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Arts

Review of the 2007-08 Water Entitlement Purchases

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Review of the 2007-08 Water Entitlement Purchases

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Contents

Executive summary	vi
1 Background to the program and the review	1
1.1 Introduction	1
1.2 Terms of reference for this review	2
1.3 Review criteria	3
1.4 Description of 2007-08 water purchase program.....	5
1.5 The Murray-Darling Basin Authority.....	5
1.6 Characteristics of the water purchased	6
1.7 DEWHA water entitlement priority framework	7
1.8 Selection of purchase method	8
1.9 Administrative processes.....	8
1.10 The communication program.....	9
1.11 The application and assessment process.....	10
1.12 Conveyancing by DEWHA Solicitor	11
1.13 Settlement and completion	11
1.14 Outcome of first round	12
1.15 Management benchmarks for the first round	12
2 Review of purchasing strategy	14
2.1 Background and context	14
2.2 Key purchase issues.....	14
2.3 Assessment of value for money.....	15
2.4 Evaluation of the purchase strategy	17
2.5 Is the purchase method appropriate?.....	19
2.6 Are locations and river systems identified for acquisition of entitlement appropriate?.....	20
2.7 The pricing strategy	23
2.8 Consistency of the assessment process with the pricing strategy.....	24
2.9 Conclusion	26
2.10 Pricing review findings	30
3 Economic effects of purchases on regional communities and water markets..	32
3.1 Introduction and background	32
3.2 Regional economic impacts.....	32
3.3 Direct Impact on regional agricultural production	34
3.4 Trade off between proceeds from entitlement sale and less agricultural production..	37
3.5 What motivated the sale and what the proceeds are used for?.....	38
3.6 Other impacts of water trade on regions.....	41
3.7 Effects of water purchases on water markets.....	41

3.8	Conclusions	43
3.9	Economic review findings	43
4	The communication program	45
4.1	Method of reviewing the existing communication program	45
4.2	The telephone interviews	45
4.3	Conclusion	53
5	The wider stakeholder consultation	54
5.1	Stakeholder Consultative Committee	54
5.2	Results of interviews with the Stakeholder Consultative Committee	54
5.3	The regional irrigation community meetings	57
5.4	Interviews with Non Government Organisations.....	62
6	Conclusions from stakeholder consultation process	68
6.1	Stakeholder consultation findings	68
7	The results of the review	71
7.1	Appropriateness – Did the management of the WPP meet Government objectives?	71
7.2	Effectiveness – Was the WPP effective in procuring water entitlements?.....	71
7.3	Efficiency – Was the WPP efficient?.....	72
7.4	Consequences - are there any unintended consequences?	73
7.5	Conclusion and the way ahead.....	75
8	References	76

Appendix A

ABARE Report on Purchasing Methods

Appendix B

Stakeholder Consultative Committee Membership

Figures

Figure 1-1	Timeline and development of water purchase program	2
Figure 1-2	Review process	4
Figure 2-3	Sellers offers ranked in price order (provided by DEWHA)	18
Figure 2-4	Generalised risk and return for entitlement purchase decisions	19
Figure 3-5	Where the water was last used?	33
Figure 3-6	When the entitlement last yielded an allocation that was used on farm	34
Figure 3-7	What the proceeds of the sale will be used for	39
Figure 4-8	Showing source of information about the WPP	46
Figure 4-9	Showing the main source of further information	46
Figure 4-10	Showing that the website and the 1800 number were regarded as most useful sources of further information	47
Figure 4-11	Showing number of respondents in each category of satisfaction in dealing with DEWHA	47
Figure 4-12	Showing source of information about the opportunity to sell an entitlement under the WPP	48
Figure 4-13	Showing the main source of further information	48
Figure 4-14	Showing that most respondents found sources of further information sufficiently adequate to complete the EOI	49
Figure 4-15	Showing that a high proportion of respondents whose EOI was rejected did not find DEWHA very helpful	49
Figure 4-16	Showing how brokers became aware of the WPP	50
Figure 4-17	Showing the proportion of use of the website and the 1800 number by brokers as sources of further information	50
Figure 4-18	Showing that 70 percent of brokers considered the information provided by DEWHA as adequate for completing an EOI	51
Figure 4-19	Showing that there was a high level of interaction between brokers and the holders of entitlements in deciding to lodge an EOI	51
Figure 4-20	Showing the reasons brokers provided for initiating an EOI	52
Figure 4-21	Showing how helpful the brokers found DEWHA in lodging an EOI	52

Tables

Table 1-1	Purchase summary	12
Table 1-2	Purchase summary by state	12
Table 1-3	Time taken to complete transaction and transfer title to Commonwealth	13
Table 2-4	Water entitlements and offers accepted	22
Table 2-5	Results of the WPP (rejected/accepted)	24
Table 2-6	Results of the WPP by security type	25
Table 2-7	Results of the WPP as a price/volume summary	25
Table 2-8	Summary of the review of purchasing strategy	27
Table 3-9	2007-2008 Water entitlement purchases by State	33
Table 3-10	What the entitlement sold was last used for	35
Table 3-11	WPP sales as % of regional economy	37
Table 3-12	Summary of survey sample	41
Table 5-13	Summary of regional community workshops	58
Table 5-14	Summary of stakeholder responses	63

Glossary

Allocation	The specific volume of water given to a water entitlement in a given season. It may not be the same amount on the entitlement because of seasonal conditions.
Allocation market	Otherwise known as the temporary market, occurs when the holder of an entitlement sells water under that entitlement to another user while retaining its title.
Entitlement	A perpetual and exclusive right to a certain amount of water from a specific source that is specified in a document often referred to as a licence under the relevant water plan. In most cases it is a tradeable property right separate from land. The exception to this situation occurs mainly in the northern part of the MDB where water is more frequently tied to land.
Regulated entitlements	Water obtained from a river system with flows controlled by major storages such as weirs, locks and dams. Also known as supplemented water sources.
High security entitlement	These have the highest priority and reliability of obtaining a water allocation in any given season
General security entitlement	These have a lower priority and reliability than high security.
Low security	The name used in Victoria for water with a lower priority than high security.

Long term cap equivalent	<p>a) The long-term average contribution to the Cap, or</p> <p>b) Potential contribution to the long-term average flows in the relevant river valley.</p> <p>This is generally understood as an assessment of the expected long term allocation that would be received from an entitlement.</p>
Unregulated entitlement	Water is available only when stream conditions make water available when pre-determined flow conditions are met, usually measured by the amount of water passing a particular feature such as a weir or a gauge
Reliability	The number of years expressed as a percentage that a full allocation can be expected.
Supplementary entitlement	The holder of an entitlement (licence) on a regulated river in NSW can apply for a supplementary entitlement for use in periods of very high flow when all pre-determined environmental requirements are met. It is not necessary to deduct the quantity of water used in a supplementary entitlement against another entitlement.

Acronyms

BP	Basin Plan
DEWHA	Department of the Environment, Water, Heritage and the Arts
EOI	Expression of interest
CEWH	Commonwealth Environment Water Holder
EWP	Environmental Watering Plan
GL	Gigalitre - one thousand million litres
LTCE	Long term cap equivalent
ML	Megalitre – one million litres
MDB	Murray-Darling Basin
MDBC	Murray-Darling Basin Commission
MDBA	Murray-Darling Basin Authority
SCC	Stakeholder Consultative Committee
WPP	The Water Purchasing Program administered by DEWHA

Executive summary

Introduction

The Commonwealth Minister for Climate Change and Water, the Hon. Senator Penny Wong, announced *Water for the Future* in April 2008 with funding of \$12.9 billion. Within the policy was provision for \$3.1 billion to buyback water entitlements through willing sellers to address over allocation in the Murray Darling Basin. The Minister announced an allocation of \$50 million for the first round of water entitlement purchasing (WPP) in February 2008 closing in June 30 2008. The Minister undertook to complete a review of the WPP after the first round of purchases was completed. Hyder Consulting in association with Access Economics was engaged to undertake this review.

The WPP purchases in the first round

The tables below show the results of the first round of the WPP as at 13 August 2008.

Table E-1 provides a summary entitlement purchases that the Government had agreed to pursue under the WPP as at 13 August 2008.

Table E-1 Purchase summary

Details	Amount in Gigalitres	Cost
High Security	8.4	\$17,906,403
General Security	24.5	\$29,012,897
Victoria Low Security	1.3	\$248,457
Total	34.3	\$47,167,775

Table E-2 provides the purchases by state.

Table E-2 Purchase summary by state

	Total (ML)	% of total volume
VIC	8,917	26%
NSW	24,957	72%
SA	427	1%
QLD	0	0%
Total	34,301	100%

Table E-3 provides an overview of the WPP.

Table E-3 Overview of the WPP at 13 August 2008

Total number of EOI received	992
Total of 123 offers were initially accepted	\$53,646,428
Due diligence completed	\$47,101,776
Less rejected and withdrawn (14 withdrawn, four with terminal due diligence issues) Less two pending at \$2,298,000	\$7,311,652
Due diligence signed off and contract prepared	\$44,869,776
Contract signed by Commonwealth	\$44,869,776
Contract exchanged	\$34,904,571
Approval for trade granted with settlement to occur within 21 days of approval	\$18,973,390
Settlement of 26 trades with title transferred to the Commonwealth	\$9,879,530
Total number currently in process is 105	\$47,167,776

Review of the water entitlement purchase strategy

The review has found that short-term effects of water availability on prices have been duly taken into account in the implementation of the pricing strategy. The water purchase decisions were appropriate within the context of the first year and with due consideration of value for money. The offer price and the value of each purchase for priority environmental assets were the main drivers in the decision making process. On assessing the outcome of 34.3 GL for a purchase cost of \$47.1m, the review concluded that the WPP has been efficient in its purchases. Methods of ensuring that future rounds of the WPP continue to be effective are shown in the findings below.

- Hydrologic and hydraulic modelling should be undertaken to establish watering requirements and required flow regimes
- A sale offer elsewhere in the system may in future be appropriate to purchase, if transferable to the required site
- Where there is a potential for conversion of entitlements from one security to another then future purchases should consider conversion to the preferred security type
- The allocations market should be considered as a source of water for the short-term needs of environmental assets
- The Commonwealth should examine the approach of buying environmental outcomes as part of the WPP
- Competitive sourcing of water for environmental assets through existing entitlement holders should be explored

- The Commonwealth should facilitate the transition to a more open and transparent water market where opportunities to do so arise

The economic impact of the WPP

The first round of the WPP has had only a small effect on the overall water market. The purchases have not impacted on allocations because they have been so low due to low rainfall. In the longer term, the price of water entitlements will rise as a result of increased environmental purchases.

The low allocations prevailing during this first round of the WPP means that the effect on agricultural production has been minimal. Farmers have sold a water entitlement that was yielding very little useable water. The immediate benefit from the farmers' perspective and from the regional community is that the proceeds from the sales have occurred for minimal loss of direct agricultural production. For the year just gone, the farmer and the region are better off.

If there is a return to higher rainfall and allocations return to longer term averages then the impact on irrigation communities becomes a function of the trade-off between gains from proceeds against the result of less irrigated agricultural production. Crucial to the impacts upon the seller's community is what is done with the proceeds of the sale. Of particular importance is whether it is re-invested back into more intensive agriculture on-farm, invested off farm, or completely taken out of the community as part of a broader farm sale.

The survey results indicate that most sellers have used it to retire debt and there has been a minimal impact on the wider community. This first round of the WPP has had a generally favourable result by providing opportunity to retire debt when there was little income from the water entitlement. The surveys also show that the higher proportion of water purchased under the WPP was used by the seller for lower value per megalitre crops and pasture. Water used for higher per megalitre value products such as fruit, grapes and vegetables only comprised a very small proportion of that offered for sale to the Commonwealth under the WPP.

The effects of increased purchases in future rounds of the program are difficult to predict because of the variety of ways that the market and irrigators will respond. It is also highly unlikely there will be a uniform effect across all regions because some irrigators and regions will respond differently to others. The following findings are made to assist with those future rounds:

- To assist with future reviews and economic benchmarking studies, DEWHA should ask sellers, at the point of sale, whether they would assist by responding to questions based on those used in this review
- Understanding of the economic impacts of the WPP would be further enhanced by a greater understanding of what farmers selling their water are subsequently doing with the proceeds, in particular where and how they are investing the proceeds

- Understanding of the results of the WPP would benefit from economic modelling the direct on-farm impacts and subsequent impact on the water market and regions

The present communication program

The newspaper advertisements with the support of an 1800 number and website and fact sheets were highly successful. There were more potential sellers who made an expression of interest than was necessary to meet the \$50 million target. The total number of offers received was 992 and it was only necessary to accept 123 to meet the target.

The success of the communication program in obtaining EOI and informing those sellers, either as individuals or through a broker was not an unexpected result. The entry of a new major buyer in any market will soon be known. Combined with the extensive advertising campaign and web and fact sheet support it is clear that the water market is well-informed that the WPP is a potential buyer.

The results of the telephone interviews confirm the newspaper advertisements and web site were highly successful and were the main source of information about the opportunity to sell an entitlement. The results also show that there was a high level of satisfaction with the way DEWHA dealt with their expression of interest for those whose offers were accepted. This was a much higher level of dissatisfaction among those whose offers were rejected.

Stakeholder consultation

The review involved a high level of stakeholder consultation of which there were four main components:

- **The Stakeholder Consultative Committee** - A Stakeholder Consultative Committee (SCC) was appointed by the Minister to assist with the review and met on two occasions. A structured interview was completed with every member of the SCC
- **Meetings in regional irrigation communities** - Meetings were held in Shepparton, Deniliquin, Griffith, Mildura, Barmera, Goondiwindi, Bourke and Dubbo. Approximately 150 people attended the meetings
- **Interviews with NGO's with a direct involvement in the management of water in the MDB** - Three NGOs that have employed staff with a direct interest in the MDB were identified and asked to participate in a structured interview
- **Interviews with participants in the WPP** - Telephone interviews were conducted with a sample of people who had sold an entitlement to the Commonwealth under the WPP, a sample of those who had their offers rejected and almost a complete sample of all the brokers who were involved. The results of these interviews were used in the economic analysis and the review of the present communication program

Results of the stakeholder consultations

The WPP has clearly become a very well known as a purchaser in the water market. However, it needs a much broader level of engagement that leads to a greater understanding and appreciation of the wider role of the WPP.

Stakeholder Consultation Findings

Feedback from the Stakeholder consultations / interviews suggested:

- A need to communicate a vision and clear goals for the WPP
- Develop a pro-active and educative communication program
- Clarify and communicate how the WPP would impact on the new cap
- The program should focus on a wider range of environmental assets
- Opportunities to purchase the water entitlement when land and water are sold together should be investigated.
- Clarify the relationship between the WPP an the NSW Government and the MDBC water purchases
- Establish a northern Basin unregulated entitlement working group
- Investigate methods of facilitating structural adjustment programs and working more closely with irrigation communities that request assistance

Conclusion

The WPP is a well-managed program. The Government has recognised a water entitlement as a property right and is dealing with willing sellers The total value of offers being pursued under the WPP as at 13 August 2008 was \$47,167,775 out of the \$55 million provided. This represents 86 percent of the total \$55 million. Offers up to \$53.6 million were accepted at the close of the tender and this represents 97 percent of the total available funds.

The WPP has been appropriate, effective and efficient. Some stakeholders are concerned about consequences such as an increase in the price of water and impacts on regional communities. Other stakeholders want greater efforts to secure water for the environment. Balancing these challenges will be assisted by a more comprehensive and engaging communication program. There needs to be an informed community to help respond to these challenges.

1 Background to the program and the review

1.1 Introduction

The extremely low flows in the river systems and catchments of the Murray-Darling Basin (MDB) and the impact on irrigators, communities and the environment have been widely reported and well-known. Low rainfall has persisted for the past eight years and the complicating effects of climate change are implicated in an uncertain future. Under such circumstances Governments are expected to act for the wider community benefit.

The Commonwealth Minister for Climate Change and Water, the Hon. Senator Penny Wong, announced *Water for the Future* in April 2008 with funding of \$12.9 billion over ten years. This included \$5.8 billion to improve the efficiency and productivity of water use and management. A further \$3.1 billion was provided to purchase water entitlements to address over-allocation in the Murray-Darling Basin (MDB). The buyback of entitlements is now known as *The Restoring the Balance in the Murray-Darling Basin Program* and is administered by the Department of the Environment, Water, Heritage and the Arts (DEWHA).

The purchase of water entitlements has been Government policy since November 2007. The Minister announced the first round of water entitlement purchasing (WPP) in February 2008 with \$50 million which opened on the 27 February and closed on the 16 May. The Minister undertook to review the WPP after the first round and Hyder Consulting in association with Access Economics was contracted to undertake the review. Figure 1-1 provides a timeline for the WPP.

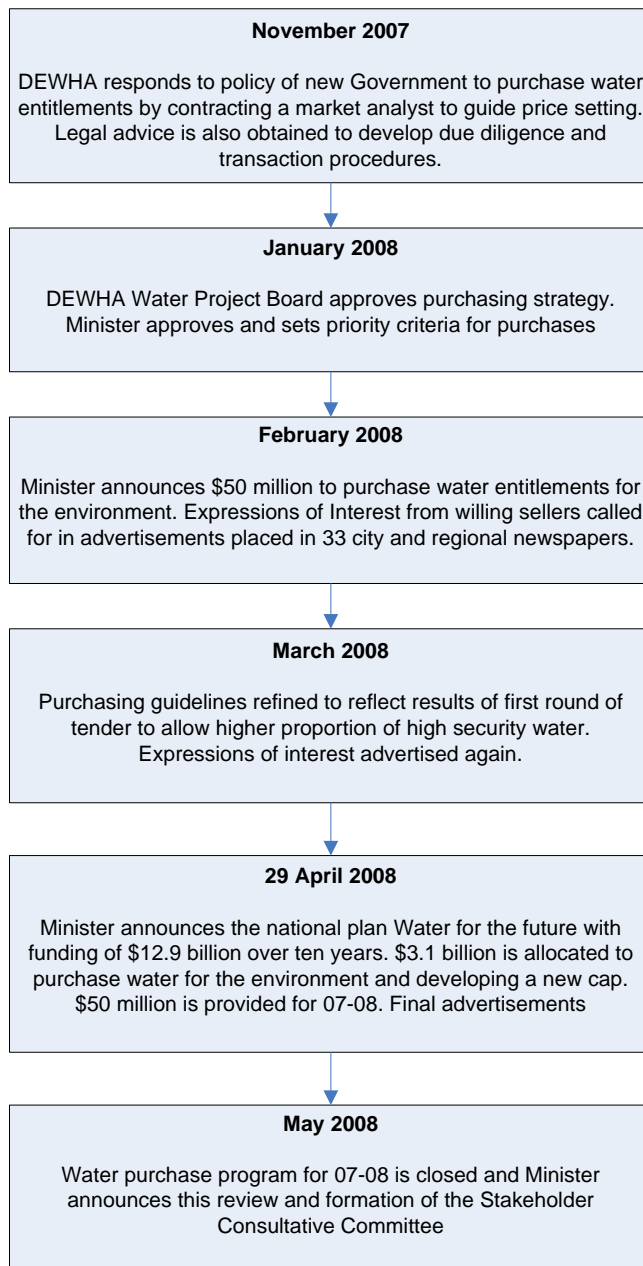


Figure 1-1 Timeline and development of water purchase program

1.2 Terms of reference for this review

DEWHA set the following terms of reference for the review:

- Consult with stakeholders and identify their concerns with the design, implementation and outcomes of the Water Entitlement Purchase program:
 - this will include consultation with the Stakeholder Consultative Committee regarding the design and outcomes of the program

- gathering feedback on the implementation of the program from irrigators and brokers who have submitted Expressions of Interest
- Review the design, implementation and outcomes of the Water Entitlement Purchase program
 - The review would be expected to consider:
 - the general approach used to assess value for money
 - administrative processes supporting the program, including the collection of information needed for later program evaluations
 - adequacy of communication strategy and availability of information products for potential sellers
 - impact of the program on the efficient operation of the water market in 2007-08
 - impact of the program on irrigation industries and regional communities
 - any other issues raised by the Stakeholder Consultative Committee
 - Information would be made available by the Department to assist
- Prepare a draft report presenting the results of the review including identification of issues/factors which are limiting the cost effectiveness of the Program and options for overcoming them
- The draft report will be provided to the Stakeholder Consultative Committee and the Department for comment
- Prepare a final report for the Department including appropriate responses to comments on the draft

1.3 Review criteria

The WPP has been reviewed against the following criteria:

- **Appropriateness** - The program for the WPP objectives are identified through analysis of the National Plan for Water Security and Ministerial briefings and advice from DEWHA. It is then necessary to establish whether what has been achieved in this first \$50 million round of the WPP is appropriate to those objectives.
- **Effectiveness** - This tests whether the WPP outcomes have achieved the stated objectives
- **Efficiency** - This is an assessment of whether there were other ways of achieving the objectives in a more timely and/or more economical manner
- **Unintended Consequences** - These are consequences of the WPP that were not included in the original objectives

The review process used to meet these criteria is shown in Figure 1-2 below.

