

Commonwealth Environmental Water – Trading Arrangements

Discussion Paper

7 November 2011

Purpose of Discussion Paper – How to Provide a Response

The purpose of this discussion paper is to canvas stakeholder views on issues associated with trade of the Commonwealth environmental water portfolio.

A number of questions for consideration by stakeholders are outlined in the paper. Responses to these questions, and any other issues that stakeholders may wish to raise, are requested to be provided by 27 April 2012.

Response can be sent to:

Email: ewater@environment.gov.au

Or by mail to the following address:

Commonwealth Environmental Water Department of Sustainability, Environment, Water, Population and Communities GPO Box 787 Canberra ACT 2601

If you would like to discuss the issues raised more directly then we can also be contacted on (02) 6275 9246.

This discussion paper represents the first stage of an on-going consultation process on trade issues. Responses to the issues raised will inform a position paper which it is anticipated will be released in mid-2012. The position paper will provide further detail on proposed arrangements for implementing trade and a proposed set of operating rules under which trade would be conducted.

A glossary of terms used in this discussion paper is provided at Attachment B.

Stakeholder input has previously been sought on a *Framework for Determining Environmental Watering Actions* (May 2009) and on a proposed *Monitoring Evaluation and Reporting Framework* (June 2011).

Further information about Commonwealth environmental water is available at <u>www.environment.gov.au/ewater</u>.

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Key Points

- This discussion paper introduces issues associated with trade of Commonwealth environmental water and invites comments from stakeholders.
- Management of Commonwealth environmental water requires on-going assessment of options including whether water should be used within the current year, carried over for use in future years, or whether trade should occur (disposal or acquisition).
- There are a number of scenarios where trade of allocations or entitlements may assist in achieving the environmental objectives of the environmental water portfolio. For example, trade may assist in:
 - o establishing capacity to meet future environmental needs,
 - responding to varied conditions across the Murray-Darling Basin,
 - adapting to changing circumstances and information;
 - o dealing with delivery constraints and / or opportunities; and
 - realising value where immediate environmental water requirements have been met and carryover is not available.
- Trade of Commonwealth environmental water must occur consistent with the legislated requirements including Basin Plan water trading rules and state trading rules.
- It is proposed that a water trading framework be put in place that comprises four components:
 - operating rules which would require the publishing of information about trading activity;
 - public release of an annual portfolio management strategy, with updates as circumstances change;
 - independent external advice; and
 - internal governance arrangements.
- There are alternatives for engagement with the water market including using tenders, expressions of interest, water brokers or on-line water trading platforms. The preferred approach, or mix of approaches, will depend on the circumstances and will be assessed against criteria such as value for money, transparency / consistency of application, and timeliness.
- In addition to the trade of allocations and entitlements there are a number of alternative water products which may be considered in the future. These include option contracts, covenants and other agreements including leases. As the water market is still developing it is expected that some of these approaches will take time to fully scope.
- An example is provided in this discussion paper of how trade may assist in improving the capacity of the portfolio to better meet future environmental needs. In the example, the opportunity for trade arises because of differences in demand for water between agricultural users and the environment. There is potential for mutually beneficial trades between the environment and consumptive users.

1 Introduction

Commonwealth Environmental Water

The Commonwealth environmental water portfolio (the portfolio) is being established by the Australian Government through the acquisition of water entitlements under the *Water for the Future* initiative.¹ At the end of September 2011 the portfolio comprised approximately 1,050 gigalitres of Murray-Darling Basin (the Basin) water entitlements.

The Commonwealth Environmental Water Holder is an independent statutory position created by the *Water Act 2007* (Commonwealth) (the Act) to manage the portfolio. The water must be managed to meet the objectives contained within the Act: to protect or restore environmental assets within the Basin.

Advice and proposals for use of water are received from the states and local groups. Delivery of water is typically managed by river operators, local land managers and groups such as Catchment Management Authorities.

How environmental assets are protected or restored is required to be in accordance with the environmental watering plan that is being developed by the Murray-Darling Basin Authority (MDBA). The environmental watering plan is a key component of the MDBA's proposed Basin Plan. Management of the water also needs to occur consistent with the proposed Basin Plan trading rules, state trading rules, river operational rules and the rules relating to the carryover of water.

The portfolio comprises both entitlements and the allocations which have accrued since the entitlements were acquired. The entitlements and allocations retain the same characteristics as existed before acquisition of the entitlements and are managed within the state government rules that apply to other equivalent entitlement holders (typically agricultural users). For example, the Commonwealth pays the same fees and charges and receives the same annual allocations as apply to equivalent entitlements. Commonwealth environmental water also operates within the same trade and carryover rules that apply to equivalent entitlements.

