preliminary position through a water trading rule in the Basin Plan

Information on how to make a submission is on page iii.

Water access rights—general matters

Ownership restrictions

- (3-A) There should not be specific restrictions on the ownership of water access rights by particular classes of entities such as non-landholders, environmental water holders and urban water authorities.
- (3-B) Basin states should be able to restrict the ability of an individual to own a water access right on the basis that the individual has been in breach of water legislation or owes money for water charges.

Co-held water access rights

- (3-C) The ACCC considers that there may be barriers to trade generated by:
- an individual who is a co-holder of a water access right having to obtain the approval of other co-holders and
 - the administrative process of obtaining the approval of other co-holders before subdivision or trade of the jointly held water access right.
- (3-D) The ACCC considers that basin state governments should review the existing arrangements for trade or subdivision of co-held water access rights by members of a co-holding that are not related entities.

Unbundled water rights

- (3-E) The approval of an application to trade a water access right should not be conditional on the purchaser holding, obtaining, trading or terminating:

- a water delivery right, or
- a water use approval

where these rights or approvals are governed through separate instruments or processes.

(3-F) The approval of an application to trade a water access right should not be conditional on the purchaser being the owner or occupier of land.

Restrictions based on the intended use of water

(3-G) In the case of tradeable water access rights, the ACCC believes that:

- (i) there should be no restrictions on trade due to the purpose for which the water has, is currently, or will be used
- (ii) exit fees (or fees of a similar nature) should not be charged by an IIO solely for the reason that a water access right has been traded and will be used outside of the IIO's irrigation network
- (iii) the purpose for which water arising from a trade is used should not be restricted as part of the trade approval process (water use on land should be separately addressed through use approvals)

(3-H) The ACCC also considers:

- There should be no exemptions from water trading rules for, or additional restrictions placed on, environmental water holders.
- Water access entitlements and water allocations held by environmental water holders should be treated no differently to water access entitlements and water allocations held by any other person.

Stock and domestic water use

(3-I) Both stock and domestic rights could be made tradeable where existing stock and domestic rights are converted into water access entitlements, provided that there are adequate safeguards in place to meet critical human needs in the event of very low allocation levels, and that no new stock and domestic rights are created.

(3-J) New stock and / or domestic water needs should be sourced through the market, rather than simply issuing new stock and domestic rights.

(3-K) A water access right trade should not be refused on the basis that the water will be used in an area outside of the MDB (and the use of water inside the MDB should not be restricted solely because it was taken from a water resource outside of the MDB). Relevant use approvals would be required in any case.

Trade into and out of the MDB

- (3-L) Water trading should occur within the environmental bounds set through the water planning process.

Environmental impacts resulting from trade

- (3-M) Where environmental impacts result from the use of water on land (e.g. salinity), these impacts should be managed through separate use approvals should, not restrictions on trade.
- (3-N) Water access right trades should not be conditional on a reduction in the trade volume to address overallocation.

Overallocation and overuse

- (3-O) Trade within an overallocated system should not be restricted solely on the basis that the system is overallocated.
- (3-P) The ACCC recommends against allowing for conversion between priority classes of water access rights. The benefits of allowing conversion may be realised through more efficient water market, and the potential disadvantages may be severe in terms of third party impacts.

Conversion between priority classes

- (3-Q) There should not be restrictions on trade specific to water carried over, nor should there be any specific exclusion of traded water from having access to carryover (assuming other criteria, such as the possession of a water access entitlement, are met).

Carryover

- (3-R) Where continuous sharing arrangements are not in place, the ACCC supports the use of a 'spillable water account' with no limits on carryover volumes.
- (3-S) Relevant agencies should determine appropriate signals about the likelihood of carryover water being available (and the timing of that availability in the season) and how this should be communicated to water access right holders. This could possibly be linked to the tiered water sharing arrangements in the Basin Plan.

Metering

- (3-T) Both the seller and buyer of a water access right should have an approved meter installed for all off-take points (except where the water is held independently of land, or where the seller does not retain any water access rights).
- (3-U) The meters should be compliant with relevant National Standards or Framework, such as that being developed through the Water Metering Experts Group.

The 4 per cent limit

- (4-A) As the rationales for the 4% limit are better addressed through other mechanisms, the ACCC believes that the 4% limit should be removed throughout the MDB.
- (4-B) If not already removed, a limit on the volume of trade out of an area (other than for environmental or physical reasons) should only be applied on permanent trades of water access entitlements (of any priority class) out of an irrigation area *as defined in the NWI* (that is, the area managed by an operator, rather than a number of particular areas within an operator's network).
- (4-C) If not already removed, any such limit should be raised according to a minimum transition path and must be completely removed by 1 July 2014.

Water access rights—approval processes

Approval Times

- (5-A) As long as COAG and NRMMC service standards are subject to ongoing review, monitoring and public reporting, there does not appear to be a compelling case to impose maximum approval times for trades of water access rights at present. However, should there be evidence of a continual failure to meet service standards, mandated approval times should be further considered.

Consideration of applications by multiple approval authorities

- (5-B) Basin states should investigate the potential for trade approval authority cross-delegations to enable a trade approval authority in one state to carry out specified approval functions on behalf of an interstate approval authority. This could potentially reduce processing times but would need to be considered carefully.
- (5-C) Over time, basin states should consider the merits of consolidating trade approval functions into one approval authority.

Information sharing between approval authorities

- (5-D) There are likely to be significant benefits in making approval authorities' systems interoperable, or otherwise providing authorities with the opportunity to access information contained on each other's systems. The ACCC notes the work being done by the National Water Market System in this regard.
- (5-E) Jurisdictions should prioritise work towards a common registry system as part of the National Water Market System.

Applications to trade

- (5-F)** Jurisdictions should seek to standardise their application forms as much as possible. It may also be useful for jurisdictions and the MDBA to develop standard application forms for interstate trades that would include all information required by the relevant approval authorities to approve the transaction.
- (5-G)** Basin states should provide a facility to allow electronic lodgement of applications to trade a water access right, where this is not currently possible.

The role of water market intermediaries

- (5-H)** There is insufficient evidence to support the introduction of specific regulation of water market intermediaries.

Approval authorities' other activities

- (5-I)** Approval authorities' other activities may give rise to potential or perceived conflicts of interest that may have the potential to undermine the water market. This is particularly where a conflict of interest is not disclosed to other parties to the transaction. This issue deserves closer attention by government.
- (5-J)** Basin states should consider requiring their trading approval authorities to disclose whether they have any interest in a water access right (other than in their approval role), to all other parties involved in a potential trade of that right. It may also be appropriate to require trade approval authorities to inform the market of any water trade to which they have been a party.

Water access rights—location matters

Trade in regulated systems

- (6-A)** Water resource plans should define trading zones for regulated systems, on which location-specific trading rules are referenced. The rationale behind each zone should be explicitly stated in the water resource plan (for example, environmental or physical constraint).
- (6-B)** While differences in jurisdictions or management authorities may require different trading zones, they should not (in isolation) limit trade between these two zones.
- (6-C)** The ACCC supports the following principles in relation to regulated systems (based on the MDBC manual):
 - trades within a trading zone should generally not be restricted
 - downstream trades between hydrologically connected systems should generally be possible

- where a downstream trade is impeded by a physical constraint to channel capacity (and delivery shares across that constraint have not been created), it should only be approved as back trade
 - where an upstream trade is made into a separate hydrological system, it should only be approved as back trade
 - trades should be possible between the upper reaches of regulated river systems that converge downstream, provided that any supply obligations of the original location's river below the point of confluence, which may be affected by the trade, are assumed by the destination location's river
 - upstream trades from a location supplied by more than one source to a location supplied by only one of those sources should be possible, but may be subject to special limits and conditions.
- (6-D)** Trading zones and water trading rules that refer directly to these zones, should be re-assessed and if necessary amended in the event that hydrologic connectivity, or physical or environmental constraints change.
- (6-E)** The current and likely future magnitude and variability of river transmission losses in the MDB should be assessed, and, if found to be significant, options to account for these losses should be explored.
- (6-F)** Operators should regularly provide information to market participants about the likelihood of short-term changes to trading restrictions due to changes in hydrologic connectivity. This information should include relevant values (such as trading volumes or storage levels) relative to defined trigger values, estimates of transmission losses, the use of available delivery capacity and back trade opportunities.
- (6-G)** Tagging, and not exchange rates, should be used to manage the trade of water access entitlements between trading zones in regulated systems.
- (6-H)** The administrative process associated with tagging should provide irrigators with the option of how they access allocations made to their tagged entitlement, including the option for allocations to be automatically transferred to the irrigator's account in the area of destination according to set criteria.

