

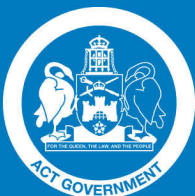


think water  act water


Think water, act water

Strategy for sustainable water resource management in the ACT

2005-2007 Progress Report



ABOUT THIS REPORT

The ACT Government's water resource management strategy *Think water, act water* was released in April 2004, providing long-term guidance for the management of ACT water resources.

The strategy aims to improve water use efficiency, reduce water quality impacts, enhance ecological values in urban waterways, enhance recreational and amenity value, and reduce water supply and management costs.

Think water, act water has six key objectives for management of the ACT's water resources:

- provide a long-term, reliable source of water for the ACT and region;
- increase the efficiency of water usage;
- promote development and implementation of an integrated regional approach to ACT/NSW cross-border water supply and management;
- protect the water quality in ACT rivers, lakes and aquifers, to maintain and enhance environmental, amenity, recreational and designated use values and to protect the health of people in the ACT and down river;
- facilitate incorporation of water sensitive urban design (WSUD) principals into urban, commercial and industrial development; and
- promote and provide for community involvement and partnership in managing the ACT water resources strategy.

The actions to achieve each of these objectives are detailed in the *Think water, act water* Implementation Plan (Volume 1, Appendix A).

Significant progress has been made towards achieving all of the objectives established in *Think water, act water*.

This report summarises key activities undertaken to progress implementation of each of these actions from April 2004 to June 2007.

The report has been compiled by Sustainability Programs of the Department of the Environment, Climate Change, Energy and Water through input from the following agencies responsible for actions in the *Think water, act water* Strategy:

- ACT Health
- ACT Planning and Land Authority
- ACT Property Group, Territory and Municipal Services
- ACTEW Corporation
- Environment Protection, Department of the Environment, Climate Change, Energy and Water
- Parks, Conservation and Lands, Territory and Municipal Services
- Sustainability and Environment Policy Coordination, Department of the Environment, Climate Change, Energy and Water
- Sustainability Programs, Department of the Environment, Climate Change, Energy and Water

For further information about *Think water, act water* and this report, contact Canberra Connect on 13 22 81 or visit www.thinkwater.act.gov.au

Water planning variables

Bushfire Impacts	Continue research and analysis to gain a more accurate understanding of the likely impact of bushfires on water supply.	1 Aug 2004 ACTEW	<p>The following reports have been completed:</p> <ul style="list-style-type: none"> • Ecowise (2004), <i>Bushfire Yield Reduction Curve</i>. • Ecowise (2004), <i>Predicted Impact of Bushfire on Corin Dam Catchment Yield</i>. • Starr B (2004), <i>A Landscape Stability Trend Analysis Of The Upper Cotter River Catchment</i>. • White, Jellet, Mueller, Wade & Ford (2004), <i>Preliminary Analysis of Turbidity Profiles, Bendora Dam, ACT 1993-2003</i>. • Ingwersen, Wade, & Whiteway (2004), <i>January 2003 Fires, Impact of Vegetation Change on Hydrological Values of the Cotter River Watershed</i>. • Starr B (2004), <i>Cotter Catchment Fire and Storm, 30 April 2003</i>. • Wasson R.J. et al (2003), <i>Sediment, Particulate and Dissolved Organic Carbon, Iron and Manganese input to Corin Reservoir</i>. <p>ACTEW is working with the Bushfire Cooperative Research Centre on a project in the Cotter catchment to determine fuel loads and fuel moisture status.</p> <p>ACTEW is recalibrating its catchment model to verify the assumption of reduced yield due to bushfire every two years as part of the Future Water Options (FWO) annual assumptions review.</p>
	Complete installation of treatment facilities at Mt Stromlo Water Treatment Plant.	1 Nov 2004 ACTEW	<p>Mount Stromlo Water Treatment Plant commissioned in November 2004.</p> <p>Augmentation to Googong Water Treatment Plant completed in December 2004.</p>
	Stabilise and rehabilitate fire-affected sections of the Cotter catchments.	N/A Parks, Conservation and Lands	<p>Since the last report was prepared for this project, there have been significant changes in land management strategies for fire affected portions of the lower Cotter catchment.</p> <p>ACT Forests, Parks and Conservation and Urban Parks and Places have been amalgamated into a single land management agency known as Parks, Conservation and Lands (PCL) within the Department of Territory and Municipal Services.</p> <p>Coinciding with formation of the new land management arrangements, a 50 year strategic management plan has been developed for post bushfire restoration work. This plan provides the policy framework for restoration of vegetation and built infrastructure in the lower Cotter catchment and has been jointly developed by Parks, Conservation and Lands, ACTEW and the Emergency Services Authority.</p> <p>The Strategic Management Plan takes account of environmental values, including water quality and flow, soil protection, flora and fauna conservation and cultural heritage values. The Strategic Management Plan is underpinned by a series of implementation plans that provide practical measures to help protect environmental and cultural values during restoration of the catchment.</p> <p>Major operations such as removal of burnt pine plantation debris have been completed and a policy decision has been taken not to establish further commercial plantations in the lower Cotter catchment.</p> <p>On-ground rehabilitation works include: weed control; native species planting; road and fire trail upgrades; and construction of erosion and sediment control structures.</p>

