Natural Heritage Trust

Helping Communities Helping Australia

An Australian Government Initiative

WATER SAVINGS PROJECT

Final Report

September 2005

An initiative funded under the Natural Heritage Trust

This report can be downloaded at: www.daff.gov.au/wspfinalreport

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1. Introduction

Australia is the driest inhabited continent and has one of the highest per capita water consumption levels in the world. Average annual rainfall is around 450 mm per year against a global average across all continents of more than 860 mm per year.

Against this background, and with ever-increasing demand on our limited water supplies compounded by severe drought over large parts of Australia, in May 2003 the then Minister for Agriculture, Fisheries and Forestry, the Hon Warren Truss MP, issued a public call for ideas and proposals for saving water in rural and regional Australia. Known as the *Water Savings Project*, the Minister emphasised that ideas must be practical and be capable of delivering genuine water savings.

The public call received an immediate and positive response with over 550 ideas and proposals being lodged from across all states and territories. The ideas mostly related to: the installation of new infrastructure; the repair of old infrastructure; improving existing water technologies; water recycling and reuse options; institutional changes, and new water management systems and practices.

Many submissions were about simple but practical ideas and devices on how to save water in the home, garden, business, farm and in public places. Others were far more complex, calling for investments in the hundreds of millions of dollars in new water infrastructure such as water treatment plants, pipelines and distribution networks across the continent. A process to evaluate all proposals on their merit was established.

2. Evaluation of ideas and proposals

The *Water Savings Project* was managed by the Department of Agriculture, Fisheries and Forestry (DAFF). Reflecting the volume and range of submissions, the following assessment process was put in place:

- An Assessment Panel (see Attachment A for membership) was established comprising an independent chairman and representatives from Australian Government agencies and the private sector to:

  i) undertake technical assessment of all proposals and ideas; and

  ii) provide advice to DAFF on projects worthy of further investigation.

- An Advisory Committee was established comprising representatives from Australian Government and state / territory agencies to provide input to the development of a strategy to implement projects following the Assessment Panel's evaluation of proposals.

The Assessment Panel found significant variation in the development of ideas and proposals put forward. Ideas ranged from simply fixing leaky plumbing to the promotion of existing commercial products. Project proposals ranged from rough ideas and concepts on creating 'new' water resources to detailed and ambitious plans to build multi-billion dollar developments such as new dams and sophisticated distribution networks over much of Australia.

In broad terms, the ideas and proposals received were categorised as follows:

- domestic ideas and opportunities;
- large-scale recycling and reuse operations;
- improving dam management practices and water transmission efficiency;
- ground water management opportunities;
- water purification and desalination;
- industry opportunities;
- institutional arrangements; and
- creation of 'new' water resources.

Drawing on the breadth and depth of the ideas and opportunities put forward in the submissions, the Assessment Panel identified:

i) a range of actions or projects with the potential to bring widespread or national benefit from their implementation; and

ii) a number of specific or 'regional' proposals with potential for taking forward.

Funding for the *Water Savings Project* was made available from the Natural Heritage Trust (see Attachment B for a summary of the budget for the Project).

3. National projects

Six 'national' projects were implemented. However, the national projects recommended by the Assessment Panel were not specific projects submitted by any one group or person. Drawing more on the opportunities and gaps highlighted in the submissions as a whole, the Panel itself developed targeted projects that it believed would best address the immediate and most important areas requiring attention. Descriptions of the national projects follow.

3.1 *Domestic water savings ideas*

A website has been developed to share with all Australians around 80 of the more developed ideas and products submitted through the public call for water saving suggestions. At the website www.savewater.com.au and under the entry 'Water Savings Project', the public can find information about water saving ideas and technologies which can help conserve water and directly contribute to smarter use of Australia's scarce water resources. The ideas are identified within the categories of home, garden, business, farm and public place. The website has proven very popular with the public and continues to receive a high number of visitations.