Trade in unregulated systems

- (6-I)** Water resource plans should consider the potential for trade of water along rivers which are intermittently connected. To inform this process:
- more detailed information should be established and publicly reported about delivery losses
 - arrangements for better communication between water users about options to minimise delivery losses for such trades should be investigated

- if triggers are used to define hydrologic connectivity, these should be clearly stated, reported against and communicated.
- (6-J)** Where the likely benefits outweigh the likely administrative costs, trading zones should be established for unregulated rivers, defining areas within which trade can occur without detailed assessment. These trading zones should consider:
- that hydrology should be homogeneous within the zone
 - the location of important environmental assets and major offtakes
 - the existing volume of available water and likelihood of further development
 - transmission losses and local catchment inflow.
- (6-K)** Options for improving the clarity and excludability of water access rights in unregulated systems should be examined. This should include an investigation of a range of management strategies including rostering, restrictions and options to ‘shepherd’ water through zones, while recognising that different management approaches may be better suited to different stream types.
- (6-L)** In unregulated systems that are heavily used, trading rules should be established with reference to trading zones to enable trade between zones. In other unregulated systems, processes should be implemented to enable the assessment of individual trades between zones on a case-by-case basis.

Trade between regulated and unregulated systems

- (6-M)** Exchange rates should not be used as a mechanism to manage trade between regulated and unregulated systems.
- (6-N)** Further options to manage trade between unregulated and regulated systems should be considered. The conditions for such trade may vary between catchments. It may be appropriate to have unregulated and regulated trading zones in place for the same river reach. This investigation should be run parallel to any process of investigating trade options within unregulated systems.

Trade in groundwater systems

- (6-O)** Trade of groundwater access rights should be allowed within groundwater trading zones.
- (6-P)** Trade should not be permitted between groundwater trading zones that are not in the same aquifer.
- (6-Q)** Consideration should be given to assessing groundwater extraction rights (which specify location and conditions of use) as a separate process to trade of groundwater access right. Impacts on neighbouring bores and surface water users could be assessed as part of the groundwater extraction right assessment.

- (6-R)** The MDBA and state authorities should investigate the feasibility of tradeable extraction rights (pumping rates) in groundwater zones that are heavily utilised.

Trade between groundwater and surface water

- (6-S)** Trade between groundwater and surface water would only appear feasible when:
- there is a high level of connectivity and well defined and clearly understood lag time
 - the groundwater and surface water systems are managed as a single resource (that is, with a common water access right governed by common extraction conditions, and a single diversion limit).

Farm dam trade

- (6-T)** Trade of farm dam water access rights within the same catchment should be assessed on an individual basis and—in order to provide appropriate protection of third party interests—would need to consider the following:
- the farm dam has been duly authorised under the law of the basin state
 - the new location is in the same zone as the original farm dam
 - new dam construction in the zone is capped for that particular water use type
 - the size of the dam is comparable
 - the catchment areas (or inflow volume) of the two dams are similar in size
 - third party impacts are assessed at the new location and potentially impacted parties are consulted.
- (6-U)** Trade does not appear feasible between farm dams and surface water systems while providing appropriate protection to third party interests.

Water delivery rights

- (7-A)** IIOs should clearly specify the volume/unit share of their customers'/members' access to their irrigation network under a water delivery right. The water delivery right should be explicitly provided for in a contract or agreement for delivery services.
- (7-B)** An IIO may not require a person to obtain, terminate or vary the volume of a water delivery right as a result of, or condition for approval of, a trade of a water access right or an irrigation right.

(7-C) IIOs should not unreasonably prevent, deter or delay the trade of water delivery rights between persons who own or occupy land that is serviced by their irrigation network. Factors that may inform whether a trade has been unreasonably prevented, deterred or delayed include:

- overall capacity in the network
- capacity in the parts of the network where the water delivery rights would potentially be traded to
- connectivity of the network (i.e. whether there is one large network or several component networks that are not physically connected)
- payment of previous water access fees or security for future water access fees and other relevant charges
- the amount of water delivery rights reasonably required to irrigate a person's property
- ensuring the necessary administrative arrangements are in place to assess and give effect to a trade in water delivery rights.

Irrigation rights

(8-A) Where an IIO does not have a written contract with each of its irrigators outlining each irrigator's individual entitlement to receive water under their irrigation right, the IIO should make a determination of the volume of water or unit share of all irrigation rights held against that IIO.

(8-B) To facilitate informal and possible formal negotiations in the event of a dispute between the parties, the IIO should provide written details to support the determination of the volume of water or unit share of all irrigation rights held against the IIO.

(8-C) IIOs have significant incentives not to restrict the trade of irrigation rights. In addition, there is a strong countervailing threat of irrigators seeking to transform their irrigation right and employing the protections offered to irrigators under the water market rules. In light of these considerations, there does not appear to be a compelling need to specifically prohibit IIO restrictions on the permanent or temporary trade of irrigation rights within, outside or into an IIO's network.

Reporting and the availability of information

Information regarding tradeable water right characteristics

- (9-A) The ACCC considers that state governments should provide information about the different licensed water access rights (but not ‘temporary’ water allocations) available under the water management regime in their state.

The information would be provided according to a template and could contain the following information (if applicable):

1. Location (water source name)
2. Water source type (regulated, unregulated, groundwater)
3. Priority class
4. Total entitlement on issue of that kind
5. Reliability profile (both long-term and more recent)
6. Fees and charges payable by the holder of the entitlement
7. Applicable carryover policy
8. Dates of allocation announcements etc.
9. Information on how allocation levels are determined (for regulated systems)
10. Links to applicable trading rules, especially applicable trading zone rules
11. Areas where the entitlement, and where allocation made against that entitlement, can be traded (tagged) to
12. Areas from which water can be traded to the water source location.

For some of these categories of information, it may be sufficient for a link to be provided, as long as this is to a readily accessible source of information. The ACCC considers that links may be appropriate for item 6 and onwards.

The templates should be available at a central location (e.g. the NWMS National Portal or as determined by the MDBA).

Information about trading rules and processes

- (9-B) Governments should provide all applicable rules regulating the trade of water access rights to a central information point (which could be provided by the MDBA or the NWMS National Portal).
- (9-C) IIOs should have to provide their own internal trading rules to the same central information point, on their website and/or upon request.

Trading volumes and prices

- (9-D) Trading parties should be required to accurately report to approval authorities or registers on the consideration paid for all trades of water access entitlements and water allocations.

Allocation and policy announcements

- (9-E)** Water authorities should disclose how allocation levels are calculated whenever an announcement is made.

- (9-F)** Allocation announcements and announcements of market-sensitive policy changes (including changes to carryover conditions and changes in the ability to trade between trading zones), along with amendments to announcements, should be made to the entire market at the same time. Parties privy to these policy changes before such an announcement should not be permitted to trade relevant water access rights until the announcement is made.

Appendix 3—MDB stock and domestic rights

New South Wales

Domestic and stock rights can either be accessed as a basic landholder right or under a license.

Basic landholder rights

Basic landholder rights, as they relate to domestic and stock purposes, are afforded to landholders who front a river or lake or who overlay an aquifer. These landholders are able to take water for domestic and stock watering purposes and to construct a water supply work for that purpose to use for domestic consumption and stock watering (but not any other purpose) without the need for a licence.⁷⁵⁸ Basic landholder domestic and stock rights are therefore tied to land and do not have an entitlement that can be traded.⁷⁵⁹

‘Domestic consumption’ is defined to mean consumption for normal household purposes in domestic premises situated on the land.

‘Stock watering’ is defined to mean the watering of stock animals being raised on the land, but does not include the use of water in connection with the raising of stock animals on an intensive commercial basis that are housed or kept in feedlots or buildings for all (or a substantial part) of the period during which the stock animals are being raised.⁷⁶⁰

Note: New South Wales also allows farmers to construct and use a dam for the purpose of capturing and storing up to 10 per cent of rainwater run-off on their property, and to use the water that has been captured and stored for by such a dam.⁷⁶¹ This water may be used for stock and domestic purposes.

Licensed stock and domestic rights

Domestic and stock licenses are also typically (but not always) issued to those who wish to use water for that purpose, but do not have access to or wish to exercise their basic landholder right (non-riparian users that do not overlay an accessible aquifer) or who wish to use more than their basic right.⁷⁶²

⁷⁵⁸ Section 52 of the *Water Management Act 2000* (NSW), paragraph 52(2)(b) states that this right does not authorise a landholder to construct a dam or water bore without a water supply work approval.

⁷⁵⁹ New South Wales Government, issues paper submission 21, p 18

⁷⁶⁰ Subsection 52(3) of *Water Management Act 2000* (NSW)

⁷⁶¹ *ibid.* ss 53 and 54; see section 6.6 for a detailed discussion of these types of water access rights.

⁷⁶² New South Wales Government, issues paper submission, pp 18–19; a stock and domestic licence is granted as a special purpose licence under s. 61 of the *Water Management Act 2000* (NSW) and subject to the relevant water sharing plan.

South Australia

Basic landholder right

An occupier of land does not require authorisation to take water:

- from a water course that adjoins or runs through the land
- from a lake that adjoins or is on the land
- from a well that is on the land
- surface water from the land

and use that water for domestic purposes or for watering of cattle or stock other than stock subject to intensive farming.⁷⁶³

‘Intensive farming’ is defined to mean a method of keeping animals in the course of carrying on the business of primary production in which the animals are usually confined to a small space or area and usually fed by hand or by a mechanical means.

