# Appendix 7

## Summary of Key Reports, Inquiries and Studies into Urban Water Management for the Senate Environment, Communications, Information Technology and the Arts References Committee

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| **1.** | **Coordinating Catchment Management - Report of the inquiry into Catchment Management**<br><br>House of Representatives Standing Committee on Environment and Heritage, December 2000 | **Background to Inquiry**<br>The House of Representatives Standing Committee on Environment and Heritage undertook a review of the 1997-98 annual report of the Department of the Environment and Heritage, and tabled a report on its review on 21 June 1999.<br>On 2 June 1999 the Committee resolved to continue its investigation of the matters raised in the annual report through an inquiry into catchment management. In doing so, the Committee resolved to pay particular attention to the following matters:<br>• the development of catchment management in Australia;<br>• the value of a catchment approach to the management of the environment;<br>• best practice methods of preventing, halting and reversing environmental degradation in catchments, and achieving environmental sustainability;<br>• the role of different levels of government, the private sector and the community in the management of catchment areas; | **Outcome**<br>The report made 26 recommendations. In particular the report recommends that:<br>• The Government through CoAG establish an independent statutory authority, the National Catchment Management Authority (NCMA).[1] The NCMA would be responsible for accreditation of all programs affecting ecologically sustainable use of catchments.[2]<br>• The National Land and Water Resources Audit be formally established as an ongoing independent statutory Commonwealth authority called the National Environment Audit Office.[3]<br>• The Government examine the feasibility of introducing an environmental levy to pay for the public contribution to implementing the policy of ecologically sustainable use of Australia's catchment systems.[4]<br><br>NB. To date there has been no government response to the report. |

[1] See Recommendation 3, p. 94.

[2] See Recommendation 13, p. 116.

[3] See Recommendation 8 & 9, pp. 107-108

[4] See Recommendation 26, p. 140.

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| | | • planning, resourcing, implementation, coordination and cooperation in catchment management; and<br>• mechanisms for monitoring, evaluating and reporting on catchment management programs, including the use of these reports for state of the environment reporting, and opportunities for review and improvement. | |
| **2.** | **Joint Parliamentary Select Committee upon the Sydney Water Board.**<br><br>Parliament of NSW | **Background**<br>Reported in April 1994. Chair Peter McDonald (Independent, Manly, 1994)<br>The Committee was set up to report on issues regarding the Sydney Water Board. The terms of reference were broadly with respect to:<br>• catchment Management<br>• long term planning<br>• operation of Clean Waterways Program<br>• regulation of water quality and quantity<br>• pricing<br>• accountability and efficiency<br>• capital structure and needs<br>• environmental standards for water discharge | **Outcome**<br>Made a significant number of recommendations with respect to sewage, potable water and stormwater management.[5]<br>Of particular interest to the ECITA Committee inquiry are the following recommendations of the inquiry into the Sydney Water Board:<br>• The EPA should licence stormwater pollution.[6]<br>• The Government (NSW) should set stringent goals, in particular for all public sector agencies and local government, to achieve the reduction of rural and urban runoff.[7]<br>• All public sector bodies responsible for water, sewage and drainage function should be administered by one Ministry.[8]<br>• All public agencies should be encouraged to harvest rainwater from public lands and buildings.[9] |
| **3.** | **2001 Australian Infrastructure Report Card**<br><br>Institution of Engineers for an alliance of partners | **Background**<br>Produced by an alliance of major infrastructure users, owners, operators, investors, industry groups and other stakeholders within Australia. The Alliance formed to oversee an independent review of the state of Australia's infrastructure (including | The Alliance members recommendations included:<br>**Recommendation 1**: The establishment of a National Infrastructure Advisory Council to advise CoAG. The Council should facilitate efficient and equitable provision of nationally significant infrastructure by both public and private sector stakeholders and encourage longer-term planning for its sustainable development and operation. |

[5] Note that this inquiry took place before the CoAG Water Reforms were agreed to.

[6] See Summary of Recommendations 8, p (ix).

