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The National Competition Council

The National Competition Council was established on 6 November 1995 by the *Competition Policy Reform Act 1995* following agreement by the Commonwealth, State and Territory governments.

It is a federal statutory authority which functions as an independent advisory body for all governments on the implementation of the National Competition Policy reforms. The Council's aim is to 'improve the well being of all Australians through growth, innovation and rising productivity, and by promoting competition that is in the public interest'.

Information on the National Competition Council, its publications and its current work program can be found on the internet at www.ncc.gov.au or by contacting NCC Communications on (03) 9285 7474.

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Abbreviations

ACT	Australian Capital Territory
ACTEW	Australian Capital Territory Electricity and Water Corporation
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ANZECC	Australian and New Zealand Environment and Conservation Council
CoAG	Council of Australian Governments
CPA	Competition Principles Agreement
CPI	Consumer price index
CSO	Community service obligation
DLWC	(former) Department of Land and Water Conservation (New South Wales)
DNRE	(former) Department of Natural Resources and Environment, now Department of Sustainability and Environment (Victoria)
DPIF	Department of Primary Industry and Fisheries (Tasmania)
DPIWE	Department of Primary Industries, Water and Environment (Tasmania)
DSE	Department of Sustainability and Environment
DWLBC	Department of Water Land and Biodiversity Conservation (South Australia)
EBITDA	Earnings before interest, tax, depreciation and amortisation
ERA	Economic Regulation Authority (Western Australia)
ESC	Essential Services Commission (Victoria)
ESCOSA	Essential Services Commission of South Australia

GPOC	Government Prices Oversight Commission (Tasmania)
INRM	Integrated Natural Resource Management
IPART	Independent Pricing and Regulatory Tribunal (New South Wales)
MDBC	Murray–Darling Basin Commission
MJA	Marsden Jacob Associates
NCC	National Competition Council
NCP	National Competition Policy
NECG	Network Economics Consulting Group
NRM	Department of Natural Resources and Mines (Queensland)
NWQMS	National Water Quality Management Strategy
ODRC	Optimised depreciated replacement cost
RAT	Recoverable amounts test
RMPAT	Resource Management and Planning Appeal Tribunal (Tasmania)
RUWA	Regional urban water authority
SEPP	State environment protection policy
SWMOP	State Water Management Outcomes Plan (New South Wales)
WSAA	Water Services Association of Australia
WRC	Water and Rivers Commission (Western Australia)

Findings and recommendations

Australia's water reform program is perhaps the most challenging aspect of the National Competition Policy (NCP). The program incorporates economic, environmental and social measures, and aims to achieve a more efficient, flexible, sustainable industry capable of delivering higher quality water with greater security of supply.

The water reform program, which was brought under the ambit of the NCP in 1995, requires governments to have implemented a range of reforms by 2005. These reforms include:

- changing the basis for pricing water services from property valuation systems (often with free water allowances) to systems directly related to the volume of water used, to better manage the demand for water;
- ensuring the prices charged for water and wastewater services cover the full cost of providing those services, to ensure sufficient provision for asset maintenance and refurbishment, while protecting against monopoly pricing by service providers;
- converting water allocation arrangements that were imprecise, attached to land ownership and often overallocated, to secure systems of water entitlements separate from land title;
- providing water specifically for environmental purposes, in recognition that overallocations in some systems threaten ecological processes and biodiversity;
- facilitating water trading to allow water to be used where it is most valued, to maximise the return to Australia from water use;
- requiring proposals for new investment in rural water infrastructure to undergo rigorous appraisal, to show that each project is economically viable and ecologically sustainable;
- better integrating natural resource management activities, including catchment management, in recognition of the interrelationship of soil, water and vegetation and the impact of a land use decision in one area on the whole of the river basin or region;
- improving water quality through a combination of market-based and regulatory measures, including water quality monitoring and catchment management policies and community consultation and awareness;

- clearly defining the roles of water industry institutions so the role of service provision and the roles of standards-setting and regulation do not overlap, to remove the potential for conflicts of interest;
- ensuring that water and wastewater service providers (in metropolitan areas in particular) have a commercial focus, that services are delivered as efficiently as possible and that service providers seek to achieve international best practice;
- devolving greater responsibility for the management of irrigation areas to local constituents, subject to appropriate regulatory frameworks being established; and
- undertaking public education and consultation on the need for and benefits of water reform, particularly where change and/or new initiatives are contemplated.

This 2003 assessment is the fourth NCP assessment of governments' progress in implementing the water resource policy, following assessments in 1999, 2001 and 2002. The National Competition Council considered each government's progress in implementing reforms that Council of Australian Governments (CoAG) senior officials scheduled for assessment this year as well as matters that the Council had found in earlier annual NCP assessments to be incomplete. In assessing progress in these areas, the Council also recommended on 2003-04 competition payments.

The elements of the water reform program that the Council considered in 2003 encompassed:

- urban water pricing (full cost pricing and consumption-based pricing), institutional reforms (institutional separation, a commercial focus by water businesses, the local devolution of irrigation scheme management, and integrated catchment management arrangements), intrastate trading and the National Water Quality Management Strategy, which are the reforms that CoAG determined should be assessed in 2003;
- the implementation of appropriate environmental flow regimes in stressed and overallocated river systems in New South Wales, Victoria and Queensland, which the Council had found in previous NCP assessments to not be sufficiently advanced;
- the establishment by New South Wales of arrangements to deliver its system of water entitlements (the water access licence system and the register of water licences);
- new investments in water infrastructure in Queensland, South Australia and Tasmania, which need to be shown to be economically viable and ecologically sustainable;

- public education and consultation activity, which CoAG senior officials determined should occur in conjunction with other reforms; and
- the review and, where appropriate, reform of water legislation, in line with the Competition Principles Agreement requirement that the review and appropriate reform of the stock of legislation that restricts competition be completed by 30 June 2002.

In assessing governments' performance and recommending on competition payments, the Council accounted for the CoAG work under way. This work is focusing on the sustainability of Australia's river systems and water use, particularly on matters of resource security, water trading, the compatibility of jurisdictions' systems of water management, and change management. On 4 June 2003, the Deputy Prime Minister foreshadowed that a new intergovernmental agreement on water would be considered at the CoAG meeting in August 2003. The CoAG work led New South Wales to postpone the application of its water management arrangements and its new licensing and registry system to 1 January 2004. These New South Wales matters were due for assessment in 2003.

This 2003 NCP assessment also reports on governments' progress in implementing the reforms that will be assessed in 2004 and 2005. The 2004 assessment will consider rural water pricing, interstate trading arrangements, the conversion of existing water allocations to new entitlements systems, and progress in implementing environmental allocations. The 2005 assessment will consider governments' implementation of the entire package of reforms. While the Council found in this 2003 NCP assessment that progress was slow in some of the areas to be assessed in 2004 and 2005, it made no recommendations on competition payments on these matters.

All governments provided an annual report outlining their progress in implementing the CoAG water reform program. As in previous assessments, stakeholders also made important contributions. The Council received 16 written submissions for the 2003 NCP assessment, covering: water pricing, water management arrangements (including the security of entitlements systems and the adequacy of water provision to the environment), water trading and new rural water infrastructure projects.

New South Wales

Urban water and wastewater pricing

The four metropolitan urban water and wastewater service businesses — the Sydney Water Corporation, the Hunter Water Corporation, the Gosford City Council and the Wyong Shire Council — all set prices on a consumption basis to achieve full cost recovery (the Sydney Water Corporation will eliminate its few remaining property-based charges by June 2005). The Sydney Catchment Authority, which owns the headworks infrastructure and supplies bulk water to the Sydney Water Corporation, also sets prices on a full cost recovery basis. The Independent Pricing and Regulatory Tribunal regulates the prices of the services provided by the four urban businesses and the Sydney Catchment Authority. The tribunal's current price determinations apply to 30 June 2005.

New South Wales has 87 nonmetropolitan urban local government water and wastewater utilities with more than 1000 connected properties. About three-quarters of these utilities set prices that achieved full cost recovery in 2001-02. The utilities that are yet to achieve full cost recovery are relatively small, and collectively represent about 3 per cent of all property connections held by utilities with more than 1000 connections. About 70 per cent of water utilities with more than 1000 connections apply consumption-based pricing. Some of those yet to introduce fully consumption-based pricing impose an access charge and free water allowance, with a use-based charge for excess water consumption. These arrangements may approximate consumption-based pricing if the free water allowance is limited to the quantity needed to meet public health requirements and if there is an appropriate charge for discretionary use above the allowance. Several utilities are reducing their free water allowances. Although some still provide relatively high allowances, these utilities represent only a small proportion of the total number of water connections in the State.

New South Wales issued best practice pricing guidelines in February 2003, which will assist the remaining utilities to move to full cost recovery and adopt consumption-based pricing. In addition, the *Local Government Amendment (National Competition Policy Review) Act 2003* introduced best practice management guidelines for water and wastewater utilities. The management guidelines incorporate arrangements that increase the incentive for utilities to price appropriately. New South Wales anticipates an increased number of utilities to fully recover costs in 2003-04 as a result of the best practice pricing and management guidelines.

The Council considers that New South Wales achieved satisfactory progress against its urban water and wastewater pricing obligations for the 2003 NCP assessment.

The Council will look in the 2004 NCP assessment for substantial achievement of full cost recovery and broad application of consumption-based pricing by New South Wales water and wastewater utilities. While this achievement will require some advance on the outcomes in 2001-02, the Council accepts that the best practice pricing and management guidelines now in place are likely to lead to more local government utilities achieving full cost recovery and applying consumption-based pricing.

Water entitlements: access licences and the register of entitlements

At the time of the 2002 NCP assessment, New South Wales was converting its system of five-year licences under the *Water Act 1912* to a new system of 15-year access licences under the *Water Management Act 2000*. The Government was giving priority to converting licences for water sources covered by its first round of water sharing plans (which cover about 80 per cent of the State's water). Regulations under the Water Management Act define the arrangements for licence renewals. The Regulations give priority to existing licence holders, with licences expected to be renewed subject to standard environmental assessments. New South Wales was also working on a system for registering water rights at the time of the 2002 NCP assessment. The register is intended to give licence holders certainty in their right to water, such that access licences can be used as mortgage security in the same way that property can.

The new licensing and approvals system and the register were to be operational by January 2003. Following the Deputy Prime Minister's announcement on 4 June 2003 foreshadowing a new intergovernmental agreement on water, New South Wales deferred the application of its water management arrangements, including the commencement date for the new licensing system and registry, to 1 January 2004.

The Council defers the 2003 NCP assessment of New South Wales's implementation of its access licensing system and registry to February 2004.

Provision of water to the environment in stressed and overallocated systems

New South Wales gazetted water sharing plans for 35 surface water and groundwater systems, which allocate water for environmental purposes. The plans are due to commence on 1 January 2004, following the Government's decision to defer the plans' commencement by six months to accommodate CoAG work on the water industry. The foreshadowed CoAG work may alter the approach to some areas of the 1994 CoAG water agreement, including the allocation of water to the environment (which is a matter covered by the New South Wales water sharing plans).

Several aspects of the water sharing process in New South Wales suggest the likelihood of better environmental outcomes than are available under the State's former processes. The plans allocate water for extractive and environmental purposes, so recognise the environment as a legitimate user of water. For the unregulated rivers, the plans provide the first formal allocation of water to the environment. The plans were developed by water management committees, which had access to a range of scientific and other information, and involved an extensive public process. The plans incorporate processes for monitoring environmental outcomes and provide for increased environmental allocations if monitoring outcomes indicate this is warranted.

A key issue in New South Wales is the nature of the trade-offs made when the amount of water identified for environmental flows is less than the best available science recommends. The CoAG water agreement acknowledges the existing rights of water users, meaning that water management committees developing environmental flow regimes may recommend a flow regime that does not meet the scientifically recommended regime in the shorter term. Such decisions imply that the community has agreed to accept the potential consequences. The Council considers, therefore, that there must be sufficient public information on the environmental risks posed by the negotiated flow regimes to allow the community to understand and comment on the water management committee's decisions on water use. Moreover, the water management committees need to be representative of all interests, and the flow regime and associated river health activities must be likely to deliver recommended environmental flow objectives within a reasonable period.