**Water planning variables
(continued)**

Climate Change	Planning for the ACT's water resources will continue to take account of future climate change predictions for the ACT.	N/A ACTEW	<p>ACTEW has incorporated climate change scenarios into water resources modelling. The model will continue to be updated with future predictions. The CSIRO has reviewed the model. The scenarios are based on advice prepared for ACTEW by the CSIRO in the following reports:</p> <ul style="list-style-type: none"> • CSIRO (2003), <i>Climate Change Projections for the ACT</i>. • CSIRO (2003), <i>Climate Change Projections and the Effect on Water Yield and Water Demand for the ACT</i>. • CSIRO (2003), <i>Climate Change Projections for the ACT and its Water Supply Catchments</i>. • CSIRO (2003), <i>Catchment Water Yield and Water Demand Projections Under Climate Change Scenarios for the ACT</i>. • CSIRO (2003), <i>Simulation of Climate Change Impact on Runoff in the Cotter and Queanbeyan River Catchments</i>. • CSIRO (2003), <i>Projections for Water Demand in the ACT in Response to Future Climate Change</i>. • CSIRO (2003), <i>Climate Change Scenarios for the ACT by 2008, 2030 and 2070</i>. <p>ACTEW is participating in the Murray-Darling Basin climate change project being undertaken by the CSIRO and the Murray-Darling Basin Commission.</p>
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<i>Issue</i>	<i>Action</i>	<i>Target & Agency</i>	<i>Progress report</i>
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Provide a long term, reliable source of water for the ACT and region

Water Cap	Complete an MOU with the NSW and Commonwealth Governments that will include provision of a water cap.	Dec 2005 Sustainability & Environment Policy	The ACT's proposal for a cap for the ACT was submitted to the Murray-Darling Basin Commission in October 2007. The proposal took into account the ACT's legal rights to water resources as part of the process to guide the policy to determine the cap for the ACT as well as future population growth and water consumptive efficiencies over time.
Water Supply Augmentation	Develop a range of planning scenarios on the basis of information on climate change, bushfire impacts and population growth to help identify when a new water supply source would be needed and the demand to be supplied.	Dec 2004 ACTEW	<i>An Assessment of the Need to Increase the ACT's Water Storage</i> This report addresses the question of whether, and if so when, there is a need to provide additional storage for the ACT and region. The report was completed in December 2004. ACTEW continues to review and report annually on the six main assumptions used in this study. ACTEW has revised its planning scenarios, taking into account low river flows experienced in 2006 and an assessment of the impacts that similar low flows should have if they continued over the next few years.
	Provide recommendations on the more efficient use of existing infrastructure, including an option to use Lower Cotter when the new water treatment facility is commissioned.	Dec 2004 ACTEW	<i>Future Water Options for the ACT Region. Implementation Plan: A Recommended Strategy to Increase the ACT's Water Supply.</i> This report, completed in April 2005, summarises the technical, social, environmental and economic implications of various options, restates the need for additional supply and describes the preferred path to provide a reliable water source for the ACT, for consideration by the ACT Government. The new Stromlo water treatment plant was commissioned in November 2004 and the upgraded Googong water treatment plant in December 2004. Lower Cotter water was reintroduced into Canberra's water supply in December 2004. The Cotter to Googong Bulk Transfer (CGBT) scheme is an innovative way of utilising existing infrastructure to increase the ACT's water supply, by transferring water from the higher yielding Cotter catchment to Googong reservoir. The CGBT commenced transferring water in July 2005. In July 2006, ACTEW prepared the report ' <i>Options for the extraction of water from the Murrumbidgee River</i> '. This resulted in the development of the Extended CGBT (the ECGBT) scheme, which involved abstracting water from the Murrumbidgee River near the Cotter pump station using existing pumps to take it to Stromlo water treatment plant where additional treatment would be provided. This was planned to be operational by January 2009.