‘Domestic purpose’ in relation to the taking of water is defined to not include taking water for the purpose of watering or irrigating more than 0.4 of a hectare of land; or taking water to be used in carrying on a business (except for the personal use of persons employed in the business).⁷⁶⁴

Stock and domestic entitlements

The South Australian Government also licences stock and domestic water rights on the River Murray prescribed watercourse, and these are tradeable.⁷⁶⁵ With unbundling (from 1 July 2009 in the River Murray system), the purpose of use (e.g. irrigation and stock and domestic) will no longer be expressed on South Australian entitlements or allocations because within the unbundled water rights operating environment, purpose of use is, in general, not relevant for water management or licensing.⁷⁶⁶

Victoria

Private rights (basic landholder right)

Individuals may take water, free of charge, for that person’s domestic and stock use from a waterway or bore to which that person has access.⁷⁶⁷

‘Domestic and stock’ in relation to water, is defined to mean use for:

- household purposes; or
- watering of animals kept as pets; or
- watering of cattle or other stock; or

⁷⁶³ Subsection 124(4) of the Natural Resource Management Act 2004 (South Australia).

⁷⁶⁴ *ibid.* subs 3(1).

⁷⁶⁵ South Australian Government, issues paper submission, p. 10.

⁷⁶⁶ South Australian Government, ‘[Explaining water access entitlement classes](#)’; available on the Department of Water, Land and Biodiversity Conservation website, www.dwlbc.sa.gov.au; viewed 18 August 2009.

⁷⁶⁷ Subsection 8(1) of the *Water Act 1989* (Victoria)

- in the case of the curtilage of a house and any outbuilding, watering an area not exceeding 1.2 hectares; or
- for fire prevention purposes with water obtained from a spring or soak or water from a dam; or
- irrigation of a kitchen garden—but not for dairies, piggeries, feed lots, poultry or any other intensive or commercial.⁷⁶⁸

In addition, a person has the right to use rainwater or other water that occurs or flows (otherwise than in a waterway or bore) on land occupied by that person or, with the permission of the other person, on land occupied by another person.⁷⁶⁹ This right does not apply to the use, other than domestic and stock use, of water from a spring or soak or water from a private dam (to the extent that it is not rainwater supplied to the dam from the roof of a building).⁷⁷⁰

These stock and domestic rights (private rights) are not tradeable.

Prior stock and domestic rights (water shares)

Victorian water authorities must provide the service of delivering water to the owner or occupier of each serviced property in its irrigation district for stock and domestic use at the volumes and for the periods that are determined by the Authority.⁷⁷¹

A right of this kind in existence immediately prior to unbundling is a ‘prior stock and domestic right’.⁷⁷²

Prior stock and domestic rights were converted into water shares when entitlements in northern regulated systems were unbundled on 1 July 2007, and can be traded like any other water share.⁷⁷³

However, in extreme circumstances, water rights (licences, water shares, bulk entitlements and environmental entitlements) may be qualified to ensure that critical water needs are met.⁷⁷⁴ This has occurred in the last two irrigation seasons. In particular, on 1 July 2009 GMW announced that with limited water availability and low inflows at the start of the 2009/10 season, access to water for limited essential services was continued to customers in northern Victoria water systems with the renewal of qualification of rights. This means that temporary access to water for customers in northern regulated systems was granted for essential services. Essential services include watering of stock but does not allow for irrigation or frost protection.⁷⁷⁵

⁷⁶⁸ *ibid.* subs 3(1).

⁷⁶⁹ *ibid.* subs 8(4)(c).

⁷⁷⁰ *ibid.* subs 8(5A).

⁷⁷¹ *ibid.* subs 222(1)(a)(ii).

⁷⁷² *ibid.* clause 1, schedule 15.

⁷⁷³ *ibid.* clause 4 of schedule 15.

⁷⁷⁴ Department of Sustainability and Environment, [Qualification of rights to water](#) webpage, available on the Our Water website, www.ourwater.vic.gov.au; viewed 18 August 2009.

⁷⁷⁵ Goulburn-Murray Water media release, [Accessing water for essential needs qualification of rights](#), 1 July 2009, viewed 18 August 2009.

Queensland

A person may take water from an adjoining watercourse, or from overland flow (whether it is collected in a dam or not) for traditional stock and domestic purposes.⁷⁷⁶

Stock and domestic water supply development is ‘self assessable’ under the *Code for the Development of Riparian Water Access Works on a Watercourse, Lake or Spring*⁷⁷⁷ and does not require prior approval. Under the Code:

- Stock use is limited to watering animals which would normally graze on the abutting land (allow for seasonal carrying capacity). It does not include concentrated stocking for purposes other than grazing.
- Domestic use allows the taking of water normally required for a house and garden not exceeding 2,500 square metres. It does not include any business, commercial or manufacturing use, nor does it include irrigation for produce grown for sale—or water used for the generation of electricity.

These rights do not appear to be tradeable.

Australian Capital Territory

The owner or occupier of land on or immediately adjacent to which there is a waterway may take water from the waterway or surface water from the land, for stock and domestic use.⁷⁷⁸

Stock and domestic use of water is defined to mean:

- use for the person, or the person’s family or employees, for domestic purposes;
- use for drinking water for stock—not exceeding the number of stock normally depastured on the relevant land having regard to seasonal fluctuations in the carrying capacity of the land; and not held in close concentration for a purpose other than grazing;
- use for irrigating a garden, not larger than 2 hectares, that is for domestic use and not for the sale, barter or exchange of goods produced in the garden.⁷⁷⁹

⁷⁷⁶ Subsections 20(3) and (4) of the *Water Act 2000* (Queensland)

⁷⁷⁷ The [code](http://www.nrw.qld.gov.au) is available on the Department of Natural Resources and Water website, www.nrw.qld.gov.au.

⁷⁷⁸ Subsection 28(6)(c) of the *Water Resource Act 2007* (ACT)

⁷⁷⁹ *ibid.*, Dictionary.

Appendix 4—Information on system losses

The following is an extract from SKM's report to the ACCC: 'Water trade and the hydrological connectivity of surface water systems'.⁷⁸⁰

At an operational level, water deliveries to customers by bulk water utilities often take into account travel times to the offtake points, the likelihood of other inflows occurring along the reach and the anticipated losses. This understanding has been derived from operating supply systems over many years or decades and in some cases has been enhanced by the need to meet end of valley flow targets for environmental flow purposes which are remote from the source of water. This knowledge has sometimes been documented in operator manuals held by bulk water utilities. This knowledge is required by operators in real-time as deliveries are being made and usually therefore takes into account hydrologic variability and uncertainty.

After delivery of water, regular accounting is undertaken of river operations. Information on losses is aggregated over the accounting period, usually 12 months, and for this reason is not and was never designed to be used directly for assessing hydrologic connectivity. Nevertheless the techniques used to derive these losses by bulk water operators are often derived or can be applied on shorter time steps to identify historical losses in individual months or potentially individual days, depending on the quality of the data and size of the supply system.

Water resource models used in water planning are available for almost all of the Murray-Darling Basin and include loss functions for individual river reaches to accurately calibrate those models. These models include MSM-Bigmod along the River Murray, REALM models in Victoria and IQQM models in New South Wales and Queensland. These models usually have associated model development reports which document how loss functions have been derived.

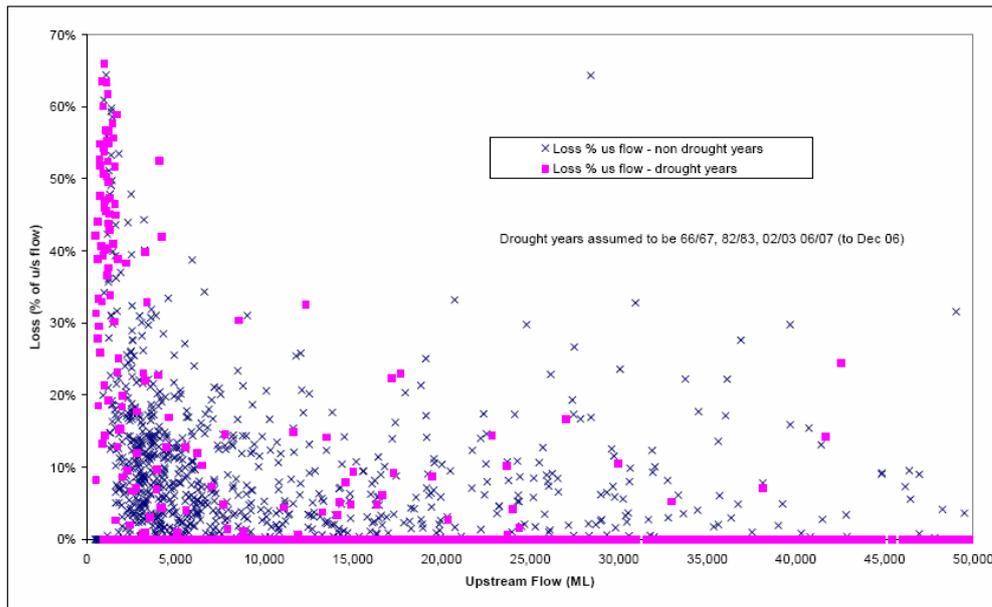
Site specific studies have been undertaken in local areas. A significant investigation into losses along the River Murray, for example, was presented in a Fluvial Systems report,⁷⁸¹ which expressed losses as a percentage of flow at various locations along the river.