New South Wales published summary guides and fact sheets on its water sharing plans, providing useful information for licence holders and the wider community. The guides and facts sheets indicate that the water sharing plans will provide improved environmental outcomes in most cases. New South Wales also intends to provide more detailed information on the environmental benefits of its water sharing plans in the near future.

The Council could not conclude from the information that New South Wales has provided to date whether the water sharing plans satisfy the CoAG requirement to allocate an appropriate amount of water to the environment. The guides and facts sheets (which were not intended to address the CoAG requirement) summarise the environmental water provisions in the plans, but only some provide information on the extent to which environmental flows (or recharge) will be improved and/or examples of the expected environmental benefits. Only a few of the guides indicate the extent to which the extraction limits and other rules in the plans are expected to lead to the sustainable use of the water source. The guides and facts sheets provide no information on the extent of the trade-offs made in deciding on environmental allocations or on the rationales for the trade-offs. They also provide little information on the manner in which the water management committees considered and incorporated the environmental science in developing the plans.

The Council defers the 2003 NCP assessment of New South Wales's actions to provide water for environmental purposes in stressed and overallocated river and groundwater systems to February 2004. The Council will consider recommendations on New South Wales' 2003-04 competition payments relating to the provision of water to the environment in stressed and overallocated systems in the deferred assessment. Until then, the Council will work with New South Wales to better understand the basis for and the effects of the environmental allocations in the gazetted water sharing plans. The Council will look for New South Wales to provide information to demonstrate that its water sharing plans will deliver environmental outcomes that (as required by the CoAG water agreement) are determined wherever possible using the best scientific information available. The Council will seek to understand the nature and extent of any socioeconomic trade-offs from recommended environmental flows.

Intrastate trade in water

The New South Wales Government's gazetted water sharing plans and the Statewide access licence dealing principles provide greater scope for trading than previously possible. The Government's decision to defer commencement of the gazetted water sharing plans and the new registry system until January 2004 will delay the commencement of water trading under the new arrangements. Trading will occur in the interim, however, under the Water Act.

The trading rules in the water sharing plans contain some restrictions on trading, not all of which appear to be related to a need to protect the environment or ensure the practical management of trading. Some constraints appear to be a response to socioeconomic concerns. Nevertheless, by developing its trading rules, New South Wales made sufficient progress against the CoAG obligations on water trading for this 2003 NCP assessment. The Council will work with New South Wales during 2003-04 to better understand the rationale for the trading rules and their consistency with CoAG obligations.

The prohibition on trade out of some irrigation districts in New South Wales is a significant constraint on both intrastate and interstate trade, and appears inconsistent with the CoAG obligations. In the 2004 NCP assessment, the Council will look for New South Wales to have substantially resolved this issue, accounting for the Murray–Darling Basin Commission’s current work on trading restrictions. Under the CoAG agreements, the New South Wales Government is ultimately responsible for ensuring the prohibition is removed or demonstrating that it is in the public interest.

The Council considers that New South Wales made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment, noting the State’s progress with the water sharing plans.

The Council will revisit New South Wales’s intrastate trading arrangements in the 2004 NCP assessment when it considers interstate trade. In the 2004 assessment, the Council will look for substantive progress by New South Wales towards removing constraints on trade out of irrigation districts or replacing them with less-restrictive alternatives, and for New South Wales to report on the operation of the trading rules in the water sharing plans. Given the concerns with the timeliness of the previous trading approval processes, the Council will also expect New South Wales to report in 2004 on trading approvals (based on the first three months of operation of its new system).

Institutional reform

Structural separation

New South Wales transferred responsibility for State Water, previously a ring-fenced business unit within the (former) Department of Land and Water Conservation, to the Ministry of Energy and Utilities. This separation, which followed consultation with water users, clearly distinguishes between the manager of built assets and the natural resource regulator. The Independent Pricing and Regulatory Tribunal has responsibility for price regulation of the four urban water and wastewater service providers, the Sydney Catchment Authority and State Water. New South Wales annually benchmarks the performance of its nonmetropolitan urban water and wastewater providers, enabling customers to compare the standard of service of the different providers.

Integrated catchment management

New South Wales continued to make progress in implementing its integrated catchment management obligations. The Government's principal achievement since 2001 has been the development of 21 catchment blueprints covering the whole of the State. Other developments include: the improved coordination of natural resource management; bilateral agreements on the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension with the Commonwealth Government; ongoing work by the Healthy Rivers Commission; and the Wentworth Group Report on land clearing and catchment-related issues.

The Council considers that New South Wales satisfactorily addressed its structural separation obligations.

The Council considers that New South Wales made satisfactory progress against its integrated catchment management obligations for the 2003 NCP assessment. The Council will next consider New South Wales's progress on integrated catchment management as part of its full assessment of water reform in 2005.

The Council concluded in previous NCP assessments that New South Wales had satisfied requirements to: ensure service delivery organisations in metropolitan areas have a commercial focus; ensure service providers implement performance monitoring arrangements; and devolve greater responsibility for the management of irrigation areas to local constituents.

National Water Quality Management Strategy

New South Wales continued to make progress in implementing the National Water Quality Management Strategy (NWQMS) framework, with significant developments since 2001 including:

- the Healthy Rivers Commission's development of long-term environmental objectives for a number of river systems, drawing on the NWQMS guidelines;
- the release of an Environment Protection Authority consultation paper on marine water quality objectives, drawing on the NWQMS guidelines;
- the establishment of the State Water Management Outcomes Plan to set overarching policy contexts, targets and strategic outcomes for water resources, with regard to the NWQMS requirements;
- the incorporation of water quality initiatives in water sharing plans;
- the release of an interim approach to reviewing, coordinating and streamlining water monitoring arrangements;
- the development of new water quality benchmarks in accord with the NWQMS methods;
- ongoing work on market-based measures to improve water quality; and
- the extended funding of stormwater management programs.

The Council considers that New South Wales made satisfactory progress in implementing policies that reflect the NWQMS guidelines for the 2003 NCP assessment. The Council will next consider New South Wales's progress in this area as part of its full assessment of water reform in 2005.

Legislation review and reform

The Water Management Act repealed a range of water industry legislation. (New South Wales's schedule of legislation review and reform activity lists 18 Acts that were repealed by the Water Management Act.) The Act considerably improves the State's water management arrangements (including the arrangements for water trading). While the Act's provisions on water licensing and trading, and the first round of water sharing plans, are now scheduled to commence on 1 January 2004, this deferral was made to accommodate foreshadowed CoAG work on a new intergovernmental water agreement.

The Council considers that New South Wales has met its review and reform obligations relating to its stock of water industry legislation.

Public education and consultation

Public education and consultation activities by New South Wales relate to the development and implementation of water sharing arrangements, integrated catchment management activity, water and wastewater pricing, and structural reform matters.

New South Wales developed its State Water Management Outcomes Plan and its first round of water sharing plans via public processes. Preparation of the water sharing plans involved releasing draft plans for public consultation. Further, the water management committees considered public submissions prior to finalising their recommendations on water sharing arrangements. New South Wales appears to have made considerable effort to involve relevant environmental, social and economic stakeholders in preparing the water sharing plans, although it is not clear how much technical information on the scientific basis for the environmental flow regimes was made generally available.

In the 2002 NCP assessment, some individuals and organisations involved in developing the (then) draft water sharing plans commented adversely on a range of matters, including the timing of the release of the interim State Water Management Outcomes Plan, delays in the availability of advisory notes and delays in finalising the plan. Some water management committees also raised concerns about the timing of the release of key technical and scientific information. In this 2003 NCP assessment, some stakeholders reiterated their 2002 concerns about the consultation on the State Water Management Outcomes Plan and the development of the draft water sharing plans.

New South Wales undertook to monitor future processes for developing water sharing plans to ensure similar problems do not arise. The Government noted that the gazettal of the State Water Management Outcomes Plan and the experience gained from developing the first round of water sharing plans will help to inform the process for future plans. New South Wales published summary guides and fact sheets on almost all of its completed water sharing plans. These provide an overview of each plan, including the environmental water provisions.

New South Wales has 21 catchment blueprints that establish specific and measurable catchment targets covering biodiversity, water quality and flow, salinity, riverine ecosystems, soil health and native vegetation. Drafted by catchment management boards, the blueprints were endorsed by the New South Wales Government in 2002 following public consultation. All blueprints are public documents.

Independent economic regulation of the four urban metropolitan service providers, the Sydney Catchment Authority and State Water assists public understanding of the cause-and-effect relationship between infrastructure performance and standards of service and related costs. Similarly, the Government's best practice pricing guidelines and management guidelines for

local water and wastewater utilities, and its conduct of information seminars, should assist public understanding of this element of water reform. Before transferring responsibility for State Water from the (former) Department of Land and Water Conservation to the Ministry of Energy and Utilities, New South Wales consulted with water users.

The Council considers that New South Wales met its public education and consultation obligations for the 2003 NCP assessment.

Victoria

Urban water and wastewater pricing

There are four urban metropolitan providers of water and wastewater services in Melbourne. Melbourne Water is the wholesaler providing bulk water supply, sewerage treatment, drainage and floodplain management services to the three retail service providers, which are City West Water, South East Water and Yarra Valley Water. Outside of metropolitan Melbourne, 15 regional urban water authorities provide services to country towns. The regional urban water authorities supply about 30 per cent of the two million property connections in Victoria. The Council found in previous NCP assessments that Victoria's urban metropolitan water and wastewater services are recovering costs consistent with CoAG obligations but noted in those assessments that several regional urban providers were not operating on a commercially viable basis.

Victoria's 2001 price review of the State's water, sewerage and drainage services established a three-year price determination for these services (including regional urban services) from 1 July 2001 to 30 June 2004. The review sought to establish prices that would fall between a floor price that ensures commercial viability and a ceiling price that avoids monopoly rents, consistent with CoAG pricing principles. Victoria's cost recovery estimates indicate that all regional urban water authorities achieved at least the floor price for full cost recovery in 2002-03.

The Victorian Government is canvassing structural and pricing issues in a green paper review of the State's water industry. Among other things, the green paper will establish high-level pricing principles aimed at achieving sustainable water and wastewater businesses, clarify cost recovery issues and address related matters, including asset valuation, dividend arrangements, community service obligations, cross-subsidies and externalities. The Government will require its water businesses to apply the green paper cost recovery principles from 1 January 2004. Victoria will bring the water industry under the economic jurisdiction of the Essential Services Commission from 1 January 2004, with the commission's first price

determination for water to take effect on 1 July 2005. This will assist the achievement of appropriate and transparent pricing outcomes by all urban and rural water authorities.

The Council found in the 2001 NCP assessment that Victoria's widespread adoption of volumetric charges as part of a two-part tariff and the absence of free water allowances ensures water users across the State have a strong incentive to use water efficiently. The Council considered Victoria to have complied with its consumption-based pricing obligations.

The Council considers that Victoria has satisfactorily addressed its urban water and wastewater pricing obligations for the 2003 NCP assessment.
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Water entitlements: progress report

Under the *Water Act 1989*, bulk water entitlements are issued to rural and urban water authorities. A bulk entitlement defines the volume of water that an authority may take from a river or storage, the rate at which it may be taken and the reliability of the entitlement. Bulk entitlements are granted to rural water authorities for the regulated river systems, and to urban authorities irrespective of whether they are supplied by regulated or unregulated rivers.