**Provide a long term, reliable source of water for the ACT and region
(continued)**

<p>Water Supply Augmentation (continued)</p>	<p>Provide recommendations on the options for a new water source for the ACT, including smaller scale options.</p>	<p>Mar 2005</p> <p>ACTEW</p>	<p>Following the <i>Options for the next ACT water source</i> report, a further report identified nearly 30 options for new water sources for the ACT, and recommended three options for further assessment:</p> <ul style="list-style-type: none"> • <i>The Cotter Dam Option;</i> • <i>The Tennent Dam Option;</i> and • <i>The Tantangara Transfer Option.</i> <p>Reports assess environmental, social and economic implications of each option. Reports were completed in April 2005.</p> <p>Future Water Supply Options: Technical Studies, 2005:</p> <ul style="list-style-type: none"> • ACTEW, <i>Cloud Seeding</i> • Environment ACT, <i>Fish Impact Study</i> • Marsden Jacob & Assoc. and Fluvial Systems, <i>Predictions of Transmission Losses in the Upper Murrumbidgee River and Cotter River</i> • Marsden Jacob & Assoc. and Fluvial Systems, <i>Predictions of Transmission Losses in Burra Creek</i> • Cooperative Research Centre (CRC) for Freshwater Ecology, <i>Ecological Risk Assessment</i> • CRC for Freshwater Ecology, <i>Aquatic Ecology Study</i> • Biosis, <i>Terrestrial Flora, Fauna and Vegetation Study</i> • Navin Officer, <i>Cultural Heritage Assessment</i> • KMR, <i>Land Ownership Study</i> • Ecowise and Starr, <i>Catchment & Landscape Analysis of the Future Water Options for the ACT</i> • ActewAGL, <i>ACT Future Water Options Water Resources Modelling</i> • Atech, <i>Cotter Options Water Quality Report</i> • Atech, <i>Tennent Options Water Quality Report,</i> • Atech, <i>Tantangara Options Water Quality Report</i> • Atech, <i>Risk Assessment and Management Report for the Use of Cotter Reservoir Water in the Canberra Drinking Water Supply System</i> • Atech, <i>Risk Assessment and Management Report for the Use of Murrumbidgee River Water in the Canberra Drinking Water Supply System</i> • Tania Parkes Consulting and Ernst & Young, <i>Stage 1 Social Impact Assessment</i> • CEE, <i>Value of Effluent Discharged to the Murrumbidgee River</i> • Water Futures, <i>Technical Advice on ACT Reservoir Recreational Water Use Options</i> • Atech, <i>Greenhouse Gas Emissions</i> • ACTEW, <i>Consultation Report</i> • Institute of Sustainable Futures and CEE, <i>Sustainability Framework and Assessment Plan</i> • URS, <i>Future Water Options Risk Assessment</i> • Centre for International Economics, <i>Economic Benefit-Cost Analysis of new water supply options for the ACT</i> <p>ACTEW has commenced Future Water Options (FWO) stage 2, which is further evaluating the viability of the three retained options identified in FWO stage 1: an enlarged Cotter dam; a new Tennent dam; and transferring water from Tantangara Dam.</p> <p>Other options previously rejected are also being investigated to determine if the original assumptions on which they were rejected have changed; which might impact on their acceptability. Recommendations will be made to Government in July 2007</p>
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Issue

Action

*Target
&
Agency*

Progress report

***Provide a long term, reliable source of water for the ACT and region
(continued)***

**Water Supply
Augmentation
(continued)**

Provide recommendations on the options for a new water source for the ACT, including smaller scale options (continued).

In January 2007, the Board of ACTEW Corporation committed, in principle, to enlarging the Lower Cotter Dam to increase its storage capacity from four gigalitres to 78 gigalitres. It also committed, in principle, to further purification of water from the Lower Molonglo Water Quality Control Centre to drinking water standard. After extensive treatment at the LMWQCC, the purified water would be piped to a stream in the Lower Cotter catchment and then into the Cotter Dam to blend with the natural water. The water would then be piped from the Cotter Dam for final treatment at the Mount Stromlo Water Treatment Plant. The Water Purification Scheme would only proceed if ACTEW was able to provide assurances to the people of Canberra that the quality of water produced would be at least equal to and most likely of an even higher standard than that which is currently available. These projects formed the Water2WATER proposal.

The ACT Chief Minister announced the commencement of the Water2WATER community consultation program on World Water Day, 22 March, 2007. The consultation program ran from 22 March 2007 to 22 June 2007.