Currently in the portfolio there are 39 different types of entitlements in 21 water sources/catchments, with varying yields, reliability profiles and associated rules. The portfolio is expected to grow further as more water is acquired to bridge the gap between current use limits and sustainable diversion limits that will be implemented through the Basin Plan. The extent and location of the entitlements will be informed by the requirements identified in the Basin Plan.

Management Options

Commonwealth environmental water can be actively managed and this means that there are many possible options and decision points. Active management assists in improving the capacity of the portfolio to meet the objectives of the environmental watering plan to protect or restore environmental assets of the Basin.

The active management options are discussed further in the next section and include delivering within the current water year to environmental sites, carrying over water (where

¹ Further information on the *Water for the Future* initiative can be found at <u>www.environment.gov.au/water</u>.

possible) to future years, and trade of water.

In the early business plans for managing Commonwealth environmental water it was indicated that trade was not expected for the following year. These decisions were taken because the portfolio was in the process of being established and drought conditions meant both a high level of environmental demand for water and low water availability.

During 2010-11 there was a significant change in conditions across the Basin compared to the previous years. After one of the most severe droughts on record, the Basin received substantially above average rainfall. Inflows into water storages in the Basin have increased significantly and there has been low demand for water across the 2010-11 summer. Allocations have improved to above average levels in many areas and the outlook in the next few years for allocations is much improved.

Given the current position – including increases in the size of the portfolio, improved information that is to be available from the draft Basin Plan, improved seasonal conditions and environmental water availability – it is appropriate that consultation occur at this stage on possible trading arrangements for Commonwealth environmental water.

It is expected that Commonwealth environmental water will be traded because such trade may improve environmental outcomes. The trade of water to and from consumptive use also has the potential to benefit agricultural users who are counterparties to this trade, and therefore to reduce the socioeconomic costs of the return of water to the environment. The potential for these 'gains from trade' arise because of difference in the character of water use between the environment and consumptive users.

2 Legislative Provisions – Trade

The Act provides authority for the trade of the portfolio including the power to purchase, dispose of and otherwise deal in water and water access rights, water delivery rights or irrigation rights. Trade can occur both for allocations and entitlements.

Disposal of allocations and/or entitlements may occur if:

- these are not required to meet environmental objectives in a given water accounting period and cannot be carried over to the next accounting period (Section 106 (1)); or
- the proceeds of the disposal are used to purchase other allocations and/or entitlements that improve the capacity of the portfolio to meet environmental objectives (Section 106 (2)).

The following flow chart outlines these key requirements and the options which are available.



Figure 1: Legislative provisions for trade of Commonwealth environmental water portfolio

The first legislated provision for trade of the portfolio (Section 106 (1)) only allows trade to occur if the water is not required within the water year to meet the objectives of the environmental watering plan and if it cannot be carried over for use in subsequent years. As carryover is often available to some extent on entitlements in regulated parts of the Basin, trade under this provision will not be possible in many cases. If trade does occur under this provision then the proceeds from the trade can be used to meet management costs associated with the portfolio and / or possible water acquisitions.

The second legislated provision (Section 106 (2)) allows for trade provided the proceeds of a disposal are used to acquire other water. The key test in relation to Section 106 (2) is whether the trade will improve the capacity of the portfolio to protect or restore environmental assets. This provision provides greater flexibility but the proceeds need to be used for later acquisition of water, although not necessarily within the year or catchment of disposal. This trading opportunity, in addition to that in Section 106 (1), is to ensure that the highest priority assets receive water.

The limits in the legislation are intended to ensure that the trading arrangements operate to meet environmental objectives and not with the objective of being a profit-making enterprise.

Proceeds of trade are paid to a Special Account established under the Act. Funds paid into the Special Account cannot be redirected to a use other than managing (for Section 106 (1) funds) or acquiring Commonwealth environmental water. The costs of Commonwealth staff involved in managing environmental water cannot be paid from the Special Account and are separately funded by the Government.

The recently established Victorian Environmental Water Holder also has legislative provisions which enable the trade of Victorian held water. NSW Riverbank, the manager of NSW Government environmental water, has previously traded allocations.

3 Portfolio Management

Portfolio Management Options

The portfolio has been established through the acquisition of entitlements but comprise both the entitlements and allocations which have accrued since the entitlements were acquired. The portfolio is diverse and includes most types of surface water entitlements in the Basin, including unregulated system entitlements and low security entitlements. Attachment A shows the composition of the portfolio as at 4 October 2011.

A range of management options are available including: using water within the current year; carrying over water to subsequent years; and trade of water (including disposal and acquisition). Further detail on each of these portfolio management options is provided in Table 1.