In the regulated irrigation districts, bulk entitlements are issued to the rural water authorities as the basis for providing water to irrigators. Irrigators who pump directly from rivers require a licence to take and use water. Individual water rights in the irrigation districts are listed in a schedule to the bulk entitlement. In the unregulated river systems, water rights are provided through licences that allow the holder to divert water. In water supply protection areas, diversions are managed via streamflow management plans, which Victoria is developing on a priority needs basis. Streamflow management plans include rules covering the granting of new water licences and flow sharing (including environmental flows) under a range of flow conditions. Lower priority rivers are subject to Statewide management rules rather than a formal plan. Licences are also required to extract groundwater. Where water allocations exceed 70 per cent of the sustainable yield of an aquifer, the Government establishes a groundwater supply protection area and develops a groundwater management plan.

Bulk entitlements now cover approximately 85 per cent of the State's total water resources. Progress on the major systems still to be converted to bulk entitlements is slower than Victoria anticipated, principally as a result of the time taken to convert the Melbourne and associated systems and the need to achieve stakeholder consensus on the other river systems. Victoria expected to complete the conversions for all major systems (except the Loddon River and possibly Melbourne) by the end of 2003 and to grant all bulk entitlements by the end of 2004. For the unregulated rivers, three streamflow management plans were completed by March 2003. There were a further 28 plans in progress and 11 still to commence. Of the 28 plans in progress, Victoria

expected to complete 10 by late 2003. Victoria expected the rate of progress to improve now that it has developed a standard procedure for preparing the plans; it anticipates that all of the plans will be finished by June 2004. For groundwater sources, the Government had established 18 water supply protection areas by March 2003, and was seeking declaration for a further four areas. Victoria had approved seven groundwater management plans by March 2003, and expected to submit a further seven plans for approval by mid-2003. Initial meetings of consultative committees were being held in the remaining four areas.

The Department of Sustainability and Environment maintains a register of bulk entitlements, which is publicly available. Rural water authorities are required to maintain registers of water entitlements in irrigation districts and of licences for diversions from unregulated rivers. Third party interests can be noted on the registers.

Provision of water to the environment

The key environmental flow obligation for Victoria for this 2003 NCP assessment was to have in place flow rehabilitation strategies that make adequate environmental provisions for the Thomson, Macalister, Maribyrnong and Lerderderg rivers and Badger Creek — five of Victoria's stressed river systems. At the time of this assessment, Victoria had completed flow rehabilitation plans for two of these systems (the Maribyrnong and Lerderderg rivers) and determined a course of action for Badger Creek, and it anticipated that flow rehabilitation plans for the Thomson and Macalister rivers would soon be completed.

Victoria decided not to implement the flow rehabilitation plan for the Maribyrnong River, considering that the Statewide return in terms of environmental outcomes from flow restoration activities would be greater for other rivers. While noting that the recommended environmental flows are provided in most reaches of the river, Victoria considered that there is a need (as identified in the plan) for additional information before it commits funds to restoring flows in all reaches. The Government referred the Maribyrnong plan to the Port Phillip and Westernport Catchment Management Authority to incorporate specific actions to improve river health into its regional catchment strategy and river health planning processes. The Council has no information on the actions proposed by the catchment management authority. Instead of implementing the Maribyrnong plan, Victoria will implement a streamflow management plan for the King Parrot Creek. Victoria indicated that this plan provides a greater environmental outcome than the Maribyrnong plan for the level of commitment required.

Victoria committed funding to modify the Lerderderg Weir to enable it to pass fresher and flushing flows. The Lerderderg flow rehabilitation plan suggests that modification of the weir should meet environmental objectives. The course of action proposed for Badger Creek — the connection of Healesville to

an alternative source of supply — is also likely to meet environmental objectives. This work is scheduled for 2012. As an interim measure, Melbourne Water committed funding to undertake works to improve the health of Badger Creek.

Victoria established a technical audit panel to consider whether the information and method used in the development of environmental flows are the best available at the time, and whether the assessment of risks is properly done. The audit panel's reviews will be made public. Victoria also produced guidelines for the preparation of streamflow and groundwater management plans, which require reference committees to obtain comments from the technical audit panel, including comments on the risks to the environment of the committee's recommended flow regime. The draft plan must incorporate the comments before it is made available for public comment. In addition, the Department of Sustainability and Environment is making available environmental flow assessments and related documentation in its library and on the Internet.

A key issue in Victoria is the nature of the trade-offs made when the amount of water identified for environmental flows is less than the best available science recommends. The CoAG water agreement acknowledges the existing rights of water users, meaning that reference committees developing environmental flow regimes may recommend a flow regime that does not meet the scientific recommendation in the shorter term. Such decisions imply that the community has agreed to accept the potential consequences. The Council considers, therefore, that there must be sufficient public information on the environmental risks posed by the negotiated environmental flow regimes to allow the community to understand and comment on the community reference groups' decisions on flow regimes. Moreover, the community reference groups need to be representative of all interests and flow regime and associated river health activities should be likely to deliver recommended environmental objectives within a reasonable period. The audit panel and the information that Victoria proposes to make available should ensure information concerning environmental risks is publicly available as a basis for decisions on environmental flows.

<p>The Council defers the 2003 NCP assessment of Victoria's actions to provide water for environmental purposes (and to undertake other work on river health) for the Thomson, Macalister and Maribyrnong rivers to February 2004. The Council will consider recommendations on 2003-04 competition payments relating to the provision of water to the environment at the time of the deferred assessment. The Council will work with Victoria in the period until February 2004 to better understand the basis for, and the effects of, the environmental allocations in the flow rehabilitation plans and the impacts of the foreshadowed work on river health. In particular, the Council will look for Victoria to demonstrate that flow rehabilitation plans and/or river health activities appropriately address environmental water requirements.</p>
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Intrastate trade in water

Victoria has a well-established trading market for high security water, and trading plays an important role in the State's agricultural production. The Water Act and associated Regulations provide the basis for water trading within the State. The bulk of water trade (94 per cent in 1999-2000) takes place among irrigators in regulated systems. Unregulated systems account for only around 5 per cent of total water entitlements, and trade is correspondingly smaller. Almost 90 per cent of all permanent trade occurs in the large regulated systems in northern Victoria.

Water rights in Victoria are sufficiently specified to allow for efficient trade. While Victoria's registry arrangements do not provide indefeasibility or surety of title, third parties can register an interest in a water right. Trades may not be approved without the agreement of these third parties.

Victoria's water trading market has continued to develop since the 2001 NCP assessment. Adding to the scope for private trades and the use of brokers, Victoria extended the operations of its water exchange, Watermove, to temporary transfers throughout the State and to and from southern New South Wales. Victoria is considering options for the leasing of water. It also significantly improved the transparency of its trading arrangements. Victoria continues to progress the conversion of the existing rights of water authorities to clearly defined bulk entitlements. Outside the irrigation districts, it is specifying water entitlements in streamflow and groundwater management plans. Trading arrangements contain measures to protect the water rights of other users and the environment.

Victoria is reviewing two of the remaining constraints on water trading — (1) the requirement for water entitlements to attach to land and (2) the differential returns on bulk water supply — as part of its green paper review of the water industry. A further constraint is the provision that a transfer may be refused if it would result in more than 2 per cent (net) of the total water entitlement being transferred out of selected irrigation districts in a given year. This rule currently does not substantially impede trade in Victoria's irrigation districts, but is likely to become a more significant constraint as trade increases. Victoria's constraints on trading in the unregulated rivers appear to be transitional measures to mitigate adverse environmental effects pending finalisation of the streamflow management plans.

<p>The Council considers that Victoria made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. The Council will revisit Victoria's intrastate trading arrangements in the 2004 NCP assessment when it considers interstate trade. At that time, the Council will also consider the continuing appropriateness of the 2 per cent rule.</p>

Institutional reform

Structural separation

Victoria will bring the water industry under the economic jurisdiction of the Essential Services Commission from 1 January 2004. This will address the CoAG obligation on the structural separation of water industry management and regulation, and service provision. Victoria intends to develop obligations statements for its Melbourne metropolitan, regional urban and rural water businesses to clearly and formally articulate the businesses' obligations. It expects to issue the statements (which will be publicly available) by March 2004.

Devolution of irrigation scheme management

Rural customer consultative committees will continue to provide input to determining pricing proposals and service level requirements for the rural water authorities after the water industry is brought under the economic jurisdiction of the Essential Services Commission. Victoria indicated that it is committed to strengthening the committees and more effectively involving the broader customer base, to increase the transparency of negotiations on service levels and prices.

Integrated catchment management

Since the 2001 NCP assessment, Victoria has focused on reforming its administrative framework and reviewing regional catchment strategies. These initiatives are interrelated and aim to ensure integrated catchment management is administered in accord with the requirements of the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.

Victoria has in place, via its Victorian River Health Strategy, a means of coordinating the management of river health issues, including water quality and quantity issues. The strategy has been designed to align with the catchment management authority/regional catchment strategy framework, and reflects the administrative approaches and management processes required under the national action plan. Victoria's natural resource management framework facilitates a consideration of, and support for, land care practices to protect rivers with high environmental values. In particular, Victoria's action plan for second-generation land care (released in 2002) sets directions for the next 15 years.

There has been some delay in Victoria's review and renewal of regional catchment strategies against the State's original timetable. Catchment management authorities face the concurrent and interrelated tasks of revising their regional catchment strategies and developing river health strategies. Moreover, they are developing strategies against evolving national and State policy contexts, including the national action plan and the Natural Heritage Trust extension.

The Council considers that Victoria's decision to establish the Essential Services Commission, supported by the Government's introduction of relevant legislation into the Parliament, addresses Victoria's obligations on institutional structural separation for the 2003 NCP assessment. The Council will monitor Victoria's progress with establishing the Essential Services Commission in the 2004 NCP assessment.

The Council considers that Victoria made satisfactory progress against its integrated catchment management obligations for the 2003 NCP assessment. The Council will next consider Victoria's progress on integrated catchment management as part of its full assessment of water reform in 2005.

The Council concluded in previous NCP assessments that Victoria had satisfied requirements to: ensure service delivery organisations in metropolitan areas have a commercial focus; ensure service providers implement performance monitoring arrangements; and devolve greater responsibility for the management of irrigation areas to local constituents.

National Water Quality Management Strategy

Victoria is implementing the NWQMS framework via regional catchment strategies, river health strategies and action plans covering water quality, water quality monitoring, and wastewater and effluent management at the regional level. Significant developments since the 2001 NCP assessment, some of which are still under way, include:

- policy development in frameworks for setting regional water quality and river health targets through the Victorian River Health Strategy, with the NWQMS guidelines used as input in the development of targets;
- the proposed incorporation of risk-based environmental quality objectives, derived from objectives set out in the NWQMS;

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- the development of an assets register, drawing on the environmental values in the NWQMS;
 - the completion of the Catchment Condition Indicators project and its publication on a web site; and
 - the introduction of the Safe Drinking Water Bill in April 2003 and the proposed introduction of new regulatory measures and drinking water quality standards based on the NWQMS guidelines.

The Council considers that Victoria made satisfactory progress in implementing policies that reflect the NWQMS guidelines for the 2003 NCP assessment. The Council will next consider Victoria's progress in this area as part of its full assessment of water reform in 2005.

Legislation review and reform

Victoria commissioned an independent review of its water legislation and associated Regulations in 2001. The review examined the Water Act, the *Water Industry Act 1994*, the *Melbourne and Metropolitan Board of Works Act 1958*, the *Melbourne Water Corporation Act 1992* and associated subordinate legislation to identify all the key competitive restrictions in the provision of water and sewerage services. The review was undertaken via an extensive public process.

The review considered and recommended on: restrictions on the ability of the three urban retail water and sewerage licensees and authorities to perform functions and/or act outside defined areas; provisions relating to the allocation and trading of water entitlements; the powers of authorities and licensees, including the power to require connection to the sewerage system; the arrangements and criteria for issuing licences and permits; and consistency in legislation and regulation. The Government accepted the majority of the recommendations and work to progress implementation is under way, including legislative action and the development of financial and policy frameworks. The Government did not accept some of the review recommendations, including the progressive removal of links between the ownership of land and water and the removal of the 2 per cent trading rule.

