

**Senate Standing Committee on Environment, Communications and the Arts  
Legislation Committee**

Answers to questions on notice

**Environment, Water, Heritage and the Arts portfolio**

Additional Estimates, February 2010

**Outcome:** 4 **Question No:** 125  
**Program:** 4.1  
**Division/Agency:** National Water Commission  
**Topic:** Potable water supplies – research projects  
**Hansard Page ECA:** 116 (9/2/10)

**Senator BIRMINGHAM asked:**

**Senator BIRMINGHAM**—What research projects or papers has the commission conducted into supplementing potable water supplies with recycled water, in particular stormwater runoff?

**Answer:**

Through the Raising National Standards program, the Commission has invested in a number of research projects investigating recycled water, including stormwater. A number of these projects consider issues associated with recycled water to supplement potable supplies. Each project and its relevance to stormwater re-use is summarised in Table 1. Recently, funding of \$1.8 million was announced to support a consortium lead by Monash University to undertake an integrated research program to support greater use of stormwater within cities.

**Table 1. NWC Stormwater related projects**

Project	Role in stormwater re-use	Status
Information package to enhance public awareness about the use of recycled water for drinking purpose	Provide easily accessible information for the broader community looking to better understand the risks with recycled water for drinking. Also references a table covering cost comparisons from a range of supply schemes including stormwater harvesting.	Published 2007
Recycled water quality standards	Adding to Australia's knowledge with regard to assessing and communicating risks associated with using recycled water including stormwater re-use for potable purposes. Science applied in the development of the Australian Guidelines for Water Recycling.	Published 2007
Australian Guidelines for Water Recycling	Provides national authoritative guidance for the safe implementation of recycling schemes including stormwater re-use for drinking purposes. Recognised as world leading (adopted by World Health Organisation) and signed off by all jurisdictions as part of the commitments under the NWIO (Clause 92 (i and ii)).	Published 2007 and 2009.
The potential of strata and community title to provide on-site solutions to water management	Provides guidance for understanding the body corporate based infrastructure and governance mechanisms underlying decentralised water management for large urban developments. This includes the role of body corps in managing stormwater re-use schemes.	Published 2009

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Reviewing institutional and regulatory arrangements and preparing best practice guidelines	Reviewing the institutional and regulatory models for achieving integrated urban water cycle planning. Provide reform direction for enabling the safe implementation of stormwater re-use schemes.	Published 2009
Managed Aquifer Recharge: An Introduction	This report summarises the relevant information needed to consider managed aquifer recharge (MAR), alongside other alternatives, as a prospective new water supply for drinking or non-potable uses. The report explains managed aquifer recharge, offers a description of the diverse drivers for MAR and presents new information on the economics of MAR in relation to alternative sources of supply. The authors deal with how to establish a MAR project, outline considerations for government regulators and look at MAR opportunities in an integrated urban water management context.	Published 2009
The Australian Integrated Resource Planning Framework and Manual	Developing resources and tools to assist urban water service providers and government agencies to determine more accurately the most appropriate supply/demand options for a region's water planning purposes. Enables Stormwater to be considered on its merits against all options with regard to social and environmental externalities.	To be complete 2010
Framework for the management of recycled water: development of a methodology to assess implementation	The project developed a methodology to assess the safe implementation of a national recycling guidelines framework for the management of recycled water quality including stormwater. Will provide utilities with confidence they are delivering safe recycled water.	To be complete 2010
Australian water recycling regulation: Consistency and harmonisation	Reviewing water quality regulatory approvals processes and practices across Australia, looking in particular at approval pathways for new and emerging water recycling and reuse technologies. Will provide reform guidance and direction for the safe and efficient implementation of the Australian Guidelines for Water Recycling and progress institutional issues slowing the uptake of stormwater re-use schemes.	To be complete 2010
Development of an ecotoxicity toolbox to evaluate water quality for recycling	Developing tests to determine the toxicity levels of chemicals associated with recycled water, developing accurate indicators for monitoring these chemicals and to assess the efficiency of various engineered and natural treatment systems. Science will be of use for better understanding the safety of stormwater for drinking purposes and efficiency of treatment systems.	To be complete 2010
A national approach to risk assessment, risk communication and management of chemical hazards	Building on international and national experience in assessing and communicating the risk associated with recycled water for drinking and environmental release. Science will be of use for better understanding the safety of stormwater for drinking purposes and how best to communicate the science into the supply planning process.	To be complete 2010
Cities as Water Supply Catchments – Research Program	The Cities as Water Supply Catchments (CWSC) project will research vegetative stormwater harvesting and treatment systems within urban developments, develop tools and models for evaluating urban stormwater systems (economic, climate resilience, micro-climate and human health, waterway impacts, and water quality) and research governance and institutional issues. The CWSC research program also has a focus on managing and integrating stormwater harvesting into urban design, planning and urban developments.	Stage 1 to be completed by end 2012