Use of water	Assassment of water use options (and where pacessary
	Assessment of water use options (and, where necessary,
- within the current	prioritisation) is made against a published framework.
year	Decisions need to be in accordance with the environmental
	watering plan (to be part of the Basin Plan).
	Environmental requirements vary across the Basin (depending on the ecological characteristics of sites) and will be affected by preceding conditions.
	Use of the water needs to be within the river operation rules.
Carrying over of	Carryover rules are provided for in water sharing plans and vary
water	substantially across the Basin
for any in the second	substantiarty across the Dasin.
- for use in subsequent	
years	Given inherent climatic variance, carryover provides an
	opportunity to build a reserve of water that can maintain key
	sites in drier periods, or to supplement flows to levels that are closer to natural.
Trade of water	Disposal or acquisition of allocations or entitlement provides
- trade of allocations	options that may improve environmental outcomes in other parts
or entitlements	of the Basin and/or in future years.
	The proceeds of trade need to be used consistent with the legislated arrangements.

In certain circumstances, the most sensible approach may be not to use any of the above options. For example, in very wet periods it may be that water use is either not required or not possible due to operational constraints, carryover may not be possible, and trade may not be

² Further information on the framework for assessment of water use options is available at <u>http://www.environment.gov.au/ewater/publications/index.html</u>.

practical or of value. In this case, and as applies to other water users in a similar position, the allocations may be redistributed as provided for under the relevant water sharing plan.

In implementing portfolio management options water allocations from a range of entitlements may be transferred:

- to delivery partners for environmental use;
- between Commonwealth environmental accounts, for example to improve opportunities for carryover; or
- to or from trade participants.

Portfolio management options need to be considered in the context of improving the capacity of the portfolio to meet environmental objectives over the long-term and across the Basin.

In addition to making judgements about the likelihood of improving the capacity of the portfolio to meet environmental objectives now and in the future, decisions need to consider varying environmental requirements, operational and physical constraints on delivery, the outlook for water availability, and other opportunities and risks. This is not a simple task, and in many instances the portfolio management approach that works well in one area of the Basin would not be appropriate in other areas.

Question One: What are your views on the portfolio management options which are outlined? Do you think that there are other issues which should be considered?

Possible Trade Scenarios

There are a number of possible scenarios where trade may assist in achieving the environmental objectives. Because the water demands of environmental assets differ from irrigation demands, there are potentially benefits to irrigators from this trade.

The following scenarios are provided for discussion only and may not be a complete list of possible trading options.

• Establishing capacity to meet future environmental needs

Under this scenario trade may occur with the objective of establishing the capacity to meet future environmental needs. One example of this may be the sale of allocations in one water year with a view to acquiring allocations early in the new water year so as to supplement spring watering actions.

While in some catchments the existing carryover arrangements are expected to be sufficient to provide for most proposed watering actions in the next water year, other catchments have more constrained carryover arrangements and trade may assist in preparing for environmental needs in future years. In this circumstance, the water market is in effect being used to expand the carryover options. This approach could also be implemented more broadly, such as where there are good prices available from the sale of allocations – for example, as a result of dry climatic conditions. This situation is sometimes referred to as a 'counter-cyclical trade' as it involves sale of allocations when there is generally less water available.

Trade with the objective of building capacity for future environmental needs would be implemented under Section 106 (2) of the legislation. Further discussion of this is provided in section 3 as an example.

• Variance in conditions across the Basin

This scenario may exist where parts of the Basin have different forecast water availability and environmental requirements than other areas. For example, if there were consistently wet periods in one area of the Basin to the point where environmental needs were largely met, then potentially allocations could be sold in that area with a view to purchasing allocations in a catchment that requires additional environmental water. In some circumstances, beneficial watering may be foregone if trading that water allows for more beneficial watering to occur elsewhere.

Catchments in the southern-connected Basin already have some provision for transfer of allocations across the connected catchments. There is potential to expand on this flexibility by selling allocations in one catchment with a view to buying allocations in a disconnected catchment.

• <u>Changing circumstances and information</u>

Under this scenario trade would be used to acquire water that improves the capacity of the portfolio to meet environmental objectives. The mix of water entitlements acquired for the portfolio is informed by the best information available at the time. As this information improves, the strategy used for acquisition of entitlements will change so as to continue to acquire a portfolio of entitlements that provides the greatest environmental benefit. Changing information may warrant the rebalancing of the existing portfolio.

It may be that in the future there will be benefit in, for example, changing the balance between the high security, general security and supplementary water entitlements in a particular catchment. Trade would facilitate this rebalancing with the objective of achieving maximum results from the portfolio.