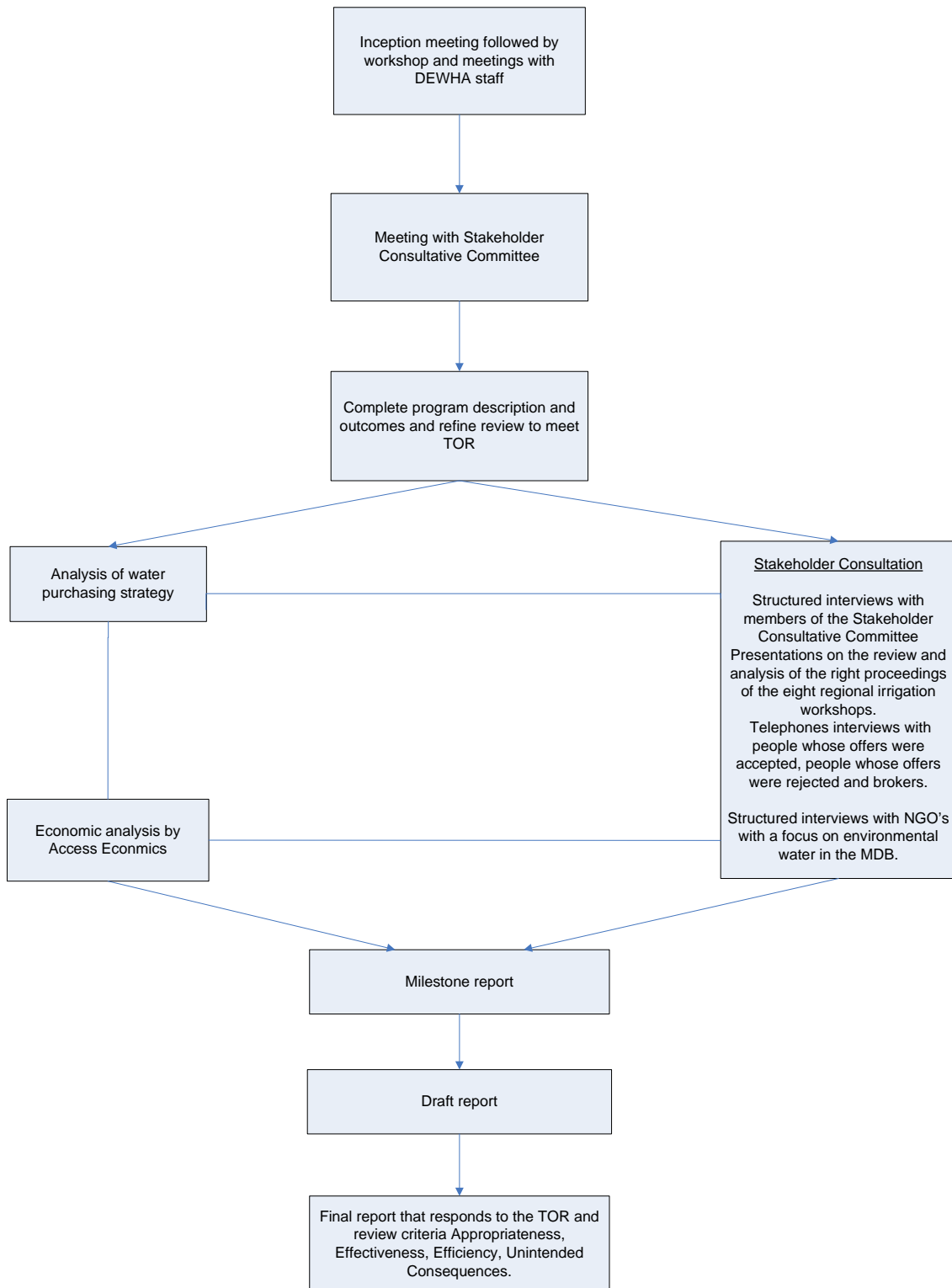


Figure 1-2 Review process

1.4 Description of 2007-08 water purchase program

1.4.1 The objectives of the WPP

The WPP involves the expenditure of \$3.1 billion over ten years through the 2007-08 Restoring the Balance in the Murray Darling Basin program to purchase water entitlements in the MDB. The annual expenditure was planned as follows:

- 2007-08 \$50m initially with a further \$5m in May 08 as a contingency for the first round.
- 2008-09 \$157m
- 2009-10 \$466m
- 2010-11 \$468m
- 2011-12 \$346m

1.4.2 The Commonwealth Environmental Water Holder

The water entitlements purchased under the WPP will be managed by the Commonwealth Environmental Water Holder (CEWH). The entitlements will hold all their original characteristics and the CEWH will pay all annual fees and other charges. The objectives of the CEWH are set out in Part 6 of the *Water Act 2007*. They are to manage the water holdings and to administer the Environmental Water Holdings Special Account on behalf of the Commonwealth.

The role of the CEWH is to protect or restore the environmental assets of the MDB and areas outside the MDB where the Commonwealth holds water for the relevant international agreements referred to in s4 of the *Act*. The CEWH must also manage the water according to the Environmental Watering Plan (EWP) to be developed by the Murray-Darling Basin Authority (MDBA). It also has obligations under plans listed in regulations of the *Act* as well as the Minister's operating rules and environmental watering schedules to which the CEWH is party.

1.5 The Murray-Darling Basin Authority

As part of the Government's reform of the MDB, the Murray Darling Basin Commission (MDBC) has been incorporated into the MBDA. The MBDA will be responsible for preparing a Basin Plan that will include the EWP. The MBDA must consult the CEWH and other environmental water managers in developing and implementing the EWP. The MBDA is responsible for identifying and accounting for environmental water under the Basin Plan and monitoring against targets that measure progress towards achieving environmental objectives. Until the Basin Plan takes effect the CEWH must manage holdings in the MDB in a way that protects or restores its environmental assets.

DEWHA advises that because of the very limited volumes available for environmental watering in 2008-09, the holdings will be used to address major environmental issues. It intends where possible, for the water to be used to avoid critical loss of threatened species; avoid irretrievable damage or catastrophic events; and provide refuges to allow re-colonisation if there is higher rainfall. DEWHA further indicates that the use of the holdings in the next year is likely to focus on watering relatively small areas and will be undertaken in conjunction with other environmental watering programs, such as The Living Murray.

The water held by the CEWH is to be made immediately available for the environment in the transition to the lower levels of consumptive water use expected in EWP. The Basin Plan will detail how much water is needed for the environment on a catchment by catchment basis. In the interim, DEWHA aims to address known watering needs for high value environmental assets.

1.6 Characteristics of the water purchased

The majority of water entitlements across the regulated parts of the MDB are held as general security entitlements. These have a lower probability of providing water than high security entitlements which can have 90% or higher reliability. High security entitlements receive water allocations before general security entitlements.

The entitlements purchased as part of the WPP were assessed by DEWHA in terms of the long term average allocations that are predicted by river management authorities under an entitlement each year. These are sometimes called long term cap equivalents (LTCE). To assist with this assessment DEWHA engaged Webb McKeown & Associates to research water entitlements in the MDB to determine those that have characteristics suited to delivering environmental outcomes.

There are regulated and unregulated entitlements across the MDB. Regulated entitlements allow water managers to determine when water is released and where it is used. In contrast the use of water allocations from unregulated entitlements is influenced by the seasonal stream conditions and water is only available for use when pre-determined flow conditions are met. The different characteristics of regulated and unregulated entitlements were considered in the assessment process particularly as they affect the ability of water entitlements to deliver water to environmental assets.

Purchase of entitlements from the unregulated parts of the northern MDB such as the Condamine-Balonne and the Barwon-Darling rated as an unacceptable risk in delivering water to priority environmental assets. In contrast the delivery risk associated with entitlements in regulated systems was considered to be minimal as water can be directed towards an environmental asset with more certainty. Consequently it was decided to focus on the regulated systems of the central and lower MDB, at least until barriers to security of title in unregulated northern rivers were resolved by

the New South Wales (NSW) and Queensland (QLD) Governments working in the framework of the National Water Initiative (NWI) and other reforms.

1.7 DEWHA water entitlement priority framework

In advance of the MDBA developing the EWP, two main guiding principles were used by DEWHA to prioritise water entitlement purchasing for the WPP:

- the availability of the water for regular allocation to high and medium priority environmental assets such as wetlands that have been significantly adversely affected by water extractions
- the extent to which the withdrawal of the water from regular allocation to irrigators will improve the overall health of the catchment from which it is taken and/or the Murray-Darling system as a whole

In the initial stages of the WPP specific sites such as wetlands have been the focus to assess watering priorities across the MDB. DEWHA made this decision because they support a wide range of water-dependent species, are more easily identifiable and mapped, and generally have the best available science.

In the first round of the WPP, water entitlements were selected by DEWHA on the basis of value for money, which includes their capacity to service priority environmental assets in the MDB. These priority assets were:

- The List of Wetlands of International Importance (under the Ramsar Convention)
- Wetlands on the Directory of Important Wetlands in Australia
- Water dependant ecosystems supporting listed threatened species
- Listed threatened communities and migratory birds

In the development of the preliminary environmental watering strategy to guide the 2007-08 entitlement purchases it was evident that priority environment assets could be watered from entitlements purchased in almost any part of the:

- southern connected Murray system (that is, the Murray and all of its tributaries south of Menindee Lakes)
- regulated Lachlan River
- regulated Macquarie River
- regulated Gwydir River

The preliminary watering strategy used by DEWHA indicated that the purchase of water entitlements in all of these catchments would also contribute towards improving the overall health of the MDB. DEWHA also decided that overall catchment benefits would result from water entitlements purchased from other catchment areas which flow into the

Darling River. However many of these rivers are currently either unregulated and/or subject to irrigation licensing arrangements that do not guarantee the protection of the holding being taken by other downstream irrigators. These barriers meant that entitlement purchasing in these catchments was given much lower priority compared to the catchments identified above.

DEWHA recognised that the environmental watering priorities used for the WPP in 2007-08 were initial and general. It also states that more work is required in this area and has commenced a project to establish a framework for advice on environmental priorities. This includes broadening the focus to include system wide health and associated priorities noting forecast changes to rainfall and runoff due to climate change. DEWHA indicates that it will seek external expert advice on environmental priorities.

1.8 Selection of purchase method

The Australian Bureau of Agriculture and Resource Economics was engaged in 2007 (ABARE 2007) to review alternative methods of purchasing water. A copy of this report is at Appendix A. These methods included purchasing at a price nominated by the Government by auctions where the seller nominates the price they are willing to accept and the expression of interest process. The expression of interest process differs to the auction process in that offers made to sell entitlements are not legally binding.

The selection of the method to purchase water entitlements also considered and drew on the experience of The Living Murray and the NSW Department of Environment and Climate Change RiverBank program. The experience gained by DEWHA through its water efficiency tender was also taken into account as well as a range of other government natural resources stewardship programs.

DEWHA selected the expression interest process as being the most appropriate for the WPP because it was administratively straightforward, was non binding and that it would deliver water entitlements at the best value for money. This method became known as a 'rolling tender' because the process involved regular assessment of the expressions of interest (EOI's) as they were submitted.

1.9 Administrative processes

1.9.1 Departmental structure

The Water Entitlement Purchasing Section makes recommendations to the Water Group Project Board on purchasing and pricing procedures guidelines. These approved guidelines are then used by the tender assessment panel to assess offers that are received to sell water

entitlements to the Commonwealth. The panel provides their recommendations to the Project Delegate who formally approves the purchase decision. Figure 1-3 provides the Departmental structure.

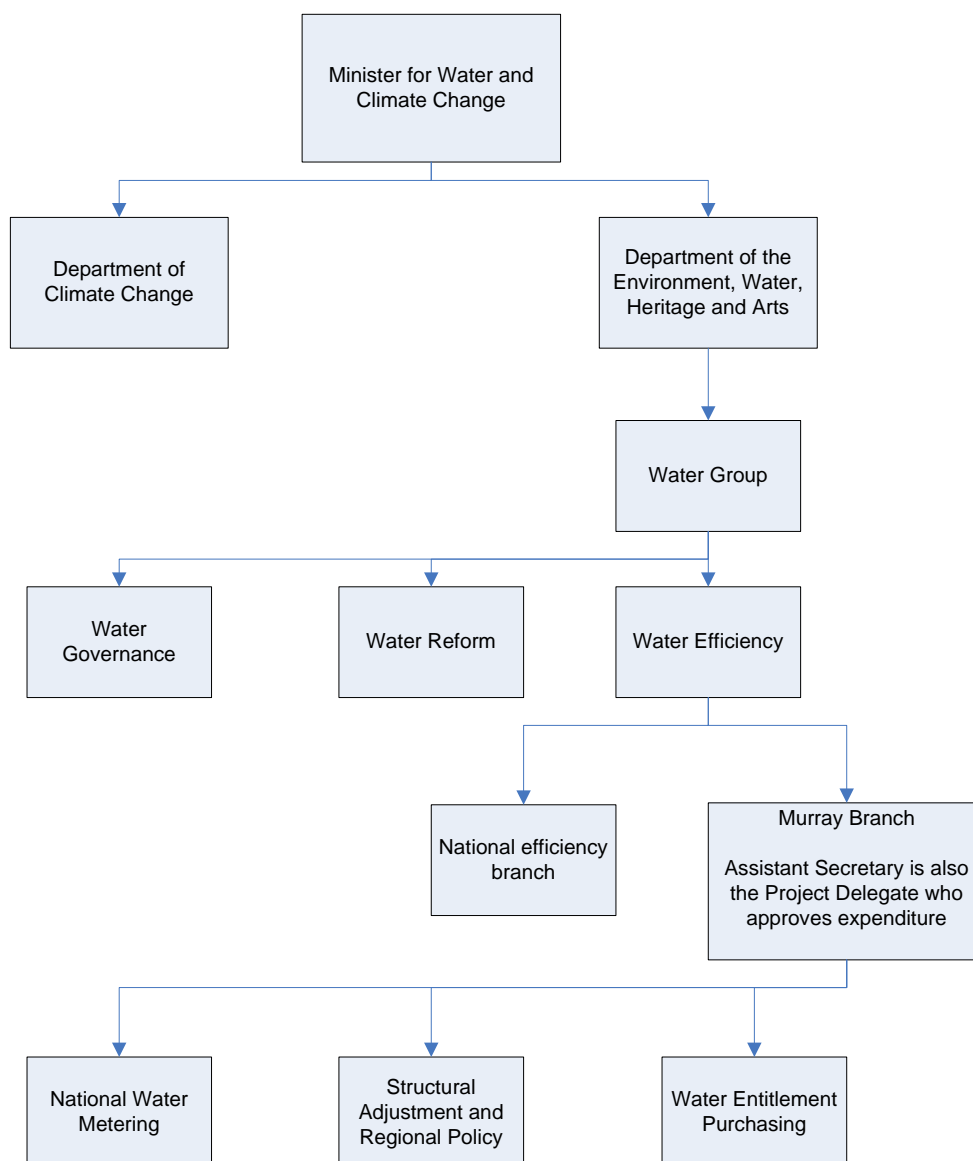


Figure 1-3 Management of water issues within DEWHA

1.10 The communication program

DEWHA developed the following communication program for the WPP:

- Three rounds of advertising in 33 national and regional media
- 1800 number and website
- Fact sheets

- Frequently Asked Questions
- Website launched 10 July 2008 - www.environment.gov.au. Contains aggregated data on the outcomes of the 2007-08 tender including:
 - Volumes purchased – how much and where from
 - Entitlement types
 - Amount spent
 - Links to State water registers where price information is available

1.11 The application and assessment process

Seller obtains EOI documents

The seller downloads EOI documents from the DEWHA website or phones an 1800 number for it to be posted out.

Seller submits EOI

The seller or a broker submits a completed EOI by email, fax or post and originally was issued with a receipt via similar methods of transition. However, as the speed of the assessment process increased, the assessments were being provided at the same time as the receipts so the process of issuing a receipt was discontinued.

Assessment of EOI's

Each EOI is assessed for value for money and consistency with water purchasing priorities.

Prices in the MDB are monitored

There is regular monitoring of water entitlement prices in the MDB to provide continuing benchmark for assessing value for money. This price monitoring was provided by an independent market analyst that was engaged by DEWHA.

Seller is notified of accepted offer

The Department contacts the seller when an EOI is accepted and notifies them that a request has been made to its solicitor to begin conveyancing.

1.12 Conveyancing by DEWHA Solicitor

Due diligence

A due diligence report is prepared to validate the information submitted in the EOI and to check for issues affecting the value for money of the offer.

Contract issued

If the due diligence and value for money report is positive and the offer is accepted by the seller then a contract is issued by the DEWHA Solicitor.

Exchange of contracts

The parties become bound to their obligations on the exchange of contracts and forms are lodged with the relevant authorities to transfer ownership of the entitlements.

Approval from the relevant water authorities

If approval is granted then a settlement date is set. If it is rejected then the contract can not proceed according to its present conditions. The contract contains clauses explaining the options available to both parties if the application is rejected.

Settlement statement

A settlement statement is prepared by the DEWHA Solicitor that requires the approval of the DEWHA delegate before being sent.