Losses are usually assumed to be related to the volume of water in the river at any given time. At low flows the proportion of water in the river reach that is lost will increase because seepage and evaporation are often fairly invariable. At high flows the proportion of water in the river reach that is lost will also increase as water breaks out into the floodplain.

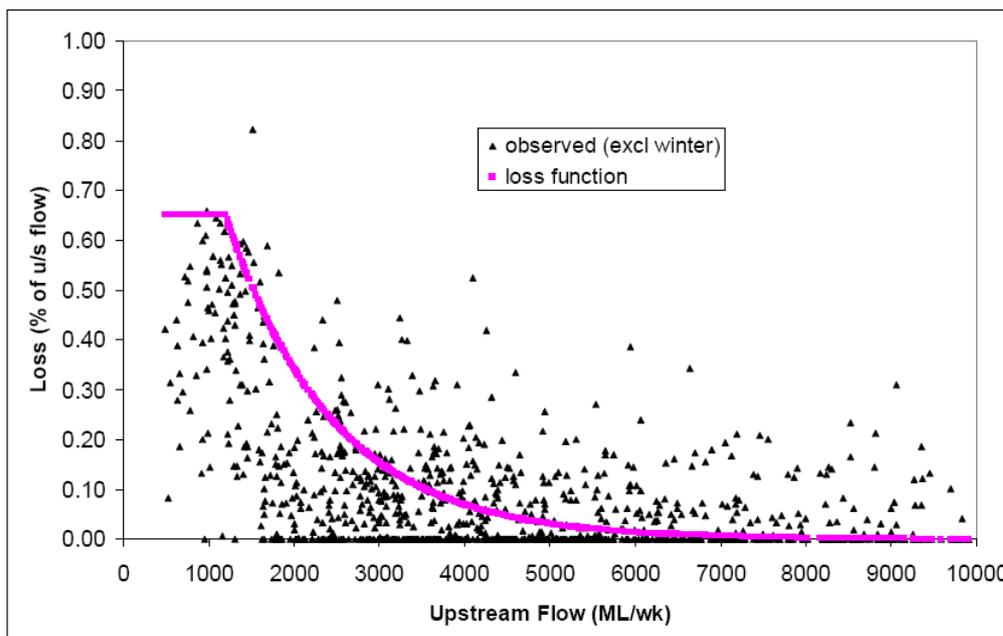
⁷⁸⁰ Extract from SKM (2009). Water trade and the hydrological connectivity of surface water systems. A report to the ACCC.

⁷⁸¹ Fluvial Systems (2006) Scoping study of operational changes to reduce river and storage losses along the River Murray System. The Living Murray, Murray-Darling Basin Commission, Canberra, February.

The figure, which is based on a river basin in the southern Murray-Darling Basin, shows losses in this example range from zero to 65% of the upstream flow and that the greatest losses as a proportion of upstream flow occur at very low flows. The data has been separated into designated drought and non-drought years in order to try and better understand how losses in this example interact with climate variability. There are a higher number of pink squares at the high proportional loss end, indicating that losses are typically greater in drought years, which is intuitively valid. In this example there is probably not sufficient evidence to justify the use of alternative loss functions in drought and non-drought years.



A relationship is typically then fitted through the data to derive an idealised loss function that is unbiased in the long-term (shown below).



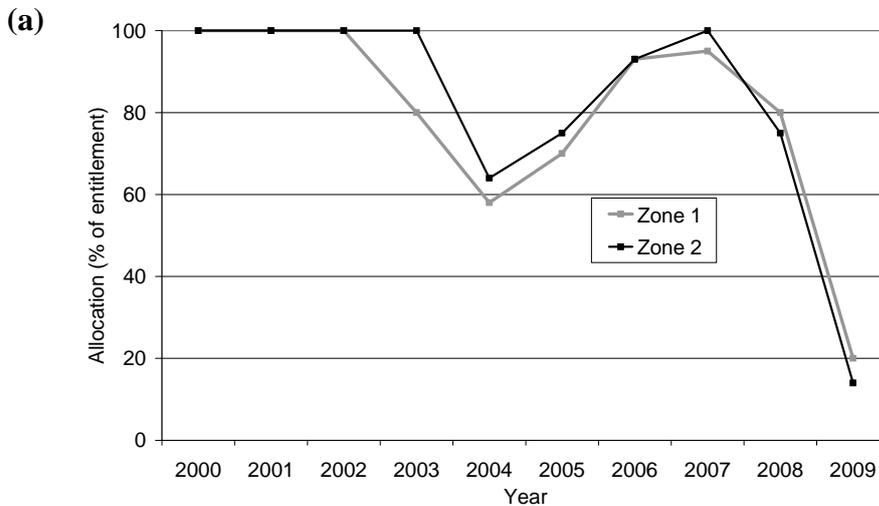
From the above examples, it is clear that the estimation of losses using the most commonly available technique is subject to high uncertainty but is likely to produce unbiased estimates of losses in the longer term.

Appendix 5—Example of exchange rate trade

Section 6.1.2 discussed the use of exchange rates to facilitate trade between regulated river systems. In its simplest form, an exchange rate trade can be thought of as the relationship between the long term allocation in the seller's area and that of the buyer's area. If the allocations are correlated (a regression with an $r^2 = 1$), an exchange rate could be used to accurately transpose the water access right to the new region with no third party impacts. However, if there is a less than perfect correlation (in other words, limited relationship between allocation announcements), a fixed exchange rate will not accurately represent the properties of the original water access right once transferred to the new location.

This can be seen using a simple example. Assume an irrigator wishes to trade a 100 ML entitlement from zone 1 to zone 2. Figure 1(a) shows the historical allocations in each zone. Figure 1(b) shows the correlation between allocations in the two zones.

Allocations in zone 2 are 1.0326 times the allocation in zone 1. If trade is to occur from zone 1 to zone 2, an exchange rate of 0.97 (or $1/1.0326$) would be applied. Although there is a relatively high correlation ($R^2 = 0.932$), figures 1(c) and 1(d) together show that an exchange rate approach does not accurately represent the properties of the original entitlement. The discrepancy between the exchange rate allocation volume and the allocation volume in the original catchment is most extreme in dry years.