• Dealing with delivery constraints / opportunities

Trade may also assist in achieving outcomes that would otherwise have been limited by delivery constraints. This situation may occur due to changes in river connectivity (for example, in drought periods), or as a result of capacity constraints at certain points in the river system.

Constraints will arise as a result of normal river operations or natural cycles. Potentially water allocations could be sold outside of the constraint with a view to purchasing allocations in an area where water can be delivered.

Conversely, improvements in delivery arrangements such as the use of new environmental infrastructure may increase the number of potential watering actions or allow environmental outcomes to be attained with less water. In these situations, it may be beneficial to trade and redirect the value of the water to other opportunities.

• <u>Immediate environmental water requirements met – carryover not available</u> Under this scenario the objective of the trade would be to realise value from the allocations where the requirements of the environmental watering plan have been met and the water cannot be carried over for use. Trade with this objective is provided for under Section 106 (1) of the Act.

Given the conditions that apply to this scenario it would be more likely to apply in a wetter period and so it may be that any disposal of allocations would be for a low market price. In some circumstances the price may not be sufficient to provide a positive return after accounting for the associated transaction and administrative costs. In these circumstances the trade would not proceed.

Question Two: What other trade scenarios could be considered to improve the overall capacity of the Commonwealth environmental water portfolio?

4 Example - Capacity Building to Meet Future Environmental Needs

The following discussion is provided as an example of how trade may assist in building the capacity of the portfolio to better meet future environmental needs. It should be noted that this example is only one of several potential scenarios noted in Section 3. The example is discussed as a single year but the benefits of implementing the approach would need to be assessed in a multi-year context. The likely role of trade within a given year will be influenced by conditions in previous years and future year forecasts. Trading in a dry year is more likely if preceding years have been average to very wet.

The Murray-Darling system is characterised by significant variance in water availability. The graph below provides Murray River inflows across 120 years. These inflows range from 1,220 gigalitres in 2007 to 48,400 gigalitres in 1957.

Whilst water availability in all parts of the Basin is highly variable, inflows in the southern system are more likely to occur in the later winter – spring period whilst in the northern parts of the Basin the inflows are more likely to be summer and related to particular rainfall events.

Storages in regulated parts of the Basin to some degree smooth out the water availability to entitlement holders. For example, if a year commenced with good storage levels but was relatively dry then entitlement owners have better water availability than would be implied from a dry year. Similarly, if storage levels are low but there is then a wet year then allocations may not be substantially above average if storage levels are being returned to more normal levels.



Figure 2: Murray River Inflows

From an environmental perspective the regulated nature of the system has evened out flows and this means that the environment is getting less high flow events than is desirable given the adaptation of the environment to variable flows. Even in a relatively wet year, some flows are typically captured in dams. The regulated system both reduces the overall flow to the environment and also reduces the frequency and magnitude of higher flow events. The acquisition of entitlements provides an opportunity to return some of these flows, within the capacity constraints of the system.

Over the last 120 years, average inflows into the Murray were 11,000 gigalitres. Sixty per cent of years were less than average, so the frequency of water availability in the Basin looks something like the following:



Water availability

Figure 3: Example water frequency of water availability in the Murray-Darling Basin

If the objective of trade is to improve the capacity to achieve environmental outcomes then the following trade positions are likely under the various scenarios:

- <u>Very Dry</u>. In this circumstance sale of allocations would be unlikely as the water would be required to meet immediate environmental requirements. Purchase of allocations would be unlikely due to the high prices that would exist during an extremely dry period, unless there is an urgent environmental requirement.
- <u>Dry.</u> Provided that sufficient water is available to meet minimum environmental requirements in the next few years then sale of allocations would become more likely as a means of realising value that could be used in the future. Purchase of allocations would be less likely given the higher than average allocation prices that would exist during this period.
- <u>Average</u>. An average water availability scenario would likely see average allocation prices. If the objective is to build capacity for future use then the benefits of either sale or purchase of allocations in this period may be marginal.
- <u>Wet.</u> Under a wet scenario sale of allocations would be less likely as prices would be lower. Purchases of allocations would be more likely, with the objective of having water available to supplement flows and increase the volume of flow events.

• <u>Very Wet.</u> Under a very wet scenario the environment is probably receiving sufficient water in most cases and these flows would not need substantial supplementation. Sale of water in this circumstance would be unlikely as it would not yield much value as allocation prices would be extremely low. Purchase of allocations would also be unlikely given the unregulated flows that would be occurring and meeting environmental requirements.

In summary, if the objective is to build capacity for future environmental needs then under this example the more likely gain for the portfolio would be the sale of allocations in dry water availability periods with subsequent purchase of allocations to supplement flows in wet periods. Trade, either purchase or sale of allocations, is unlikely under this scenario in extremely dry and extremely wet periods.