1.13 Settlement and completion

Payment is made by DEWHA to the seller and it receives documents necessary to record its ownership of the entitlement.

Registration

The process is completed by the receipt of a certificate of title or other form of notice that the Commonwealth is recorded as the owner of the water.

Reporting

All EOI's that are submitted are recorded in a database. It is used to generate reports on the status of purchases and to produce information to assist with the monitoring and evaluation of the program.

1.14 Outcome of first round

The outcomes of the tendering process were:

- Tenders closed 16 May
- 992 EOIs received
- Initially pursued 123 offers totalling \$53.6m for approximately 35GL
- As at 13 August 08 16 offers had been withdrawn either because of failed due diligence reports or a change of decision by the vendor

1.15 Management benchmarks for the first round

992 expressions of interest (EOI) were received of which 107 were accepted as at 13 August 2008. The value of offers being pursued by the Government was \$2,832,225 less than the total funding of \$50 million because due diligence failed on some accepted offers and some were withdrawn.

Table 1-1 provides a summary of the purchases made under the WPP during this first round as at 13 August 2008.

Table 1-1 Purchase summary

Details	Amount in Gigalitres	Cost
High Security	8.4	\$17,906,403
General Security	24.5	\$29,012,897
Victoria Low Security	1.3	\$248,457
Total	34.3	\$47,167,775

Table 1-2 provides a breakdown of purchases by state.

Table 1-2 Purchase summary by state

	Total (ML)	% of total volume
VIC	8,917	26%
NSW	24,957	72%
SA	427	1%
QLD	0	0%
Total	34,301	100%

Table 1-3 shows the time taken to process an accepted EOI.

Table 1-3 Time taken to complete transaction and transfer title to Commonwealth

Stage	*Number of days before next stage
Due diligence report is prepared	15
Contract issued	9
Exchange of contracts	18
Approval is obtained from the relevant water authority	38
Settlement and registration of the Commonwealth as the new owner of the entitlement	22
Total days	102

*Note: Includes weekends and public holidays

2 Review of purchasing strategy

2.1 Background and context

The emergence of a market for water for the environment has introduced a demand in an era of extensive water reforms and concern about climate change. Until recently, the market was dominated by entitlement holders who intended to use water access and allocations to deliver water for irrigation. There is now a major new entrant buying water for the environment.

This development of this new market has occurred against a background where the volume of trade, the number of trades, and water prices have been steadily rising since 1984 when trading commenced in NSW. Due to recent climatic conditions there are uncertainties in water access, changes to trading rules and as a result the number of entitlement trades declined in the MDB. There is also a perception that allocations of general security water will be considerably lower than the long-term average allocations and that there will be considerable variability in the allocations. This review of the DEWHA purchasing strategy has been made in the context of this background of change. Other factors relevant to that background and important to consider are:

- DEWHA contracted ABARE (2007) to report on the full range of options for purchasing water in the MDB and from this selected the rolling tender process
- In the southern MDB, the separation of land title from water (unbundling of rights), coincided with a greater rate of increase in prices in mid 2006 through till late 2007. In the rest of the MDB there has been a steady price decline ranging from 10% to 20% since 2006
- The severe climatic conditions have increased high security prices whereas low security prices have remained stable or declined marginally
- High security allocations may be slower in reaching the average levels of the past because of the uncertainty of future climatic conditions and how that will influence water availability

2.2 Key purchase issues

Options to use a wider range of methods for providing water to environmental assets have emerged during this review. They include amendments to statutory plans, regulations, competitive sourcing of environmental services or outcomes. Some of these may become more relevant and helpful in future rounds and are included in the findings listed below.

During this first round of the WPP, water entitlement holders across the MDB were invited to submit an EOI to DEWHA. These were assessed on the basis of the benefits of acquiring entitlements and the costs of the acquisition – the value for money of the offer. The strategy for setting price limits for purchases was based on the market price benchmarks adjusted for forecast sustainable yield reductions. The cap factors were modified to account for future effects of climate change, when comparing the cost of general security entitlements in the southern connected Murray Darling system.

2.3 Assessment of value for money

Each EOI was assessed by DEWHA against a set of common selection criteria. These criteria were used to assess the ability of a water entitlement to achieve environmental outcomes and provide value for money. DEWHA considered the following four factors in assessing value for money:

- 1 Priority of environmental assets that the water could be directed to
- 2 The watering needs of the targeted assets, particularly the deficiency of current arrangements to provide adequate water, including any urgency to provide additional water
- 3 The scope to which the entitlement acquisition would benefit the targeted asset such as the capacity to deliver environmental water to the target site, and the long term security of the property right.
- 4 The cost of the acquisition, including the price, transaction costs and costs of ongoing management and delivery

2.3.1 Environmental factors

DEWHA developed a water entitlement priority framework to guide its initial purchases. This framework was based on the suitability of an entitlement to provide water for the environment, as well as an assessment of the capacity of to service priority environmental assets. This approach was a risk-based method of assessment with only those offers accepted if there was a high probability they would deliver water for an environmental benefit.

The reasons DEWHA did not consider un-regulated water entitlements is discussed above. There was no target mix of high security, general and low security entitlements specified under the 2007-08 WPP. However when high security entitlements acquired exceeded 10% of the volume of water purchases, the guidelines for the WPP required that additional purchases of high security water be reviewed against the environmental needs.

2.3.2 Cost of water entitlements

The cost of an entitlement was calculated according to the price submitted with the EOI, the average allocation expected from the entitlement expressed as the 'LTCE', conveyancing costs per megalitre, encumbrances that could reduce water allocations and the associated delivery and storage costs. After considering these factors each entitlement was compared against a benchmark estimate of the prevailing market prices.

DEWHA engaged an independent market analyst to monitor the market prices of water entitlements for the principal entitlement types in each jurisdiction and valley across the MDB. These assessments were updated monthly for the southern connected Murray, Macquarie, Gwydir, Lachlan and Namoi systems and market assessments were prepared for other parts of the MDB as required. Estimates of the average allocation that could be expected from an entitlement were based on:

- research from Murray Darling Basin Commission
- the Webb McKeown & Associates report on water entitlements
- CSIRO sustainable yields project
- recent allocation history

DEWHA excluded small entitlements in its acquisitions on the basis that transaction costs represented an unacceptably high proportion of the total transaction costs. It did not include its internal costs of administering the WPP in the assessment of costs associated with the purchase.

Offers in hydrologically connected systems (i.e. integrated markets) were assessed on a comparable basis by adjusting for differences in reliability. From CSIRO forecasts on sustainable yield, DEWHA accepted that the short-term future availability of water is likely to be lower than the LTCE reliability because of climate change. There is little information on the effects that increased rainfall variability will have on water allocations. DEWHA has considered the expected reduction in sustainable yields in its pricing policy and decision making process, by adopting a 13% reduction in water availability. This reduction was based on CSIRO studies undertaken in the Ovens River catchment - the first catchment assessment completed by the CSIRO. The use of a 13% reduction in water availability should be reviewed given that the CSIRO has now completed all its eighteen sustainable yield reports across the MDB.

The CSIRO forecast reductions in sustainable yields has implications for the level of reliability of high security entitlements compared to general and low security products. If there is less water available for irrigation, the loss in allocations will be greater for general and low security water entitlements compared to high security water entitlements. This is likely to result in a premium being paid for high security entitlements.

A comparison of the independent valuations and recent trades in water entitlements revealed that high security entitlements were trading above

their expected value, relative to general and low security entitlements when their historical levels of reliability are considered. DEWHA interpreted this variation to be due to the inconsistency between current expectations of future allocations to each entitlement type and the LTCE; as well as the allocation prospects for the 2008-09 water year. The purchase of high-security entitlements based on the benchmark market price was revised to take into account the short-term expectations of the market. It was accepted that to purchase high security water entitlements for the environment would require paying a premium that was greater than could be explained by the historical differences in allocation reliability.

The expected environmental benefits could not be quantified in financial terms at the time of making the purchase decisions, nor was it viewed as critical to the objectives/outcomes of the WPP. It was assumed that the value of the water entitlements was at least as great as the value placed on the water by the irrigators.

There is clearly a difference between the traditional buyers in the market and DEWHA in their considerations of return on investment, in terms of time-frame for a return, and value of the return. Next year's allocation is a much bigger consideration for a traditional entitlement purchaser (normally, over 95% of buyers already hold entitlements) who happen to have low allocations compared to the DEWHA focus on long-term solutions to environmental and resource management issues.

The market price for water entitlements is a function of supply factors such as rainfall, runoff and allocations and timing of each factor in the connected supply system and demand factors such as value of production, commodity markets, risk, and timing of each factor. There are also investors in (both entitlement and allocation water markets) diversifying into unconnected systems. For example, dairy producers within the MDB purchase water in the coastal valleys to grow and import feed.

2.4 Evaluation of the purchase strategy

The purchase strategy is evaluated against appropriateness, effectiveness and efficiency. A review of the 992 sale offers revealed some very high asking prices that were well above market prices even when adjusted for short term scarcity as is seen in Figure 2-3. This may be explained by the sellers expecting the Commonwealth to pay a premium. It is not known whether these sellers sought similar prices from buyers other than the Commonwealth although this is unlikely given the vast difference to the median price of the offers.

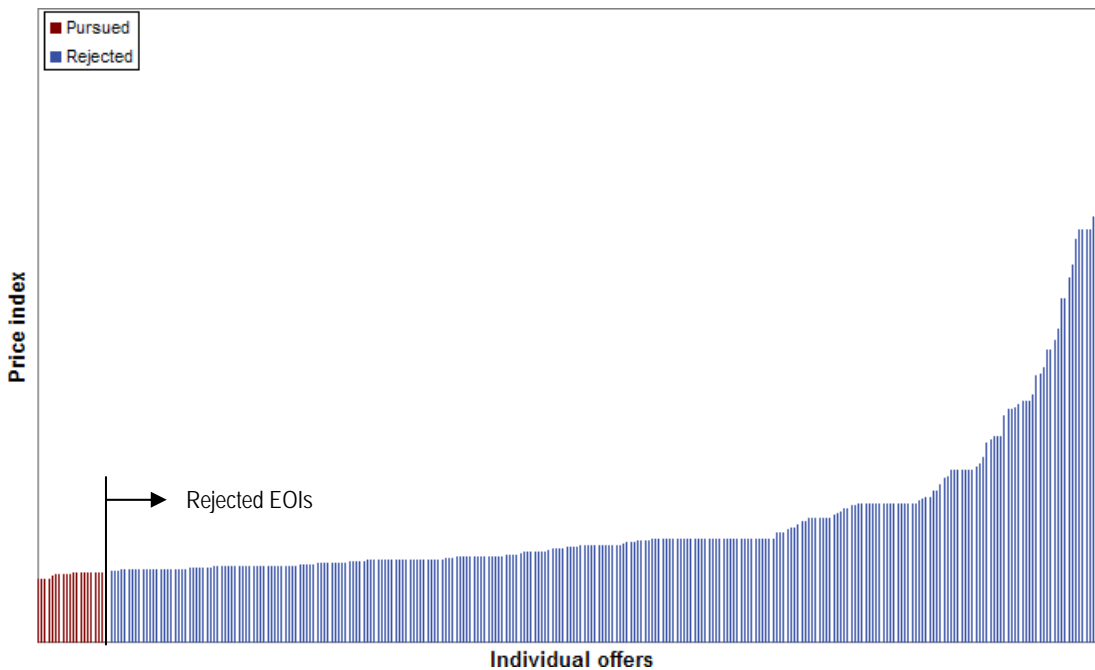


Figure 2-3 Sellers offers ranked in price order (provided by DEWHA)

The WPP purchasing strategy was effective in attracting a large number of offers that were suitable for the environmental objectives of the WPP. It was efficient as there were sufficient offers to meet the \$50 million budget target of the program. Put simply, it shows that the market was well aware of the new buyer.

Figure 2-4 shows the overall effect of the above factors. The investment refers to the cost of an entitlement as well as the costs to use the allocation. The long-term extends from six to 10 years which is predominantly governed by long-term reliability. The short term covers one to five years, currently influenced by climatic conditions. The level of return is mainly a function of volume of water allocated. The pricing strategy commences with an acquisition objective of 10% high security and 90% low security. This split is appropriate for long-term security of environmental water which requires larger volumes in wetter years than during dry years.

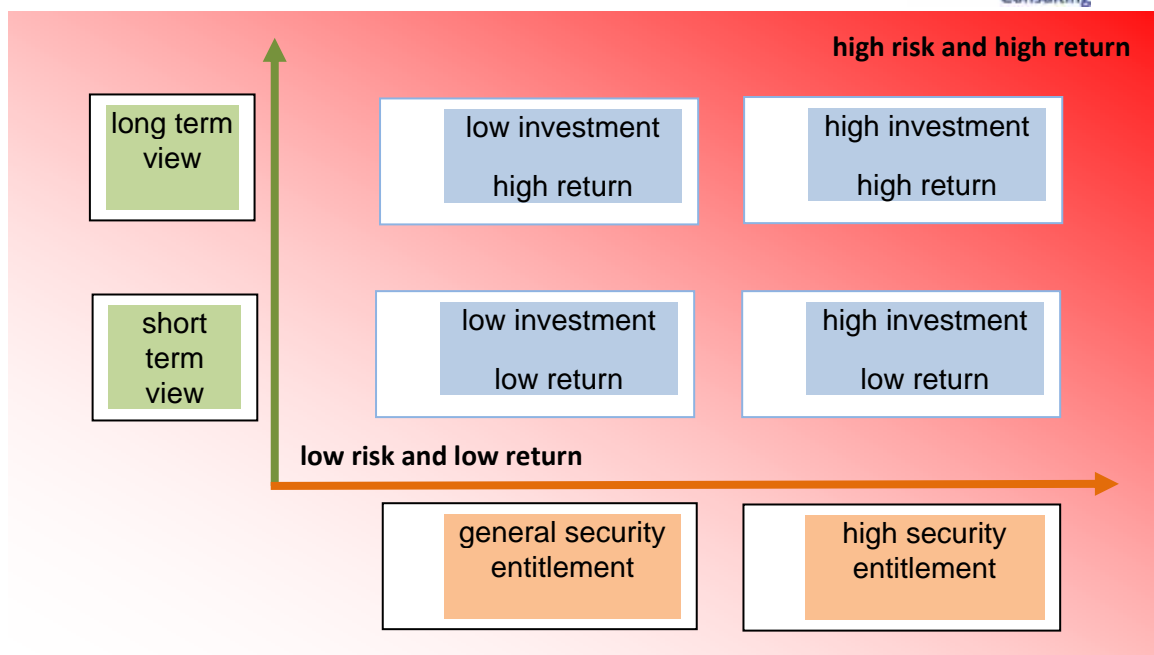


Figure 2-4 Generalised risk and return for entitlement purchase decisions

2.5 Is the purchase method appropriate?

The status of DEWHA as a Government agency poses unique constraints on its method of procurement. The intention of the Government to purchase, the quantities involved, timing and locations of interest are public knowledge and well known in the water market. This may be reflected in the asking prices. Entitlements purchased by the NSW Government, Water for Rivers and the MDBC are tracked by the market and this is likely to have caused prices to increase due to the additional demand and the short time-frames. The magnitude of the volume required by government agencies is likely to have been a major factor in the higher asking prices.

Due to procedural and just-terms compensation requirements, DEWHA faces demands for price disclosure unlike other private buyers whose demand is largely undisclosed. While it is assumed that the sellers have approached the market seeking highest sell value, competition among government agencies does not appear to have been a major factor behind increased prices, since the price strategy is benchmarked against prevailing market prices.

Calls by various interest groups for governments to keep on increasing volumes to be purchased have also raised the expectation of sellers. Both the value of allocated water and the value of entitlements are now considered to attract a premium based on community expectations and the greater value that is being placed on environmental outcomes.

There is an expectation that the Commonwealth should disclose all aspects of its demand (type, volume and location) as well as purchase details (quantities and prices). While this may provide an advantage to sellers, it does not benefit the buyer from a financial perspective. The calls for total disclosure are unreasonable and in conflict with Commonwealth procurement guidelines which has value for money as the core principle underpinning Government purchases.

2.6 Are locations and river systems identified for acquisition of entitlement appropriate?

DEWHA prioritised water entitlement purchasing for environmental purposes in advance of the Environmental Watering Plan according to:

- the availability of the water for use on high and medium priority environmental assets such as wetlands that have been significantly adversely affected by water extractions
- the extent to which the withdrawal of the water from irrigators will improve the overall health of the catchment from which it is taken and/or the Murray-Darling system as a whole
- the capacity to deliver water allocated to these entitlements to the priority assets

DEWHA has identified the environmental requirements from published research, the MDBC, water resource plans, DEWHA environmental program managers and key asset site managers from across the MDB. There is a strong consistency in the objectives of the WPP and the processes used to identify the key sites of environmental significance. Based on these considerations DEWHA selected the following entitlements (not in order of priority) that would be able to provide for priority environmental assets in need of water:

- NSW Murray High Security – above Barmah Choke
- NSW Murray High Security – below Barmah Choke
- NSW Murrumbidgee High Security
- NSW Lower Darling High Security
- Victorian Goulburn High Security Water Share
- Victorian Murray High Security Water Share – above Barmah Choke
- Victorian Murray High Security Water Share – below Barmah Choke
- South Australia River Murray High Security
- NSW Murray General Security – above Barmah Choke
- NSW Murray General Security – below Barmah Choke
- NSW Murrumbidgee General Security
- Victorian Lower Security Water Share

- NSW Macquarie General Security
- NSW Gwydir General Security

The selection of these entitlements is consistent with the DEWHA's water entitlement priority framework. From Table 2-4 it can be seen that the water entitlements have been purchased in all of the priority catchments that were identified by DEWHA as containing priority environmental assets. These catchments are: southern connected Murray system, regulated Lachlan River, regulated Macquarie River and regulated Gwydir River.

Once the EWP and environmental flow regimes are formulated, the method of delivering entitlements to the environment will be more apparent. This will involve using regulated flows from the water storages to supply the environmental assets with flow regimes that specify volume, depth and frequency. The portfolio of acquired entitlements will evolve into one more ideally suited to meet environmental needs. This evolution will be informed by flow modelling and environmental monitoring.

Table 2-4 Water entitlements and offers accepted

Catchment	Entitlement type	Entitlements as at July 07 (ML)	2007-08 Purchases (ML)	2007-08 purchases as a proportion of entitlements (%)
NSW: Gwydir Regulated	General security	509500	2916	0.57
NSW: Macquarie-Bogan Regulated	General security	632428	3769	0.60
NSW: Lachlan	General security	592847	6543	1.10
NSW: Lachlan	High security	26472	456	1.72
NSW: Murrumbidgee Regulated	General security	1903000	850	0.04
NSW: Murrumbidgee Regulated	High Security	378000	0	0.00
*NSW: Murray Regulated	General security	1670508	10423	0.62
*NSW: Murray Regulated	High security	198011	0	0.00
VIC: Campaspe River System	Low reliability	18661	0	0.00
VIC: Campaspe River System	High reliability	37118	935	1.06
VIC: Goulburn River System	Low reliability	626000	370	0.06
VIC: Goulburn River System	High reliability	1615000	1750	0.11
VIC: Murray River	Low reliability	437000	1003	0.23
VIC: Murray River	High reliability	1435000	4859	0.34
VIC: Ovens	High reliability	26450	50	0.19
SA: Murray River System	High security	514500	427	0.08
TOTALS		10,671,766	34,301	0.32

Note:

- The property market where land and water jointly on offer was not considered. As entitlement prices increase and land liabilities increase, more unbundling will occur resulting in more sole-entitlements on sale. 140GL is in the process of being converted from general to high security which result in an additional 80 GL of High Security entitlements.