[7] See Summary of Recommendations 7, p (ix).

[8] See Summary of Recommendations 23, p (xi).

[9] See Summary of Recommendations 40, p (xiii).

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| | | wastewater, stormwater and potable water) from economic, social and environmental perspectives.<br><br>An overview of the ratings can be found in the Annex to this Appendix. | **Recommendation 4**: Substantial improvement of the significant regulatory and taxation barriers to additional investment in infrastructure. It is essential that regulators not only consider any short-term consumer benefits accruing from infrastructure regulation but also fully reflect in regulatory decisions the long-term consumer benefits that accrue from the enhancement and development of national infrastructure. |
| **4.** | **Australian water resources assessment 2000 : Surface water and groundwater - availability and quality**<br><br>National Land & Water Resources Audit | **Background and overview**<br>The report provides an assessment of the quantity, quality, use, allocation and management of Australia's surface water and groundwater resources.<br>The report is Australia's fourth national assessment of Australia's water resources. However, the report differs as it covers both water quantity and quality.<br>The Audit is a program of the Natural Heritage Trust. | The Audit reported on its key findings in relation to:<br>• Australia's surface water resources and availability<br>• Australia's surface water quality<br>• Water quality data is limited. There is sufficient salinity, turbidity and nutrient data to assess water quality status for about 30% of Australia's 246 river basins. Excess levels of nutrients, turbidity and salinity were found in many river basins.<br>• Australia's groundwater resources and availability<br>• Australia's water resource development<br>• Understanding water use<br>A lack of monitoring sites and long term records impeded the audit's ability to assess much of the freshwaters and groundwaters of Australia.<br>The Audit did note that an Australia-wide initiative in water resource management:<br>in partnership with State and Territory water management authorities could focus on improvements in groundwater characterisation, water use efficiency, increased and more scientifically based environmental water provisions, improvement to water quality monitoring and the understanding and managing of interactions between surface and groundwater quality and quantity. |
| **5.** | **National Water Quality Management Strategy** | **Background**<br>The National Water Quality Management Strategy (NWQMS) was introduced by the Commonwealth, State and Territory Governments in 1992 as a response to growing community concern about the condition of the nation's water bodies and the need to manage them in an environmentally sustainable way. | **Outcomes**<br>The Strategy has released water policies and several guidelines for water quality and water management. Many of these are working documents and are constantly being assessed, updated and added to. Some examples of these documents are:<br>• *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*<br>• *The Australian Drinking Water Guidelines* |

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| | | In 1994 the NWQMS was included in the Council of Australian Governments (CoAG) Water Reform Framework. The Strategy has three major elements: (i) policy; (ii) process and; (iii) guidelines.<br><br>The Strategy's policy objective is:<br>to achieve sustainable use of the nation's water resources by protecting and enhancing their quality while maintaining economic and social development.<br><br>The NWQMS has been jointly developed by two Ministerial Councils - the Australian and New Zealand Environment and Conservation Council (ANZECC) and the Agriculture and Resources Management Council of Australia and New Zealand (ARMCANZ). | • *Guidelines for Groundwater Protection in Australia*.<br><br>For further details see http://www.affa.gov.au/nwqms or http://www.ea.gov.au/water/quality/nwqms/index.html |
| **6.** | **CoAG Water Reforms** | **Background**<br>In February 1994, the Council of Australian Governments (CoAG) consisting of the Prime Minister, Premiers, Chief Ministers and the President of the Australian Local Government Association agreed to implement a 'strategic framework to achieve an efficient and sustainable water industry.'<br><br>The Framework seeks to establish integrated and consistent approaches to water resource management throughout Australia.<br>The Framework includes provisions for water entitlements and trading, environmental requirements, institutional reform, public consultation and education, water pricing and research. | **Timeframes:**<br>The time frames for implementation of the Framework were set at five to seven years with full implementation by the year 2001. Timeframes for implementation were subsequently extended for certain aspects including allocations and trading, which were extended to 2005.<br><br>**National Competition Policy**<br>In April 1995, CoAG endorsed the National Competition Policy for Australia. Under this policy, payments are made available for States and Territories that successfully implement a range of important reforms - including the CoAG Water Reform Framework. |