The opportunity to trade in this circumstance arises because of differences in demand for water between agricultural users and the environmental. In drier periods agricultural demand may differ from the environmental demands provided that sufficient environmental water is available to meet minimum requirements. In wetter periods the environment may benefit more from supplementing flows as compared to agricultural requirements. Both circumstances may create the potential for mutually beneficial trades between the environment and consumptive users.

Decisions on trade require a multi-year perspective to take into account the cyclic nature of wetting and drying requirements for environmental assets. A dry year may occur after a sequence of wet years, in which case the environment may benefit from a drying phase and there would be low environmental demand. Conversely, after an extended sequence of dry years the duration between watering events may become detrimental to some environmental assets, and the demand for environmental watering becomes higher.

Question Three: What are your views on the capacity building example?

5 Water Trading Framework

Overview – Proposed Water Trading Framework

In addition to complying with the legislative requirements, trading activities will also need to occur consistent with the Basin Plan's water trading rules and relevant state trading rules.

The water in the portfolio was part of the water market prior to acquisition by the Commonwealth. If this water was permanently not available for trade then this in itself would have implications for the depth of the market.

Any trading decision by any market participant has the potential to affect prices, but market participants generally have an incentive to ensure that their actions do not shift the market substantially. For example, if someone was seeking to sell allocations to realise value at prevailing market prices, they would not want to act in a manner that substantially reduces prices before securing their sale. Alternatively, if someone was seeking to purchase allocations at prevailing market prices, then they would not want to push prices substantially higher before buying, thereby reducing the overall cost effectiveness of the trade. These principles apply to trade of Commonwealth environmental water just as they do for other trade.

There is a legitimate public interest in Commonwealth environmental water trading activity both because the water is a publicly owned resource and because the portfolio will be significant in size. To address these issues, and to generally ensure good governance arrangements around trade, it is proposed that a water trading framework be put in place comprising four components: water trading operating rules; publication of a portfolio management strategy; independent external advice; and internal governance arrangements.

Figure 4 (on page 15) provides an overview of the proposed framework.

Operating Rules

The Commonwealth Environmental Water Holder is not subject to direction from the Minister or Secretary on matters related to water trade. However, the Act does provide for the Minister to make operating rules relating to trade of the portfolio. The intention of these operating rules is to establish the general framework within which trade occurs, rather than providing specific direction on individual entitlements or contracts.

As the portfolio is expected to be substantial there is public interest in putting in place transparent arrangements as to what trade is occurring and with what objective. The operating rules can formalise this transparency and provide greater assurance of how trade is proceeding.

The proposed approach is to include in the operating rules requirements for the following information to be made publicly available:

- the objective of a proposed trade together with advice on what legislative provision the trade is to be conducted under (e.g. Section 106 (1) or 106 (2));
- the price, volume and location of trade following the completion of any trade;

- how the proceeds of trade are accounted for; including distinguishing between proceeds depending on what legislative provision has been used; and
- an evaluation of how trading actions met the trading objectives.

Some of this information could be provided through existing annual reporting. The operating rules may also include a provision for review of the rules after a number of years.

Question Four: Do you agree with the proposed elements of the operating rules? What other issues may be covered by the operating rules?

Portfolio Management Strategy

As outlined previously, trade is just one of the options available to actively manage the portfolio. To provide information on decisions about these options it is proposed that a portfolio management strategy be developed each year and made publicly available.

The strategy would consider the benefits achievable under the different options (use in the current year, carryover, or trade). This is broadly analogous to the considerations made by other entitlement holders, but with the objective of improving the capacity to meet environmental objectives. The strategy would include an assessment of the benefits achievable in future years and elsewhere in the Basin. By its nature it would have a multi-year horizon and would outline:

- expected environmental watering requirements across the next few years (this would be informed by the Basin Plan's environmental watering plan);
- the current and forecast composition of the portfolio and forecasts of water availability for the next few years; and
- a description of how the portfolio may be best positioned to meet the environmental water requirements (this would include how carryover and trade may be used in the next year to achieve improved outcomes).

As environmental and market conditions can change dramatically during a year, the proposed portfolio management strategy will need to strike a balance between providing transparency of future intentions with the flexibility that is required to manage water in order to meet environmental objectives. The portfolio management strategy would not be "locked in" for the year as circumstances will inevitably change. It is envisaged that the published strategy would be at a relatively high level and that updates would be required during the year.