2.7 The pricing strategy

2.7.1 Recognition of the reliability associated with different entitlements

The pricing strategy effectively takes the reliability associated with different entitlements into account by using market price benchmarks as the starting point. The market clearly makes a distinction based on reliability of allocations to different entitlements. The strategy 'weights' the high security and general security entitlements based on their relative reliability, rather than merely the face-value of the volume of entitlements acquired.

2.7.2 Accounting for the difference between short-term reliability and long-term reliability

The prevailing market prices are driven mostly by expected low allocations in the short-term, whereas the historically based (100 year record) cap factors for entitlement classes reflect greater allocations as they are based on 100 years of climatic record. A pricing strategy based solely on comparison of cost in LTCE would effectively rule out the purchase of high security products on the basis of relative cost.

DEWHA had guidelines to consider the purchase high security entitlements and the quantities involved. High security entitlements were expected to provide the CEWH with water in 2008-09 to protect high priority assets. High security entitlements in the southern MDB are assumed by DEWHA to have very similar reliability so prices were compared without adjustment for reliability.

2.7.3 Cost-effectiveness of purchases

DEWHA assessed all relevant costs except the internal costs of administering the WPP. DEWHA monitored the proportions of high security and low security entitlements acquired. Once the proportion of high security entitlements being purchased looked to be greater than 10% of total volume then the purchase strategy was reviewed. It was decided to continue with the pricing strategy as high security entitlements were accepted as an important part of the environmental water portfolio.

The cost of general security entitlements in the southern MDB was compared using modified CAP factors to account for an anticipated 13% reduction in system inflows due to climate change. Since general security has lower priority of access, the proportional reduction in CAP factors is greater than 13%.

The adjustment for reduced yields is valid in the context that high security prices attract a premium but there should normally be a reduction in general security prices. DEWHA could have explored such an adjustment

for general security prices but any forecast on reduction in yield is not reflected in the market sufficiently to influence prices.

2.8 Consistency of the assessment process with the pricing strategy

The pricing strategy was approved by the Minister and implemented by DEWHA. There is an adequate audit trail in the decision making process. The WPP has not created any conflict of interest in its dealings with the resource regulators and the allocation process, or with the other government purchasers. In acquiring entitlements, there has not been any pressure or undue influence applied to sellers and their status as willing sellers has been protected.

There is a need to describe each of the criteria applied to the environmental assets so that individual offers as well as groups of offers can be assessed. The watering needs of environmental assets should be specified to the same degree of clarity that an irrigator would, if wishing to purchase entitlements to meet crop watering needs. This is essential to a purchasing decision. Similarly, deliverability of water to the asset requires flow modelling to ensure that the allocation is adequate to meet the flow regime.

DEWHA established a pricing strategy before the assessment of bids began. This included the specification of what prices would be acceptable if the environmental criteria were met. This enabled sell offers to be automatically accepted if they met the environmental criteria and were under the pre-specified maximum acceptable prices, since they were deemed to represent good value for money. DEWHA took into account the premium attached to high security entitlements related to the enhanced prospects of receiving allocations in the short-term.

Table 2-5 Results of the WPP (rejected/accepted)

Number	Category	Volume (ML)	Average price (\$/ML)	Total cost (\$)
979	All offers	363,708.15	1,773.69	645,105,608.20
107	Accepted offers at 13 August 08	34,301	1,375.23	47,167,775
802	Rejected offers	311,380.15	1,836.06	571,714,096.20
70	Offers Withdrawn	18,029	1,454	26,223,737
47	Accepted offers in NSW	24,957	1,175	29,332,097
0	Accepted offers in QLD	-	-	-
5	Accepted offers in SA	427	2,377	1,015,350
55	Accepted offers in Vic	8,917	1,886	16,820,328
379	Rejected Offers in NSW	209,546.50	1,573.07	329,631,876.00

Number	Category	Volume (ML)	Average price (\$/ML)	Total cost (\$)
14	Rejected Offers in QLD	18,230.00	1,518.51	27,682,399.45
77	Rejected Offers in SA	16,662.45	3,097.70	51,615,216.15
332	Rejected Offers in Vic	66,941.20	2,431.76	162,784,604.60

Note: The average price in States differs considerably due to different composition of high and general security entitlements

Table 2-6 Results of the WPP by security type

Number	Category	Volume (ML)	Av price (\$/ML)	Total cost (\$)
52	Accepted High Security offers	8,427	2,125	17,906,403
55	Accepted General Security and Low Reliability offers	25,874	1,130	29,261,354
372	Rejected High Security offers	63,406.85	3,323.18	210,712,566.15
370	Rejected General Security offers	221,427.10	1,471.04	325,728,624.50
23	Rejected bundled HR & LR offers	2,848.80	2,634.52	7,505,225.60
107	Other rejected + offers withdrawn	45,871.30	1,276.49	58,554,214.45

Note: The above data includes all offers from all states.

Table 2-7 Results of the WPP as a price/volume summary

	All Offers		Accepted Offers	
	High Security	General Security	High Security	General Security
Number of offers	424	425	52	55
Value of offers \$	228,618,969	354,989,978	17,906,403	29,261,354
Volume offered ML	71,834	247,301	8,427	25,874
Average asking price \$/ML	3,182	1,435	2,125	1,131

Notes:

- For comparative purposes the analysis excluded bundled high security and general security entitlements, supplementary water, groundwater, and unregulated entitlements
- Does not include bundled, supplementary, groundwater, unregulated water products)

The analysis shows 12% of the high security offers and 13% of the low security offers were accepted, which accounts for 11% in volume for each of high and low security water on offer. The average price paid was about 67% of the asking price for high security and 79% for low security.

2.9 Conclusion

The review has concluded that the market based pricing strategy adopted by government is sound. The short-term effect of water availability on prices has been duly taken into account in the implementation of the pricing strategy. The review found that water purchase decisions were appropriate within the context of the first year, with due consideration of value for money. The offer price and the value of each purchase for priority environmental assets were the main drivers in the decision making process. A summary of the review of the purchasing strategy is shown in Table 2-8. On assessing the outcome of 34,301GL for a purchase cost of \$47.16m, the review concluded that the WPP has been efficient in its purchases.

Table 2-8 Summary of the review of purchasing strategy

Program features	Was it applied?	How successfully was it applied?	Advantages	Disadvantages	Comments
Rolling tender process	Yes	Used with success	<p>This method was assessed by ABARE (2007) as potentially providing best value for money.</p> <p>Compliance costs for non-successful bidders are minimised.</p> <p>The WPP can assess all EOI and then choose those that match the criteria without buyer or seller being committed to the purchase. This process allows for full due diligence to be completed prior to exchange of contracts.</p> <p>It gives the seller a 'cooling-off' period and the opportunity to withdraw the offer.</p>	<p>Each offer was assessed on its standalone merit. Interaction (beneficial or otherwise) with other offers could not be taken into account.</p> <p>The non-binding nature of the tender resulted in some offers being withdrawn prior to exchange of contract.</p>	<p>Governments have extra pressure placed on them by sellers. There is an expectation that governments will operate differently to other sectors of the market by disclosing aspects such as location, quantity and price in advance... However, the rolling tender process remains a highly favourable method of conduction transactions. This market based approach recognises an entitlement as a property right of the owner, only buys from willing sellers, and delivers value for money by not disclosing more information than is needed to receive bids. As the WPP enters further rounds there may be other methods of purchasing environmental outcomes.</p>

Program features	Was it applied?	How successfully was it applied?	Advantages	Disadvantages	Comments
Value for money	Yes	Slightly higher price paid than the prevailing market at the time the WPP started.	<p>A highly prudent approach to expenditure based on the regular water market reports commissioned by DEWHA. There may be cases where it is desirable to pay a premium for a particular entitlement that is required for an environmental asset.</p> <p>This approach was responsive to the short-term pressures on high security entitlements.</p> <p>Meets Commonwealth procurement guidelines and protects the public interest as it aims to secure the maximum volume of water with the available budget.</p>	Even though a premium is paid and high security entitlement is acquired, the volume of water accessible for use at any one time is subject to the impact of climate on water allocations.	<p>Some flexibility in purchasing will be required in future rounds of the WPP.</p> <p>One of the issues to be resolved in assessing value for money is that environmental water has not had a value put on it. Therefore the water purchased under the WPP can only be valued against other water on the irrigation market.</p> <p>Future water purchases could be operationalised and quantified in terms of an environmental benefits index. This would use bio-physical models to translate quantities of water from water entitlements into defined environmental benefits. This would provide an improved method of assessing and valuing environmental water.</p>

Program features	Was it applied?	How successfully was it applied?	Advantages	Disadvantages	Comments
Addressed environmental targets	Yes	All purchases were assessed by the panel according to the environmental criteria, to the extent possible in the absence of environmental flow regimes.	Ensures that there is a coordinated approach purchasing entitlements for the WPP. This will become more necessary when the MDBA develops the EWP.	A sufficiently clear statement of environmental need is difficult prior to the completion of the EWP by the MDBA.	There will be a period of uncertainty until the new EWP is developed by the MDBA in 2011. As knowledge of the environmental needs of the MDB become well understood the targets and watering regimes will be refined in the EWP...
Purchased a mix of high security, NSW general security and Victoria low security	Yes	Applied with success	The mix of entitlements purchased was chosen to address environmental needs to the extent possible. The portfolio of entitlements allows access to over 38GL at full allocation.	The purchase of particular entitlement types may concentrate the impact of the program on particular states and/or regions. If the EWP deems spring and winter watering to be the highest priority, then the portfolio will need to be restructured to deliver such a flow regime.	The required mix of entitlement reliabilities will be informed by the EWP to be developed by the MDBA.

2.10 Pricing review findings

Hydrologic and hydraulic modelling should be undertaken to establish watering requirements and required flow regimes.

DEWHA should establish target watering regimes for the environmental assets and link the acquired entitlements to their watering requirements. These set targets are important for deciding on value for money and for assessing deliverability of acquired entitlements to the environmental assets. In addition, smaller parcels can be considered together to increase the capacity to deliver water effectively.

An unregulated entitlement that is offered to the WPP may be an appropriate purchase if it is possible to transfer it to another site

Some water offered to the WPP may be from an unregulated source that is not immediately able to deliver water to a particular environmental asset. However, in some water plans there are mechanisms for transferring unregulated water to regulated sections downstream of storages and these should be investigated before rejecting an unregulated entitlement.

Where there is a potential for conversion of entitlements from one security to another then future purchases should consider conversion to the preferred security type

The capacity of the acquired entitlement to deliver the proposed watering regime could be enhanced through a conversion of security type. For example, if a high volume of flood flows is desired, a low security entitlement or supplementary flow access would be preferable to a small volume of high security entitlement. Such conversions would be dependent on the relevant water plans for the river valley.

The allocations market should be considered as a source of water for the short-term needs of environmental assets

If there is a priority asset that needs water urgently, a temporary allocations purchase will provide better access to water than a permanent entitlement purchase. This is also consistent with the pricing strategy emphasis on value for money.

The Commonwealth should examine the approach of buying environmental outcomes as part of the WPP

The approach of 'buying outcomes' involves specification of watering regimes for the environmental assets and seeking expressions of interest from entitlement holders (or those demonstrating access to water) to deliver the required regime for a competitive price. This creates a new product with clear specifications; there are many potential suppliers of this product, with a good understanding of the real-time supply in delivering this product; the property right and asset ownership as well as risks remain with the supplier or as accepted by the buyer.

Competitive sourcing of water for environmental assets through existing entitlement holders should be explored

The Commonwealth could tender out services to deliver the specified watering regimes and flow requirements after the development of the Murray-Darling Basin Authority Basin Watering Plan. This allows the potential suppliers of such services such as existing water users and river operators to assess their capability to deliver such services in a competitive market. This way, no matter who owns the entitlement, they will consider delivering environmental services as an option, as compared to irrigating a crop or trading water.

The Commonwealth should facilitate the transition to a more open and transparent water market

There is a variety of reporting requirements used at the moment and some confusion about their implementation. The lack of standardised reporting was mentioned on numerous occasions by stakeholders who suggested that methods used in other sectors such as the share market have a level of availability and transparency not yet developed in the water market.

3 Economic effects of purchases on regional communities and water markets

3.1 Introduction and background

Water plays a key role in the economic and social well-being of the communities of the MDB. It provides approximately 70 percent of Australia's irrigated agricultural production but has become stressed in its capacity for water extraction. This has led to interventions such as the MDB cap in 1995 and more recently to the Living Murray Initiative and the WPP. These initiatives have resulted in significant changes in water use patterns. As water scarcity has increased, water has moved between both uses and regions. In turn, these changes have potential for significant economic social and environmental impacts.

The debate over water trade is no longer about whether the individual farmer is better off as a result of trade, or whether society as a whole is better off, but over distributional issues. Are there detrimental impacts on the local communities where farmers are selling water? The issue is further complicated when the sale of the water is not to another water user in the same or another region but to a government as part of an environmental buyback.

This review considers whether sales to the WPP in this first round have had an impact on regional communities. It shows where the sales have taken place, and the nature of the communities directly affected. It then explores the likely impacts of those trades, for both the farmer participating in the trade and the local community. The analysis includes the results of a survey of 20 irrigators who have sold water as part of the WPP. It concludes with a theoretical discussion of how the WPP influences the water market, both in the past year and if allocations return to the long term average.

3.2 Regional economic impacts

3.2.1 Which communities are directly affected?

The first step in analysing the impacts of the environmental water purchases of water on regional communities and the water market is to identify from where the water purchases have occurred. The question is what regions have been directly affected and by what magnitude? The location of the seller has been mapped using data on each individual offer that has been accepted in the first round of the WPP and in the recent the irrigation season. Table 3-9 shows that over 70 percent of the purchases have been in NSW.

Table 3-9 2007-2008 Water entitlement purchases by State

	Total (ML)	% of total volume
VIC	8,917	26%
NSW	24,957	72%
QLD	0	0%
SA	427	1%
Total	34,301	100.0%

The majority of general security water has come from the Murray, Lachlan, Macquarie and Gwydir catchments of NSW. The majority of the high security water has come from the Murray and Goulburn Catchments of Victoria. Figure 3-5 shows where the water was last used by the owner (which, since the disassociation of water rights from land, may not be the same region as where the entitlement was formally held).



Figure 3-5 Where the water was last used?

3.3 Direct Impact on regional agricultural production

3.3.1 Impacts in the last year

Due to prevailing climatic conditions the allocations for general/low security entitlements in many areas were zero last year. Consequently, the impacts on agricultural production of less water for regional production were low, and will remain low as long as allocations remain at or near zero. In the past year at least, farmers have sold entitlements for which there would have been negligible allocations attached. In other words, regions cannot be seen to have 'lost' water that they did not have. The value of the proceeds from the water sale have been realised irrespective of the allocation levels or climatic conditions. From the perspective of the past year, the farmer and the region are better off.

This conclusion is supported by the results of the survey shown Figure 3-6, which indicates that of the twenty sellers surveyed who had sold water to the WPP, many had not used the entitlement the previous year, or for several years previous in the case of some. Even those that had used the water in the past year, it is unlikely that a full allocation from the entitlement was available.

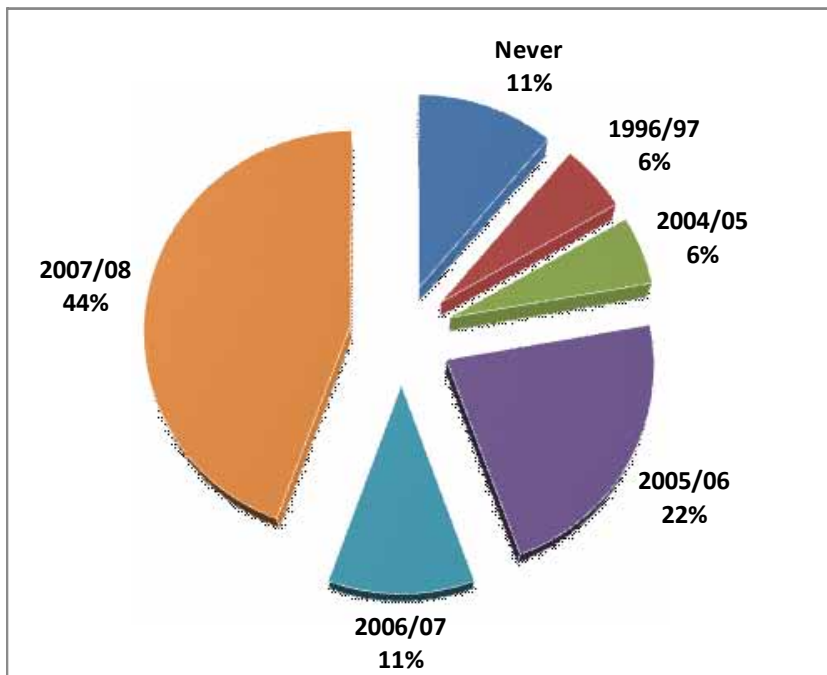


Figure 3-6 When the entitlement last yielded an allocation that was used on farm

3.3.2 Impacts in the longer term

As long as the present climatic conditions continue, the entitlements purchased under the WPP will not represent the actual volume of water sold because of the low allocations. However, barring an unprecedented continuation of these conditions or a realisation of the worst climate change forecasts, the volume of entitlement purchased used by the CEWH will be significant.¹ Long term average allocations from the catchment where the purchases have occurred suggest that, of the approximately 34,000 ML of entitlements being pursued, approximately 24,000 ML per annum will be realised as an allocation that will now go the CEWH rather than irrigated agriculture.

If and when allocations return to their long term average, it is the loss of this 24,000 ML to irrigated agricultural production from the regions from where the water has been sold that is the major source of the concern about community impacts. Table 3-10 illustrates the crops that were last grown using water from the entitlements sold to the WPP, remembering that this last crop might not have been grown in the past year. It shows that it is typically water being used in its lower value form (on a \$ produced per ML used basis) that is being sold. Entitlements yielding water used for the higher value fruit, grapes and vegetables have only been a very small proportion of the total volume sold, whereas lower per ML value cereal crops and pasture have been a much higher proportion.

Table 3-10 What the entitlement sold was last used for

Crop	Total (ML)	% of total volume
Citrus	756	3.04
Cotton	2,132	8.57
Lucerne, Pasture, Cereal	245	0.98
Other	1,912	7.68
Other Broadacre crops (e.g. Cereals, Oilseeds, Legumes etc)	1,770	7.11
Other Citrus & Grapes	50	0.20
Other Grass/hay	150	0.60
Pasture	10,075	40.47
Pasture & Broadacre cropping	782	3.14
Pasture & Grain	240	0.96
Pome/Stone Fruit	500	2.01

¹ In reaching this conclusion, it is being assumed that the farmer selling a water entitlement as part of the WPP does not purchase water back on the allocations market. If they do this, their irrigated agricultural production need not be any different (although, if the WPP reduces supply of water on the allocations market the farmer may have to pay more)

Rice	1,376	5.53
Vegetables	457	1.84
Wheat & Barley	1,726	6.93
Wheat & Rice	2,721	10.93
Total	24,892	100.00

Note: Based on 73 percent of total water sales for which last crop use has been identified.