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<b>Outcome:</b>	4	<b>Question No:</b>	126
<b>Program:</b>	4.1		
<b>Division/Agency:</b>	National Water Commission		
<b>Topic:</b>	Stormwater harvesting v desalination		
<b>Hansard Page ECA:</b>	118 (9/2/10)		

**Senator BIRMINGHAM asked:**

**Senator BIRMINGHAM**—Has the commission investigated what costs and environmental benefits stormwater harvesting and reuse may have compared to those of desalination?

**Mr Matthews**—Not that I can immediately bring to mind. There has been a publication—though it is some years old now—that tried to give a rank order of different forms of different water sources. That would be as close as anything to your question. And it is not in great detail.

**Senator BIRMINGHAM**—If you could take that question on notice to see if anything else comes to mind and to bring to our attention that publication you mentioned, Mr Matthews, even if it is a little old.

**Answer:**

Raising National Water Standards (RNWS) funds have supported a number of projects that provide guidance and direction for water supply practitioners and communities to better understand the costs and benefits of a range of supply options including stormwater re-use compared to desalination (Table 1). Two NWC *Waterlines* publications titled *Managed Aquifer Recharge: An Introduction* and *Using recycled water for drinking* provide estimates of cost comparisons (or methodologies for working out comparisons) between supply options including stormwater harvesting and desalination. These *Waterlines* conclude the costs and benefits of recycled water are dependent on a number of factors that are unique to each region. These factors include energy and greenhouse gas costs, piping distances, environmental management issues, treatment costs, risk profile, waste disposal and community acceptance.

The RNWS program also funded the *Integrated Resource Planning* Project which is to provide tools and guidance material to assist urban water service providers and government agencies assess the most appropriate supply/demand options for a region's water planning purposes. This will include methods and tools for valuing environmental and social benefits of any region's supply options. Such tools are important for building capacity in the water industry to plan for and assess all water supply options.

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**Table 1**

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Managed Aquifer Recharge: An Introduction	This report summarises the relevant information needed to consider managed aquifer recharge (MAR), alongside other alternatives, as a prospective new water supply for drinking or non-potable uses. The report explains managed aquifer recharge (including stormwater as the source), offers a description of the diverse drivers for MAR and presents new information on the economics of MAR in relation to alternative sources of supply. The authors deal with how to establish a MAR project, outline considerations for government regulators and look at MAR opportunities in an integrated urban water management context.	Published Feb 2009
The Australian Integrated Resource Planning Framework and Manual	Developing resources and tools to assist urban water service providers and government agencies to determine more accurately the most appropriate supply/demand options for a regions water planning purposes. Enables Stormwater to be considered on its merits against all options with regard to social and environmental externalities.	To be complete May / June 2010

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<b>Outcome:</b>	4	<b>Question No:</b>	127
<b>Program:</b>	4.1		
<b>Division/Agency:</b>	National Water Commission		
<b>Topic:</b>	NWC – Biennial Assessment		
<b>Hansard Page ECA:</b>	Written Question on Notice		

**Senator XENOPHON asked:**

The 2009 National Water Commission Biennial Assessment (which had 68 recommendations) was set to be considered at the December 2009 COAG meeting.

1. How many of the 68 recommendations will be implemented?
2. Which ones?
3. What discussions took place to determine which recommendations would be implemented and how?

**Answer:**

The National Water Commission's Second Biennial Assessment of Progress in Implementation of the National Water Initiative was a report to the Council of Australian Governments (COAG).

At its December 2009 meeting, COAG tasked its Water Reform Committee to provide advice in 2010 on addressing the main findings of the report. COAG asked that the Committee focus as a priority on measures to achieve:

- an end to all over-allocation and overuse;
- improved environmental conditions and management of water for the environment;
- the removal of barriers to water trade; and
- better engagement with communities and other key stakeholders on the implementation of water reforms.