The implicit portfolio optimisation task is complex. It must balance 'returns' from environmental use in different locations in the current time period, the expectation of environmental returns from use in future periods, the opportunity and risks of carryover, and

Question Five: Do you agree with the proposed approach to developing a portfolio management strategy that will be publicly released? What other issues do you think could be dealt with in the strategy?

price risk where water is effectively shifted to the future through trade opportunities.

Independent External Advice

There is currently in place an Environmental Water Science Advisory Committee that advises the Commonwealth Environmental Water Holder on the science issues associated with water use and reporting of results. It is proposed to establish a separate advisory committee to provide external advice on operational matters, including trade. Members of this committee will need to have relevant skills and experience but no conflict of interest in regard to trading in the water market.

Internal Governance Arrangements

In addition to the above arrangements trade will need to occur within the legislative and governance arrangements that apply to Commonwealth agencies.

The *Financial Management and Accountability Act 1997* (FMA Act) is the primary piece of legislation relating to proper use and management of public money, property and other Commonwealth resources. The FMA Act imposes requirements on Commonwealth officers in the disposal or acquisition of Commonwealth assets. In particular, Commonwealth officers are expected to comply with the Commonwealth Procurement Guidelines (CPGs).

Inherent in the CPGs are the concepts of value for money, competition, efficient, effective and ethical use of resources, accountability and transparency. These concepts will guide decisions on acquisition of allocations or entitlements. Further details about the Commonwealth Procurement Guidelines can be found on the Department of Finance and Deregulation's website at <u>www.finance.gov.au/procurement</u>.

Commonwealth officers are also subject to Chief Executive's Instructions (CEIs). The CEIs derive their authority from the FMA Act and the regulations issued under the Act. The CEIs are instructions given by the Chief Executive of an agency on any matter necessary to give effect to the FMA Act or its regulations. These instructions reinforce that obtaining the best value return is the major objective for any planned disposal or acquisition of public property.

Water Act	Establishes the limits under which trade can occur.
Trading Rules	Trade must also occur within the Basin Plan water trading rules and state trading rules.
Operating Rules	Establishes the general framework as to how trade of Commonwealth environmental water will proceed.
	Considers environmental requirements across future years.
Strategy	Seeks to match available allocations and the portfolio to environmental requirements via use in current year, carryover or trade.
Independent advice	Evaluates portfolio management strategy and provides advice on water trading arrangements as required.
	Documents the standard procedures to be used.
Internal Governance	Ensures consistency and transparency in water trading decision-making process.
Arrangements	Helps manage risks.
	Ensures auditing and compliance with <i>Financial</i> Management and Accountability Act 1997.

Figure 4: Proposed Water Trading Framework for Commonwealth environmental water

6 Market Engagement - Trading Products

Market Engagement

There are a number of ways that engagement with the water market could occur when trading Commonwealth environmental water. Possible approaches include:

• <u>Tender</u>

A period of time would be nominated during which offers to buy or sell water could be received. At the end of this period, all offers would be assessed concurrently to identify those that represented the greatest value for money.

• Expression of interest

Potential buyers or sellers could submit non-binding offers as part of an advertised expression of interest process. Negotiations with bidders would be able to occur at any time whilst the expression of interest process is open.

• Use of water brokers

A panel of water brokers could be established to provide coverage across the Basin. When water is to be purchased or sold, the broker(s) operating in that catchment would be notified, and they would approach potential sellers / purchasers.

• <u>Online water trading platforms</u> Online water trading platforms may be an option for trade of water allocations or entitlements.

This list is not intended to be exhaustive and the use of any mechanism would need to be in alignment with the Commonwealth financial guidelines outlined in the previous section.

It may be useful to use a mix of mechanisms to trade water under different circumstances. The decision on the most appropriate mechanism would depend, in part, on:

- whether water is being acquired or disposed;
- whether allocations or entitlements are being traded;
- the size of the disposal or acquisition;
- the catchment in which the water is being traded; and,
- the timeframes involved.

Determining the appropriate mechanism would include consideration of criteria such as value for money (including transaction costs), transparency / consistency of application, and timeliness.

An expression of interest process may be a good approach to use in many circumstances as it would appear to satisfy many of the criteria. An expression of interest process has low transaction costs; it is possible to quickly notify the market of the intentions to buy or sell water; the mechanism would provide all market participants equal opportunity to place an expression of interest to buy or sell water; and it would be possible to undertake the process in a reasonably timely fashion.

A tender mechanism would involve published guidelines that set out the process and criteria

and assess all proposals against these criteria. Because of this it provides a clearer way to demonstrate that value for money has been achieved. However, tenders may have higher transaction costs and the length of time required to run the process is a disadvantage given the highly variable nature of the water allocation market. The tender process is likely to be more appropriate if a large volume of water is being traded and for the trade of entitlements rather than allocations.