Key outcomes include: the introduction of legislation to give effect to the economic regulation of the water industry by the Essential Services Commission; the release for public comment of legislative proposals to allow leasing of water entitlements; the canvassing of options for managing structural change; a commitment to review the requirement to own land as a condition of owning a licence; a commitment to review the differential rate of return on bulk water supplies before the Essential Services Commission sets prices for bulk water; and a commitment to develop a Statewide legislative framework, to be informed by the findings of the green paper review of the water industry.

Victoria had not implemented all recommendations of the NCP review of its water industry legislation, although it had made significant progress in several areas including vesting responsibility for the economic regulation of the water industry with the Essential Services Commission. The Government is considering most of the remaining matters in the green paper.

In the 2004 NCP assessment, the Council will look for Victoria to have implemented the key recommendations from the NCP review of its water industry legislation. The Council draws Victoria's attention to its comments on remaining constraints on water trading, some of which derive from Regulations under the Water Act. The Council will consider the 2 per cent rule in the 2004 NCP assessment.

Public education and consultation

Victoria addressed its obligations on public education and consultation for this 2003 NCP assessment through public programs on major reform issues.

- The Government consults with the community and stakeholders in developing and implementing bulk entitlements, streamflow management plans, groundwater management plans, river health plans and other natural resource management programs.
- The renewal of Victoria's regional catchment strategies involved considerable consultation with regional communities.
- Victoria's review of water industry legislation involved an extensive public process.
- The urban water businesses have customer consultation obligations via operating licences and water services agreements. Rural water authorities engage with their customers via water services committees.
- The Victorian Farm Dams (Irrigation) Review Committee held public meetings and public hearings across the State. It released a discussion paper for comment and considered submissions.
- The Government developed legislative proposals for a Statewide drinking water quality framework following the release of a proposals paper and a discussion paper, and the consideration of submissions from interested parties.

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- The consultation process for establishing the Essential Services Commission included the release of an issues paper and a proposals paper for public comment.
 - The Government adopted the Melbourne Water Resources Strategy with the objective of raising general awareness and understanding within the Melbourne area community of the need to change prevailing attitudes to water. The strategy aims at achieving the sustainable management of greater Melbourne's water resources over the next 50 years. The Government is also taking steps to raise community awareness of the need to conserve water supplies. The Victorian Water Industry Association is assisting in making educational material regarding water available to Victorian schools by cataloguing information developed and held by Victorian water businesses.

The Council considers that Victoria met its public education and consultation obligations for the 2003 NCP assessment.

Queensland

Urban water and wastewater pricing

There are 124 Queensland local governments that provide urban (metropolitan and regional) water services and 115 that provide urban wastewater services. Of the 124 water service providers, 68 operate businesses with more than 1000 property connections. The 18 largest local governments operate water businesses that account for over 83 per cent of the State's property connections.

The water and sewerage businesses of the 18 largest local governments are required under the *Local Government Act 1993* to achieve full cost-recovery. They must also apply consumption-based pricing unless they can show that this would not be cost-effective. The Queensland Government does not require the water and sewerage businesses of the other 106 local governments to implement the CoAG pricing reforms, although the Government provides financial incentives for local governments that implement reform and assists via its Business Management Assistance Program.

There is significant implementation of the pricing reforms beyond the 18 largest local governments. Data for 2001-02 and subsequent information provided by the Queensland Government indicate that 50 of the 68 water businesses with over 1000 connections achieved full cost recovery, while another 11 recovered most costs. (There was insufficient information to conclude on the remaining seven businesses.) All but one of the 18 largest businesses and all 11 of those with more than 5000 connections (apart from the 18 largest) achieved full cost recovery in 2001-02. The one exception among the 18 largest local governments, Thuringowa City Council, had only preliminary figures.

Implementation of consumption-based pricing for water services is similarly well advanced. Of the 18 largest businesses, 15 have implemented use-based pricing and two are proposing to do so by 2004-05. Townsville City Council has not implemented consumption-based pricing, but has a sufficiently robust case that this would not be cost-effective at the present time. Nine of the 11 local government businesses with more than 5000 connections (apart from the 18 largest) price on a consumption basis and one showed that it would not be cost-effective for it to price according to use. Some 22 of the 39 businesses with 1000–5000 property connections price their water service on a consumption basis, with a further eight proposing to do so, undertaking a cost-effectiveness study or operating a pricing regime with some use-based elements. NQ Water, which was established as a commercialised joint local government entity in July 2001, appears to have considered the CoAG cost recovery requirements in setting its cost recovery objectives.

Some 28 local governments in urban and regional areas apply a use-based trade waste charge, including all but three of the 18 largest local government service providers. One of these three has no trade waste emitters that are considered 'large' under the Queensland Government's model trade waste policy, while no information was available for another provider.

The Queensland Government is committed to complying with the requirement to identify and report cross-subsidies. There is likely to be significant disclosure of remaining cross-subsidies in 2003-04 via Queensland's *Local government comparative information* report. Queensland advised in previous NCP assessments that water and wastewater prices include the cost of natural resource management associated with water use, but provided no information to demonstrate the extent to which prices reflect these costs. Queensland is currently assessing natural resource management costs, as well as investigating the consequences for water pricing of externalities and scarcity. It is undertaking this work as part of a public review. Queensland is also reviewing the extent to which the Environment Protection Authority's charges reflect the costs it incurs in licensing wastewater businesses and monitoring their performance.

<p>The Council considers that Queensland met its urban water and wastewater pricing obligations for the 2003 NCP assessment.</p>
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Water entitlements: progress report

Under the *Water Act 2000*, water resource plans specify the rules for the allocation of water, water allocation security objectives and environmental flow provisions. The plans, which have effect for 10 years, are implemented through resource operations plans detailing day-to-day operational rules. Infrastructure operators must hold a resource operations licence and comply with the relevant resource operations plan.

Once a resource operations plan is approved, water licences under the previous system are converted to water allocations. A water allocation is an authority to take water in accordance with a water resource plan and resource operations plan. Water allocations are separate from land title, and their ownership, volume and location are clearly specified. A water allocations register records details of all water allocations and the corresponding interests and dealings. Compensation is payable under the *Water Act* if allocations are changed during the 10-year life of a water resource plan in a way that reduces the allocations' market value.

The Queensland Government intends to develop water resource plans and resource operations plans for all of its major water resources. It completed water resource plans for six river systems and expects a further three to be completed soon. At May 2003, Queensland had completed one resource operations plan — for the Burnett Basin. The State's most recent timetable indicates that some water resource plans and resource operations plans are not scheduled to be completed until after 2005, which is the date specified by CoAG for substantial implementation of water allocations for all river systems and groundwater sources.

<p>Queensland's water planning timetable may affect the State's ability to meet CoAG requirements on the allocation of water to the environment, to the extent that there are significant water sources for which the State's water planning process will not be complete by 2005. In the 2004 NCP assessment, the Council will look for Queensland to report on the significance of the water sources for which water resource plans and resource operations plans will not be completed until after 2005.</p>

Provision of water to the environment in stressed and overallocated systems

In the 2001 NCP assessment, the Council found evidence to suggest that the Condamine–Balonne Basin may have the characteristics of a stressed river system. It found that the draft water resource plan for the basin did not adequately address the identified environmental problems. At the time of the 2002 NCP assessment, the Queensland Government announced an independent scientific review of the assessment of the current and future condition of the Lower Balonne River system, and committed to act on the recommendations of the review.

The scientific review reported in February 2003, finding that the Lower Balonne system is in a reasonable ecological condition but may be overallocated. The review recommended arrangements for wetting national parks and wetlands within the system. It also proposed further research to refine environmental flow requirements. The Queensland Government committed to implement in full the recommendations of the review via a new water resource plan for the Condamine–Balonne Basin. The Government commenced this process, and anticipates that a draft water resource plan will be available for public consultation by August 2003. It expects the water resource plan (and the resource operations plan that will implement the water resource plan) to be finalised by mid-2004. Given that the issues concerning the condition of the basin emerged only in 2001, the Queensland Government's timetable is appropriate.

Queensland finalised a resource operations plan for the Burnett Basin in May 2003. The plan reserves allocations of water to be made available via the proposed Burnett Water Infrastructure Project, but will require amendment (once the detailed design of the infrastructure is known) to allow for the release of water. Under the plan, this amendment can be made without the usual public consultation process. The resource operations plan specifies, however, that amendments to accommodate the new infrastructure cannot be made until it is demonstrated that the supply of water would not have an impact on the water allocation security and environmental flow objectives in the water resource plan. Queensland will consult with water users before amending the resource operations plan to accommodate the design of the new infrastructure.

The Council considers that the Queensland Government is satisfactorily addressing its environmental obligations in relation to the Condamine–Balonne Basin. For the 2004 NCP assessment, the Council will look for Queensland to have finalised the Condamine–Balonne water resource plan (including appropriate environmental outcomes) and the resource operations plan.

The Council considers that the Burnett Basin resource operations plan is consistent with CoAG obligations on the provision of water to the environment. The Burnett Basin resource operations plan contains the safeguard that any amendment to provide for the release of water cannot occur until it is demonstrated that the supply of water would not have an impact on water allocation security and environmental flow objectives. Given the significance of the proposed Burnett Water Infrastructure Project, the Council considers it would be desirable for the Government to consult more widely than just with water users before amending the resource operations plan.

Intrastate trade in water

Queensland is in the early stages of permanent water trading. A trial of permanent trading commenced in the Mareeba Dimbulah scheme in 1999 and was extended to a small proportion of the water allocated in the Nogoa McKenzie scheme and to the lower parts of the Mary River scheme. At May 2003, Queensland had finalised one resource operations plan. Final resource operations plans are necessary to enable permanent trading (outside areas covered by the trading trial) and to define the water trading rules. Queensland's revised timetable for developing its resource operations plans indicates that plans for several basins will not be completed until after 2005.

Several provisions in Queensland's interim arrangements for permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and Nogoa McKenzie schemes are inconsistent with the CoAG water trading obligations. In particular, an interim water allocation must be re-attached to land and the water transferred must be used for primary production or stock and domestic purposes. These are interim arrangements, however, pending finalisation of the relevant resource operations plans. The trading rules in the Burnett Basin resource operations plan appear to facilitate trading, with restrictions in the plan reflecting environmental and physical constraints.

The Council considers that Queensland made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. The Council will revisit Queensland's intrastate trading arrangements in the 2004 NCP assessment when it considers interstate trade.

Institutional reform

Queensland's major remaining institutional reform obligation relates to integrated catchment management. Queensland's recent focus appears to have been on revising the administrative framework to implement integrated catchment management in accord with the requirements of the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension. Under the new arrangements, 14 regional bodies will develop and implement regional natural resource management plans, drawing on the work previously undertaken by catchment committees and regional strategy groups, and covering the whole of the State. Queensland's natural resource management framework — including, for example, land care initiatives to reduce broadacre clearing of remnant vegetation — appears to account for the protection of rivers with significant environmental values.

The Council considers that Queensland made satisfactory progress against its integrated catchment management obligations for the 2003 NCP assessment. The Council will next consider Queensland's progress on integrated catchment management as part of its full assessment of water reform in 2005.

The Council concluded in previous NCP assessments that Queensland had satisfied requirements to: structurally separate water institutions; ensure service delivery organisations in metropolitan areas have a commercial focus; ensure service providers implement performance monitoring arrangements; and devolve greater responsibility for managing irrigation areas to local constituents.

National Water Quality Management Strategy

Queensland continues to make progress in implementing the NWQMS framework. Developments since the 2001 NCP assessment, some of which are currently under way, include:

- progress towards developing environmental values, based on the NWQMS methods, for several major river systems;
- the development of measures to improve water quality monitoring and information dissemination;
- the implementation of the NWQMS principles in the South East Queensland Regional Water Quality Management Strategy; and
- a review of drinking water quality arrangements to align with the NWQMS guidelines.