Increase the efficiency of water usage			
Mandatory labelling	The Government will support a national scheme for compulsory water efficient labelling of appliances.	Jan 2007 Sustainability Programs	The ACT is participating in the national scheme and related working party. Legislation was passed in March 2005. Intergovernmental Agreement was signed in May 2005. Labelling became compulsory after July 2006. From January 2007, selling and promoting any product which is not properly labelled but falls within the mandatory labelling scheme became an offence in the ACT.
	The Government will provide information on water efficient appliances and their water saving benefits.	N/A Sustainability Programs	<i>Think water, act water</i> fact sheets on dual flush toilets, water-efficient showerheads, and taps, aerators and flow regulators are available from the Think Water website, and are distributed in the GardenSmart tune-up information packs and at public events and displays.
Minimum performance standards	The Government will promote agreement across Australian jurisdictions so that only water efficient appliances such as 3-star (previously AAA) showerheads and 3-star washing machines are available for sale in the ACT and the rest of Australia.	2007 and 2010 Sustainability Programs	The ACT is participating in the Water Efficiency Labelling and Standards (WELS) Advisory Committee to enforce Minimum Performance Standards for additional products that are currently under review for inclusion in the scheme. Toilets now have a mandatory minimum standard of three stars. Work is underway to expand the WELS Scheme to include the following additional products: combination washer dryers that use water in dryer mode; evaporative air conditioners; instantaneous gas hot water systems; hot water recirculators and domestic irrigation flow controllers. New minimum Water Efficiency Standards (WES) are being considered for: clothes washing machines, taps, dishwashers, combination washer/dryers, showers, urinals and other products. Raising the minimum WES for toilets is also under consideration.
Water efficiency team	The Government will establish a team to implement actions as part of <i>Think water, act water</i> . This team will administer water efficiency programs, communication and awareness.	N/A Sustainability Programs	A team was established May 2004, originally within Environment ACT (Department of Urban Services) and later under the Office of Sustainability (Chief Minister's Department) and subsequently in Sustainability Programs and Projects (Territory and Municipal Services). The team now resides in the Department of the Environment, Climate Change, Energy and Water. The team is responsible for implementing a number of actions as part of <i>Think water, act water</i> and undertaking annual reporting. The Program Implementation Team administers water efficiency programs, assessment and evaluation of programs as well as communication and awareness initiatives.
Water efficiency house and garden program	Implement water efficiency programs to improve efficiency of water use in the house and garden. These programs will be reviewed and revised as necessary but at least once per year.	N/A Sustainability Programs	Program development and implementation commenced July 2004. An assessment of all water efficiency programs is undertaken by ACT Government annually.
Showerhead program	Provide a rebate program for 3-star (previously AAA) showerheads.	Start 2004-05 Sustainability Programs	A showerhead rebate program was conducted in 2004-05. The 2005-06 Showerhead Rebate Program (point-of-sale) commenced in October 2005 and ceased in August 2006 due to the introduction of the National Greenhouse Abatement Certificates Scheme (NGACS) under the Greenhouse Gas Abatement Scheme. Associated legislation stimulated NGACS accredited companies to provide and install free showerheads to the community. 10,953 showerhead rebates were issued under the ACT Government's 2004-05 and 2005-06 programs.

<i>Issue</i>	<i>Action</i>	<i>Target & Agency</i>	<i>Progress report</i>
Increase the efficiency of water usage (continued)			
Subsidised indoor water-tune up	Provide a subsidised indoor water tune-up program for households, which provides written advice on water efficiency and fitting of a 3-star (previously AAA) showerhead, up to two tap valves or flow regulators, and up to two tap washers.	Start 2004-05 Sustainability Programs	The Indoor Water Tune-up Program commenced in December 2004. The program's name changed to WaterSmart Homes in early 2007. The program ceased in July 2007 due to the introduction of the National Greenhouse Abatement Certificates Scheme (NGACS) under the Greenhouse Gas Abatement Scheme. Associated legislation stimulated NGACS accredited companies to provide and install free installed showerheads to the community. 7,031 WaterSmart Homes services were completed between December 2004 to end June 2007.
Subsidised installation of 3-star (previously AAA) toilet	Subsidise the supply and fitting of a 3-star (previously AAA) rated 6/3 litre dual flush toilet to replace a single flush toilet.	Start 2004-05 Sustainability Programs	The Dual Flush Toilet Rebate Program commenced in December 2004 as an optional component of the Indoor Water Tune-up Program. The rebate program closed with WaterSmart Homes in July 2007. 589 \$100 dual flush toilet rebates were issued under this program to end June 2007. A new stand-alone program is planned for 2007-08.
Subsidised garden water tune-up	Provide a subsidised garden water tune-up program for households, which provides written advice on garden water efficiency and products to save water.	Start 2004-05 Sustainability Programs	The Outdoor Water Tune-up Program commenced in December 2004. The program name changed to GardenSmart in early 2007. The program offers specialist, on-site advice to assist residents to use water efficiently to maintain a healthy garden. A \$50 rebate is available to participants for the purchase of selected water efficiency garden products. 2,331 GardenSmart Homes services were completed from December 2004 to end June 2007.
Encourage the installation of rainwater tanks	Waive 'Plumbing Minor Works' fee and exempt some water tanks from Development Application and Building Application submission.	Start 2004-05 ACT Planning & Land Authority	A 'Plumbing Minor Works Notice' is required when plumbing is connected to internal fixtures and fittings. The fee brought about by this action has been waived when a minor works certificate is presented. A water tank is exempt from a Development Application if: <ul style="list-style-type: none"> • it does not exceed 17,000 litres in capacity; • and at any point it is not more than 2.4m above natural ground level; • and it is not built in front of the residence; • if the tank has metal walls or roofing these are not white, off-white or untreated; and • it is the only class 10 structure on the boundary. A water tank is exempt from Building Approval if: <ul style="list-style-type: none"> • it does not exceed 17,000 litres in capacity; • the top of which is not more than 2.4m above ground level, excluding any part of the tank that is in the ground; and the water from the tank is not cross connected to the water supply of the ACTEW Corporation