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| **7.** | **National Action Plan for Salinity and Water Quality** | **Overview**<br>• A National Action Plan for Salinity and Water Quality (the National Action Plan) was endorsed by the Prime Minister, Premiers and Chief Ministers at the Council of Australian Governments in November 2000. It involves a funding package of $1.4 billion from the Commonwealth, States and Territories.<br><br>**Key objectives of the Action Plan are to:**<br>• prevent, stabilise and reverse trends in salinity, particularly dryland salinity affecting agricultural production, the conservation of our unique environment and community assets (such as houses, roads etc); and<br>• improve water quality and secure reliable water supplies for human, agricultural and industrial uses and for the environment. | **Progress of the NAPSWQ**<br>• In July 2001, the Commonwealth and all States (excluding WA) and Territories signed the Inter Governmental Agreement (IGA), that sets out the overarching commitments and obligations of the Commonwealth and States and Territories to the Action Plan. The Western Australian Government has now signed the Agreement.<br>• The remaining five States and the Northern Territory have also signed bilaterial agreements with the Commonwealth which specify in more detail how the Action Plan will be implemented. |
| **8.** | **South Australian Select Committee on the Murray River, July 2001** | **Background**<br>Inquiry set up in 1999 and considered issues to do with the state of the environment of the Murray River particularly as it affects South Australia. Also investigated economic values and sustainability of the Murray, river regulation and other State and Federal controls | **Outcome**<br>The report made 71 recommendations. Of specific interest to ECITA are the following recommendations:<br>• By 2004, the South Australian Government to develop and commence implementation of an integrated water management strategy for metropolitan Adelaide that will reduce water diversions from the River Murray for Adelaide's water supply by 50 per cent of the current level of diversions over a twenty year timeframe.[10]<br>• The Commonwealth Government to introduce tax changes that will permit private investment in accredited water saving devices and technology to be 100 per cent tax deductible in the year of expenditure.[11] |

[10] Recommendation 6, p 6.

[11] Recommendation 6, p 6.

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| **9.** | **National Water Conservation Rating and Labelling Scheme**<br><br>The Scheme is conducted by the Water Services Association of Australia (WSAA). | **Background**<br>• The National Water Conservation Labelling Scheme is designed to assist in the conservation of water by providing consumers with reliable information on the relative water efficiency of various appliances.<br>• Labelling AAAAA rating for water efficient appliances (aiming for a mandatory ratings – similar to energy 'star' rating)<br>• For further information http://ratings.wsaa.asn.au/index.html | |
| **10.** | **Frontiers in Urban Water Management – Publication (referred to in submission 41- Australian Water Association)**<br><br>Maksimovi & Tejada-Guibert Eds, IWA/UNESCO, 2001 | **Background**<br>This publication was written for UNESCO's International Hydrological Program's symposium: *Frontiers In Urban Water Management: Deadlock or Hope?*, that was held in Marseille, France in June 2001.<br><br>The publication covers the following issues of sustainable urban water management:<br>• the challenge of urban water management<br>• urban water as a part of integrated catchment management<br>• interactions with the environment<br>• infrastructure integration issues<br>• emerging paradigms in water supply and sanitation<br>• problems of developing countries<br>• economic and financial aspects<br>• social, institutional and regulatory issues<br>• outlook for the 21st Century | **Outcome**<br>The Symposium recommended:<br>• The adoption of total integrated water cycle management in urban areas. The first step is to identify barriers to integrated management and to search for means of improving co-ordination. Integrated water cycle management should include conservative water and wastewater management through the integration of stormwater, groundwater and surface water use, reuse of treated wastewater, and recycling.<br>• To strive towards efficient, effective and sustainable urban water systems based on appropriate full cost recovery, including the application of well-conceived, socially sensitive, subsidies ensuring affordability of service.<br>It proposed to:<br>• Develop and implement educational programmes on integrated urban water and environmental management, with assistance from UNESCO and its partners, at all levels, ranging from governments to general public.<br>• Define strategies and tactics for the appropriate implementation of integrated urban water management in all countries, including best management practices and procedures for the rehabilitation of systems.<br>• Find new ways of financing and managing water services in countries in transition and developing countries, with design and control closer to the people.<br>• Develop and strengthen institutions for integrated urban water management, by enhancing public information and awareness, |