The State continues to refine the Queensland Water Quality Guidelines, which have been in development for several years. Queensland expects to publish draft guidelines by the end of 2003.

The Council considers that Queensland is establishing appropriate processes, instruments and mechanisms to implement the key elements of the NWQMS. Progress in one important area — development of the Queensland Water Quality Guidelines — has been only gradual. The Council will next consider Queensland's progress in this area as part of its full assessment of water reform in 2005. In particular, the Council will look for the Queensland Water Quality Guidelines to be in place.

Legislation review and reform

The Queensland Water Act amended or repealed a range of water industry legislation. Queensland also reviewed and/or reformed several other water Acts.

The Council considers that Queensland met its review and reform obligations relating to its stock of water industry legislation.

Investment in new rural water schemes

The Queensland Government confirmed in June 2003 that it intends to proceed with the Burnett Water Infrastructure Project. As reported in the environmental impact assessment study for the project, the Government investigated other supply and demand management options but found that these would not adequately address the region's water requirements.

Except for the raising of the Ned Churchward Weir, the project passed through Queensland's environmental assessment processes. It was also approved by the Commonwealth Minister for the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999*. Further, the Council concluded in the 2002 NCP assessment that the modified water resource plan for the Burnett Basin, which accommodates the project, complies with CoAG requirements. The final resource operations plan requires demonstration that the supply of water will not have an impact on the water allocation security and environmental flow objectives in the water resource plan.

Burnett Water and the Queensland Department of State Development commissioned studies of the economic and commercial aspects of the project. The economic analysis undertaken by Network Economics Consulting Group (NECG) as part of the environmental impact assessment process concluded that the project would deliver significant net economic benefits, estimated at A\$1.7–\$2.2 billion (at a real discount rate of 6 per cent). A subsequent study by ACIL Consulting supported the level of increase in agricultural production projected in the NECG study. In addition, PricewaterhouseCoopers' studies indicated that regional water demand would be sufficient to take up the new entitlements from the Burnett project and that these entitlements could be sold and/or leased at price levels that address CoAG requirements.

The findings in the NECG evaluation (the only work that is publicly available) were questioned by some stakeholders and, particularly in a study commissioned by the Queensland Conservation Council and the Australian Conservation Foundation. This study questioned the level of likely demand for water at CoAG-complying prices, particularly given the likelihood of depressed sugar and cane prices. The study also adopted a significantly higher estimate of environmental costs than the NECG evaluation. Based on available data, the study concluded that the project's rate of return would be lower than that required for it to be economically viable.

Queensland provided further work by NECG and PricewaterhouseCoopers in response to the criticisms of the project's viability. In a report to Burnett Water, subsequently provided to the Council, NECG stated that 'the Burnett River Dam is an economically and commercially robust project'. NECG advised that it considered the study commissioned by the Queensland Conservation Council and the Australian Conservation Foundation to have several deficiencies, including: incorrectly suggesting that CoAG requires 'upper bound' prices to be recovered from water users (whereas CoAG permits 'lower bound' pricing with transparent community service obligation funding and requires economic viability not commercial viability); seriously inflating environmental costs; overestimating the cost of water to irrigators; using a short-term and simplistic view of the economics of the sugar industry; assuming that the capital costs associated with the dam would be amortised over 25 years (compared with a dam life of at least 150 years) and that water entitlements would effectively have no value at that time; and ignoring demand for higher-priced, high security water. In correspondence to the Department of State Development sighted by the Council, PricewaterhouseCoopers made similar criticisms of the Queensland Conservation Council and the Australian Conservation Foundation study.

Accounting for the confidential studies and the further information provided by Queensland, the Council considers that Queensland met its CoAG obligation to show that the Burnett Water Infrastructure Project is economically viable. The Council considers that the Queensland Government showed that the Burnett Water Infrastructure Project is ecologically sustainable, with the exception of the raising of the Ned Churchward Weir, for which the environmental processes are still to be completed. For the raising of the weir, the Council considers that approval under Queensland's and the Commonwealth's environmental approval processes, and a commitment by Queensland to meet any conditions imposed as a result of these processes, would demonstrate compliance with the CoAG obligation on ecological sustainability.

Public education and consultation

Public education and consultation activities by Queensland that relate to this 2003 NCP assessment concern the development and implementation of water resource plans and resource operations plans, integrated catchment management activity, water and wastewater pricing and the Burnett Water Infrastructure Project. Queensland undertakes extensive public consultation in preparing water resource plans and resource operations plans, in line with the requirements of its Water Act. The Council notes, in particular, Queensland's response to criticisms in the 2001 NCP assessment about the need for greater transparency of changes to water resource plans between the draft and final plans. Regarding this issue, Queensland released its first two consultation reports, following the finalisation of the water resource plans for the Barron River and the Pioneer Valley in December 2002. Each report includes: a summary of the content of the plan (including differences between the draft and final plans) and the plan's implications; a record of the consultation undertaken in developing the plan; a summary of the issues raised during the consultation process; and an explanation of how the final plan addressed those issues. The reports are available on the Department of Natural Resources and Mines' web site.

The Council considers that Queensland met its public education and consultation obligations for the 2003 NCP assessment.

Western Australia

Urban water and wastewater pricing

There are three major providers of urban water and wastewater services in Western Australia: the Water Corporation, Aqwest and the Busselton Water Board. The Water Corporation, which is by far the largest business, provides public water supply, sewerage, drainage and irrigation services to 1.7 million people in 300 towns and communities throughout Western Australia. There are also 20 local government authorities operating sewerage schemes, several of which provide services to large numbers of residential properties.

The Council recognised in the 2001 NCP assessment that Western Australia's metropolitan urban water and wastewater services are recovering costs, but raised concerns about the lack of transparency of the State's pricing process and about whether future pricing would continue to address CoAG obligations. At the time of the 2001 NCP assessment, Western Australia indicated a commitment to establishing an independent economic regulator that would deal with the economic regulatory aspects in the water sector, particularly price regulation. The Council indicated that the establishment of an independent regulator to recommend on the application of the CoAG pricing principles to water and wastewater businesses would address Western Australia's pricing and institutional reform obligations.

Western Australia has the Economic Regulation Authority Bill 2002 before the Parliament at the time of publication. The Economic Regulation Authority will be an independent pricing and regulatory body with coverage of several industries that are currently regulated by Ministers, sector specific regulators and public sector officials. Its functions will include recommending to the Government on tariffs and charges for government monopoly services. Western Australia intended the authority to commence on 1 July 2003, but the Bill has been delayed in the Legislative Council. The Government advised that it is committed to establishing the Economic Regulation Authority and, in anticipation, would develop a draft reference that refers water and wastewater pricing for consideration by the authority.

The City of Kalgoorlie–Boulder is not required to pay certain taxes or tax equivalents, and so does not recover taxes (or equivalents) in wastewater prices. This is unlikely to have a significant effect: Kalgoorlie–Boulder's geographic isolation means that businesses are not likely to relocate to the area if wastewater prices are relatively lower than in other regions. The Council would be concerned, however, if there were widespread inconsistencies in prices across the water and wastewater industry as a result of differences in the treatment of taxes.

Western Australia advised in previous NCP assessments that prices include natural resource management costs, but provided no information to demonstrate the extent to which this is occurring or to show that water and wastewater prices reflect an appropriate proportion of the cost of mitigating environmental problems associated with water use. Western Australia is contemplating means to better identify and cost natural resource management activity relevant to the use of water. Such work would be a useful step towards understanding better the costs of mechanisms aimed at natural resource management, and particularly the possibilities for dealing with external costs via pricing.

The Water Corporation, Aqwest and the Busselton Water Board now apply two-part tariffs for all water services, consistent with the CoAG consumption-based pricing obligations. Western Australia applies charges for residential wastewater customers across the State based on gross rental value. The Water Corporation will publish information on the distribution of wastewater charges in its annual report. The Water Corporation and the Western Australian Department of Treasury and Finance are to determine a means of illustrating cross-subsidies.

The Council considers that Western Australia has not demonstrated compliance with the CoAG water pricing principles. Western Australia would meet its pricing obligations if it establishes the Economic Regulation Authority and provides a reference to the authority to investigate (against the CoAG pricing principles) and recommend on water and wastewater pricing for at least the Water Corporation and ideally also Aqwest and the Busselton Water Board.

The Council considers that Western Australia's approach to wastewater pricing — setting charges on the basis of property gross rental value — does not contravene the CoAG requirement for use-based pricing. The approach may, however, result in cross-subsidies between different classes of consumers, particularly if waste discharge is relatively uniform across the residential sector. The Government recognises this possibility and has undertaken to identify and transparently report cross-subsidisation.

The Council recommends that 10 per cent of Western Australia's competition payments for 2003-04 be suspended. It recommends that the suspension be lifted and the suspended monies be reimbursed when the Western Australian Government establishes the Economic Regulation Authority and announces comprehensive terms of reference for an investigation of water and wastewater pricing and related matters against the CoAG pricing principles.

The Council will assess Western Australia's progress with urban water and wastewater pricing again in the 2004 NCP assessment, when it will look for Western Australia to have established the Economic Regulation Authority and for the authority to have completed an investigation of water and wastewater pricing by the Water Corporation (and ideally also Aqwest and the Busselton Water Board).

Water entitlements: progress report

Water rights are sufficiently well specified in Western Australia. Licences are issued for between five and 10 years or for an indefinite period. There is also a presumption that fixed-term licences will be renewed if licence conditions are met. Most water management plans are still to be finalised or are under review. Apart from those assessed as being a low priority, almost all plans are scheduled to be completed by 2005.

Western Australia has a register of water licences and entitlements, which is maintained by the Water and Rivers Commission. Although the register does not provide indefeasibility of title, it does allow the entitlement holder to register third party interests. A copy of the register is available for public viewing at Water and Rivers Commission offices or on request from the commission. An Internet register has been developed but is not yet operational.

The Water and Rivers Commission may issue a direction overriding all other rights recognised by the *Rights in Water and Irrigation Act 1914*. This increases the risk to entitlement holders and may have an impact on the value of water entitlements. Since the 2001 NCP assessment, the commission has issued only one such direction, in the form of a 'water shortage order' restricting the watering of lawns and gardens to certain times. In practice, the commission's power appears not to have been used in a manner that would significantly influence the value of water rights. The requirement for the commission to disclose its reasons for a direction, along with the ability of water users to appeal to a tribunal, should help minimise the risk for water entitlement holders.

Provision of water to the environment: progress report

Western Australia derives most of its water supply from groundwater. The State has no stressed river systems. Western Australia's approach to allocating water to the environment (formalised in the Rights in Water and Irrigation Act) is delivered via a tiered system of statutory water management plans (regional, subregional and local). Environmental water provisions are set in the plans either as notional or interim allocation limits, or as formal assignments if the water resource is highly or fully committed. Water management plans continue indefinitely, with review every seven years (or later if water use has not increased). Most water management plans are still to be finalised or are under review. Western Australia advised that the planning process is on track against the revised implementation program agreed in the 2002 NCP assessment.

Intrastate trade in water

Western Australia has established a fully operational system for water trading. It has policy guidelines for water trading and an interim subpolicy to guide the operational management of trading. Trading is not permitted without the agreement of registered third party interests. The Water and Rivers Commission has the role of collecting and providing market information until the market further develops. The Rights in Water and Irrigation Act and the *Environment Protection Act 1986* contain measures to protect environmental values. Trade is concentrated in the South West Irrigation Scheme, reflecting the infancy of trading and the low level of demand for trading in the many parts of the State where water resources are not fully allocated.

In addition to environmental protection measures, the Rights in Water and Irrigation Act contains provisions that may constrain trade in water entitlements, including: scope for local by-laws to prohibit trades (although none exists at present); a requirement that a licence holder must be an owner or occupier of land or have access to land; and a time limit for water entitlements to be used (before the entitlement may be forfeited). These provisions appear to be a response to concern about potential speculation in the water market and the possible adverse environmental impacts of water trading. They have the potential, however, to reduce the security of entitlements and constrain the movement of water to its highest value use.