**Increase the efficiency of water usage
(continued)**

Encourage the installation of rainwater tanks (continued)	Include a scaled subsidy program for a greater range of tank sizes and an additional subsidy for connection to a toilet or washing machine cold water tap.	Start 2004-05 Sustainability Programs	<p>A scaled subsidy Rainwater Tank Rebate Program commenced 17 July 2004, with the following rebates:</p> <ul style="list-style-type: none"> • 2,000 – 3,999 litres total capacity (\$150); • 4,000 – 8,999 litres total capacity (\$300); • 9,000 litres or more total capacity (\$400); • Internal connection for existing or new tanks (\$150). <p>On 1 August 2005 rebates were increased (see below) and an internal connection became a mandatory condition for the rebate.</p> <ul style="list-style-type: none"> • 2,000 – 3,999 litres total capacity (\$350); • 4,000 – 8,999 litres total capacity (\$500); • 9,000 litres or more total capacity (\$600); • Internal connection for existing tanks (\$200). <p>On 1 September 2006 rebates were increased (see below) and the internal connection remained a mandatory condition for the rebate.</p> <ul style="list-style-type: none"> • 2,000 – 3,999 litres total capacity (\$550); • 4,000 – 8,999 litres total capacity (\$700); • 9,000 litres or more total capacity (\$800); • Internal connection for existing tanks (\$400). <p>1,228 rainwater tank rebates have been issued from July 2004 to end June 2007.</p>
	Investigate bulk buying arrangements to ensure that Canberrans can purchase rainwater tanks at the lowest price possible.	N/A Sustainability Programs	Preliminary assessment was undertaken indicating that the market is adequately competitive and initiating bulk buying options is unnecessary.
Rebate scheme evaluation	The Government will evaluate rebate programs annually and continue to investigate opportunities to redistribute rebate program funding to more beneficial programs in the future as water-efficient technologies evolve.	N/A Sustainability Programs	An assessment of all water efficiency programs is undertaken by ACT Government annually.
Government water savings	Develop and implement water-efficiency programs with government users.	Start 2004-05 Sustainability Programs	<p>Potential reporting frameworks have been investigated for Government water use reporting.</p> <p>COMTROL, a centralised irrigation system was installed in six sports grounds, eight irrigated parks and seventeen Government schools. Sixteen water audits were undertaken in Government schools. Six school irrigation systems were upgraded and designs for the replacement of three irrigation systems in parks were completed.</p>
Commercial water savings	Develop water-efficiency programs with commercial and institutional users, focusing on large commercial and institutional premises.	Start 2004-05 Sustainability Programs	A Commercial Water Audit Program commenced in February 2005. The program has involved working with large water users to data-log water consumption patterns, conduct walk-through audits and make recommendations for increased water efficiency. The program continued in 2005-06 and 2006-07. Over 80 sites have been audited to date.

**Increase the efficiency of water usage
(continued)**

Regulations	<p>In 2004, after further community consultation, permanent water conservation measures will be introduced to:</p> <ul style="list-style-type: none"> • Restrict the watering of lawns and gardens to morning and evening hours; • Ban hosing of hard surfaces including driveways and windows; • Control the use of sprinklers for dust suppression; and • Introduce compulsory use of trigger hoses for car washing. 	<p>2004</p> <p>Sustainability & Environment Policy,</p> <p>ACTEW</p>	<p>ACTEW provided a submission on permanent water conservation measures to the ACT Government in May 2005 for consideration. Sustainability and Environment Policy Coordination was directly involved with its development.</p> <p>These permanent conservation measures were introduced as revised stage 1 temporary restrictions for several months, from 1 November 2005, to allow for community consultation.</p> <p>After a successful trial and with a very high level of community support, Permanent Water Conservation Measures were formally put in place through regulations from 31 March 2006.</p> <p>ACTEW subsequently restructured the Drought Advisory Office into the Water Conservation Office (WCO). The WCO works to ensure compliance with PWCM and to provide information and education to the community on matters related to saving water.</p>
Water reuse	<p>New plumbing practice notes will be introduced to:</p> <ul style="list-style-type: none"> • Require separation of washing machines and bathroom drainage in new houses from the remainder of the wastewater system to enable future reuse • Require separation of the water supply to toilets and washing machines in future houses to enable future rainwater use. 	<p>2004</p> <p>ACT Planning & Land Authority</p>	<p>Changes to the plumbing regulations came into effect on 1 January 2005, requiring in all new homes:</p> <ul style="list-style-type: none"> • Separation of drainage from laundries and bathrooms from the remainder of the wastewater system to the edge of the floor slab to enable future reuse; and • Provisional plumbing to toilets and laundry cold water to enable future connection to a rainwater tank.
	<p>Develop guidelines for the use of domestic greywater and include information in community awareness programs.</p>	<p>Sep 2004</p> <p>ACT Health</p>	<p><i>Greywater Use: Guidelines for residential properties in Canberra</i> was published in December 2004. These guidelines are available and accessed by the public regularly.</p>