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| | | | transparency of procedures, education, and public involvement in decision-making.<br>• Establish and strengthen regional centres of excellence on urban water management, such as the new UNESCO Regional Centre on Urban Water Management in Tehran, particularly in countries in transition and developing countries.<br>• Emphasise concerted action by the international community and highlight the pressing urgency of collectively facing urban water problems in the national preparations for the World Summit on Sustainable Development, Johannesburg (October 2002).<br>• Ensure that at the 3rd World Water Forum (Kyoto, March 2003) urban water management is a major theme, utilizing the Virtual Water Forum, and promote a pre-forum donor conference. Undertake appropriate case studies in the UN World Water Assessment Programme in co-operation with the International Hydrological Programme.<br>Its final conclusion was that, considering the above, there are manifestly valid reasons to hold that threats of deadlock can be broken and that thus there is hope, and further stresses that institutions and technology, while being key components to success, must remain subservient to the goals of sustainability and social equity.<br><br>For further detail see, **URL:** http://www.worldwatercouncil.org/download/Marseille_statement.PDF |
| **11.** | **Wastewater Re-Use Stormwater Management and the National Water Reform Agenda: Report to the Sustainable Land and Water Resources Management Committee and to the Council of Australian Governments National Water Reform Task Force:** | **Background**<br>This report is one of a series of studies coordinated by the Sub-committee on Water Resources of ARMCANZ as a response to the issues raised by the Strategic Framework for Water Reform, 1994.<br><br>The report addresses issues raised by the policy principles of the CoAG Water Reform Agenda in relation to the reuse of wastewater, improved urban stormwater management, and adoption of superior | **Main findings/recommendations of the report**<br><br>**In general**[12]<br>More intensive management of water supply systems is recommended including:<br>• The use of reclaimed water within municipal and industrial systems.<br>• The capture, storage, distribution and use of hitherto 'uneconomic' new urban sources, such as local stormwater either of high initial quality or with treatment. |

[12] Executive Summary point A.3, p (i).

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| | CSIRO Land and Water Position Paper 1.<br>Authors: Thomas, J.F, Gomboso, J., Oliver, J. E. and Ritchie, V.A. | practices regarding disposal to sensitive environments. It is particularly concerned with the development of recommendations regarding:<br>• current and potential practices<br>• technical obstacles and opportunities<br>• environmental and public health constraints<br>• economic and incentive structures<br>• the regulatory environment<br>• the role of community involvement<br>• catchment-based resource management, and<br>• development of institutional roles and responsibilities.<br><br>**URL**: http://www.clw.csiro.au/publications/position/RPP1.pdf | • Introduction of a quality differentiated water supply: ie, matching the quality and reliability of water supplied to each market segment to that actually needed by the user.<br>**Reuse of wastewater**<br>• All Australian jurisdictions should recognise that reuse of wastewaters presents a viable and attractive alternative source of water supply, which may contribute to the abatement of environmental problems.[13]<br>• Sewage offers a more reliable source for reclamation and reuse than stormwater runoff. However, scope exists for improved stormwater runoff management.[14]<br>• A more sophisticated water market in urban areas would provide quality-differentiated supplies for appropriate market segments. The study concluded that a variety of urban water demands could be effectively supplied by reclaimed water, either to potable or non-potable standard.[15]<br>• Retrofitting with dual reticulation systems is becoming more feasible technically and economically. Also redevelopment provides an opportunity for a reassessment of the storm drainage system, and integrating it with total water cycle management.[16] |