The costs to a farmer and the broader community because of the WPP include either lower production or higher input costs. The irrigated agricultural crops identified in Table 4-9 are far more productive on a per hectare basis than dryland agriculture. Hence, from an agricultural production perspective, less water used in a region reduces the volume and value of its agricultural production. If yields are maintained, this is most likely due to increases in other inputs such as labour, additional fertiliser or infrastructure investments improving the efficiency of remaining irrigation water. As a result, the costs of the lost water could occur through additional input costs.

If there is lower production and/or higher costs then farmers earn less due to the sale of water and therefore less able to spend it could impact on the local community. There is concern that a community built on, and dependant upon, irrigated agriculture will suffer if the water is sold out of the region.

The sale of water would indeed impact detrimentally on both the farmer and their broader community, if the farmer does not receive payment for the water, to at least what he/she values it at. However, this is not the case with the WPP. The trade is voluntary and entitlement holders would not be selling the water if the payment they received was not higher than what they valued it at.

3.3.3 Direct Impact on regional income

The impact of the water trade on regional areas is not just a function of less water in the region available for irrigated agricultural production. The proceeds of the sale, to the extent that they remain in the region (an issue discussed below), also hold significant value and are, in some cases, a significant portion of the local economy (see Table 3-11). In some cases, the value of the water entitlement sale is over two percent of the annual taxable income generated from the region (defined in this analysis by the Statistical Local Area - SLA). When smaller regions become the focus of the analysis, the significance of the proceeds from the water sale as a proportion of the size of the local economy can be even more pronounced. Across all SLAS from where the water was sold, the proceeds from the first round of the WPP represented over one percent of the annual taxable income from those regions.

Table 3-11 WPP sales as % of regional economy

Region of sale	2005 taxable income (\$ million) #	2005 W & S income (\$ million)	Water sale as % of taxable income
Goulburn River	1282.9	1054	0.18%
Gwydir River	256	180	2.75%
Lachlan River	369.5	277	1.04%
Macquarie-Bogan River	328	255	1.75%
NSW Murray	610.7	475	1.92%
Ovens River	105.3	79	0.08%
SA Murray	467	368	0.25%
VIC Murray	597.1	443	2.21%
ALL SLAs that were involved	4016.5	3131	1.12%

Notes:

- W&S = wage and salary earner income
- Data source ABS National Regional Profile, 2002 – 2006
- # These calculations are performed at a statistical local area (SLA) level, only those SLAs where a water entitlement was sold is counted
- The extent to which the income from a water sale can be treated (either in the year of the sale or subsequent years) as conceptually adding to Gross Regional Income (the equivalent of Gross National Product at a regional level) depends upon what where and how the proceeds from the water are ultimately used

3.4 Trade off between proceeds from entitlement sale and less agricultural production

As a result of the entitlement sale the farmer has transferred its value into immediately usable funds. Because the trade is voluntary, the selling farmers value the sale proceeds more than the water. Consequently, the farmer believes he or she is better off.

This conclusion rests on the concept of a surplus value, caused by different parties valuing the same products (in this case a water entitlement and a given sum of money) differently. A water trade occurs because the buying party (in this case the Commonwealth) values the water more than the selling party. In these circumstances both the buyer and the seller (the farmer) are winners, otherwise they would not voluntarily enter the trade. In the case of the seller, the surplus value is found in the amount received for the water in excess of how much they valued it. The important conclusion is that, from the farmer's perspective, the proceeds from the sale hold more value than the water entitlement itself.

On this basis alone, and all other variables remaining the same, the region is also a beneficiary. There has been surplus value created through the trade. The surplus value belongs to the farmer but, as part of their broader community, the community is better off. The value held in a water

entitlement has been increased by being transformed into another form (i.e. proceeds), and the effects on the community will be similar to that of a farmer continuing to hold the water entitlement, but selling the allocations each year. Agricultural production in the region may well be less, but the broader measure of the community's net wealth will have increased.

The crucial qualification to this conclusion is that 'all other variables remain the same'. The important variable is what the farmer, having transformed the value held in the water entitlement into funds, subsequently does with those funds. Whereas (at least historically before trade was allowed) a water entitlement held in a region was likely to be used for agriculture in that region, now it is possible to sell water and use the money outside the region.

Another related key question is whether the proceeds from a sale of a water entitlement are likely to be used differently to the proceeds from the sale of irrigated agricultural production? There are similarities between the two; both belong to the seller (not communally by the region), and both are components of the overall wealth and income of the region so long as the money remains in the region. The main difference between the proceeds from a sale of a water entitlement versus the proceeds from irrigated agriculture is that the proceeds from the sale of a water entitlement will be larger and once off. The proceeds from irrigated agricultural production will be smaller but (generally) annually. Indeed, in its simplest form, the sale of a water entitlement, much like the sale of any productive agricultural land, represents the gain of a large, once off and up-front payment at the expense of a stream of future income.

The specific, and justified, concern relating to this from a community perspective is that the once off proceeds from the entitlement sale may be invested outside the region. The impact would be greatest where the land is sold along with the water entitlement. The farmer moves and the value that was held in the water entitlement is 'lost' to the region. From that point the region's annual production and net wealth is reduced, and there will be a range of flow on effects and structural adjustment pressures to its economy. This leads to a need to know what the proceeds of a sale to the WPP are for.

3.5 What motivated the sale and what the proceeds are used for?

The survey of people who sold water under the WPP asked what the proceeds from the sale are being used for. It was beyond the scope of this review to explore how and what farmer's do with the proceeds of the sale of their irrigated agricultural land if it is sold as well as the entitlement. It is also valuable to know if a proportion of the entitlement is sold. Whether it was the entire entitlement or a proportion of it can be significant. Of the 20 sellers surveyed, seven of them (35 percent) had sold the total volume of their entitlement. Another seven (35 percent) had sold less than 30 percent of their entitlement volume.

In response to the question of what motivated their sale, 11 of the 20 respondents nominated financial reasons as their primary motivation, and a further four as their secondary motivation. Those 12 of the 20 respondents who nominated financial reasons as an influence also indicated that they would use the proceeds to retire debt. Eight respondents sold because they believed that ‘the water had been unavailable for too long’, four responded to the option of ‘the nature of my farming business has changed and I no longer need it’. Only one person responded to the option of ‘I am moving out of agriculture and this is part of a broader sale’.

These results become more significant when viewed alongside another survey question that asked what the proceeds of the sale are being used for. The results to this question are illustrated in Figure 3-7. The results of the survey indicate that the overwhelming reason why the water entitlement was sold is to retire debt (55 percent of respondents). The second most common response (30 percent of respondents) was to use the proceeds to re-invest in the farm. Both of these responses represent, in different ways, an investment in the region.

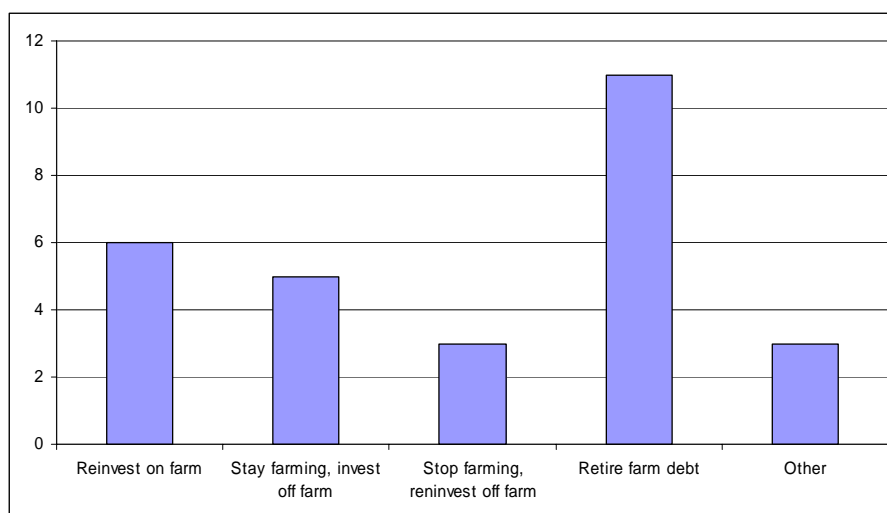


Figure 3-7 What the proceeds of the sale will be used for

Note that for five cases the survey respondent indicated two reasons for the sale and both have been included in the figure.

The farmer selling for financial reasons and using the proceeds to retire farm debt may not, directly, be seen as making an investment in the region. However, not only does a retirement of some or all or debt reduce interest payments (and thereby may act in the same way as an increase in future income streams), but the farmer is also more likely to increase expenditure in the local community, be it agricultural or non agricultural expenditure. The farmer re-investing the proceeds directly back on the farm may be intending to strategically purchase water back on the allocation market, investing to ensure more efficient use of their remaining irrigation water, or in intensifying dryland agricultural production. Each of these scenarios demonstrates how the proceeds are not necessarily lost to the community.

The likely impacts on the local community arising from the other two responses are mixed. The 25 percent who will stay on the farm but invest the proceeds elsewhere may be doing what many farmers are doing to diversify their risk and ensuring a stream of non farm income. Ultimately, and as long as the farmer remains in the community, the income from that investment is also retained in the community. Production from the community will be less than if the farmer had directly used the entitlement in on-farm irrigated agriculture, or had invested the proceeds from the sale on-farm (with corresponding impacts on demand for regional supplies and services to the agricultural sector), but the income stream itself remains with the farmer and in the community.

It is the 15 percent of respondents who have sold their entitlement and stopped farming where their local communities are likely to be most detrimentally impacted. It should be noted here that only one of the respondents had said that the sale of the water entitlement was part of 'a broader sale' including the farm. The others may be using the proceeds to retire but continue living in the community. Ultimately, the local economic consequences of the water entitlement sale as part of a broader farm sale depends upon who subsequently buys the land, their financial status, their willingness to spend locally, and what they intend to do with the land. The possible options, and their resulting implications for the regional economy, are too numerous to discuss here, but it is not inevitable that agricultural production, regional demand and regional wealth are necessarily diminished.

A note on statistical significance

In assessing the significance of these survey results and what can be inferred from them about the entire population of sellers, the survey size of 20 from a total population of 109 (accepted sales) needs to be considered. Assuming there was no bias in the subject selection, the standard 95 percent confidence interval for the results is large enough to explicitly show reliable results. For example, from the finding that 55 percent of respondents will use the proceeds of the sale to retire farm debt, it is 95 percent sure that the actual proportion for the entire population is between 35.2 and 74.8 percent. In other words, it is 95 percent certain that the actual result (for all sellers) is between 35.2 and 74.8 percent. Although this is obviously more confidence about what is happening than if the survey had not been conducted, this confidence interval would have been approximately halved (i.e. plus or minus 10 percent instead of 20 percent) had the survey size been 50 instead of 20. Although the 20 surveys represent only 18.4 percent of the total population of sellers, the surveys represent 35.1 percent of the total volume sold. This means there is more confidence about the survey as a tool to infer wider results when discussing the total volume (and value) of water involved, rather than the individual sellers.

Table 3-12 Summary of survey sample

	Surveyed	Total all sales	% of total
Number of selling farmers (no)	20	109	18.35%
Total volume sold (ML)	12,006	34,229	35.08%
Total high security (ML)	1,995	9,676	20.62%
Total low/general security (ML)	10,011	24,553	40.77%

3.6 Other impacts of water trade on regions

The effects of less irrigation water for irrigated agricultural production, and the effects of the proceeds from the sale, are only one of the ways that a region may be economically affected by the WPP. Other relevant issues are:

- Increased environmental flows in the region's rivers and streams may enhance environmental, recreational and aesthetic values. This can have a direct impact on the regional hospitality and tourism industries in areas where waterways are (or once were) prominent drawcards for the region, with benefits to other industries
- An increase in stream flow, and a reduction in runoff from irrigated agricultural land, can also improve in-stream water quality, and reduce the risks (and costs) associated with water quality problems such as eutrophication and algal blooms
- Fewer environmental externalities arising from water use, most notably wetland salinity, the impacts of which can undermine both wetland and dryland agricultural production
- Structural adjustment pressures There is less need for a regional economy that had developed to service an irrigated agriculture primary production industry to adjust into an economy relatively less reliant on irrigated agricultural production
- Indirect effects on both the entitlement and allocation water market (see Section 1.3). To the extent that the price of water allocations rise, this additional expenditure required by farmers to procure the same volume of water has an opportunity cost. Most relevant to the local community is that, by spending more for the same volume of water, the farmer will have less to spend elsewhere in the community

3.7 Effects of water purchases on water markets

The effect of the WPP in removing water from irrigation will be one of changing water supply and, eventually, higher water prices on both the

entitlement and the allocations market². Considering the first round of the WPP, the actual magnitude of any price rises depends upon several variables:

- **The proportion of all entitlements that have been sold.**
The relatively small proportion of all entitlements that are being pursued so far – 34.3 GL - represents less than 0.25 percent of the total surface water entitlement volume of the Basin. In other words, the effect of the WPP on water supply to the market has been very small
- **Will the sale of entitlements change the supply of water allocations on the temporary market?**
The effect of climatic condition on the supply of water allocations (and hence water price) will have been vastly more significant than the WPP. For example, most allocations throughout the MDB have between zero and 20 percent in the past year. Of course, allocations will change according to climatic conditions, whereas the effects of the environmental buybacks are likely to be permanent
- **How much the sale of entitlements to the government reduces the supply of entitlements being sold on the market to other water users?**
This depends upon whether farmers selling their entitlement to the Government were intending to sell their entitlement anyway, or whether they were only willing to sell to ensure environmental flows in the rivers, or due to an expectation the off market buyback may provide higher prices. Because the purchases have been as an EOI this cannot be known from data on the sales themselves. However, from 20 survey responses to the question on what motivated their sale as part of the program, only one respondent nominated 'an opportunity to provide water to the environment' as their primary motivation, and one more as secondary motivation. This suggests that, for the majority of farmers selling their water as part of the WPP was because of the price regardless of the fact that the sale would be to the environment rather than another water user.

On this basis, the immediate effect of WPP on the water market is likely to be negligible, primarily due to the low allocations from the purchased entitlements. The WPP has not yet had an impact on supply in the allocation market. However, longer term, the price of both water entitlements and allocations will rise as a result of increased environmental purchases. The announcement of the WPP itself may have already had an effect on prices. It has not yet been possible to model, or even estimate, the effect of subsequent rounds of the WPP at least until the volume of

² From an economic theory perspective, the government purchasing water for environmental flows represents a leftward shift in the water supply curve, because there will be less water provided for a given price. The result of this leftward shift in the supply curve is that the per unit market price of the remaining water will be higher, depending on how sensitive water demand is to price.

entitlement purchases is known. Only the total value of the expenditure is specified and it is only possible to speculate on how much volume this will procure.

3.8 Conclusions

In this first round of the WPP, the majority of general security water has come from the Murray, Lachlan, Macquarie and Gwydir catchments of NSW. On the other hand, the majority of the high security water has come from the Murray-Goulburn systems of Victoria.

The low allocations from those entitlements in the past year has ensured that the immediate effect on agricultural production is minimal. Farmers have sold a water entitlement currently yielding very little useable water. For the farmers' perspective and the regional communities, over the sale of the water entitlements will have generated revenue of \$47 million when all current contracts are settled. There has been a minimal loss of irrigated agricultural income and production. The proceeds of the sales are a significant direct injection into the regional communities where the sales occur.

If allocations increase then the impact on irrigation communities of the WPP is a function of the difference between the gains from the one-off proceeds received versus the ongoing reduced income from less irrigated agricultural production. Crucial to the impacts upon the selling farmer's community is what the farmer does with the proceeds of the sale, in particular whether it is re-invested back into more intensive agriculture production, invested off farm, or completely taken out of the community as part of a broader farm sale. The survey results indicate that detrimental economic impacts on the affected communities have occurred but only in a minority of cases.

3.9 Economic review findings

Collecting more data for benchmarking of the WPP

To overcome the issue of statistical significance of survey results, and to increase the confidence levels of the statistical results on the likely impacts of the WPP, DEWHA should ask sellers, at the point of sale, whether they would be willing to participate in a future survey of the WPP.

Understanding of the economic impacts of the WPP would be further enhanced by a greater understanding of what farmers selling their water are subsequently doing with the proceeds, in particular where and how they are investing the proceeds.

To obtain a complete understanding of likely regional economic impacts of a sale to the WPP it would be beneficial to know what the seller is doing with the proceeds. For those who say they will retire debt it would be useful to know what they intend doing once the debt is retired. An understanding as to whether the proceeds from the sale of the water entitlement are used any differently to the annual proceeds from the sale of their agricultural production would also be a valuable addition to any further social research.

An understanding of the impacts of the purchases would also benefit from economic modelling of the direct on-farm impacts of the purchases, and the subsequent impact on both the water market and the local and broader region(s).

An analysis could be applied to both of the impacts of the purchases already made and the impacts of future purchases by the WPP. When the volume of water purchased becomes greater and if allocations return to their previous long term average then the impacts of the WPP are likely to be far more significant than those experienced in this first round.

4 The communication program

The existing communication program was designed by DEWHA to inform potential sellers about the WPP and to provide them with sufficient information to lodge an EOI. There were four elements of the communication program:

- Public tenders were called for in advertisements placed in 33 city and regional newspapers on three separate occasions. The first was in February 2008 to announce the opening of the program and calling for tenders. The second was as a follow-up in March 2008 with a final reminder and closing date being in May 2008
- The advertisements included a 1800 phone number
- A website provided further information. The website also contained a information about the WPP and was recently updated to show both progress and preliminary results of the first round of the WPP
- Fact sheets with Frequently Asked Questions

4.1 Method of reviewing the existing communication program

There were three methods used for evaluating the communication program:

- Conduct telephone interviews with people who had responded to the call for tenders to sell water to the Commonwealth under the WPP. A sample of 20 people whose EOI had been accepted and 20 whose offers were rejected were interviewed. A sample of 13 brokers were interviewed
- The Stakeholder Consultative Committee (SCC) were asked their opinion of what their stakeholder groups knew about the WPP and what type of communication products were required
- The results of all the issues raised at the regional irrigation community workshop were analysed to determine the communication gaps between them and DEWHA in managing the WPP

4.2 The telephone interviews

Twenty telephone interviews were conducted with unsuccessful sellers (i.e. sale offers that were rejected by DEWHA), and twenty interviews were conducted with successful sellers (i.e. sale offers that were accepted by DEWHA). Fourteen water brokers were also interviewed to ascertain their views. The results of the telephone interviews have also been included in the economic analysis above as well as the statistical validity of the results.

4.2.1 The views of those whose offers were accepted

The following illustrations show the elements of the communication program used by sellers whose offers were accepted.