3.2 Water reuse and recycling

Under this project, guidelines for developing horticultural irrigation schemes using recycled treated wastewater have been produced through the *Water Savings Project* as part of a larger project under the National Program for Sustainable Irrigation. Based on surveys of stakeholders' perceptions (water authorities, horticulturalists, wholesalers, retailers and consumers), the guidelines aim to better assist the introduction of future schemes using recycled wastewater. The guidelines are based on a set of common sense principles and contain suggestions on how to engage with stakeholders and how to foster a positive approach while understanding the expectations of others. They include consideration of health and safety issues so as to help protect consumers and also workers who might come into contact with the recycled water. A final checklist is also included. *Guidelines for developing recycled water schemes in horticulture* is available at www.daff.gov.au/waterguidelines_hort.

3.3 Rivers and Aquifers: Towards conjunctive water management

This project funded the report of the Rivers and Aquifers Workshop (Adelaide May 2004). The workshop was part of a larger external project – 'Managing Connected Water Resources'. An objective of the workshop was to examine possible directions for national policy drawing on issues raised in submissions to the Water Savings Project. The workshop report makes three high-level policy recommendations: (i) where physically connected, surface water and ground water should be managed as one resource; (ii) allocation regimes should assume connectivity between surface water and groundwater unless proved otherwise, and; (iii) over-allocation of systems comprised of connected surface water, groundwater and/or overland flows should be identified and eliminated by 2014. The intent of these recommendations is now reflected in the target outputs and outcomes of the National Water Initiative. The workshop report is available at http://affashop.gov.au/product.asp?prodid=1312l.

3.4 Assessment of water purification technology

This project was a desktop study to examine the viability of a range of water purification methods, with particular reference to high value irrigated crops. The study drew upon two case studies (McLaren Vale in South Australia and Shepparton in Victoria) where a range of purification technologies were examined. Results suggest that where intensive farming areas are relatively close to large urban centres and sewage treatment plants, irrigation of high value crops should be profitable.

With improvements in technology over time, the costs of water purification should decline. Similarly, the study found that as the price of better quality water rises, reflecting its relative scarcity, so too should the commercial attractiveness of water purification methods. Water pricing to reflect its truer value will accelerate this process. The study is available at www.brs.gov.au/WaterPurificationTechnology.

3.5 Innovation in irrigation forum

This project funded a Forum to showcase case studies in irrigation efficiency from across Australia. The Forum was staged in conjunction with the annual conference of the Australian National Committee on Irrigation and Drainage in October 2004. By way of 12 case studies of excellence in irrigation, the Forum highlighted the progress that Australian irrigators have achieved in recent years in innovative practices and water efficiency. The project produced materials such as videos, banners, photography, a booklet and editorials for use in the media and at future events promoting innovation in Australian irrigation. Media monitoring during and after the Forum indicated a very high profile and coverage was achieved. The 12 case studies can be viewed at www.nht.gov.au/irrigation.

3.6 Additional industry case studies in irrigation efficiency.

This project collated further information on additional water saving initiatives and best practice for the cotton, rice and dairy industries – industries traditionally requiring large amounts of water. In addition to specific farm case studies, the material brings a 'whole of sector' focus in that it provides contextual industry information, poses questions about why to save water, provides practical advice on implementation issues, identifies other helpful programmes and provides access through other websites to related information and resources. The additional industry case studies can be viewed at www.savewater.com.au.

4. Regional projects

Following completion of evaluations of all ideas and proposals submitted under the *Water Savings Project*, the Assessment Panel found that 35 proposals, largely in regional Australia, had potential to be projects in their own right or, in some cases, potential for further feasibility analysis. In line with the agreed process to assess applications, the 35 regional proposals were then forwarded to relevant states for further consideration where they were assessed on their likely viability and consistency with that state's own regional and local area planning requirements.

Due primarily to duplication and overlap with states' regional and catchment management planning, a high number of proposals were judged to have been either superseded and/or no longer a priority. With respect to funding, a number of the proposals required a level of investment far beyond the capacity of the *Water Savings Project* and, furthermore, many would require additional feasibility analyses. Nevertheless, the following regional project is being jointly funded by the *Water Savings Project* and the Victorian Department of Sustainability and Environment.

4.1 Irrigation into the future: Shepparton Irrigation Region on-ground works

This is a project employing strategic and community whole-farm planning to assist landholders adopt irrigation best management practices in areas of high adverse irrigation impact. Importantly, the project is assisting in the installation of farm drainage systems to recycle and reuse irrigation water and demonstrate the benefits of adopting automated irrigation systems.