[13]Executive Summary point C.1, p (vi).
[14] Executive Summary point C.2, p (vii).
[15] Executive Summary point C.6, p (vii).
[16] Executive Summary point C.7, p (viii)
[17] See Executive Summary points C.13 – C.16 and C.21 – C.26, pp (ix) – (xi).
[18] Executive Summary points D.1 – D.4, p (xi) – (xii).
[19] Executive Summary point D.7, p (xii).
[20] See Executive Summary points D.9 – D.29, p (xii) – (xv).
[21] Executive Summary point D.9, p (xii).
[22] Executive Summary point D.10, p (xii).
[23] Executive Summary points D.11 – D.19, p (xiii) – (xiv).
[24] Executive Summary points D.20 – D.23, p (xiv).
[25] Executive Summary points D.24 – D.29, p (xv).
[26] Executive Summary points E.1 – E.8, p (xv) – (xvi).

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| | | | • Numerous specific recommendations are given as a result of the implications for the CoAG National Water Reform Agenda framework.[17]<br>**Stormwater Management**<br>Numerous recommendations for improved stormwater management in Australia are given. In particular:<br>• In new urban developments integrated water cycle management is replacing traditional drainage design principles. Also, stormwater systems in Australian cities are either under-designed or under-performing due to deterioration etc.[18]<br>• New technical developments will make the achievement of multi objective management of stormwater systems easier in the future given an institutional structure that encourages innovation.[19]<br>• Numerous specific recommendations were made as a result of the implications for the CoAG National Water Reform Agenda framework.[20] The recommendations are made under the headings 'Pricing', 'Institutional reform', 'Urban planning' and 'Consultation & education'.<br>• There should be reform of existing drainage rating systems, which should be replaced by charges on households and organisations, which more accurately reflect the cost of planned stormwater management programs.[21]<br>More attention should be given to the design of polluter pays systems under which the owners of urban stormwater systems should pay state governments according to the level of pollution discharged to receiving waters. However, this recommendation is unlikely to be acted upon in the absence of institutional reform.[22]<br>• Several institution reforms are recommended particularly with respect to the powers and responsibilities of local and state governments in stormwater management.[23]<br>• Integrated urban water management needs to be the overarching framework for urban planning.[24]<br>• Consultation and education are other recommendations made. In particular the Commonwealth should support a new Urban Water care Movement and the recommendation outlines suggested components of the Movement.[25]<br>• Several national research needs are addressed and recommended.[26] |

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| **12.** | **Planning for the future of our water resources – Discussion Starter**<br><br>Water Resources Strategy for the Melbourne Area Committee | **Background**<br>The discussion starter is the first element of a year long inquiry established by the Victorian Minister for the Environment and Conservation to develop a water resource strategy.<br><br>Following receipt of submissions, the Victorian government will release a strategy options paper, followed by another round of public comment, leading to the final recommended strategy.<br><br>In many respects, the paper mirrors the discussion and options developed by the earlier and comprehensive Sydney Water Demand Management Strategy (1999), Water Recycling Strategy (1999), and Water Conservation and Recycling Implementation Report (2000) | **Content and discussion**<br>The paper sets out Melbourne's water supply and regulatory arrangements and usage patterns.<br>It also notes:<br>Attitudes towards water conservation differ significantly among the population, implying the need for different strategies to target various groups.<br>Increasing general environmental awareness will lead to greater water conservation, but will also increase public support for environmental flows which in the short term will place greater strain on water supply infrastructure.<br>Improving technology is increasing the cost effectiveness of treating water.<br>Australian rivers have the most variable flow rates in the world. Australians must change their water use patterns to accommodate the variable natural cycles.<br>The paper raises four broad options (which are not mutually exclusive):<br>1. squeeze more water from the existing supply system;<br>2. change the behaviour of water users to reduce demand;<br>3. reduce demand for potable water by substituting recycled water; and<br>4. further develop the water supply system to increase supply.<br>Each option includes a discussion of the range of techniques available and issues to be considered. |
| **13.** | **National Competition Policy**<br>Various documents incuding:<br>• NCC Second Tranche Assessment, Vol 2 Water Reform<br>• Supplementary Second Tranche Assessment: Water Reform | **Background**<br><br>The NCP was established following the Hilmer Review in 1992. Key aspects of the NCP were:<br>• The formation of the National Competition Council (1995)<br>• Creation of 3 inter-governmental instruments: Conduct Code Agreement, the Competition Principles Agreement and the Agreement to Implement the NCP and Related Reforms.<br>• Formation of the Australian Competition & Consumer Commission (ACCC) (1995) | **Status and Outcomes**<br>The NCP is one of the most important drivers of current reform in Australian water managements.<br>Payments to State governments under the NCP are conditional upon implementation of NCP objectives. These have been undertaken by the NCC in three Tranche Assessments.<br>Key points include:<br>• Major urban water infrastructure in Australia is valued at $41bn and generates $4.4bn in revenue from domestic customers annually.<br>• Most states have introduced consumption based pricing regimes that better reflect the costs of providing water. In many cases this has resulted in significant decreases in water consumption. |