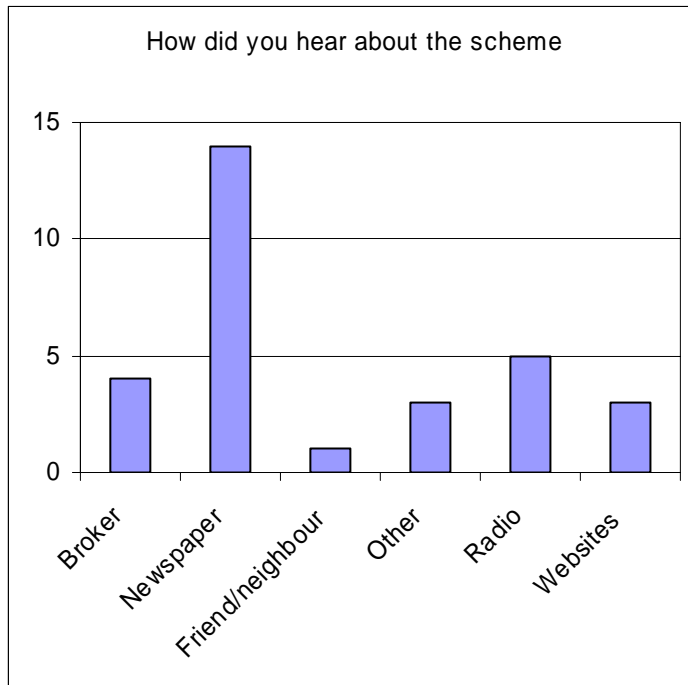


Figure 4-8 Showing source of information about the WPP

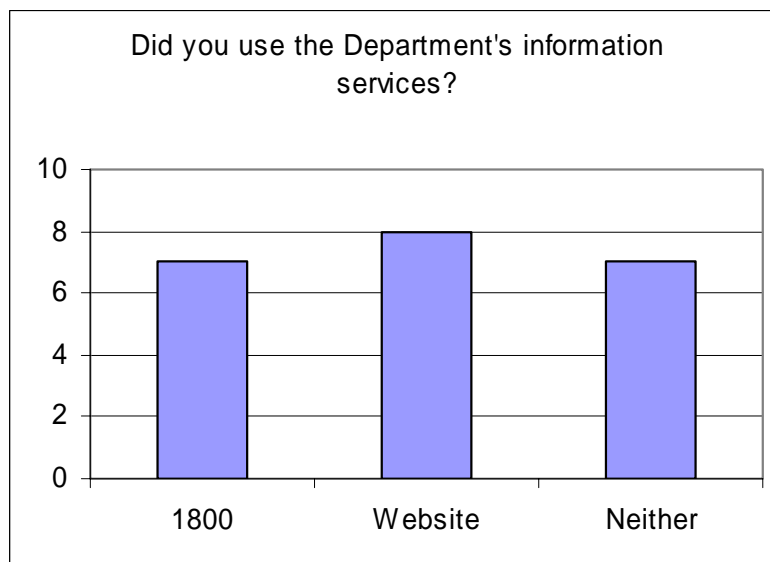


Figure 4-9 Showing the main source of further information

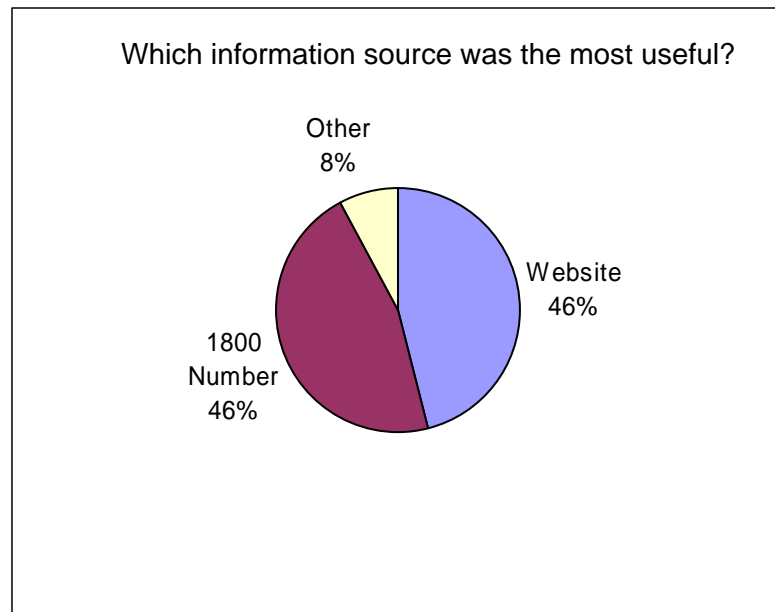


Figure 4-10 Showing that the website and the 1800 number were regarded as most useful sources of further information

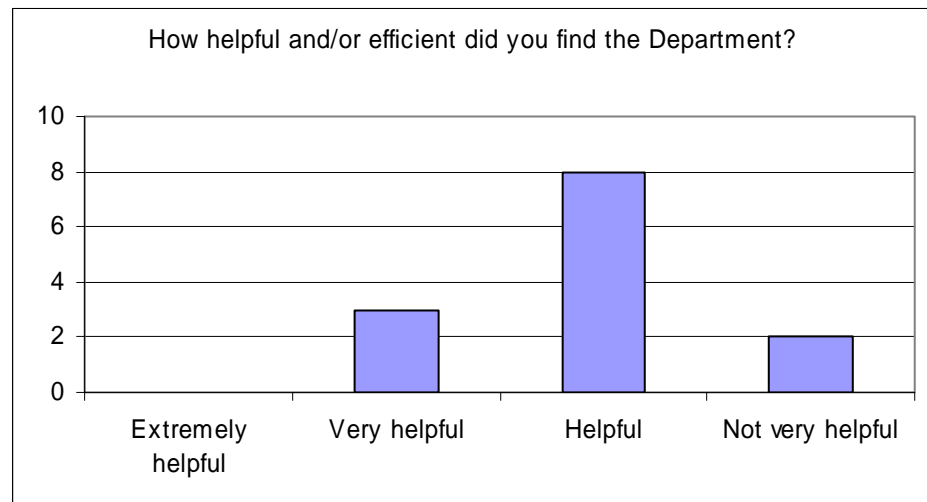


Figure 4-11 Showing number of respondents in each category of satisfaction in dealing with DEWHA

4.2.2 The views of those whose offers were rejected

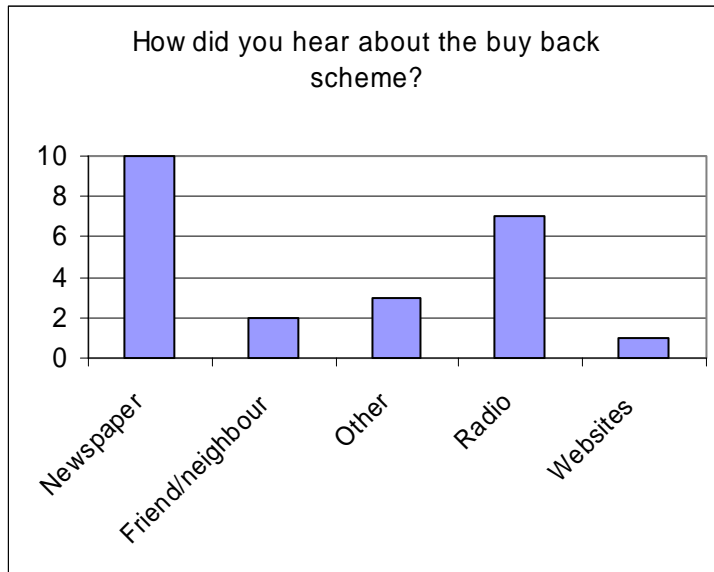


Figure 4-12 Showing source of information about the opportunity to sell an entitlement under the WPP

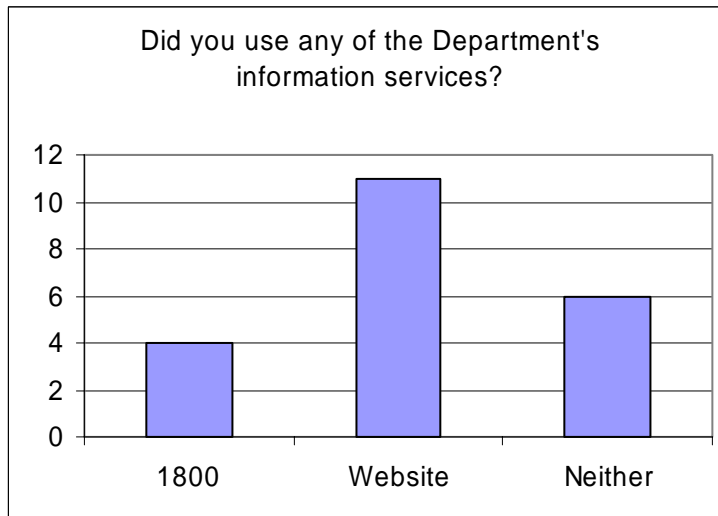


Figure 4-13 Showing the main source of further information

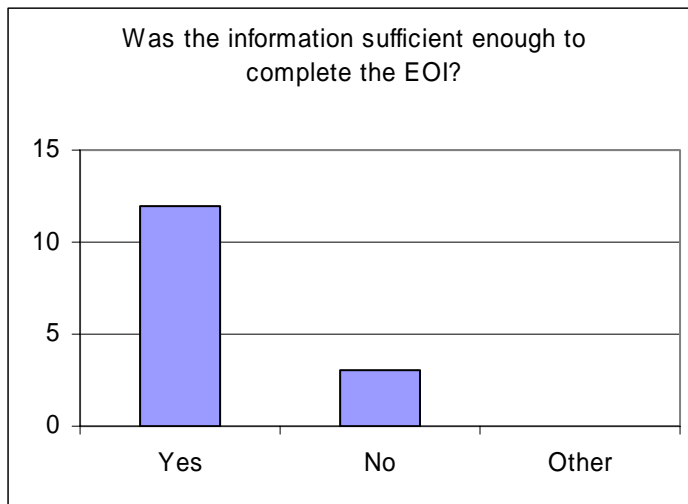


Figure 4-14 Showing that most respondents found sources of further information sufficiently adequate to complete the EOI

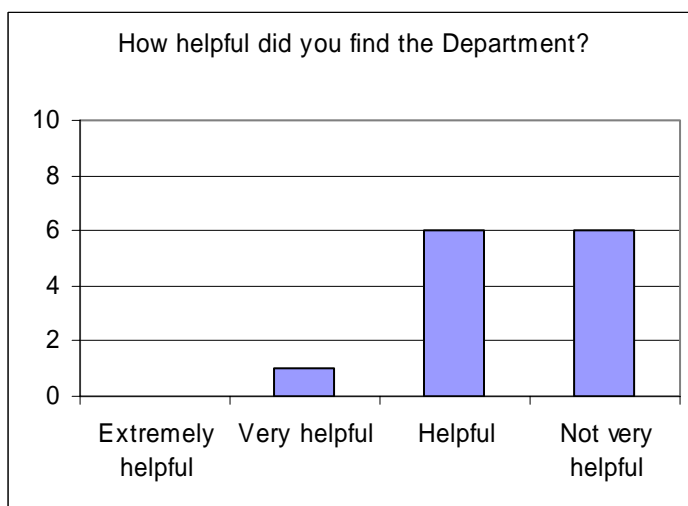


Figure 4-15 Showing that a high proportion of respondents whose EOI was rejected did not find DEWHA very helpful

4.2.3 Interviews with brokers

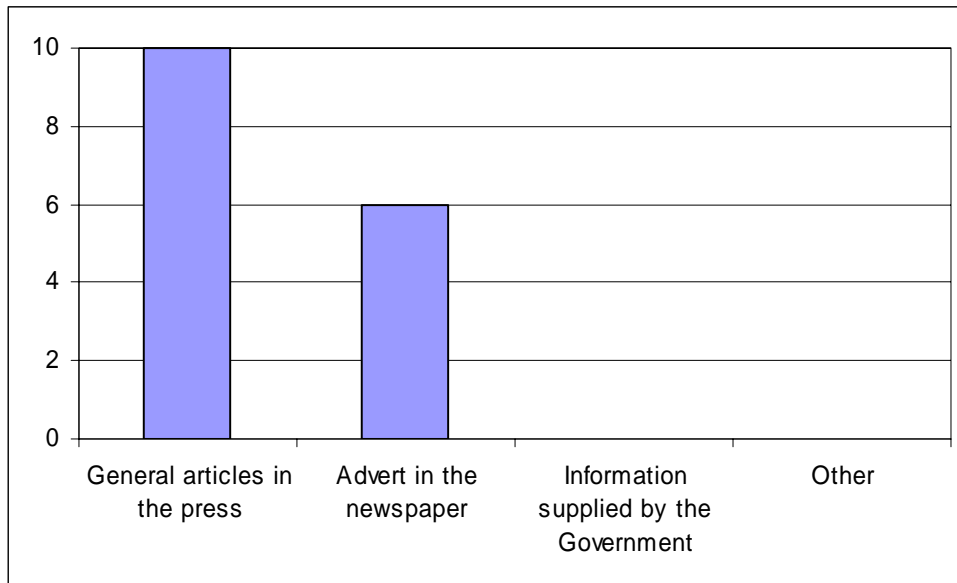


Figure 4-16 Showing how brokers became aware of the WPP

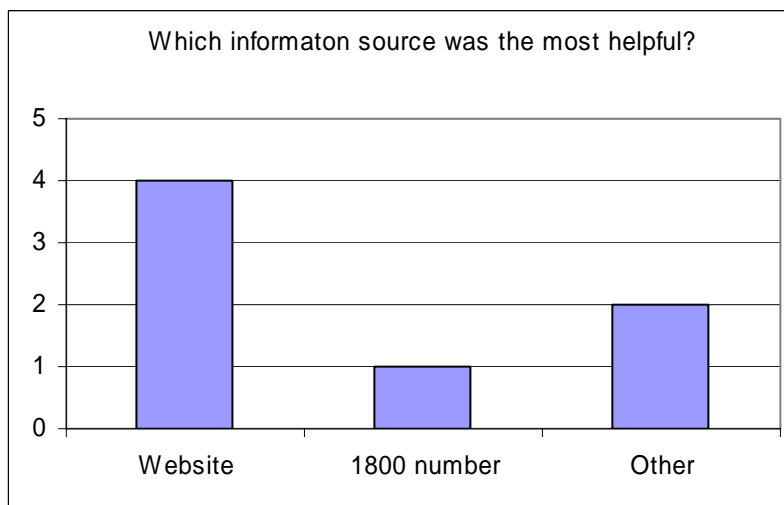


Figure 4-17 Showing the proportion of use of the website and the 1800 number by brokers as sources of further information

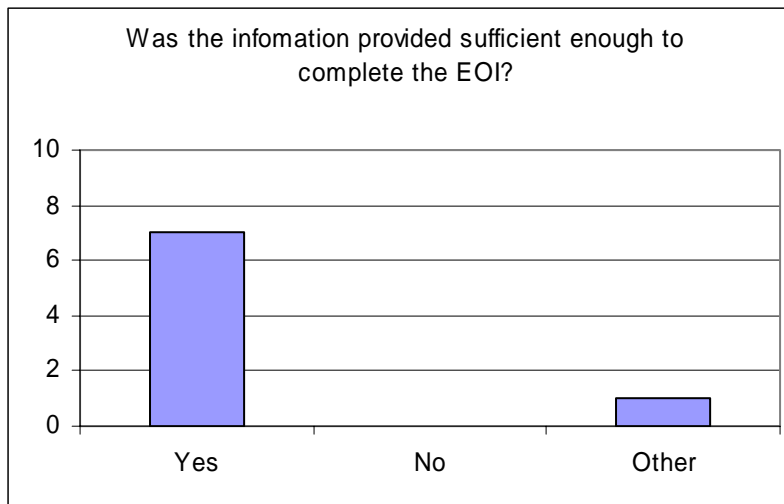


Figure 4-18 Showing that 70 percent of brokers considered the information provided by DEWHA as adequate for completing an EOI

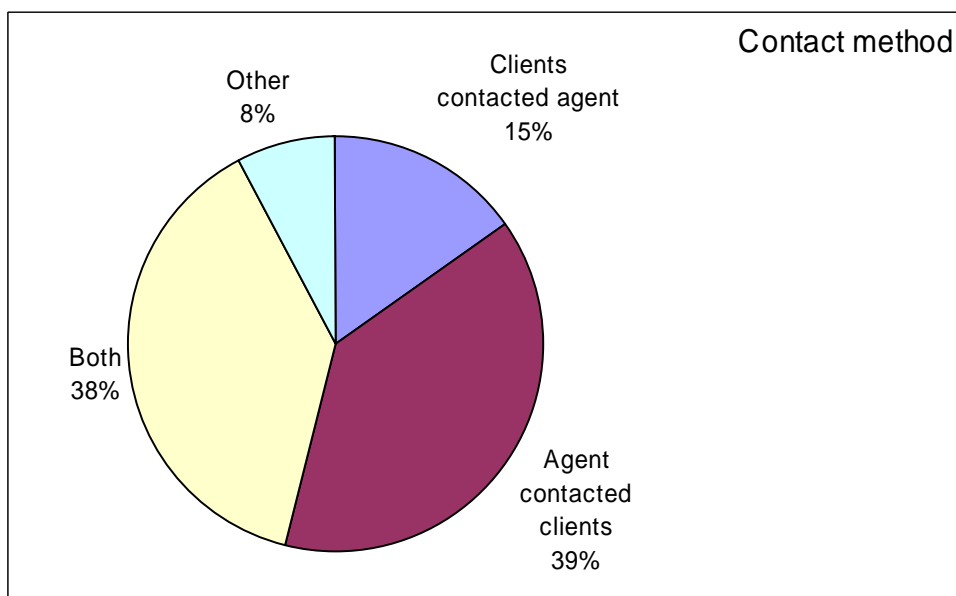


Figure 4-19 Showing that there was a high level of interaction between brokers and the holders of entitlements in deciding to lodge an EOI

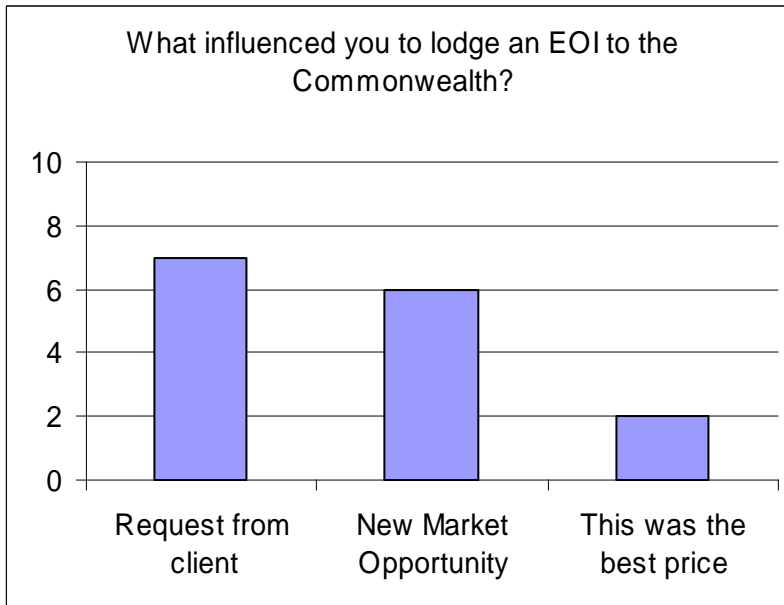


Figure 4-20 Showing the reasons brokers provided for initiating an EOI

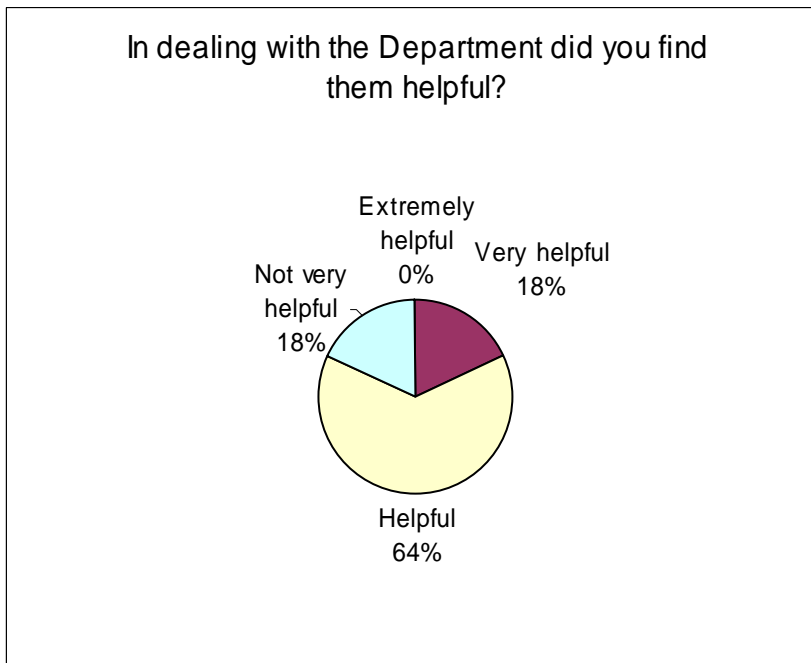


Figure 4-21 Showing how helpful the brokers found DEWHA in lodging an EOI

4.3 Conclusion

The success of the WPP communication program in obtaining EOI and informing the water market has been highly successful. The above survey results show the details of how the communication products were used. The end results indicate more potential sellers made an EOI than was necessary to meet the \$50 million target. The total number of offers received was 992 many of which were in the target price range. This is not an unexpected result, the entry of a new major buyer in any market will soon be known by all the sellers in that market. Coupled with the extensive advertising campaign and web and fact sheet support it is clear that the water market is well-informed that the WPP is a potential buyer.