The Water and Rivers Commission's draft policy guidelines on the management of unused entitlements suggest the commission is formalising and clarifying the existing arrangements rather than countenancing substantial change. The draft policy guidelines retain the capacity for the commission to recoup and re-issue unused entitlements, and to not approve trade in entitlements that have not been used. Even where trading is established in an area (in which case the commission generally does not recoup entitlements acquired through trading), the draft guidelines retain the capacity for the commission to recoup entitlements in the event of anticompetitive or speculative behaviour.

The Water and Rivers Commission may also refuse trades to prevent monopolies in water. In other industries, such matters are left to regulation under fair trading laws. The capacity for the Water and Rivers Commission to refuse approval for a trade because it would lead to monopolisation would be unlikely to conflict with CoAG water trading objectives, however, if the commission applies an appropriate competition test in reaching its decision.

Western Australia requires its subregional and local area water management plans to be compatible with the Statewide transferable water entitlements policy guidelines or to address potential conflicts or limitations on the implementation of the guidelines. Because most water management plans are still to be finalised or are under review, the Council did not conclude on the extent to which the trading rules in the plans address CoAG water trading obligations in this 2003 NCP assessment.

The Council considers that Western Australia made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. Several provisions in Western Australia's trading arrangements raise questions about consistency with CoAG water trading obligations, but these currently do not constrain trade.

The Council will consider the extent to which Western Australia's water trading environment meets CoAG obligations in the 2004 NCP assessment. In that assessment, the Council will consider: any relevant directions by the Water and Rivers Commission; restrictions on who can hold a water licence; provisions affecting the ability of financial institutions to obtain ownership of entitlements in the event of default; any local by-laws introduced to prohibit water trade; the Water and Rivers Commission's final policy guidelines on the management of unused entitlements; the commission's power to refuse trades to prevent monopolies in water; the commission's annual review of the effectiveness of the trading policy guidelines; the timeliness of approval processes for applications to trade; and the trading rules in subregional and local area water management plans.

Institutional reform

Western Australia's institutional reform obligations for this 2003 NCP assessment concern the separation of the roles of water institutions, integrated catchment management and the increased devolution of management responsibility for irrigation schemes.

Structural separation

Western Australia has a Bill before the Parliament (at the time of publication) to establish the Economic Regulation Authority to undertake a range of economic regulatory functions, including recommending to the Government on tariffs and charges for government monopoly services. The Bill provides scope for the Government to refer to the authority for inquiry any matter relating to a regulated industry, including the electricity, gas, rail and water industries. In anticipation that the Economic Regulation Authority will be established, Western Australia is developing a draft reference for the authority to consider water and wastewater pricing. (See also the discussion above on pricing.)

Devolution of irrigation scheme management

Western Australia has three main irrigation systems: the South-West Irrigation Cooperative, the Carnarvon Irrigation Scheme and the Ord Irrigation Scheme. The management of the South-West Irrigation Cooperative, which includes both the Preston Valley and the South-West Irrigation District and supplies water used to irrigate more than 9700 hectares, is devolved to local constituents.

In August 2001, the Water Corporation and the Carnarvon Irrigation Cooperative signed an operation and management contract providing for the transfer of the Carnarvon Irrigation Scheme to the irrigation cooperative by 30 June 2003 (subject to Government approval). The transfer will give the Carnarvon Irrigation Cooperative responsibility for retail water service delivery and for operation, maintenance and renewal of the pipe distribution system and service connections.

On 1 July 2002, the management of the Ord Irrigation Scheme was transferred from the Water Corporation to the Ord Irrigation Cooperative; by December 2003, the assets will also be transferred. Following the transfer, the Water Corporation will continue to supply the Ord Irrigation Cooperative with bulk water under a water supply agreement. The Ord Irrigation Cooperative will own, operate and maintain the Ord Irrigation Scheme (stage 1) distribution system and will have responsibility for retail water service delivery to growers in the scheme. The Water Corporation will continue to own, operate and maintain the M1 channel (the main irrigation channel) and the Hillside Levies.

Integrated catchment management

The impetus for natural resource management policy in Western Australia is dryland salinity. The Salinity Action Plan 1996 led to the creation of a State Salinity Council and five regional natural resource management groups. In accord with national and State policy frameworks, including the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension, Western Australia's focus on salinity has evolved into a broader natural resource management framework that encompasses catchment issues. Consistent with this, the Government replaced the State Salinity Council with a new community-based body: the Natural Resource Management Council. A Western Australian Government senior officers group on natural resource management — representing the Department of Agriculture, Conservation and Land Management, the Water and Rivers Commission, the Department of Environmental Protection, the Ministry for Planning and the Department of Land Administration — provides whole-of-Government policy coordination.

Western Australia's progress on integrated catchment management since the 2001 NCP assessment has been slow. All regional groups had developed natural resource management strategies by 2001, but the Government had not endorsed any strategies under State processes. The Government argued that this delay is due to its lack of access to the accreditation mechanisms under the National Action Plan for Salinity and Water Quality. (The new accreditation mechanisms are not available to Western Australia until the Western Australian Government reaches a bilateral agreement with the Commonwealth Government.) Western Australia has now received Natural Heritage Trust extension funding which should enable it to refine its regional strategies in anticipation of a bilateral agreement on the national action plan.

Western Australia is developing the Waterways WA framework to facilitate the consideration of, and support for, land care practices to protect rivers with high environmental values. It expects to finalise the framework in 2003.

The Council does not consider that Western Australia's current arrangements for regulation of water and wastewater pricing and service standards satisfy CoAG obligations. The creation of the Economic Regulation Authority and the announcement of terms of reference to allow the authority to recommend on water pricing, however, would address Western Australia's structural reform obligations for the 2003 NCP assessment (see also the Council's comments on pricing and its recommendations on 2003-04 competition payments).

The Council considers that Western Australia made satisfactory progress against its obligations to devolve greater responsibility to local constituents for the management of irrigation areas for the 2003 NCP assessment.

Western Australia's progress in implementing its integrated catchment management obligations is slow. Most recently, the delays may have arisen because the State has no access to the new accreditation mechanisms under the National Action Plan for Salinity and Water Quality. The Council will assess Western Australia's progress on integrated catchment management again in the 2004 NCP assessment, when it will look for evidence of significant progress. The Council will also look for the Waterways WA framework to be in place in accord with the milestone proposed by Western Australia.

National Water Quality Management Strategy

Western Australia completed preparatory and development work on NWQMS implementation, including publishing the State Water Quality Management Strategy implementation plan that sets out the State's processes for achieving its water quality objectives. Generally, however, Western Australia's implementation of the NWQMS is slow. In particular, the State does not propose to implement some key NWQMS elements — including aspects relating to fresh and marine water quality and water quality monitoring — until 2003-04.

The Council considers that Western Australia is establishing appropriate processes, instruments and mechanisms to implement the key elements of the NWQMS. Progress in many areas has been only gradual; in particular, Western Australia is yet to implement the NWQMS guidelines for fresh and marine water quality (NWQMS paper no. 4) and water quality monitoring and reporting (NWQMS paper no. 7). The Council will reassess Western Australia's performance in the 2004 NCP assessment.

Legislation review and reform

Western Australia completed reviews of 32 of the 35 water industry regulatory instruments that it listed for NCP review. Of the remaining three, Western Australia has commenced one review and proposes to repeal two without review. The reviews recommended repeal of one instrument and reform of 18 others, and recommended no change or found no competition issues in 13 cases.

The Government endorsed the findings of each of the 32 completed reviews, mostly in 1999 or 2000. While it has some reform action under way, the Government has not yet completed all recommended reforms. The Government is reforming eight Acts via the Acts Amendment and Repeal (Competition Policy) Bill 2002, now delayed to 2003. These reforms will now be included in a second competition policy omnibus Bill in 2003. The Government is also drafting amendments or is developing drafting instructions for another six Acts, and has work under way on each of the remaining instruments.

The Council considers that Western Australia has not met its review and reform obligations under clause 5 of the Competition Principles Agreement in relation to water industry legislation.

The Council recommends that Western Australia's performance on water industry legislation be considered in conjunction with the other incomplete areas of Western Australia's legislation review and reform under the Competition Principles Agreement (as discussed in volume 1 of this 2003 NCP assessment report).

Public education and consultation

Western Australia provided no information on its public education and consultation activity for this 2003 NCP assessment. The Council received no indication from interested parties suggesting difficulties arising from inadequate consultation.

Under the amended *Water Services Coordination Act 1995*, the Economic Regulation Authority will monitor the performance of the water services industry and service providers. For the purpose of this monitoring, the authority will be required to consult with interested groups and persons.

The Council considers that Western Australia met its public education and consultation obligations for the 2003 NCP assessment.

South Australia

Urban water and wastewater pricing

SA Water is South Australia's primary supplier of water and wastewater services to Adelaide and country towns, providing services to over one million people in 2000-01. The prices of the services provided by SA Water are determined by the South Australian Cabinet on the recommendation of the Minister for Government Enterprises. The Government does not make publicly available the information it considers in determining prices, or the reasons for its pricing decisions. The Essential Services Commission of South Australia (ESCOSA) has no pricing oversight role for SA Water, and the Government does not propose that it will in the future.

While the South Australian Government considers that SA Water is pricing appropriately, the current pricing process offers no transparent evidence to demonstrate this and no assurance that future pricing will be consistent with CoAG pricing principles. The Council raised this matter in previous NCP assessments, suggesting that South Australia introduce arrangements such as independent price regulation of water and wastewater services and/or a public price-setting process. Price regulation by ESCOSA would give confidence that pricing decisions are based on efficient resource and business costs, and would allow independent and transparent consideration of pricing-related matters, including asset valuation, community service obligations, cross-subsidies, externalities and dividend distribution.

SA Water's current target dividend of 55 per cent of earnings before interest, tax, depreciation and amortisation means that the dividend it pays to the Government may exceed 100 per cent of after-tax profit. Frequent dividend payments that exceed 100 per cent of after-tax profit have the potential to undermine SA Water's long-term sustainability. The dividend paid by SA Water regularly exceeded 100 per cent of accumulated after-tax profits in recent years.

The South Australian Government committed to publish annual transparency statements on its decisions on SA Water's water and sewerage prices, with the first statement to address prices in 2004-05. The Government intends that the statement will establish the relationship of the pricing decisions to the CoAG pricing principles, provide information on SA Water's financial performance in the context of decisions on pricing and past and future expenditures, and address details of revenue, community service obligations, SA Water's capital expenditure program, and SA Water's profit and the distribution of that profit. ESCOSA is to review the processes involved in preparing the transparency statements and advise on the information supporting the pricing decisions. ESCOSA's report will form part of the transparency statements.

The Council considers that South Australia has satisfactorily addressed its urban water and wastewater pricing obligations for the 2003 NCP assessment.

The Council will consider South Australia's performance on urban water and wastewater pricing again in the 2004 NCP assessment, when it will consider whether pricing by SA Water satisfactorily addresses the CoAG pricing principles. In the 2004 assessment, the Council will take account of the South Australian Government's first annual pricing transparency statement. The Council will look for the statement to have considered water and wastewater pricing decisions against all of the CoAG pricing principles.

Water entitlements: progress report

South Australia completed water allocation plans covering all 15 prescribed water resource areas on its original implementation program. It converted water allocations to a volumetric basis in most areas of the State. The main area remaining is the South East Catchment, where revised water allocation plans and licence conversions will be completed in 2006, subsequent to the 2005 deadline set by CoAG. This is a significant catchment, having seven prescribed water resources. To assist in the conversion process in the South East Catchment, South Australia is installing meters in around 200 sites to obtain information on the volumes used by irrigators. The information from the metering project will be used in reviewing the water allocation plans in the catchment. The water licences in the catchment will then be converted to a volumetric basis in accordance with the revised water allocation plans.

The first stage of South Australia's upgraded water licence registry system will be implemented in 2003. South Australia expects the system to be fully implemented by 2004-05.