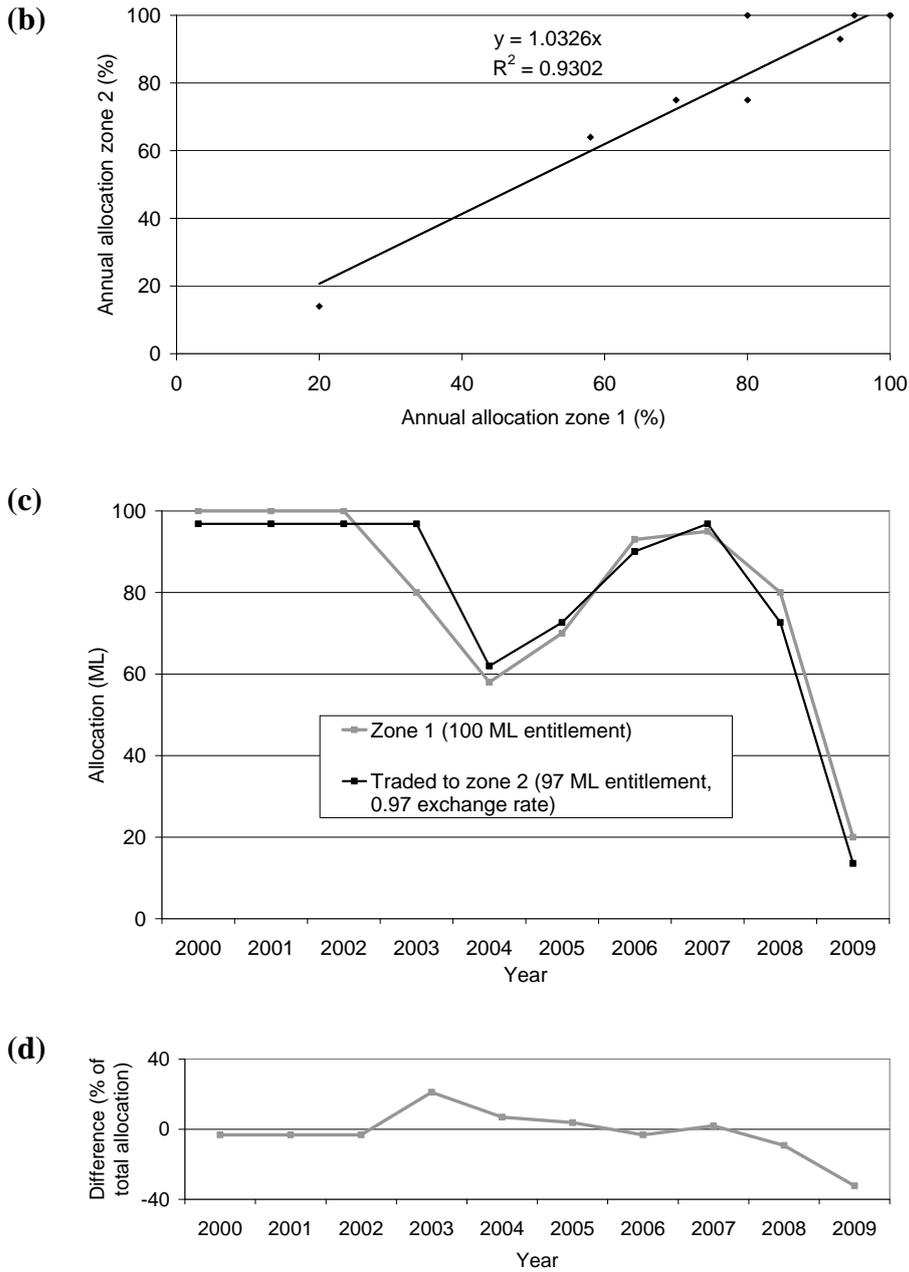
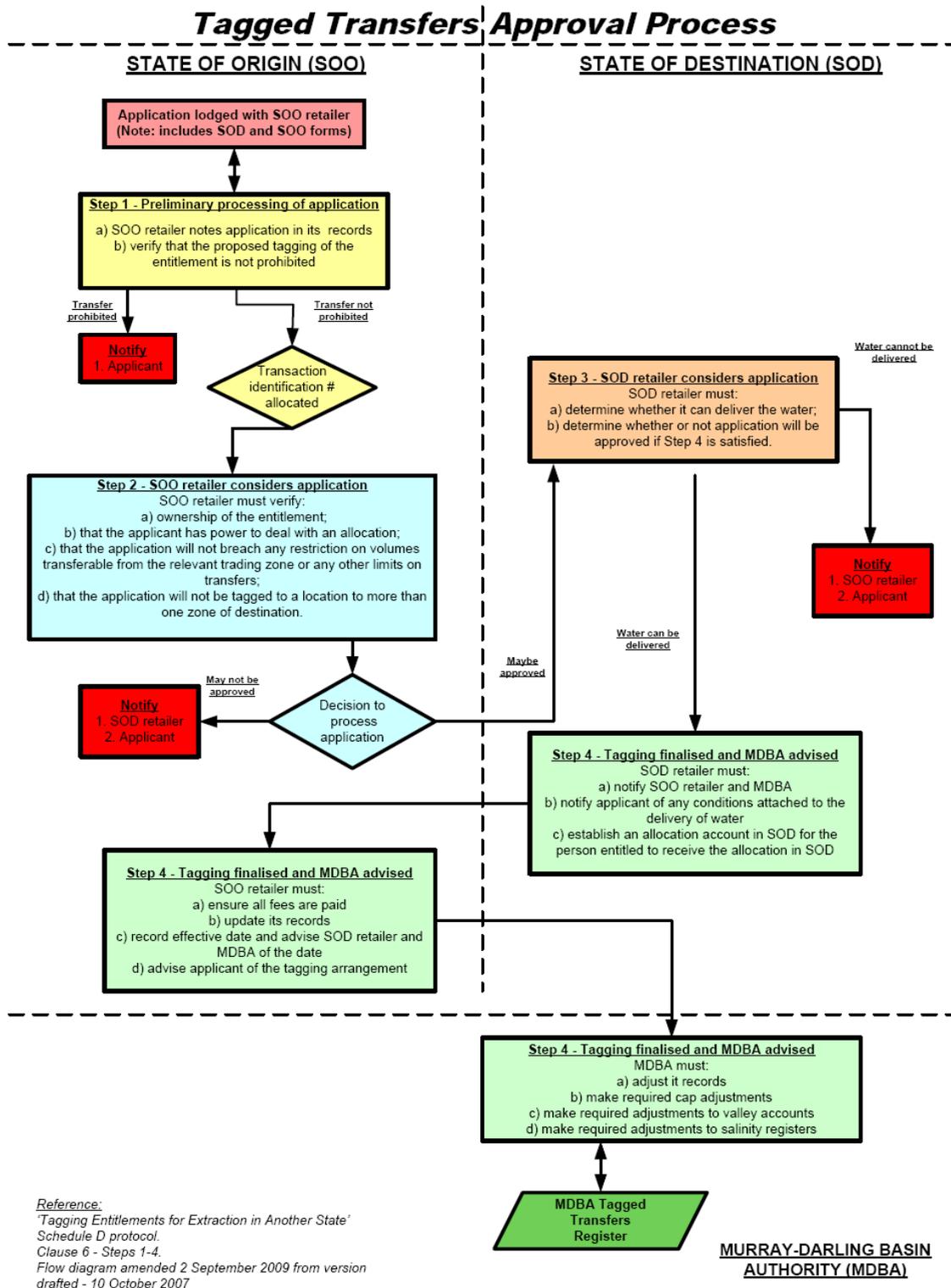


Figure 1: (a) Annual allocations for zone 1 and zone 2; (b) correlation between annual allocation of zone 1 and zone 2; (c) Traded allocation with an exchange rate of 0.97; (d) Difference in the allocation due to exchange rate with $R^2 < 1$

Appendix 6—Tagging process map



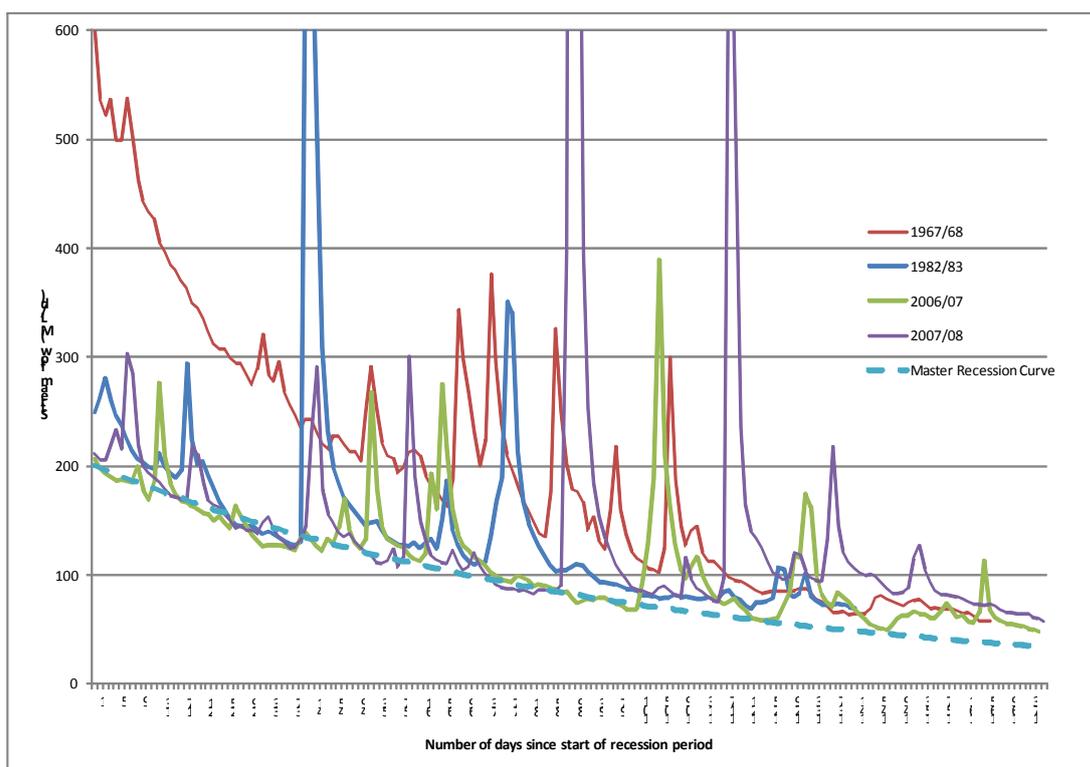
Appendix 7—The Ability to Forecast Losses and Hydrologic Connectivity

The following is an extract from a report to the ACCC by Sinclair Knight Merz: *Water Trade and the Hydrological Connectivity of Surface Water Systems*.⁷⁸²

In the context of water trading, particularly if there are long travel times between release of the water from storage and delivery to the customer, the ability to forecast those losses in real-time can be advantageous.

Low flow behaviour in unregulated rivers in the absence of rainfall typically follows an exponential decay function known as a master recession curve. An example master recession curve is shown in figure 1. This type of relationship allows streamflows in the absence of rainfall to be forecast days and weeks in advance, and using loss relationships related to flow volume, losses can accordingly be derived.