Increase the efficiency of water usage

Water reuse (continued)	Investigate the potential for sustainable reuse of reclaimed water, taking into consideration cost-effectiveness, environmental, social and health issues. The analysis will take into account the Government's commitment to the water efficiency and reuse targets, to water sensitive urban design and to protection of water quality downstream of the ACT. Outcomes from this investigation may be adopted through such mechanisms as changes to urban design or modification to licensing of discharges from point sources.	N/A Sustainability & Environment Policy, Environment Protection ACTEW	Preliminary investigation for a major water re-use project for central Canberra was undertaken in 2005. The analysis revealed high initial capital costs and a limited potential market for take-up of utilising reclaimed water. Mechanisms for the adoption of outcomes will be determined when the investigations are completed. Changes to urban infrastructure and modification to licensing of discharges from point sources will be considered as potential mechanisms. ACTEW continues to investigate reuse options such as sewer mining and effluent reuse opportunities.
	Progress implementation of Stage 2 of the North Canberra Effluent Reuse Scheme as appropriate.	Apr 2004 ACTEW	Stage 2 of the North Canberra Effluent Scheme was completed in August 2004. ACTEW is continuing to look for improvements in technology to enable sustainable effluent re-use schemes to be implemented under a triple bottom line basis.
	The Government will require any buildings it builds or procures for its use to incorporate features to maximise efficiency of water use and to reduce demand on mains water through use of alternative supplies such as stormwater, rainwater and reclaimed water.	N/A Property Group	Territory and Municipal Services Property Group has undertaken a review of Government-owned buildings and continues to implement, where practicable, water and energy efficient systems and solutions when buildings or facilities are built or upgraded. Property Group, with its responsibility for leasing, also aims to improve sustainability outcomes through standards set in leasing procurements.
	The Government will support some of Australia's leading Canberra based research organisations in working with the ACT community to find cost effective, innovative, sustainable solutions for reclaimed water use while protecting public health.	N/A Sustainability Programs	The CSIRO in partnership with the ACT Government is investigating the use of reclaimed water under the Canberra Integrated Urban Waterways Project. The project is funded by the Australian Government Water Fund and the ACT Government. The three-year project aims to substitute 1.5 gegalitres of potable water per annum by 2010 and 3 gegalitres by 2015. Substitution sources include existing lakes and ponds, harvested stormwater in new ponds, recharged groundwater and recycled water.

<i>Issue</i>	<i>Action</i>	<i>Target & Agency</i>	<i>Progress report</i>
Promote development and implementation of an integrated regional approach to ACT/NSW cross-border water supply and management			
Integrated water supply strategy	<p>The Government will take a lead role in developing the integrated water supply strategy.</p> <p>The Government expects to negotiate this strategy with the NSW and Commonwealth Governments.</p>	<p>End of 2004</p> <p>Sustainability & Environment Policy</p>	<p>In March 2006, the ACT and NSW Governments signed agreements on a regional management framework as well as Cross Border Agreements on water resources and settlement. The Australian Government signed the Water Resources Agreement in August 2006.</p> <p>The integrated water supply strategy is incorporated in the ACT Government's National Water Initiative Implementation Plan.</p> <p>ACTEW has adopted an integrated water supply approach in its future water options analysis (2005) and its Water Security for the ACT analysis (2007).</p>
Catchment management	The Government will formalise catchment management arrangements to ensure better directed and coordinated outcomes and to better protect our water supply.	<p>N/A</p> <p>Sustainability & Environment Policy</p>	<p>The Catchment Management Expert Group provided advice to the Chief Minister on proposed catchment management governance arrangements in March 2006. The primary concern is the need for a coordinated and integrated approach to catchment management overseen by a Catchment Commissioner. Two options were proposed:</p> <ol style="list-style-type: none"> 1. That catchment management be overseen by a catchment commissioner appointed within the bureaucracy. 2. The appointment of an independent catchment commissioner operating under separate legislation. <p>The Department of Territory and Municipal Services is considering these options in liaison with other relevant agencies.</p> <p>ACTEW has committed \$11m to assist in the restoration of the lower Cotter catchment to help improve water quality, now that the Cotter reservoir has been re-introduced into Canberra's water supply.</p>
Sub-catchment management plans	Formalise a process to use sub-catchment plans as input into the Government's Capital Works program and management decisions.	<p>N/A</p> <p>Sustainability Programs</p>	<p>Sub-catchment plans for the three ACT sub-catchments (Ginninderra, Southern ACT and Molonglo) continue to guide and inform investment decisions in natural resource management in the ACT.</p> <p>These plans reflect community aspirations in catchment based natural resource management and as such are a dynamic tool guiding the group's work and a basis for fund raising by the groups to implement their plans.</p> <p>In this context, the ACT Government is one of a number of investors sought by the catchment groups. The Plans continue to be the basis for dialogue between the community and government about natural resource management priorities and approaches.</p> <p>The plans have been catalytic in the development of Government programs such as for urban wetlands.</p> <p>Catchment groups will be formally invited to submit capital works proposals annually.</p>
Resource management framework	The ACT Government will seek the agreement of the NSW Government and regional local councils to adopt best practice principles as the basis for water management generally	<p>N/A</p> <p>Sustainability & Environment Policy</p>	<p>In March 2006, the ACT and NSW Governments signed agreements on a regional management framework as well as Cross Border Agreements on water resources and settlement. The Australian Government, on review of the documentation, signed the Water Resources Agreement in August 2006.</p> <p>The Googong Catchment management plan is being finalised. The Googong Foreshores Draft Plan of Management was released in 2007.</p>