The surveys also found that EOIs provided through a broker had more chance of success (45% of accepted EOIs were submitted through a broker, whereas only 20% of the rejected offers were submitted through a broker).

5 The wider stakeholder consultation

There was a very wide stakeholder consultation program established for the review. The telephone interviews were part of that but there were also three major sets of meetings and interviews.

5.1 Stakeholder Consultative Committee

On May 20 2008 the Minister announced the appointment of a Stakeholder Consultative Committee (SCC) to assist with the review of the WPP. The SCC comprises 12 people representing a broad cross-section of the issues facing MDB. The members of the SCC are shown at Appendix B. The SCC met on two occasions and individual members also attended some of the irrigation community meetings. Interviews were undertaken with each of the members of the SCC. The SCC was also provided with the opportunity to comment on the both the milestone report and the draft report.

5.2 Results of interviews with the Stakeholder Consultative Committee

The following is a summary of the issues that resulted from the SCC interviews. Some of them lead to further work that was outside the terms of reference for this review. Notwithstanding, these are important issues and represent the views of a SCC with experience and understanding of the issues facing MDB.

5.2.1 The need for a Basin-wide vision with clear goals

There needs to be a Basin-wide vision for the WPP. The Commonwealth needs to be able to assess the relative priorities of environmental assets across all regions and for different asset classes such as riverine environments, floodplains, system wide processes and/or water for a particular region. DEWHA then needs to show how the water it holds will get to those assets. The WPP should not focus on the parts of the system that are in trouble but it should proactively avoid new problems.

5.2.2 The role of the CEWH

The role of the CEWH in acquiring water and how it is to be used is an important part of setting a vision for the WPP. The management of environmental flows needs to be identified in terms of institutional structures with clear objectives so that the effectiveness of the program can be measured.

5.2.3 Linking to other programs

The WPP needs to be linked to the water efficiency and savings component of *Water for the Future*. If a megalitre can be gained from savings rather than having to buy it all then the Government may not have to pay a premium. There is also a lack of transparent coordination of the WPP with other government environmental water acquisition programs.

5.2.4 The current communication program

Irrigators and their organisations are aware of the Government buyback but do not understand how it works and how it is managed and its broader context. They know the Government is entering the market but there is confusion about the different schemes.

There is also a high degree of awareness of the program among environmental, river and wetland health, aquatic biodiversity interests. The overall objectives are understood but there is little understanding of the detail.

5.2.5 The need for broader community engagement

The general community does not understand the volumes required to provide for all water users, how water is delivered in different parts of the MDB, different water products, volumes of water required for environmental outcomes and when the environmental requirements will be provided.

There is a need to explain and promote the WPP.

The round of consultation meetings conducted as part of the Review provides a good starting point for the explanation and promotion of the WPP. Using groups such as irrigators and other community groups provides better results than mass-media as it provides a forum to explore issues in depth. Engaging with local people directly also increases 'word of mouth' and provides an effective mechanism for diffusion of issues to the broader community.

There is a lack of engagement by the Commonwealth with communities in the northern parts of the MDB.

5.2.6 What opinion do your stakeholders have of the water entitlement purchase program?

The program is well supported by the community including irrigation stakeholders and they are aware of the declining health of the rivers of the MDB. They are generally supportive of anything that addresses the imbalance in water use across the MDB.

There is some frustration that the scale and pace of the program is inadequate to address the magnitude of the problem and that very little

water is available under the entitlements purchased to date. However, irrigation communities are concerned about the social and economic impacts of the WPP on the future viability of irrigation businesses and industries as well as the broader community.

5.2.7 WPP and structural adjustment

The \$3.1 billion for the WPP has not been linked to rural adjustment programs. Some stakeholders stated that it would be beneficial if it was. For example, a price premium may allow a group of people to exit irrigation without stranded assets. Another example suggested was that a premium price could be paid for the water then the land sold separately.

Communities in SA are concerned that the WPP is not occurring fast enough. This prolongs market impacts and the environment continues to decline and urgent action is required that includes rural adjustment.

5.2.8 The impact on irrigation communities

Irrigation communities are concerned with the potential for stranded assets. Many Councils have also cooperated with water authorities to provide bridges, culverts and pipelines to improve delivery. When these become redundant who pays the cost of removal or refurbishment when a high percentage of water is lost from a particular service line?

There is a lack of social and economic impact assessment and monitoring. Targets and performance indicators should be set in terms of both environmental outcomes and amount of water acquired. The Government has not thought through all the issues. There will be a dramatic change in some areas when water sold under the WPP is no longer used for agriculture.

5.2.9 The impact on water trading

There needs to be a national register showing where water entitlements are currently located. This will provide information for the WPP to maintain a balance across the MDB so no single region is disadvantaged. Market fairness with transparency is required, including the amount of entitlements purchased shown.

Allocation trading is currently far more active in the north of the Basin than entitlement trading. The WPP has excluded purchasing allocations and therefore ignored a large part of the water market.

More products could be developed that promote both environmental outcomes and provide flexibility that reflects the variable nature of environmental water requirement across wet and dry periods.

The Government needs to determine where it fits into the market. If it is not a steady operator it will spook the market and then the banks will get

nervous. It should not create a boom or bust situation and make sure there is no bubble or bust if the Government suddenly pulls out of the market.

5.2.10 Transparency in amount and location of water purchased

Details of water purchased should not be aggregated. If data is aggregated or hidden in any way it reinforces suspicion about the WPP. The Government must act beyond reproach. It goes beyond simply managing the program. This will be appreciated by the community. There is a need to address the breakdown of information per catchment without revealing confidential information. Irrigation Authorities would also appreciate a greater breakdown to enable them to assess how changes will impact on their management in the short-term and into the future.

5.2.11 Inclusion of a wider range of environmental assets

The program currently focuses on providing water to Ramsar or other important wetland sites. This is acceptable in this first buyback but system-wide processes and floodplain inundation are crucial to ensuring a healthy system and should now be actively addressed.

There is inadequate targeting of key environmental assets and restriction to heavily degraded ecosystems such as regulated rivers and Ramsar sites. There needs to be better identification of the key environmental assets and also recognition that prevention may sometimes be better than the cure with prospect of some resources going to unregulated rivers.

5.2.12 Buying land and water

A large part of the water market involves people selling both land and water. The Commonwealth is currently unable to be involved in these purchases. The current focus on a rolling tender type of entitlement acquisition means that substantial opportunities are being lost. There are properties with large water entitlements currently on the market in the MDB that would secure very significant benefits if they were purchased by the Commonwealth.

5.3 The regional irrigation community meetings

Participants in the regional community meetings were invited from local government, the general community, environmental groups, irrigation water providers and irrigators. The SCC assisted with ensuring that the workshops included a broad range of community representatives.

Participants were also selected by DEWHA staff who had dealt with a wide range of stakeholders since the beginning of the WPP. It was also made clear to invitees that other interested parties would be welcome. In the case where people could not attend they were given the opportunity to respond to a questionnaire.

A contact register was made at each meeting which was completed by most participants. An overall estimate of the number to attend each meeting is – Shepparton 13; Deniliquin 32; Griffith 11; Mildura 20; Barmera 12; Goondiwindi 23; Bourke 6; Dubbo 30.

There were many different interests represented by the participants at the meetings and issues raised at each of them were given equal weighting. There has been no attempt to prioritise these issues and no scoring of their importance. However, Table 5-13 shows the main issues raised at the meetings, at which meetings they were raised and how many times they occurred.

Table 5-13 Summary of regional community workshops

Main issues raised at the workshops	Workshop location								Total times raised
	Shepparton	Deniliquin	Griffith	Mildura	Barmerah	Goondiwindi	Bourke	Dubbo	
Where will the environmental water purchased under the WWP sit in relationship to the new CAP?	✓	✓	✓		✓	✓	✓	✓	7
There will be a detrimental impact on irrigation regions – stranded assets, loss of water, abandoned land		✓	✓	✓	✓	✓	✓	✓	7
There needs to be a vision and a plan for the WPP with a final target	✓		✓		✓	✓		✓	5
The rolling tender process should be changed	✓	✓		✓	✓		✓	✓	6
Reporting on purchases should be more transparent (\$, valleys shouldn't be combined, high/general security should be shown)		✓	✓	✓		✓			4
How will the CEWH hold, pay annual fees for the water and manage it? Will it be metered?	✓		✓	✓			✓		4
There should be intended targeting of regions that request structural adjustment or new water plans	✓				✓		✓		3
The interests of the users such as floodplain graziers are not being adequately considered						✓	✓	✓	3
Will the WPP purchase land and water, especially where they are tied?				✓			✓	✓	3
There needs to be more consultation after the review. More public consultation and involvement		✓	✓			✓			3
What is the relationship to the WPP and the NSW Govt and the MDBC water purchases		✓	✓						2
The WPP will affect the price of water				✓	✓				2
How will you deal with issues in Qld where there is a wide variety of entitlements						✓	✓		2

Main issues raised at the workshops	Workshop location							Total times raised	
	Shepparton	Deniliquin	Griffith	Mildura	Barmerah	Goondiwindi	Bourke		Dubbo
What is the relationship between the WPP and the other efficiency projects under the NWP?	✓			✓					2
There is unintended targeting because some regions are more vulnerable than others		✓							1

5.3.1 Discussion on the main issues raised at the workshops

5.3.2 The relationship between the WPP and the new Basin Watering Plan

The issue raised most frequently at the workshops was the relationship of the WPP and the Basin Plan to be developed under the new MDBA. The Basin Plan was commonly referred to as the 'new cap'. Workshop participants sought clarification on how WPP would impact on the new cap. They were concerned that if the water held by the CEWH retains its consumptive characteristics then the WPP will not reduce any cap in the new Basin Plan. There is confusion that it would, on the face of it, result in the environment being provided for twice - within and outside the cap.

5.3.3 There will be a detrimental impact on irrigation communities

This issue was raised frequently and very forcefully at some meetings. It received strong support at Deniliquin, Goondiwindi, Bourke and Dubbo. Participants at the Barmera meeting also spoke very strongly about the impact of the WPP and wanted targeted purchasing together with rural reconstruction. There was considerable discussion about the impact of the WPP on irrigation communities with the attendant problems of less economic activity and stranded assets.

5.3.4 The need for a Basin-Wide vision

This issue was raised in a number of different ways. The first was through participants seeking clarification on the objectives of the WPP. There is clearly a widespread lack of understanding about what it is setting out to achieve and concern that the purchases actually deliver environmental benefits. Participants also stated that there needs to be a clear vision for the WPP to succeed and carry public support.

5.3.5 The rolling tender process should be changed

Participants stated that the rolling tender did not give certainty to potential sellers and they found it difficult to negotiate with Government officers. While some saw a closed tender system as appropriate others were concerned about lack of price transparency and market information and suggested alternative mechanisms such as the Government posting the price it was willing to pay for certain types of allocations in particular locations.

5.3.6 Reporting on purchases should be more transparent

Participants mentioned that the table on purchases on the website combined the results of river valleys and this prevented public understanding of the extent and quantity of water purchased.

5.3.7 The role of the CEWH

Participants wanted greater clarification on the role of the CEWH and how the water was going to be held and managed to provide environmental benefits. There was concern about how the water could be delivered to particular sites and that it might not be available when needed the most. There were also numerous questions about whether the CEWH would trade entitlements or allocations and under what circumstances this might occur.

5.3.8 Certain regions could be targeted for the WPP together with a rural adjustment program

Some regions such as Barmera had already discussed the WPP and regarded it as a potential part of a total rural adjustment package.

5.3.9 There needs to be a wider range of environmental assets

Flood plain graziers from North West NSW and Qld attended meetings at Mildura, Goondiwindi, Bourke and Dubbo. They presented a case for a return to a flooding regime that prevailed prior to the development of irrigation on the northern rivers and harvesting surface flow. The current list of assets does not include the extent of the riverine floodplain and river ecosystems.

5.3.10 Will the WPP buy both land and water where they are tied?

There is a large amount of irrigation water in the northern part of the MDB that is tied to land. This is particularly the case with harvesting surface flow. It was also pointed out that a very significant proportion of water trade is made when properties are sold together with the water entitlement.

Consequently, participants asked whether the Government had considered buying both land and water.

5.3.11 There needs to be more public consultation after the review

Participants clearly wanted to stay involved with the WPP and asked for further meetings. The meetings were appreciated. The Goondiwindi meeting in particular, emphasised the need for a close working relationship between the DEWHA managers of the WPP and the Qld irrigation communities.

5.3.12 What is the relationship to the WPP and the NSW Government and the MDBC water purchases?

There is concern that the different programs for purchasing environmental water are not coordinated and will lead to different goals and objectives to make a Basin-wide vision difficult to achieve.

5.3.13 The WPP will affect the price of water

There were different views on whether the WPP will affect the price of water and if it would be an increase or decrease. The water market is not widely reported and is poorly understood.

5.3.14 How will you deal with issues in Qld where there is a wide variety of entitlements?

The meeting at Goondiwindi in particular, emphasised the need to consult closely with the Qld Government and irrigation managers to deal with the variety of entitlements and management systems in the northern part of the MDB.

5.3.15 What is the relationship between the WPP and the other efficiency projects under the NWP?

It was pointed out that efficiency gains made under other components of the NWP should be taken into account when setting the target for the WPP.

5.3.16 There is unintended targeting because some regions are more vulnerable than others

The issue of unintended targeting was raised at the Deniliquin and Goondiwindi meetings. Participants stated that certain communities that were isolated and/or highly vulnerable due to the lack of rainfall and with very few irrigators in the first place would be very vulnerable. If the WPP

encouraged a few of the remaining entitlement holders to sell it would have an impact on the whole community.

5.4 Interviews with Non Government Organisations

The interviews with stakeholders in Non Government Organisations (NGOs) were directed to major conservation and environment groups with an interest in water and wetland/riverine environmental management. Three NGOs that met this criteria were identified, contacted by telephone then emailed a set of questions based on the SCC interview. Two responses were received. A contribution was also received from the NSW Local Government and Shires Association and one from a member of the Paroo River Association. These were obtained as a result of DEWHA offering invitees to the regional irrigation community workshops the opportunity to respond to a structured interview if they were unable to attend.

The responses varied in length. The contributions from the Local Government Association and the member of the Paroo River Association were received as position statements. Notwithstanding, all four responses have been summarised in Table 5-14 that follows the questions based on those used for the SCC.