Provision of water to the environment: progress report

In prescribed areas, water allocation plans are the primary mechanism for providing water for the environment. Under the *Water Resources Act 1997*, the plans must provide for the sustainable allocation and use of the available water. Environmental water provisions are formally recognised and protected through the plans, which also include monitoring arrangements. Under the Act, the Minister may reduce the water allocations stipulated on licences to prevent damage to dependent ecosystems or a reduction in water quality.

South Australia's original implementation timetable included the River Murray water allocation plan completed in 2003. The River Murray plan specifies water for extractive uses and provides up to 200 gigalitres each year for wetland management purposes, with a further 22.2 gigalitres for environmental land management (in particular, for minimising the effects of rising saline underground water) in the Lower Murray Reclaimed Irrigation Areas.

South Australia prescribed two additional water resources in the South East Catchment: (1) the Tintinara Coonalpyn prescribed wells area and (2) the Morambro Creek prescribed watercourse and prescribed surface water area. The Tintinara Coonalpyn water allocation plan was adopted in January 2003. The South East Catchment Water Management Board is preparing the Morambro Creek plan, which is expected to be completed in 2004. South Australia recently prescribed the Great Artesian Basin (Far North prescribed wells area), Marne River and Saunders Creek, with the water allocation plans expected to be completed in late 2005 or early 2006. South Australia also proposes to prescribe water resources in the Baroota area near Port Germein, in Greenock Creek adjacent to the Barossa Valley, and on Kangaroo Flat on the northern Adelaide plains.

The Government announced a 'Save the Murray' levy of A\$30 a year for residential ratepayers and A\$135 a year for nonresidential ratepayers. The levy is to apply from October 2003 and is expected to raise A\$20 million a year. It is to be paid into a Save the Murray Fund. Around A\$10 million a year is to be spent on specific restoration programs, with the balance funding South Australia's contribution to a basin-wide initiative to provide water for increased environmental flows.

<p>The Council draws the South Australian Government's attention to the need to progress the conversion of water allocations to volumetric licences in the South East Catchment. On the Government's current scheduling, this will not be completed until 2006, which is beyond the CoAG deadline.</p>
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Intrastate trade in water

South Australia's water rights are sufficiently specified to enable efficient trade. Licences are issued in perpetuity and are separate from land title. In irrigation areas, the irrigation trust holds the water-taking allocation. Whether the trust devolves all or part of this allocation to its members varies among the trusts. Where the allocation is devolved, subject to the trust's approval, the owner of an irrigated property may transfer all or part of their allocation to another landowner within the district or to the trust. An irrigation trust may trade all or part of its surplus allocation (the allocation held by the trust in excess of the sum of entitlements held by individual irrigators) to another party outside the trust. Outside the irrigation trusts, water licences are vested in the end users and are specifically recognised as personal property. The register of water rights includes provision for the registration of third party interests, and registered third parties must be notified before the Minister can approve a trade.

Permanent and temporary water trading occurs through a variety of mechanisms, including private trades, brokers and water exchanges. The Department of Water, Land and Biodiversity Conservation recently established a web site to improve the availability of water market information throughout the State and to facilitate contact between buyers and sellers. A range of measures protect the water rights of users and the environment.

The main outstanding water trading issue is the limitation on the volume of water that may be permanently transferred out of some irrigation districts. The Central Irrigation Trust's 2 per cent cumulative limit on the proportion of entitlements that can be permanently traded out of the trust's districts has been reached in five of the trust's nine districts. The trust also limits permanent transfers from a property to 25 per cent of the landholder's original water allocation. Other reported trading restrictions include a restriction on temporary trade out of the Central Irrigation Trust and on permanent trade out of other trusts. The Council understands that the trusts limit outwards trade to address concerns about possible adverse socioeconomic outcomes for their districts and to ensure their irrigation infrastructure operates efficiently. Trust members are also concerned about environmental outcomes and future uncertainty about the amount of water available for extraction.

While the trading rules are set by the irrigation trusts (rather than the South Australian Government), the CoAG water agreements place responsibility on the Government to facilitate trading to enable water to be used to maximise its contribution to national income and welfare, where socially, physically and ecologically sustainable. This qualification does not justify restricting trade, unless there is rigorous evidence to demonstrate that the restriction provides a net public benefit and is necessary to achieve the trust's objective. The institutional reform obligation relating to the devolution of irrigation scheme management envisages devolution on the basis that governments establish appropriate regulatory frameworks for local management.

The trading provisions in South Australia's water allocation plans are generally directed at facilitating trade in a manner that maximises economic benefits while protecting the environment and the interests of other water users. While trade in the area is significant, it seems likely that the reduction factor is restricting trade to some extent. Permanent and temporary transfers are subject to a 20 per cent reduction in the total volume of water allocations transferred, so the amount of water acquired by the buyer is 20 per cent less than that sold. Alternatives to reducing allocations upon transfer include the Government reducing allocations for all water licence holders in an area by a uniform percentage and/or buying allocations in the market. These alternatives are likely to be more effective in reducing water use to a more sustainable level without adversely affecting trade.

Despite some significant outstanding matters, the Council considers that South Australia made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. The Council will revisit South Australia's intrastate trading arrangements in the 2004 NCP assessment, when it will look for South Australia to have removed unjustified restrictions on trading.

The limits on trade out of irrigation districts represent a significant constraint on both intrastate and interstate trade, and appear to be inconsistent with CoAG obligations. In the 2004 NCP assessment, the Council will look for substantive progress by South Australia towards removing constraints on trade out of irrigation districts or replacing them with a less restrictive alternative.

Institutional reform

South Australia's remaining institutional reform obligations concern the separation of the roles of water institutions, the increased devolution of management responsibility for the Lower Murray Reclaimed Irrigation Areas and integrated catchment management.

Structural separation

Unlike most other jurisdictions, South Australia has not imposed independent oversight of its major water and wastewater service provider's pricing and service standards. As discussed above in relation to pricing, this lack of transparency makes it difficult to be confident that actions by SA Water will be consistently based on the principles in the CoAG water agreement. Production of comprehensive annual public statements on pricing, as the Government has undertaken to do, will provide a means of addressing this matter.

Devolution of irrigation scheme management

The South Australian Government owns and operates nine of 24 irrigation schemes in the lower Murray, representing 70 per cent of the irrigation areas. The Government completed a major study of options for improved management and rehabilitation in the areas in June 2001. During 2002-03, the Government announced that it had approved the study's preferred option, which was rehabilitation of the most viable parts of the irrigation areas after restructuring the dairy industry. To assist with restructuring and rehabilitation works, the Government is providing financial assistance to eligible landowners. For irrigators in the Government irrigation districts, the conversion of the district into a private irrigation district is a condition of accepting the financial assistance for infrastructure rehabilitation.

The conversion of the Government irrigation districts into private irrigation districts will require the establishment of an irrigation trust (or several trusts). Irrigation and drainage infrastructure assets will be transferred to the trust. The trust will be responsible for the operation, maintenance and future replacement of the infrastructure. Levee banks and waterfront land will remain Government owned.

Integrated catchment management

South Australia continues to make progress in implementing integrated catchment management. Eight catchment areas cover 95 per cent of the State. Six of these have catchment water management plans in place and South Australia expects to adopt plans for the remaining two in 2004. The South Australian Water Resources Council reviewed the implementation of the catchment water management plans in 2002.

The Government released a discussion paper on natural resource management and a draft Bill to improve coordination by consolidating 72 regional natural resource management groups into eight boards. The Government also took some preliminary steps to improve natural resource management arrangements, including establishing the Department of Water, Land and Biodiversity Conservation, a central natural resource management council and a natural resource management integration project task-force.

The Council considers that the South Australian Government, by committing to produce annual transparency statements on its decisions on SA Water's water and wastewater prices, satisfactorily addressed its structural separation obligations for the 2003 NCP assessment.

The Council considers that South Australia made satisfactory progress against its obligations to devolve greater management responsibility for irrigation schemes for the 2003 NCP assessment. The Council will consider South Australia's progress with devolving management responsibility in the Lower Murray Reclaimed Irrigation Areas in the 2004 NCP assessment. It will look for South Australia to retain appropriate regulatory arrangements to ensure the restrictions on water trading out of other irrigation districts are not extended to the Lower Murray Reclaimed Irrigation Areas.

The Council considers that South Australia made satisfactory progress against its obligations on integrated catchment management for the 2003 NCP assessment. Given that South Australia is anticipating legislative action to rectify administrative inefficiencies in natural resource management in 2004, the Council will reassess South Australia's performance on integrated catchment management in the 2004 NCP assessment.

National Water Quality Management Strategy

The commencement of South Australia's Environment Protection (Water Quality) Policy in October 2003 is a significant milestone in the State's implementation of the NWQMS. The policy establishes protected environmental values and water quality criteria for fresh and marine waters, adopting NWQMS guideline methods.

The State Water Monitoring Coordinating Subcommittee continues to review regional water quality monitoring arrangements and there is work in individual catchments to improve monitoring. The subcommittee made recommendations in 2003 to improve the collection, management and provision of water information. The Environment Protection Authority's review of the State Ambient Water Quality Monitoring Program, scheduled for late 2003, should provide further guidance on work needed to improve the State's water quality monitoring arrangements.

The Council considers that South Australia made satisfactory progress in implementing policies that reflect the NWQMS guidelines for the 2003 NCP assessment. The Council will next consider South Australia's progress in this area as part of its full assessment of water reform in 2005.

Legislation review and reform

South Australia completed reviews of 13 of the 14 water Acts listed for NCP review. The Government approved repeal of the remaining Act (the *Loans for Fencing and Water Piping Act 1938*) without review, to occur in October 2003. The reviews recommended repealing four Acts, three of which have been repealed. The Government approved repeal of the fourth Act, scheduled for September 2003. The review of this legislation, the *Irrigation (Land Tenure) Act 1930*, did not identify any major issues, but recommended that the Act be updated and consolidated. In nine cases, reviews identified no competition issues requiring a change to legislation and/or recommended no change.

South Australia has substantially advanced its review and reform program for the water industry. It will complete its water legislation review and reform activity with the repeal of the *Irrigation (Land Tenure) Act* and the *Loans for Fencing and Water Piping Act*, which has been approved and is scheduled for later in 2003.

Given that South Australia scheduled the repeal of the two remaining Acts, the Council considers it has met its review and reform obligations relating to its stock of water industry legislation. In the 2004 NCP assessment, the Council will seek confirmation from South Australia that the scheduled repeals were undertaken.

Investment in new rural water schemes

The Clare Valley Water Supply Scheme involves the transfer of up to 7.3 gigalitres per year of filtered and treated River Murray water via a pipeline to the Clare Valley. The project involves the construction of 83 kilometres of new pipeline, two pumping stations and a 4-megalitre water storage. The scheme has three main objectives: to provide reticulated water to several townships; to enable improved water supplies to other areas of the Mid-North region; and to provide water to the Clare Valley region for irrigation and other bulk water purposes.

South Australia indicated that the initial impetus for the scheme was to provide township water supply and to augment the supply to other regions. It advised that the provision of irrigation water is necessary, however, to ensure the scheme is financially viable. The financial evaluation of the scheme assumes that over 95 per cent of the water will be used for irrigation. While initially expected to be undertaken by the private sector, the scheme proceeded as a SA Water project during 2002-03. Construction is expected to be completed in late 2003.

An ecological study of the project identified a number of potential adverse environmental effects, including: waterlogging and drainage hazard formation; increased stream baseflow and baseflow salinity in the vicinity of new and existing irrigation; the salinisation of the groundwater resource; the release of chloraminated water to the environment; disruption to the environment from the pipeline construction works; and ecosystem impacts resulting from changes to the water balance and salinity levels, including potential threats to endangered or vulnerable species.