<i>Issue</i>	<i>Action</i>	<i>Target & Agency</i>	<i>Progress report</i>
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Protect the water quality in ACT rivers, lakes and aquifers to maintain and enhance environmental, amenity, recreational and designated use values and to protect the health of people in the ACT and down river

Water Quality	The Government will continue environmental and health quality protection programs working with the community to meet the aim of the same or better quality for water leaving the ACT as that entering the ACT.	N/A Environment Protection	The ACT Government continues to work in partnership with the Australian Government, through the 'Water Watch' program, to support a network for community based monitoring of water quality and catchment health. This is with the assistance of the Australian Government's National Action Plan for Salinity and Water Quality program. A series of education, regulation, assessment and compliance programs are in place to ensure protection of environmental health. Programs include: <ul style="list-style-type: none"> • monitoring of rivers and waterways; • authorisation of activities, including discharges from a range of activities; • provision of information through briefings of the community and industry and preparation of reports; and • compliance action under the <i>Water Resources Act 1998</i> and <i>Environment Protection Act 1997</i>. The construction of new and retrofitted pollution control ponds is an important initiative to maximise quality of urban stormwater.
Riparian zone management plan	The Government will require management of riparian zones in the ACT to be consistent with the Riparian Zone Management Plan in Volume 2 of <i>Think water, act water</i> .	N/A Environment Protection	The Aquatic Species and Riparian Zone Conservation Strategy has been prepared by Government. It focuses on the needs of threatened species in this zone. The Strategy is currently on public circulation.
Environmental flow review	Using new scientific knowledge gained since 1999 the Government will review the Environmental Flow Guidelines.	2004 Environment Protection	New environmental flow guidelines were finalised in early 2006.
Water monitoring	Undertake a review of water resource monitoring to: <ul style="list-style-type: none"> • identify and communicate clear objectives for each monitoring program; • identify common data interests and objectives of monitoring programs to facilitate synergies; • ensure monitoring objectives are the basis for design of monitoring programs; and • undertake the review as a collaboration between agencies and the community 	N/A Environment Protection	A review of water monitoring programs indicated that surface water coverage was adequate, although it was performed by a number of separate programs. Therefore work has been undertaken to integrate the results of the separate programs, including community based programs such as WaterWatch, and make them available on a common database. Improvements to the resolution of Water Quality data has been made by the installation of automatic water quality sensors at the key ACT water sites on the Murrumbidgee and Molonglo Rivers. Groundwater monitoring has been expanded to: <ul style="list-style-type: none"> • improve the understanding of the relationship between rainfall and recharge; and • monitor the impact of groundwater abstraction on aquifer levels in the high demand areas.

Issue

Action

*Target
&
Agency*

Progress report

Protect the water quality in ACT rivers, lakes and aquifers to maintain and enhance environmental, amenity, recreational and designated use values and to protect the health of people in the ACT and down river (continued)

Adaptive management	The Government will recognise the importance of continuous reassessment and improvement in the sustainable management of water resources and use adaptive management to ensure best practice management of ACT water resources.	N/A Sustainability & Environment Policy	The Government recognises the importance of continuous reassessment and improvement in the sustainable management of water resources and uses adaptive management to ensure best practice management of ACT water resources. The Government has ongoing assessment and evaluation of various components of the management of ACT water resources and related resource management programs. This is reflected in the principles, objectives and administration of the new <i>Water Resources Act 2007</i> (enacted in August 2007).
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<i>Issue</i>	<i>Action</i>	<i>Target & Agency</i>	<i>Progress report</i>
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Facilitate incorporation of water sensitive urban design (WSUD) principles into urban, commercial and industrial development