Using a panel of water brokers has potential advantages, especially when an environmental need is deemed to be urgent. Acquisition or disposal of water through this mechanism is likely to be timelier than an expression of interest or tender process. However the use of brokers may be seen as less transparent and it would need to be demonstrated that all potential buyers / sellers have equal opportunity and the process is competitive.

Where timeliness is a consideration, use of an online water exchange may also be appropriate. However, market coverage with this particular mechanism may not be complete in some catchments.

Whichever approach is adopted it will be important that the market is transparently advised of the approach prior to conducting the trading action. For example, if it was intended to use an online exchange to trade water then this would be announced prior to placing water on the exchange.

Question Six: Do you agree with the mechanisms for trade that have been identified and the relative advantages of each? Do you have any other suggestions about other mechanisms that could be used to engage with the water market?

Trading Products

There are a number of alternative water products which may be considered when trading the portfolio. Section 105 of the Act provides for contracts to be entered in to (including options contracts) for the purposes of purchasing, disposing or other dealing in water and water access rights, water delivery rights or irrigation rights.

• <u>Options</u>

An options contract may involve an agreement for future access to a particular volume of water provided certain conditions are met. The contract would typically involve payment of an upfront fee or premium and an exercise price. An options contract would provide water users with the right, but not the obligation, to buy or sell allocations or entitlements based on a trigger that aligns with objectives of the user. Conversely, the other party of the options contract would assume the obligation to buy or sell allocations or entitlements when instructed, with reference to the trigger condition. There are many forms that options contracts could take.

Options contracts are widely utilised in many markets, such as the electricity market, but their application in Australian water markets has been limited to date. There would need to be significant work undertaken by all parties to set up an options market including familiarising themselves with the new product, developing institutional support for the product and obtaining necessary approvals. A number of organisations have begun developing potential products.

Considering the observed inter and intra-year variability in allocation prices and the

variability in water availability, specifying an options product and determining its price is a complex task.

• <u>Covenants</u>

A covenant is a condition that is placed on a water allocation or entitlement that restricts its use under certain circumstances. Covenants are typically permanent and cannot be easily reversed. For example, a covenant could be applied to an entitlement prescribing the condition that the first 50 per cent of allocations are available for environmental use, but further allocations are for the owner of the entitlement. When sold back to the market this would effectively create a new class of entitlement.

There are likely to be difficulties in implementing and enforcing covenants and there are also likely to be high information demands associated with application. A covenant may restrict the ability to actively manage the water and as it is not easily reversed it may restrict opportunities to adapt in the future.

• Other Agreements

There is a range of other possible agreements that could be considered in the future. For example, entitlements could be leased for a period either including or excluding other rights associated with the entitlement, such as storage and delivery rights. Leases have been used in the water market, but only to a limited extent.

A similar outcome could be achieved through an agreement to transfer allocations as these accrue either in total or relative to particular percentages. For example, there could be an agreement to transfer some portion of the first allocations received in a season up to an established threshold. Potentially arrangements could be entered into between bulk irrigation corporations and the Commonwealth Environmental Water Holder to make available volumes of water at times during the year that provides benefits to both parties. Such an arrangement would need to be compared to the benefit of more directly implementing this through the water market.

As the market matures a futures derivative could also be considered. A futures derivative is an agreement to trade water allocation at a pre-defined price. It differs from an options contract in that it places an obligation on both parties, rather than just the seller of the option.

All approaches to trade that involve more innovative arrangements such as those outlined above will need to be assessed relative to what contribution these make to overall environmental outcomes. Establishment and transaction costs and the risks of implementing the arrangement for all parties will need to be fully considered and assessed. There is considerable development in the water market that may occur over future years and both sides of any trade would need to be fully informed and aware of the issues associated with trade of more innovative products.

Question Seven: Do you think that there are other potential approaches or trade products that could be put in place to assist in achieving the objectives for the Commonwealth environmental water portfolio?

Question Eight: Do you have any other suggestions or comments about the issues raised in this discussion paper?

Attachment A

Commonwealth environmental water portfolio

The following table provides an overview of water entitlements held in the Commonwealth environmental water portfolio.