Figure 1—Example master recession curve

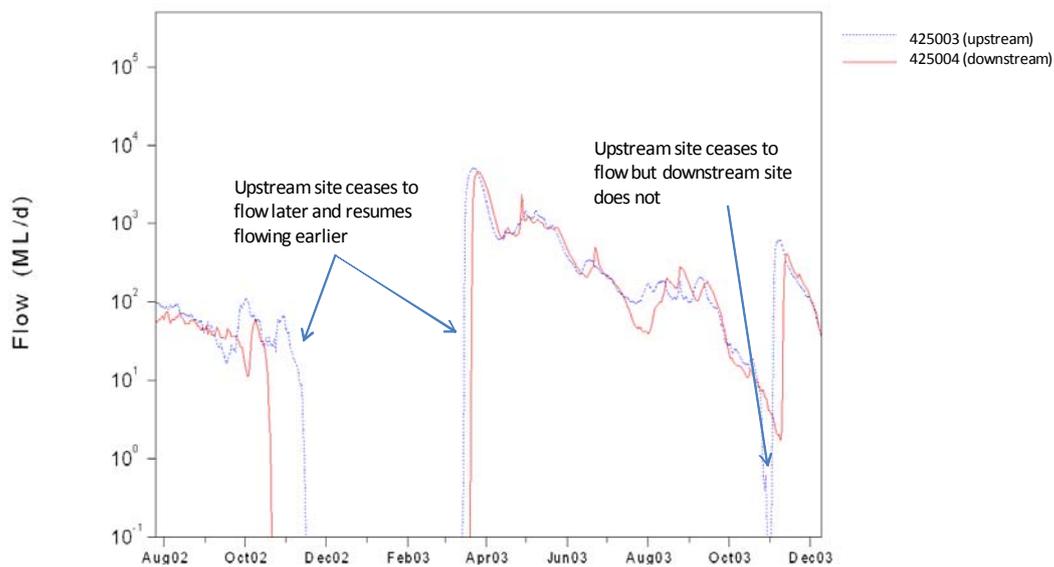


Low flow behaviour can be influenced by a number of factors in practice, particularly where there are significant diversions or tributary inflows occurring over long river reaches. By way

⁷⁸² This report is available from the ACCC upon request (see page 260 for contact details).

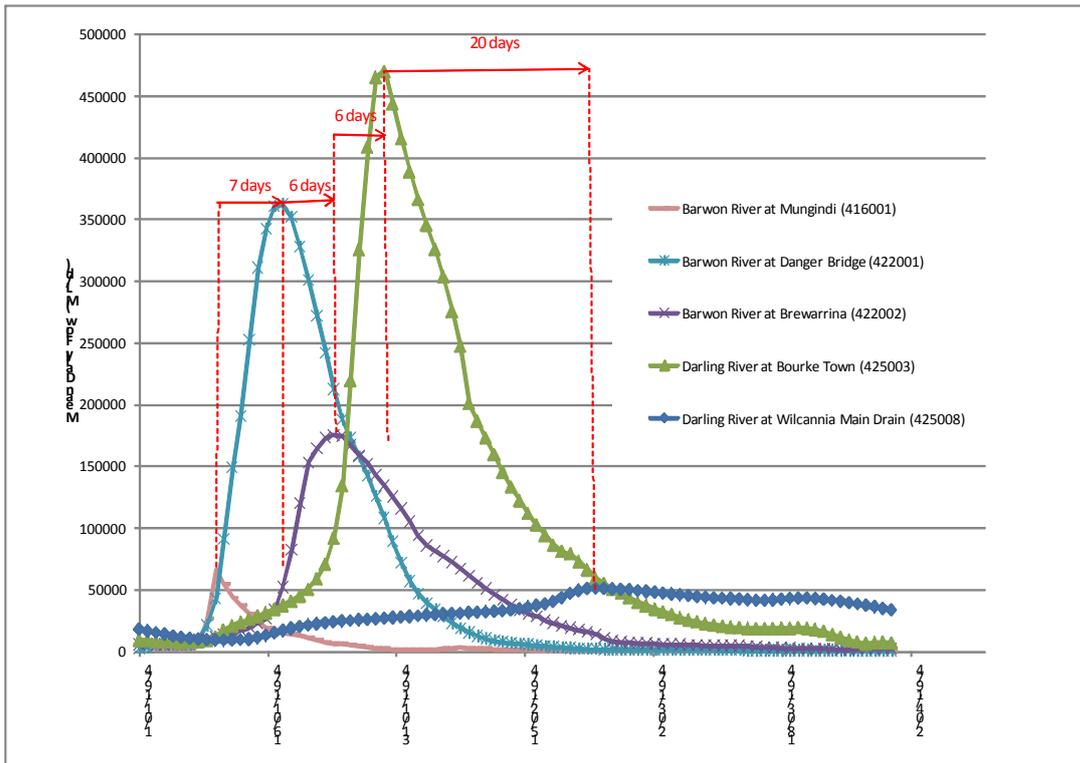
of example, when looking at two gauges along the Darling River in New South Wales in figure 2, it can be seen that cease to flow behaviour can sometimes be erratic. In this example, the downstream site ceases to flow first whilst the upstream site is still flowing, indicating that there are losses between the two reaches. When flows resume, the upstream site starts to flow first, which would be as expected. In a subsequent event roughly twelve months later in figure 2, the upstream site ceases to flow whilst the downstream site is able to continue flowing. The local reasons for this have not been investigated for this project and this example is merely to illustrate the potential for variability in cease to flow behaviour.

Figure 2—Example variation in cease to flow behaviour in the Darling River from Bourke Town to Wilcannia Main Drain



Forecasting high flow behaviour is much more difficult because of the unpredictable nature of rainfall. Forecasting used for flood estimation is typically only reliable for hours in advance of the current time. This information would therefore have only very limited application in forecasting delivery constraints. Exceptions to this may occur in some locations within the basin where travel times are long. For example, along the Darling River travel times can be several weeks and flood peaks can be tracked from the upper Barwon River through to the Lower Darling River. In an event in 1974, shown in figure 3, travel time from Mungindi on the Queensland/NSW border to Wilcannia, which is several hundred kilometres downstream, was in the order of 40 days. From Mungindi there are contributing inflows from tributaries such as the Gwydir River which cause the flow to increase, as well as floodplain harvesting and natural flood attenuation, which cause the flood flow to decrease. The flood peak at Wilcannia is also significantly lower than it was at Bourke Town. For the purposes of water trading, knowledge of flood behaviour could potentially be used to piggy back trades onto natural flow events.

Figure 3—Example travel time and flood peak behaviour in the Darling River

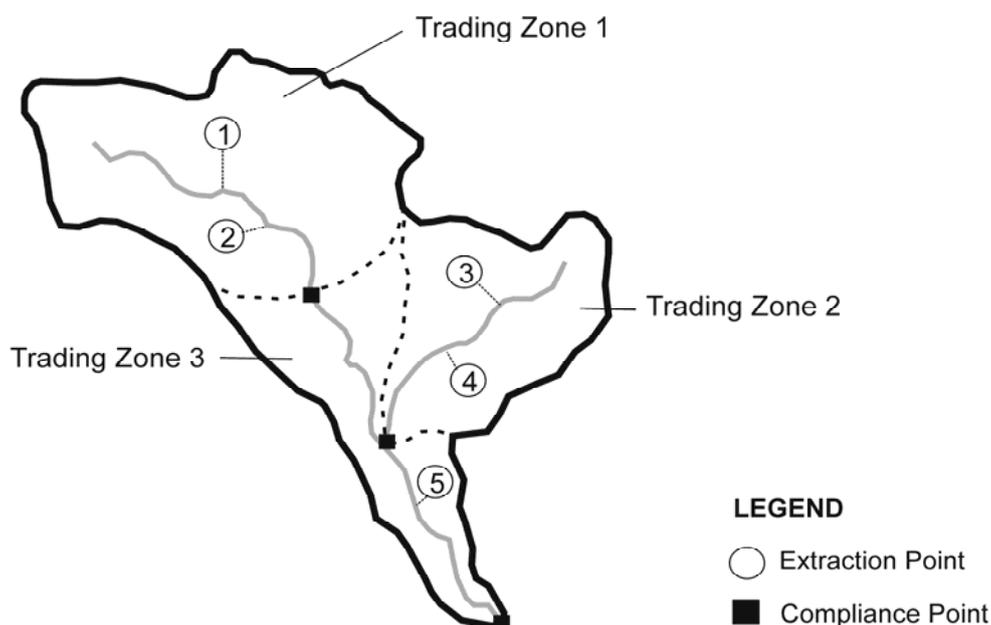


Appendix 8—Example of trade management for unregulated systems

The following is an extract from a report to the ACCC by Sinclair Knight Merz: *Water Trade Between Water Sources— Water Trade Involving Farm Dams And Unregulated Catchments*, September 2009.⁷⁸³

In order to illustrate the trading zone concept a hypothetical unregulated catchment is used. The trading zones for the example catchment are shown in Figure 1. In this catchment the zones reflect significant differences in the streamflow regime of trading zone 1 and trading zone 2 (Figure 2). Over the six month period used in Figure 2 there is flow at the compliance point of trading zone 1 on all days, however flow in Trading Zone 2 is restricted to a short time period. Figure 1 also shows the location of the extraction point of five hypothetical water users in the catchment.

Figure 1—Example of unregulated trading zones



⁷⁸³ This report is available from the ACCC upon request (see page 260 for contact details).