WSUD planning	The Government will seek advice of the ACT Planning and Land Council on best practice implementation of WSUD.	June 2005 ACT Planning & Land Authority	A presentation was made to the ACT Planning and Land Council on 29 October 2003, explaining the context of water sensitive urban design (WSUD) in relation to <i>Think water, act water</i> and outlining the concepts proposed to be incorporated into the WSUD Guidelines. Draft WSUD Guidelines were presented to the ACT Planning and Land Council on 7 September 2005.
Developer contributions to WSUD measures	The Government will develop a scheme so that in some circumstances, developers can contribute to off-site works to meet their WSUD obligations.	N/A ACT Planning & Land Authority, Sustainability Programs	The administrative, legislative and other issues requiring resolution in order to implement a developer contributions scheme are being reviewed.
Greenfield development	In consultation with industry, the Government will require that best practice, cost effective WSUD measures are used in the construction of all new greenfield developments, large scale redevelopments and capital works projects.	June 2005 ACT Planning & Land Authority	Draft Guidelines have been prepared and were considered by Government on 5 December 2005. Public consultation has been completed. Draft Guidelines were released for Public Consultation on 1 April 2006. The final <i>Waterways: Water Sensitive Urban Design General Code</i> was released in July 2007. This General Code will be enacted concurrently with the New Planning System and Territory Plan on 31 March 2008. The aims and targets of this General Code are being implemented in all new greenfield developments with key WSUD projects being implemented, some of which include the areas of Forde, Bonner, Harrison, Franklin, Flemington Road and West Macgregor.
WSUD in developed areas	The Government will seek opportunities to retrofit WSUD measures into developed areas where such measures do not exist.	N/A ACT Planning & Land Authority	The draft WSUD Guidelines flag the Government's commitment to investigate opportunities for retrofitting. ACTPLA completed a study of the Sullivans Creek catchment in 2003. As part of the investigations into future development of the Molonglo Valley, ACTPLA is investigating opportunities for addressing stormwater quality issues in the Woden and Weston Creek catchments. The ACT has been successful in obtaining funding under the Australian Government Water Fund for the retrofitting of a number of WSUD measures in existing developed areas. The ACT Government is undertaking a joint initiative with the National Water Commission and the CSIRO investigating the potential and cost effectiveness of harvesting stormwater, sewer mining and aquifer storage and extraction. This is being completed with the aim of reducing potable water consumption by 3GL/yr.
	In consultation with industry, the Government will require best practice WSUD measures to be used in construction of all residential redevelopments and dual occupancies.	June 2005 ACT Planning & Land Authority	The use of best practice WSUD is addressed in the draft WSUD Guidelines.

Promote and provide for community involvement and partnership in management of the ACT Water Resources Strategy			
Information and awareness	Implement an Information and Awareness Program to help meet the ACT's water resources management Goal and Objectives, particularly to improve the efficiency of urban water use.	June 2004 Sustainability Programs	The information and awareness program, comprising displays and presentations at community and public events, advertising and editorial, distribution of promotional products such as shower timers, enhancement of the Think Water website, and provision of fact sheets focusing on efficient water use in the garden and home, continued to be implemented. ACTEW's water restrictions and conservation awareness campaign incorporated radio, press and television advertising, a program of water wise gardening workshops, a brochure mail out to householders, website information, events and shower timer give-aways.
	The Government will support community involvement and partnership by developing a community oriented learning and action package which can be tailored by various groups, based on what is relevant for their needs.	N/A Sustainability Programs	Significant progress was made on development of a school curriculum resource and a best practice guide on water as part of the Australian Sustainable Schools ACT (AuSSI) Toolkit. Fact sheets on water efficiency in the home and garden, rainwater and greywater guidelines and shower timers promoting shorter showers are available to community groups on request. Factsheets are also available from the Think Water website. Work commenced on development of a new program (IrrigationSmart) to educate and assist residents with automatic irrigation systems to operate their systems efficiently.
	The Government will support community involvement and partnership by working with the community to develop initiatives that will support groups to undertake development and delivery of community water learning projects.	N/A Sustainability Programs	Presentations and discussions with a range of community groups occurred, including seniors groups and community sustainability groups. Support, in the form of information resources and an ACT Environment Grant, was provided to ACT otherWISE, to assist in its delivery of youth workshops on a range of sustainable consumption issues, including water efficiency. The ACT Government continued to support the Waterwatch program. ACTEW's Grass Roots turf and irrigation research project provides a demonstration site for watering regimes and grass types designed to encourage behavioural change amongst those with large turfed areas.
Reporting on progress	Progress on implementation of <i>Think water, act water</i> will be reported annually in the ACT Water Report.	N/A Sustainability Programs	Implementation progress is reported in this document.