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Security	Registered Entitlements ^{1,2,3} (ML)
High	
Medium	10,285
Unsupplemented	1,000
Unsupplemented	1,415
Unsupplemented	5,920
Unsupplemented	16,050
High	
Medium	10,285
Unsupplemented	24,385
Unregulated	14,603
High	
General	269
High	375
General	89,525
Supplementary	19,100
High	733
General	83,601
High	
General	492
High	
General	71,411
Supplementary	1,888
High	908
General	220,620
High	429
General	118,568
Supplementary	20,820
High	
General	105
High	
General	6,098
High	2,445
General	590,689
Supplementary	41,808
Unregulated	14,603
High	47
Low	4
High	5,853
Low	395
High	111,461
Low	10.527
High	1.744
	Security High Medium Unsupplemented Unsupplemented Unsupplemented High Medium Unsupplemented High Medium Unsupplemented High Medium Unregulated High General Supplementary High General High General Supplementary High General High General High General Supplementary High General High General Supplementary High<

Portfolio at 4 October 2011			
River System	Security	Registered Entitlements ^{1,2,3} (ML)	
	Low	527	
Минном	High	163,418	
wiui ray	Low	11,125	
Ovens	High	70	
	High	282,593	
Total victoria	Low	22,579	
South Australia			
Murray	High	72,679	
Total SA	High	72,679	
Total Murray-Darling Basin			
	High	357,717	
	General/Medium/Low	623,553	
	Supplementary	41,808	
	Unregulated/Unsupplemented ⁴	38,988	
GRAND TOTAL		1,062,066	

Notes:

- 1. Formal transfer of ownership to the Commonwealth takes place on registration of the entitlement by the relevant State water authority. The entitlement becomes part of the Commonwealth environmental water portfolio at that time.
- 2. Registration can occur a number of months after the exchange of contract, so the amount in the portfolio differs from the volume of entitlements secured under contract through the *Restoring the Balance in the Murray-Darling Basin program* (<u>http://www.environment.gov.au/water/policy-programs/entitlement-purchasing/index.html</u>) and the *Sustainable Rural Water Use and Infrastructure program* (<u>http://www.environment.gov.au/water/programs/srwui/index.html</u>).</u>
- 3. Allocations of water against entitlements held in regulated systems are made periodically and will depend on factors including seasonal inflows and rules associated with water held in storages.
- 4. Unsupplemented and unregulated entitlement figures represent the annual volumetric limit of water that may be available when licence conditions are met. Where the licence conditions specify the annual volumetric limit as a maximum volume of water that may be accessed in a multi-year period, the entitlement volume reported reflects the *average* annual volumetric limit available.

Attachment B

Glossary

Allocation	The specific volume of water allocated to water access entitlements in a given season, given accounting period, defined according to rules established in the relevant water plan.
Basin Plan	A plan being developed by the Murray-Darling Basin Authority, under provisions of the <i>Water Act 2007</i> (Cwlth), for the integrated and sustainable management of water resources across the Murray-Darling Basin.
Carryover	The option to hold in storage a portion of unused seasonal allocations for use at a later date. Carryover arrangements vary and are only available in regulated parts of the Murray-Darling Basin.
Commonwealth Environmental Water Holder	A position established under the <i>Water Act 2007</i> (Cwlth) to manage the water acquired by the Australian Government to meet environmental objectives.
Covenant	In the context of water entitlements, a covenant is a condition placed on an entitlement that prevents its use under certain conditions.
Entitlement	A perpetual or ongoing entitlement, by or under law of a State, to exclusive access to a share of the water resources of a water resource plan area.
Environmental assets	This includes water-dependent ecosystems, ecosystem services and sites with ecological significance.
Environmental Watering Plan	An element of the Basin Plan, that is being prepared by the Murray-Darling Basin Authority, that will coordinate the use of environmental water to restore and sustain the wetlands and other environmental assets of the Murray-Darling Basin.
Irrigation infrastructure operator	An organisation that operates and/or owns an infrastructure network for the primary purpose of delivering water for irrigation.
Lease	In the context of a water entitlement, a transfer of an exclusive right to an entitlement (or a part of an entitlement) for a fixed term. Also referred to as term transfers in New South Wales and limited term transfers in Victoria.
Options contract	An options contract gives the right, but not the obligation, to purchase or sell a water entitlement at a specified price within a specified period of time.
Portfolio	Refers to the entitlements and allocations in the Commonwealth environmental water holdings.

Southern Connected Basin	For the purposes of this paper, the Southern Connected Basin is comprised of the Lower Darling, Murray, Loddon, Campaspe, Goulburn and Murrumbidgee river systems. The Southern Connected Basin has a degree of trading connectivity as well as hydrological connectivity.
Supplementary Water	A water right that usually allows holders access to flows that exceed those required to meet other licensed obligations and environmental needs.
Sustainable Diversion Limit (SDL)	Proposed to be established by the Basin Plan being developed by the Murray-Darling Basin Authority. It is intended to be the level at which water can be taken from a Basin water resource without compromising the key environmental assets, key ecosystem functions, productive base or key environmental outcomes of the water resource.

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