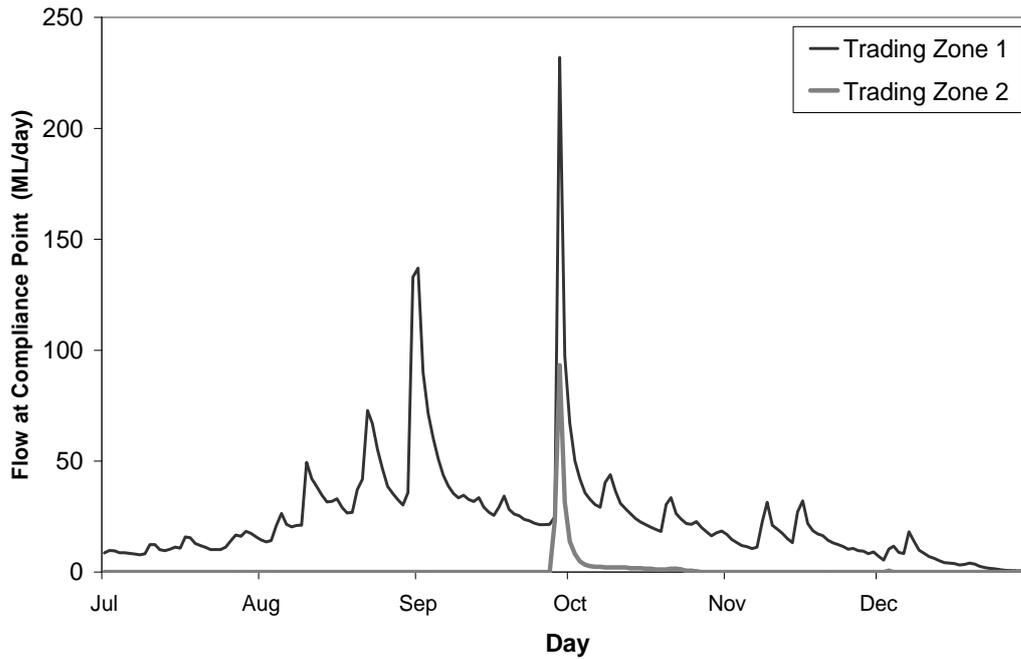


Figure 2—Daily flow at compliance points for the illustrative example

Management within a Trading Zone

The ability to give effect to a trade may be managed using a suite of mechanisms to place limits on the extractions that can occur for each trading zone and to protect users and the environment during low flow periods. Management within a trading zone may comprise four key components. Firstly, all users within a zone should be managed to maintain a minimum passing flow at the most downstream point in the trading zone. Secondly, a maximum daily extraction rate for the entire zone should be established. Thirdly, a restriction policy should be designed to share water between users during periods of low water availability. Finally, a maximum annual extraction volume is required to facilitate compliance and management activities. Each of these components are discussed in more detail below:

- *A minimum passing flow* (or a cease-to-pump trigger). This should be set to account for the environmental requirements locally and downstream, but also to allow for sufficient water for other purposes, such as domestic and stock users. The minimum passing flow may vary for different times of the year. In some regions of the Murray-Darling Basin this cease-to-pump trigger may occur rarely. In other regions where water is only available during large flow events, the cease-to-pump conditions will be prevalent. Consider the example presented above. If the minimum passing flow is set at 1 ML/day for trading zone 1 and trading zone 2, over the six month period presented in figure 2, the water users in trading zone 1 must cease pumping on 6 days, while the water users in trading zone two are only

able to pump on 26 days. All water users physically located within the trading zone must comply with the cease-to-pump rules and a system is required to notify water users of changes in the status of the cease-to-pump trigger;

- *A maximum daily extraction rate.* This rate should be determined based on environmental requirements, but it should also be set at a rate that provides an acceptable reliability to all water users if these limits are reached. The rate should reflect the volume of available water and hydrological regime in the zone and may vary for different times of the year or for different flow ranges. Each water user will have access to a share of the daily extraction rate. For example, if the maximum daily rate in trading zone 1 and 2 is 15 ML/day, this should be shared between the users located in each zone. In zone 1 the first user may be entitled to 10 ML/day and the second only 3 ML/day, leaving an additional 2 ML/day unallocated;
- *Restriction policy* (or rostering rules) for when the volume of available water is less than the maximum allowable daily extraction rate. At times it will not be possible for all water users to divert their maximum daily extraction rate. For example, there are some periods in which the maximum daily extraction rate is not physically available (see Figure 3). In these times a restriction policy will be required to share the available water between users and should apply to all water users physically located within the trading zone. For example, the restriction policy may simply reduce the daily extraction rate of all users by the same percentage to fit within the available resource or a rostering system may be employed whereby particular users are only able to extract water on certain days. More comprehensive policies may also be employed; and,
- *Maximum annual extraction volume.* The availability to water is essentially limited by the previous three rules, but an annual extraction volume provides a good means for planning and assessing compliance. This annual extraction volume would remain constant between years. Each water user should be issued a share, or a proportion of the maximum annual extraction limit. For example, in trading zone 1 and 2 if the maximum daily extraction rate was available each day then the maximum annual extraction limit could be 5,475 ML/year. However, the maximum daily rate may not be available each day and hence the maximum annual limit should be lower and reflect a volume that is more likely to be available. In determining the maximum annual extraction volume, planners must consider what overall reliability is acceptable for the zone. In making this decision they may consider what reliability is required to maintain a viable industry in the region. The maximum annual extraction volume is therefore a product of the maximum daily extraction rate, the restriction policies and the selected reliability. Due to the nature of the streamflow regimes in each trading zone in the hypothetical example, the maximum annual volume should be higher for trading zone 1 than trading zone 2.

If the zones are hydrologically connected, the maximum daily extraction rate and maximum annual extraction volume set for the zone should be inclusive of all upstream zones. For example, the limits set for zone 3 in the hypothetical example account for the volumes allocated in zone 1 and 2 (Table 1). The relationship between the minimum passing flows and restriction policies of hydrologically connected zones should also be considered further. It should be noted

that where substantial transmission losses occur in the waterway, this approach may not be suitable (Sinclair Knight Merz 2009b).

It is beyond the scope of this project to recommend how environmental requirements should be set for each trading zone or what reliability of supply is acceptable for water users. However, these limits should be established and complied with before any trade commences. The initial shares of the maximum extraction rate and the annual volume will also need to be apportioned to the initial users prior to trade. It is assumed throughout this report that the entitlements of existing users will fit within this framework prior to trade commencing.

Table 1—Extraction limits for each zone in the illustrative example

	Zone 1	Zone 2	Zone 3
Maximum daily extraction rate (ML/day)	15	15	35
Maximum annual volume (ML/year)	2400	300	3000

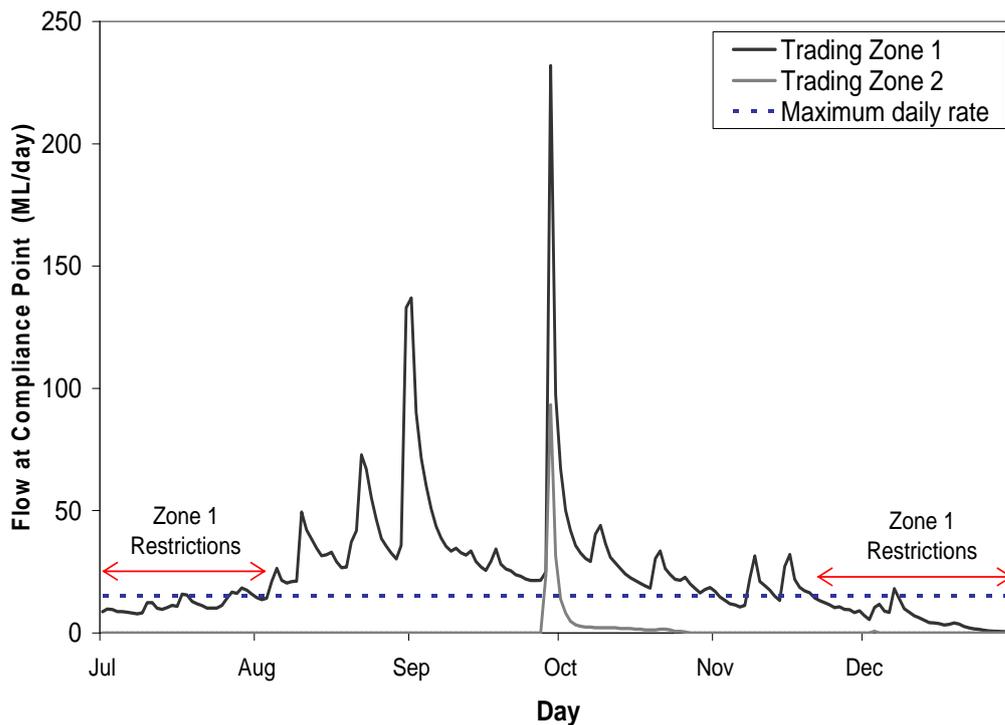


Figure 3—Daily flow at compliance points for the illustrative example

Trade within a Zone

Of the four components to manage entitlements within an unregulated catchment, the cease-to-pump rule and restrictions during low flows should apply to all users within the zone. However, within a zone, individual entitlement holders could trade their share of the maximum extraction rate and annual volume. The maximum daily extraction share and the maximum annual volume do not necessarily need to be linked, although in order to divert any water an individual user must have a share of both. However, these two characteristics of the water right could be traded separately.