The project will further implement the Shepparton Irrigation Region's land and water management plan, targeting farm-driven natural resource management outcomes including the protection of key assets from the adverse impacts of irrigation. Overall, it aims to improve water use efficiency and deliver public and private benefits (environmental, economic and social) through the reduction of salt and nutrient loads entering waterways and improved on-farm water use efficiency. Significant on-farm water savings are expected. The project is due for completion around the end of 2005.

5. Recent developments in water reform and funding arrangements

Since the commencement of the *Water Savings Project*, and reflecting the ever increasing importance of water issues as they affect the Australian landscape, the Council of Australian Governments, in June 2004, established the National Water Initiative – the blueprint for national water reform.

The National Water Initiative (NWI) aims to: improve security of water access entitlements; strengthen water markets; increase trade in water; recognise high value users and water use efficiency, and assist urban Australians focus on water conservation and efficiency.

To implement and manage the NWI, the National Water Commission has been established. The Australian Government has also committed $2 billion (over five years) to the Australian Government Water Fund (the Fund) to assist implementation. The Fund comprises:

- the $1.6 billion **Water Smart Australia** programme to support major capital projects aimed at efficient water use, improving river flows, raising water quality and promoting better urban water management (managed by the National Water Commission);

- the $200 million **Raising National Water Standards** programme to improve the quality of information collected, as well as the science needed, to underpin better management of scarce water resources (also managed by the National Water Commission); and

- the $200 million **Community Water Grants** programme for community groups and organisations to undertake local on-ground works, local water efficiency promotion and other community based water management activities (jointly managed by the Department of Environment & Heritage and DAFF).

The Fund's programme administrators have been advised about the remaining regional proposals submitted to the *Water Savings Project* that were considered by the Assessment Panel to have potential. Similarly, all proponents of the regional proposals have been advised of the new programme arrangements and the steps necessary to further pursue their proposals if they wish to do so.

6. Conclusion

The *Water Savings Project* has proved a successful medium in eliciting a wide range of ideas and suggestions on how to save water and use it more efficiently. Submissions from over 550 respondents to the call for water saving ideas was clear demonstration of the level of concern and interest held by individuals, organisations and businesses alike. Equally, the *Water Savings Project* has been effective in bringing water management issues more clearly into the public domain.

The seven projects funded under the *Water Savings Project* have met, or are meeting, their aims and objectives. Ranging from desk-top studies to the creation of websites and on-ground irrigation works, the projects have examined a number of key issues put forward by the public. These projects, in turn, have provided an additional body of practical information that can be used in the development of policies and programmes to address the types of issues submitted to the *Water Savings Project.*

In view of the new funding arrangements introduced recently by the Australian Government, it is now consistent that project assistance be pursued by proponents through the Australian Government Water Fund. Under this new arrangement, successful water savings proposals will be funded within a national and holistic framework consistent with state, regional and catchment management planning.

Attachment A

Assessment Panel – members

- Mr Dennis Mutton (Chair) – past CEO, Primary Industries and Resources, SA
- Ms Elizabeth Chapman – RuralPlan Consultants Pty Ltd
- Mr John Blackwell – CSIRO
- Ms Veronica Varsanyi (Secretary) – Manager, Water Savings Project, DAFF

Attachment B

Water Savings Project

Budget summary (NHT national component)

Program Allocation	Project	Expenditure $
2002-03 $400,000	• Administration – Advisory Committee & Advisory Panel processes	71,124
	Total for 02-03	**71,124**
2003-04 $500,000	• National Water Savings Website	75,239
	• Rivers and Aquifers – workshop	35,000
	• Water purification technologies	120,000
	• Water reuse and recycling	120,000
	• Administration	52,893
	Total for 03-04	**403,132**
2004-05 $368,000	• Innovation in irrigation forum	146,000
	• Additional industry case studies	52,000
	• Water reuse and recycling	20,000
	• Shepparton Irrigation Region	*150,000
	Total for 04-05	**368,000**

* Transferred to NHT Victorian Regional Component for expenditure in 2005-06.