Table 5-14 Summary of stakeholder responses

	Inland Rivers Network	Queensland Conservation Council Rivers	Local Government and Shires Association of NSW	Submission from member of Paroo River Association
Your stakeholder group?	A coalition of the Nature Conservation Council of NSW, National Parks Association, Central West Environment Council, Australian Conservation Foundation, Coast and Wetland Society and Friends of the Earth. Also a range of individuals, farmers, community groups and scientists around the MDB.	Queensland Conservation Council [QCC] is the states peak environmental NGO, and represents over 70 environmental and conservation groups state-wide.	The Local Government and Shires Association of NSW (LGSA) are the peak bodies representing the interests of all 152 general purpose councils and 13 special purpose councils. In this role, the LGSA represents local water utilities in NSW. The combined local council water utilities service over 1.8million people which is approximately 30 percent of the total NSW population.	
How aware are they of the program and its objectives?	IRN is fully aware of the WPP and has been a key advocate for purchasing water entitlements to return water to the environment	QCC is reasonably aware of the program and its objectives however, lack of capacity and resources limit our ability to develop detailed awareness and engagement in the program.		
What is their opinion of the WPP?	Very supportive of the government water entitlement purchase program. Recommends that the Commonwealth roll out the program more rapidly and also develop timelines and targets for water to be regained within each valley and throughout the basin.	Water buy back to improve environmental flows is only one part of the equation required to improve ecological health of the MDB. Achieving the objective of returning the MDB to ecological resilience, will require inappropriate land use and unsustainable agricultural practices to be addressed and phased out.	The LGSA recognise the need for and support the implementation of sustainable levels of water diversion to protect the health, resilience, and productive base of the river system in the Murray-Darling Basin	

	Inland Rivers Network	Queensland Conservation Council Rivers	Local Government and Shires Association of NSW	Submission from member of Paroo River Association
		The program needs to be targeting 'real' high priority allocations, not medium or low priority allocations		
What is their major concern?	The major concern is that the program will not be rolled out with the urgency required to return the system to health. IRN is also concerned that the modernising irrigation program is not being effectively 'dove-tailed' with this buyback program. Work on modernising irrigation must complement the buyback program to ensure that there is not an investment in infrastructure where irrigation industries are not sustainable now or into the future. The 4% rule is an impediment.	<p>That the WPP will deliver too little water far too late, and as a result irreversible ecological collapse will not be avoided</p> <p>Buyback of water is only part of the equation. There needs to be aligned programs that address inappropriate land use and unsustainable agricultural practices throughout the MDB</p> <p>That buy back funding will be spread thinly across the MDB and not effectively achieve the objectives</p> <p>That 'rollout' of the program will be directed by political whim and the 'rollout' of the program will not strategically target those ecological assets most at risk</p>	<p>The LGSA are concerned about potential socio-economic impacts of water buybacks on regional and rural communities. This could lead to adverse impacts on local employment, economic development, and the viability and cohesion of local communities that are already struggling under current drought conditions.</p> <p>The LGSA believe it is critical that these impacts are identified and appropriately managed and that structural adjustment programs are in place where required.</p>	<p>Over allocation of the water resource has had a huge impact on the viability and livelihood of many floodplain landholders.</p> <p>We are fourth generation livestock producers from the Darling and Paroo areas. Our knowledge of these rivers that has been passed down over generations could have told people that extensive irrigation development would never be viable in these remote arid areas.</p> <p>Extensive irrigation development has taken place over the past 30 years during a period of above average rainfall without regard to long term rainfall records.</p>

	Inland Rivers Network	Queensland Conservation Council Rivers	Local Government and Shires Association of NSW	Submission from member of Paroo River Association
What are the main strengths of the WPP?	IRN supports the program wholeheartedly, with its key strength being that it is using a cost-effective and time-effective approach to returning water to the environment that should result in real results in the rivers and wetlands in a reasonably timely manner.	<p>Buy back of water allocations to supplement environmental flows</p> <p>Cross government Basin wide management frameworks</p> <p>Recognition of the 'criticalness' of the MDB's plight</p>		
What are the main weaknesses?	While the 4% trading rule remains the program will not have the effectiveness that it is intended. A clear need for a full study into the hydrological requirements of environmental assets	<p>Too little action far too late to avoid calamitous ecological impacts</p> <p>Returning water to supplement environmental flows will not guarantee improvement of ecological resilience throughout the MDB</p> <p>The social upheaval that will occur to communities from reduced water availability that has historically been relied on for economic lifeblood of regions within the MDB</p>		

	Inland Rivers Network	Queensland Conservation Council Rivers	Local Government and Shires Association of NSW	Submission from member of Paroo River Association
What communication products are required to meet your stakeholder needs?	IRN strongly supports the use of a range of products and media outlets to demonstrate the benefits of this program and highlight its importance. Information at a local level of specific benefits for local iconic areas and assets is essential. IRN also believes that it is critical to ensure that there is a good understanding within city communities that are not necessarily within the MDB of the benefits gained through water buyback.	QCC is the QLD 'peak' environment NGO, the most effective way to communicate with the QLD conservation sector is through QCC, from which QCC would then disseminate information to relevant member groups. Engage with QCC would be best undertaken by one on one dialogue and presentations, ensuring that QCC is included in combined stakeholder presentations and dialogues and inclusion of QCC on relevant email distribution lists		The Ministers Stakeholder Consultative Committee does not appear to include floodplain graziers. Floodplain landholders who graze livestock have been the forgotten group in the water debate
What would you like to see included in this review?	IRN recommends that the Commonwealth use the knowledge, skills and experience within the NSW Riverbank program to the greatest degree possible. This is particularly important whilst the Commonwealth is gaining the necessary resources and knowledge in environmental water management and purchase	Whether overall ecological resilience of the MDB has improved from first phase investment Whether first phase buy back has been undertaken strategically targeted ecological assets most in need of supplementary environmental flows Volumetric assessment of 'actual' water that has been returned to environmental flows from first phase investment		The Paroo is the only valley in good condition. It is a unique environment but under threat.

	Inland Rivers Network	Queensland Conservation Council Rivers	Local Government and Shires Association of NSW	Submission from member of Paroo River Association
How do you suggest the WPP could be improved?	<p>The Commonwealth needs to include high security water, to ensure that there is water available in almost all years.</p> <p>IRN also recommends investigating the purchase of supplementary water particularly in northern basins.</p> <p>Market based instruments other than the tender process should be used, particularly in targeting particular types of licences or strategic purchases scenarios.</p> <p>IRN would recommend seeking to have a model valley where there has been substantial water purchase and where other issues have been substantially fixed as a way of clearly showing the outcomes that can be achieved through this WPP.</p>	<p>Just returning water to environmental flows will not guarantee overall improvement of the MDB's ecological resilience. To be effective in meeting its purpose and objectives, the program needs to include a specific focus on addressing inappropriate land uses and ecologically unsustainable agricultural practices, in particular outdated irrigation methods. Theft of water extractions needs to be prevented.</p>	<p>To ensure optimal environment, social, and economic outcomes, it is important to appropriately coordinate water buy-backs under the program with water buy-back programs of the NSW government (e.g. the Living Murray Program, the Water for Rivers program, and the Department of Environment and Climate Change's Riverbank Program.</p> <p>To ensure Local Government's concerns are addressed, councils in NSW, and the LGSA as their peak representative body, need to be involved in comprehensive consultation to assess socio-economic impacts on regional and rural communities and identify required support for structural adjustment.</p>	

6 Conclusions from stakeholder consultation process

The WPP has clearly become a very well-recognised. This does not necessarily mean that it is well understood or well appreciated. As with many issues that impact on the triple bottom line, the stakeholder responses depend very much on their perspective on environmental, social and economic issues. Irrigators, environmental managers, flood plain graziers, rural and regional communities have many overlapping and common interests in the WPP. The ecological health of the MDB is one of those major common interests expressed by all stakeholders and this embraces a number of other values such as the state of individual river reaches, wetland needs and access to water by regional communities.

It is clear from the SCC comments that the stakeholder groups they represent are aware of the WPP. However, the SCC would like to see a much broader level of engagement that leads to a greater understanding and appreciation of the WPP. They have also identified particular sectors that may need that level of engagement such as communities in the northern part of the MDB.

When resources are allocated differentially across competing interests then conflicting values become evident. This has raised the issue of the impact on irrigation industries and regions as entitlements are purchased as environmental water. The issues raised and discussed in the stakeholder consultation lead to a set of findings that will help resolve them in future rounds of the WPP.

There is a need for DEWHA to engage with state and local governments and regional communities. The regional irrigation community meetings associated with this review were very favourably regarded. The communities or regions that require such community engagement will often identify themselves. For example, participants at the Goondiwindi workshop clearly expressed the need for the Commonwealth to work more closely with them and their region for successful implementation of the WPP. Similarly, participants at the Barmera workshop wanted the WPP integrated with rural adjustment programs. Such an enhanced community engagement program will have implications for staffing levels in the management of the WPP.

6.1 Stakeholder consultation findings

A vision and clear goals for the WPP

There is an urgent need for a clear vision with set goals and targets for the WPP that addresses Basin-wide issues.

Develop a pro-active and educative communication program

The WPP is widely known in the water market and potential sellers of entitlements. Irrigation water supply organisations and other regional and rural communities also know about the program.

The goals and vision for the WPP however, are not well understood. There is an urgent need for a well-resourced communication and education program that helps irrigation communities understand the WPP and plan for its further implementation. There is also a need to inform the wider public and stakeholders who have other interests in the WPP. There needs to be a clear, consistent and repeated communication program to support the role and benefits of the WPP.

Clarify and communicate the role of the WPP in setting the new Basin Wide Plan

The development of the new Basin Plan by the MDBA is not expected to be completed before 2011. In the meantime there is a great deal of uncertainty being created by not making it clear how the water entitlements held by the CEWH will affect the cap under that Plan and the EWP. There is also confusion about the role of the CEWH and whether the water it holds will remain in the consumptive category that can be traded or permanently classed in an environmental flow category.

There needs to be a wider range of environmental assets

The current set of environmental assets does not take adequate account of riverine processes and the ephemeral nature of riverine ecosystems such as floodplain environments. The environmental assets should be broadened to reflect the Basin wide approach that should shape the vision for the WPP.

Opportunities to purchase the water entitlement when land and water are sold together should be investigated.

Many properties are marketed with both a land and water entitlement. This is a large component of the overall water market. Methods for the Commonwealth to obtain the water entitlement without taking ownership of the land may be available that also meet procurement guidelines.

Clarify the relationship between the WPP an the NSW Government and the MDBC water purchases

The different government programs for purchasing environmental water should be coordinated. There needs to be intergovernmental cooperation to ensure that the different programs do not compete and/or conflict with each other.

Establish a northern MDB unregulated entitlement working group.

The impediments to purchasing entitlements in the northern unregulated parts of the MDB have become apparent. Northern stakeholders have requested closer contact with WPP to assist working through the issues involved in entitlements in the northern unregulated systems.

Work more closely with irrigation communities that indicate they would like to be involved in a restructuring process

Some irrigation communities may request assistance in dealing with the impact of reduced water through a range of factors such as climate and changed economic circumstances. There is scope for DEWHA to work more closely with these communities to facilitate structural adjustment.

7 The results of the review

7.1 Appropriateness – Did the management of the WPP meet Government objectives?

The objectives set by Government for the WPP resulting from the Water for the Future Program and the subsequent Ministerial briefings and advice from DEWHA have been analysed. This analysis shows that the WPP has been managed appropriate to Government requirements. Expenditure and activities are consistent with the Government's intention to provide water for specific environmental assets in the MDB through the purchase of water entitlements.

The balance between purchasing high security and general security entitlements has been well planned and all the administrative procedures established at the outset have been followed.

The evaluation of appropriateness of future purchases will be difficult without clarification of the goals and objectives of the WPP through specification of the required environmental watering regimes. In other words, the EWP should drive the acquisition of water as soon as possible. People want to know about the shape of the future. This review has found that while the overall goal to purchase water for the environment may be well understood, specific targets to support this overall goal would be advantageous.

The lack of a specific target has had minimal impact on the appropriateness of this first round because it is such a small component of the total \$3.1 billion. However, given the need to establish a vision and Basin Plan, it is essential that the objectives and targets of the WPP are clarified and then used consistently throughout. Internal DEWHA procedures, media releases and communications with the public could then emphasise aims and objectives of DEWHA and the WPP.

7.2 Effectiveness – Was the WPP effective in procuring water entitlements?

This review concludes that DEWHA has been effective in completing the first round of the WPP. DEWHA has successfully established all the administrative and legal procedures and adhere to Commonwealth procurement requirements in a short time to complete the first round of the WPP.

The first round of the WPP has largely met its expenditure target. The total value of offers being pursued under the WPP as at 13 August 2008 was \$47,167,775 out of the \$55 million provided. This represents 86 percent of the total \$55 million. However, offers up to \$53.6 million were accepted at the close of the tender and this represents 97 percent of the total available funds. Some offers were withdrawn during the period when the due

diligence checks were undertaken and prior to signing and exchanging contracts. Other offers failed due diligence checks. This explains the difference between the total value of offers initially accepted and those being pursued.

The review of the pricing policy and stakeholder consultation shows that there is some concern that the entitlements purchased are not clearly linked to the environmental assets used by DEWHA. This is an issue that needs to be addressed within the Basin Plan, with particular relevance to the role of the CEWH.

This review has found that criticism of the WPP for only purchasing 'air space' in storages is without justification. The current lack of inflows means low access to water. The CEWH is simply another entitlement holder and has no advantages over any other entitlement holder. The first round of the WPP has been effective in purchasing entitlements that have been taken out of the consumptive component of all water entitlements and are now held for environmental purposes.

7.3 Efficiency – Was the WPP efficient?

DEWHA chose the method of purchasing the water from the range of options provided in ABARE (2007). It was efficient in purchasing the entitlements made possible by the \$55 million provided for the first round of the WPP. The use of a variety of methods was simply unnecessary and would have required more time and resources and may have made it much more difficult to sellers. The results of the review of the purchasing strategy have made findings that show ways the WPP could be made more efficient in future, particularly if there is a marked increase in the price of water.

The cost per megalitre is also a measure of efficiency. Paying too much for water is not highly efficient. However, review of the purchasing policy has shown that not to be the case. The only issue to have emerged is whether DEWHA decides to take into account a proportion of the administration costs of the WPP. DEWHA has managed the WPP with between five and eight Full Time Equivalents (FTE). These have been distributed across the following tasks:

- WPP direction, policy and strategy
- Developing and delivering the communication program
- Managing the due diligence
- Finalising the legal transfer of entitlement

While the FTEs allocated to address all these tasks is low, it is nevertheless a cost that is distributed across every megalitre purchased. If the administrative and management cost per megalitre purchased is established then DEWHA will have a benchmark to assess future costs. It will also be in a position to decide whether, and on what basis, to contract out the purchasing component of the WPP.

Contracting out some of the purchasing component may allow DEWHA to allocate more professional staff resources to issues raised in the findings of this review. If, for example, DEWHA is to respond to requests for activities such as wider community engagement, using different purchasing strategies and working more closely with certain regions, then a considerable amount of extra FTE's and other resources will be required.

7.4 Consequences - are there any unintended consequences?

The consequences of the WPP were foreseen and have been clearly mentioned in a variety of documents and Ministerial briefings by DEWHA. The WPP was designed to avoid as many negative consequences as possible. For example, the WPP recognises a water entitlement as a property right and has been meticulous in only buying from willing sellers. For these reasons it is inappropriate to refer to the consequences of the first round of the WPP as 'unintended consequences'. Notwithstanding this distinction between the two, this review has provided the opportunity to examine the consequences of the WPP and make findings that assist future rounds.

7.4.1 The price of water

The entry of a major new buyer will affect the price in any market. The entry of the Commonwealth into the water market is no different. It is evident that the price of water has been affected by the WPP, at the very least by the premium paid in recognition of short-term uncertainty in water availability. As noted in the chapter on pricing strategy – the current situation favours sellers. As the Commonwealth purchases more entitlements, it is inevitable that it will affect resource availability and impact on the price. While this is good news for sellers, it will increase costs for the Commonwealth and impact on its overall aims. However, also increases the value of water as a capital asset and therefore equity for those who hold entitlements. It allows the commercial sector to raise finance based on improved valuations of their assets. It makes those making adjustments to their enterprises more able to do so.

The Commonwealth Government is regarded as a different buyer in the market because people look to government as being 'above' bargaining strategies that might occur between private buyers and sellers. Consequently, the level of information made public by the Commonwealth about the amount of money it will spend has had the consequence of increasing the asking price in the offers.

Notwithstanding these market forces, it is impossible to predict price actual price movement in scale and time. To do so for water is no different to the difficulty and precarious nature of predicting the future of any market. For example, climate and rainfall distribution will have a significant impact on the price of water. However, the basic issue is that the WPP will result in less consumptive water and price is likely to increase as scarcity increases.

This will have an impact on the WPP and its capacity to meet the targets it sets for the \$3.1 billion over the next ten years.

7.4.2 A new value for water

A new value for water has been introduced in the market. Environmental water is now an established part of the suite of opportunities a seller can choose from. Together with the MDBC, Water for Rivers and NSW Riverbank, governments are now a participant in the market. It is also quite possible that private organisations will enter the market for environmental water. They may be philanthropic organisations and/or those that buy water for a particular environmental purpose. The conservation and management of terrestrial ecosystems is now funded and undertaken by a wide variety of NGOs. There is no reason to assume that this model will not evolve as another entrant to the water market.

7.4.3 Is there an impact on regional irrigation communities?

This review has taken an evidence-based approach throughout. The data relevant to the terms of reference have been analysed and presented. The economic analysis shows that this first \$50 million round of the WPP only represents a very small proportion of the potential trade in water entitlements. This is far too small to have had a detrimental impact on irrigation communities. To the contrary, the sum of evidence shows that under prevailing conditions where allocations have been low, the WPP is far more likely to have had a positive impact on irrigation communities. It has had a stabilising effect on prices and it has provided the capacity to retire debt at a time when water allocations were very low or entirely absent.

The stakeholder consultation and reports in the media indicate that there remain conflicting points of view about the impact on regional communities. This review has identified issues to be taken into account in forecasting the impact of the WPP on irrigation communities, be they positive or negative consequences. These issues are:

- There are properties on the market that have large water entitlements. The WPP has not caused this situation. Clearly, there are a number of factors that influence the decision to sell land and/or water that are outside any influence of the WPP
- Will current climatic conditions continue? This will affect the relationship of the WPP to regional irrigation communities. If current climatic conditions herald a long-term pattern then the WPP may help regional communities adjust to climate change
- With a \$3.1 billion budget, the WPP may confirm the belief of those who say it will have a negative impact on regional irrigation communities. They are concerned that the cumulative impact of the WPP will create stranded assets, population decline and loss of community infrastructure

- The WPP will take water out of consumptive use. Those irrigators who hold water entitlements may see the value of their entitlement increase allowing them to become more efficient
- The WPP has clearly recognised a water entitlement as a property right
- The environmental and water quality and quantity benefits of the WPP may far outweigh any negative impacts on communities
- There are many stakeholders both urban and rural who have been marginalised in the debate about negative community impact but who also have a major interest in the WPP

Scenario planning is a technique widely used by commercial corporations and governments to adapt to change. DEWHA could host a scenario planning workshop that examines the implications of the above issues for the WPP and help shape its implementation.

7.4.4 Community expectations

There are different stakeholders with an interest in the WPP. Some want faster results in delivering water to the environment. There is an expectation that \$50million worth of water will be delivered to environmental assets this year. As is well-known to those managing the WPP current allocations may only yield as low as 10GL this year. It is important that realistic expectations are addressed in the communications program for the WPP developed by DEWHA.

7.5 Conclusion and the way ahead

The first round of the WPP has been well managed and has remained focussed on the objectives set by Government. It largely met its expenditure target. It has achieved this in a very tight timeframe that involved developing an entirely new program. This review has provided the opportunity to reflect on the results of this first round and provide findings to benefit future rounds. The successful management of the WPP needs to be supported by a communications and community engagement program that reflects its importance. Addressing the differing and often conflicting views about the WPP is one of the major challenges facing its continuing success.

8 References

ABARE (2007) Page, S., Goesch, T., Dyack, B., Hone, S., Hughes, N., *Purchasing water in the Murray Darling Basin*. Report by Australian Bureau of Agriculture and Resource Economics to the Department of the Environment, Water, Heritage and the Arts. Canberra 2007.

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Appendix A

ABARE Report on Purchasing Methods

Appendix B

Stakeholder Consultative Committee Membership

Members of the Murray Darling Basin water purchase Stakeholder Consultative Committee

Laurie Arthur National Farmers Federation Water Task Force

Colin Thomson Chair, NSW Irrigators Council; Director, Western Murray
Irrigation

Ian Johnson Executive Officer, Queensland Irrigators Council

Sharon Starick South Australian Natural Resource Management Council;
South Australian Farmers Federation

Richard Anderson Victorian Farmers Federation

Dick Thompson Chair, Murrumbidgee Irrigation Limited

Mike Logan Chair, Cotton Research and Development Corporation

Dr Arlene Buchan Australian Conservation Foundation – Healthy Rivers

Mary Annand MacIntyre Brook Irrigators Association

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