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| | | • Full cost recovery of services and removal of cross-subsidisation.<br>• Extending the competitive conduct rules to all business activity in Australia including government enterprises.<br>• Provision for third party access to national infrastructure<br>• Restructuring of public sector monopoly businesses. | • National institutional reform has seen the separation of water service providers and regulators with the aim of preventing perceived conflicts of interest and provision of clear objectives for each institution.<br>• The history, institutional structures and physical environment varies greatly across the country resulting in greatly differing reform issues. |
| **14.** | **Wise water management – a demand management manual for water utilities**<br><br>Water Services Association of Australia | **Background**<br><br>The WSAA is the peak body of the Australian Urban water industry. Its 21 members provide water and sewerage services to approximately 13 million Australians.<br><br>The Manual aims to provide detailed guidance on the development of demand management programs. | **Content**<br><br>The Manual covers a range of key measures including:<br>• planning<br>• pricing measures<br>• water metering<br>• unaccounted for water<br>• authority water use<br>• reuse of water<br>• water reduction measures<br>• communication strategies<br>• incentives and retrofitting<br><br>The manual adopts a practical approach analysing the detailed evaluation of options, and stressing the need for strategic planning, detailed research, and economic evaluation of demand management measures to ensure that the greatest returns are achieved for resources invested.<br><br>The manual notes that a 15% reduction in water use nationwide could save Australian customers $240m annually in treatment and operating costs and a further $240m on reduced capital expenditure. |

# Annex: 2001 Australian Infrastructure Report Card

The independent analysis of Australia's infrastructure based on fitness for purpose gave the following ratings.

| | 2001 Score | 2000 Score | Comments | |
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| **Wastewater** | C- | D- | The improvement is due to the increased investment in the rehabilitation of existing infrastructure and treatment plant upgrades. This has reduced pollutants discharged into Australia's waterways. | The level of reuse is disappointing for a country with limited water resources. Moreover a bigger effort will be required to obtain a better understanding of the condition of the pipe and pumping system and reduce the impact from diffuse sources of pollution. |
| **Potable Water** | C | C- | Improvement is due to increased investment in rehabilitation of existing infrastructure, improved water treatment and reduced water losses from the system. | Amount spent on rehabilitation is not sufficient to keep pace with the rate of asset deterioration. A bigger effort will be required to further reduce water consumption and better integrate future water resources development projects as part of the total water cycle planning process. |
| **Stormwater** | D | NA | The current level of funding is not adequate to meet the anticipated community expectations in the long term. | All legislation that deals with stormwater and floodplain management should be coherent and integrated. Additional funding must be provided including private sector investment and levies.<br><br>Implementation of catchment management philosophies requires the formulation of an integrated strategy that includes aspects of land use zoning, changes to building codes and requirements, changes in community attitudes and detailed environmental assessment of alternative potential strategies. |

*Note: Table is abridged version of Table in Report Card. To see original table go to:

URL: http://www.infrastructurereportcard.org.au/2001/2001Reportcard.pdf