The reliability and average annual volume of water available to an individual water user are influenced by the maximum annual volume, the daily extraction volume, the constraints on extractions and their capacity to store water in an off-stream storage. By allowing individual water users to purchase additional shares of the maximum daily extraction rate or annual volume they are able to take measures to improve the reliability of their water right.

It should be possible to trade a portion of a water right. However, careful consideration should be given as to how this links in with the rostering or restriction policies in place within the trading zone. This will be more difficult if unbundling of pumping rates has not occurred.

Consider the two entitlement holders in trading zone 1. Initially entitlement holder 2 is only allowed to divert 3 ML/day. Therefore, the maximum daily extraction rate must be available for 160 days if they are to extract their maximum annual volume of 480 ML (i.e. $480/3 = 160$). If they wish to improve the probability that they will be able to extract their maximum annual volume they may purchase an additional 3 ML/day of daily extraction rates from entitlement holder 1, bringing their limit to 6 ML/day. This halves the number of days that pumping is required in order to extract their full annual volume and hence substantially improves the reliability of their supply. However, the total extractions from the zone remain within the set limits (see Table 2). In this example, the maximum total extraction rate for the zone has been set as 15 ML/d. If entitlement holder 1 trades to entitlement holder 2, the extraction rate still remains below this limit (i.e. $7 + 6 < 15$).

Table 2—Example of trade within zone 1

	Maximum extraction rate (ML/day)		Maximum annual volume (ML/year)	
	Before Trade	After Trade	Before Trade	After Trade
Entitlement 1	10	7	1600	1600
Entitlement 2	3	6	480	480
Unassigned	2	2	320	320
Zone total	15	15	2400	2400

Trade between Zones

Trade should be possible between some trading zones. Trade should be allowed into a catchment in which the maximum annual volume and maximum daily extraction rate is not already fully allocated. In order to facilitate trade between zones, the connectivity of the trading zones must first be understood, and the interrelationships between the maximum volume of extractions and the maximum daily rate should be clear. For example, the degree to which the maximum daily extraction rate of a trading zone is apportioned to upstream trading zones must be known.

Consider zone 3 in the hypothetical example. The maximum daily extraction rate for the zone is 35 ML/day (Table 3). Of this, 15 ML/day is apportioned both zone 1 and zone 2. Therefore, if both upstream zones are fully allocated, the maximum daily extraction rate that can be taken up by users located in zone 3 is only 5 ML/day. However, if the maximum daily extraction rate is not reached in all of the upstream catchments, this may be available for water users in zone 3. In the hypothetical example, there is 2 ML/day of unassigned daily extraction rate in zone 1 and this could be taken up by users in zone 3 without breaching the limit for the zone.

Table 3—Example of relationship between zones

	Daily extraction rate (ML/day)		Maximum annual volume (ML/year)	
	Maximum	Assigned	Maximum	Assigned
Zone 1	15	13	2400	2200
Zone 2	15	15	300	300
Zone 3 – intermediate	Ensure compliance with zone total	5	Ensure compliance with zone total	300
Zone 3 - total	35	33	3000	2800

In order to manage trade between zones the following will need to be adjusted and tracked along with each trade:

- The overall maximum daily extraction rate and maximum annual extraction volume of the zone are required to meet the environmental requirements and reliability characteristics of the zone; and,
- The overall assigned daily extraction rate and annual extraction volume within each zone.

Three types of trade between zones are possible and each is discussed below.

Trade to a downstream catchment

Without an effective management system, water traded downstream may not be available to the downstream user. A system of shepherding water down the waterway is one option to address this issue (Young and McColl 2009). This will require the maximum daily extraction rate at the

upstream catchment to be reduced to allow this water to make its way down to the new downstream location.

The water right should be tagged to the catchment from which the right originated. The new water right holder should only be able to divert water from the waterway when it would have been available in the upstream catchment. In applying the tagging requirements, some allowance may be made for the travel times and attenuation of high flows down the river system.

Downstream trade is possible in the hypothetical example used throughout this chapter. For example, the water user associated with extraction point 3 located in zone 2 may trade into zone 3. The buyer in zone 3 would have an individual maximum extraction rate of 7.5 ML/day and an individual maximum annual extraction volume of 150 ML/year. The availability of water in zone 2 is intermittent, which there is more constant availability in zone 3. To reduce third party impacts the buyer would need to abide by the restriction policies of zone 2. The changes to the overall limits in each zone are presented in Table 4. The maximum daily extraction rate and maximum annual extraction volume will stay the same for zone 2, however, the assigned amount will decrease by 7.5 ML/day for the maximum daily extraction rate and 150 ML/day for the maximum annual extraction volume. The amounts assigned in zone 3 will increase by an equivalent amount.

Table 4—Example of a downstream trade from zone 2 to zone 3 in the hypothetical example

	Maximum daily extraction rate (ML/day)		Maximum annual volume (ML/year)	
	Before Trade	After Trade	Before Trade	After Trade
Zone 1	15 (13)	15 (13)	2400 (2200)	2400 (2200)
Zone 2	15 (15)	15 (7.5)	300 (300)	300 (150)
Zone 3 – intermediate	(5)	(12.5)	(300)	(450)
Zone 3 - total	35 (35)	35 (35)	3000 (2800)	3000 (2800)

Note: The information is presented in the format XX (YY) where XX represents the maximum limit and YY represents the allocation within the zone.

Transmission losses may be incurred when water is traded downstream. Recommendations to address transmission losses are made in Sinclair Knight Merz (2009).

Trade to an upstream catchment

Trade may move water upstream if there is capacity in the upstream trading zone for both the requested annual volume and daily extraction rate. However, while the water right is being used in the upstream zone the user should observe the restrictions put in place in the upstream zone to prevent unacceptable impacts on the existing users in the zone. It may be appropriate to allow this water access right to trade back downstream without a requirement to maintain the restrictions of the upstream zone, as could be required for other downstream trades.

The reliability of the entitlement may change in an upstream trade due to less available water and/or if there are more frequent restrictions in the upstream catchment. Information should be made available to the participants of the trade prior to the trade being approved to allow them to assess the likely change in the reliability of their water right. For example, it may be appropriate to publish information about the frequency of restrictions within each trading zone to allow the buyer to make their own assessment of future reliability.

Consider an upstream trade from zone 3 within the hypothetical example. Trade is only permitted into zone 1, as the overall maximum daily extraction rate and maximum annual extraction volume of zone 2 is completely assigned. Due to maximum limits in zone 1, the buyer in zone 1 can only purchase 2 ML/day of a maximum daily extraction rate and 200 ML/year of an annual extraction volume (Table 5).

Table 5—Example of an upstream trade from zone 3 to zone 1 in the hypothetical example

	Maximum daily extraction rate (ML/day)		Maximum annual volume (ML/year)	
	Before Trade	After Trade	Before Trade	After Trade
Zone 1	15 (13)	15 (15)	2400 (2200)	2400 (2400)
Zone 2	15 (15)	15 (15)	300 (300)	300 (300)
Zone 3 – intermediate	(5)	(3)	(300)	(100)
Zone 3 - total	35 (35)	35 (35)	3000 (2800)	3000 (2800)

Note: The information is presented in the format XX (YY) where XX represents the maximum limit and YY represents the allocation within the zone.

Substitution Trade

Trade between two zones which share a common downstream zone may be permitted via a substitution trade, also known as a cancel and reissue trade. The trade should only occur if there is capacity in the zone into which the entitlement will move. However, as with an upstream trade, the reliability associated with the entitlement may change as the constraints of the new trading zone will need to be observed. A substitution trade may occur in the hypothetical example from zone 2 into zone 1 and will require the assigned limits for each zone to be altered (Table 6).

Table 6—Example of a substitution trade from zone 2 to zone 1 in the hypothetical example

	Maximum daily extraction rate (ML/day)		Maximum annual volume (ML/year)	
	Before Trade	After Trade	Before Trade	After Trade
Zone 1	15 (13)	15 (15)	2400 (2200)	2400 (2250)
Zone 2	15 (15)	15 (13)	300 (300)	300 (250)
Zone 3 – intermediate	(5)	(5)	(300)	(300)
Zone 3 - total	35 (35)	35 (35)	3000 (2800)	3000 (2800)

Note: The information is presented in the format XX (YY) where XX represents the maximum limit and YY represents the allocation within the zone.

Contacts

Submissions

Submissions to the ACCC on this position paper should be sent to:

Email: water@acc.gov.au (use the word **Submission** in the subject line)

Or by mail to the following address:

Water Branch
Water trading rules position paper
Australian Competition and Consumer Commission
GPO Box 520
Melbourne VIC 3001

Further information on how to make a submission can be found on page iii.

General inquiries

General inquiries may be directed to the ACCC on:

Infocentre: 1300 302 502

Website: www.accc.gov.au

Callers who are deaf or have a hearing or speech impairment can contact the ACCC through the National Relay Service www.relayservice.com.au

For other business information go to www.business.gov.au