The ecological study concluded, however, that importing River Murray water into the Clare Valley region for use in irrigation can be managed to avoid adverse environmental effects. The South Australian Government advised that water from the pipeline will not be able to be used until the issues identified in the study are addressed. SA Water wrote to the Council advising that it and the Department of Water, Land and Biodiversity Conservation are committed to implementing management measures to ensure potential impacts on the environment are appropriately controlled. These measures include permit/licensing requirements to avoid approvals in areas where there is an unacceptable risk of land degradation, subcatchment modelling, land capability mapping and an expanded groundwater and surface water monitoring program. The project does not require approval under the Environment Protection and Biodiversity Conservation Act.

There has also been an economic study of the Clare Valley project, which concluded that the project is commercially viable for SA Water. (SA Water is undertaking the project on a commercial basis and is not expecting Government subsidies.) The study concluded that the project is economically viable taking account of wider benefits and costs, with a net present value of A\$25.5 million (based on a discount rate of 7 per cent). SA Water advised that the economic evaluation incorporated an assessment of likely environmental costs in calculating capital costs but that ongoing regional monitoring costs (estimated to be \$66 000 annually) were not included. Accounting for these costs would not, however, alter the viability of the scheme.

The Council considers that the economic and ecological evaluations undertaken by South Australia address the CoAG requirements relating to new rural infrastructure. In the 2004 NCP assessment, the Council will consider the implementation of SA Water's undertakings on environmental management. For that assessment, the Council will seek a report from the South Australian Government on (1) how it has acted to address the matters raised in the ecological study and (2) the initial outcomes of the regional monitoring of groundwater and surface water. The Council may consider recommending a reduction in South Australia's competition payments in 2004-05 if the undertakings by SA Water are not delivered.

Public education and consultation

Public education and consultation activity by South Australia that relates to this 2003 NCP assessment mainly concerns the development and implementation of water allocation plans and catchment water management plans. The South Australian Government's decision to publish annual transparency statements on its decisions on SA Water's water and wastewater prices should assist public understanding of the cause-and-effect relationship between prices, infrastructure performance, standards of service and related costs, and assist SA Water to provide levels of service that represent the best value for money for the community.

The Council considers that South Australia met its public education and consultation obligations for the 2003 NCP assessment.

Tasmania

Urban water and wastewater pricing

All urban retail water and wastewater services in Tasmania are provided by local governments. The Tasmanian Government's Urban Water Pricing Guidelines for Local Government in Tasmania require local governments to set prices to recover costs. The guidelines also require local governments to report environmental costs incurred and community service obligations provided, and move to determine asset values on a fair value basis in accordance with the accounting standard AASB 1041.

The Government Prices Oversight Commission annually assesses local governments' compliance with the full cost recovery obligation in relation to water and wastewater services. The most recent assessment (for 2001-02) found that 21 of 28 local governments were in practical compliance with the full cost recovery obligation, including two that were in an agreed two-year transition to full cost recovery. All except two of the larger local governments were pricing within the cost recovery range. The local governments that the Government Prices Oversight Commission identified as not achieving full cost recovery in 2000-01 each committed to a strategy and timeframe for reaching full cost recovery. While the timeframes for this vary, each local government expects to achieve full cost recovery by the 2005 NCP assessment. Since the 2002 NCP assessment, the Tasmanian Government has assisted local governments to achieve full cost recovery. This assistance included conducting workshops for local government officers and the Government Prices Oversight Commission giving a presentation on water assets and the NCP.

Tasmanian local governments apply consumption-based pricing where cost-effective. In 1999, Tasmania subjected 34 schemes provided by local governments (selected according to a test developed by the Government Prices Oversight Commission) to cost-effectiveness studies, finding seven that should introduce a two-part tariff. A further 11 schemes committed to introducing a two-part tariff without a cost-effectiveness study. Of these 18, 17 subsequently introduced a two-part tariff. The one exception found, in a trial of metering subsequent to the initial work, that a two-part tariff would not be cost-effective. The larger local governments have trade waste agreements with large dischargers, or pricing regimes based on the volume and toxicity of discharge.

The Government Prices Oversight Commission audit of local government water and wastewater businesses for 2001-02 found that few local governments were reporting community service obligations. The audit also found that few local governments were identifying and funding own-use transfers, meaning that other water users were cross-subsidising local governments' water consumption. The audit noted, more generally, the potential for the absence of two-part pricing to create inefficiencies and cross-subsidies. Tasmanian Government officials indicated that the Government would develop a response to these and other issues raised by the Government Prices Oversight Commission.

<p>The Council considers that Tasmania achieved satisfactory progress against its urban water and wastewater pricing obligations for the 2003 NCP assessment. It will pursue matters relating to the transparency of pricing-related matters in the 2005 NCP assessment.</p>
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Water entitlements: progress report

Tasmania's *Water Management Act 1999* established a system of water entitlements whereby licences (and water allocations) are not legally attached to land titles and are transferable. Licences are specified in volumetric terms and also indicate the reliability of the water allocations. To obtain a water allocation, a person must generally hold a water licence. Licences are issued for 10 years, with a presumption of renewal, and are subject to a review of conditions after five years. The conversion of water rights under the previous system to licences and allocations under the new system is now largely complete. The Water Management Act established a register of licences, which includes provision for registering financial interests.

The *Irrigation Clauses Act 1973* (as amended in 1997 and 2001) established irrigation rights within irrigation districts. The rights are separate from land and transferable within the district. Only an owner or occupier of land in the district, or a person who may hold land in the district, may hold irrigation rights. A holder of an irrigation right who no longer owns or occupies land in the district must transfer the right within six months or forfeit it. (The Minister may give a single extension of six months.) Compensation is payable where it is necessary to reduce irrigation rights, such as where total allocations exceed the quantity of water available (as determined by a water management plan) or where there is inconsistency with the objectives of the Water Management Act.

Provision of water to the environment: progress report

Tasmania is addressing water allocations for the environment in two stages. The Department of Primary Industries, Water and Environment is determining environmental water requirements — the water required to sustain the ecological values of aquatic ecosystems at a low level of risk — to address the flow requirements for the State's rivers. For stressed (or more developed) water sources, the Government preserves an amount of water for the environment as determined by agreement or negotiation with the community and incorporated in a water management plan. The objectives of the Water Management Act include the sustainable use of the water resources and the maintenance of ecological processes and genetic diversity for aquatic ecosystems.

Tasmania identified 14 water sources for which it intends to develop water management plans. Environmental water requirements have been determined for all of these sources. The provision of water for environmental purposes depends, however, on the Government also developing the water management plans. At 30 June 2003, Tasmania had completed no water management plans, although the Great Forester River plan was almost finalised. Tasmania expected to substantially complete environmental water provisions for the water sources on its agreed implementation program by 2005.

Tasmania's 'farm dams policy' incorporates guidelines for assessing applications for new water allocations from watercourses, including for proposed dams (currently in draft form). The policy will also incorporate the outcome of work being undertaken by the Department of Primary Industries, Water and Environment on a system to identify and conserve Tasmania's significant freshwater conservation values.

The Government proposes to develop generic principles to guide the preparation of its water management plans. It considers that an agreement on the principles by the key stakeholders (including the Tasmanian Conservation Trust and the Tasmanian Farmers and Graziers Association) would greatly accelerate the development of water management plans.

Intrastate trade in water

Tasmania made significant progress in addressing its water trading commitments in 2002-03. It removed two restrictions on water trading identified by the Council in the 2001 NCP assessment as likely to be inconsistent with CoAG water trading commitments. At 30 June 2003, Tasmania had virtually completed the conversion of all former water rights (attached to land titles) to licences and allocations under the new legislation, removing a further constraint to trading.

Water market and trading administration does not appear to represent an impediment to trade. In the 2001 NCP assessment, the Council found that while Tasmania's register of water rights does not provide indefeasibility or surety of title, water rights are sufficiently well defined so as not to provide an impediment to trade. In addition, transfers require the consent of all parties with a registered financial interest in the water right. Tasmania has a register of licences, known as the Water Information Management System, which the Department of Primary Industries, Water and Environment maintains. Tasmania advised that trades are approved on average within seven days in Government-owned irrigation districts and within five to 14 days in unregulated systems, depending on third party interests. There are no Government impediments to the establishment of new trading mechanisms. Tasmania's arrangements also adequately address risks for the environment by requiring, for example, that transfers are consistent with the objectives of the water legislation and any relevant water management plan.

One remaining restriction on trading in irrigation districts is likely to be inconsistent with CoAG obligations — that is, the requirement that only an owner or occupier of land in the district may hold irrigation rights. Tasmania advised that this provision is intended to ensure water from publicly funded irrigation schemes is used for the purpose for which it was provided and to militate against speculation. The restriction is also likely, however, to affect the entry and activities of agents, brokers and other potential participants in the water trading market; as a result, it may reduce returns available to holders of irrigation rights and constrain the extent to which water is used for its highest value purpose. Tasmanian Government officials have indicated a preparedness to consider the continuing need for the measure. The Water Management Act includes a provision applying to unregulated systems that appears to have similar objectives, by providing scope for transfers to be refused if the quantity of water exceeds the amount that could be used sustainably for the intended purpose. The Council will look for Tasmania to consider the need for this provision.

The Council considers that Tasmania made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.

The Council will revisit Tasmania's intrastate trading arrangements in the 2004 NCP assessment when it will look for Tasmania to have removed the remaining restrictions on trading or demonstrated that they provide a net public benefit. In future assessments, the Council will consider the efficacy of trading rules in water management plans as the plans are finalised. The Council will also monitor the choice of water trading mechanisms and the availability of market information, which are likely to develop as trading in water increases.

Institutional reform

The Council raised several institutional structure issues in previous NCP assessments, including: the transparency of reporting on pricing and related issues (discussed above); the absence of mechanisms to address water service standard issues for local government water businesses; and the potential for conflicts of interest in Ministerial arrangements, given that the Minister for Primary Industries, Water and Environment is responsible for the Rivers and Water Supply Commission (the service provider) and for resource management and water allocations. Stakeholder participants in this 2003 NCP assessment expressed concerns about the interdependence of the roles of water resource management, standards setting, regulatory enforcement and service provision. Also relevant for this 2003 NCP assessment are Tasmania's institutional reform responsibilities to increase the local management of irrigation schemes and to adopt integrated catchment management.

Structural separation

Institutional arrangements appear to provide an adequate level of separation and, for a small jurisdiction, are consistent with CoAG obligations. The Rivers and Water Supply Commission, the Assessment Committee for Dam Construction and the Environmental Management and Pollution Control Board are effectively separate legal entities from the department and must comply with their own specific legislative requirements. Departmental representatives do not comprise a majority on either the Assessment Committee for Dam Construction or the Environmental Management and Pollution Control Board. In approving water management plans and water allocations the Minister must comply with the Water Management Act. As the portfolio Minister for the Rivers and Water Supply Commission, the Minister is bound by the *Government Business Enterprises Act 1995*.

Many Tasmanian local governments have mechanisms for handling complaints, and customers of local government water businesses have access to the Ombudsman. Tasmania is also considering arrangements for the handling of complaints as part of a wider review of the *Local Government Act 1993*. An issues paper, released in March 2003, indicates that the review is considering whether local governments should be required to adopt a formal complaints-handling procedure that has the confidence of their local communities. The review is also considering the case for establishing an independent complaints-handling body to deal with local government-related matters.

Devolution of irrigation scheme management

Tasmania transferred responsibility for the management of the Winnaleah Irrigation Scheme to local irrigators on 1 July 2003. The Rivers and Water Supply Commission retains ownership of the fixed assets (for water delivery and water storage). The Winnaleah irrigators are responsible for day-to-day scheme operations, administration and management (including price setting and staff management) and own the operational assets. Tasmania commenced discussions with local irrigators on devolving management responsibility for the South East Irrigation Scheme.

Integrated catchment management

Tasmania's work in catchment management since the 2001 NCP assessment appears to have focused on establishing an appropriate administrative framework. Tasmania enacted the *Natural Resource Management Act 2002* in November 2002 and established the Tasmanian Natural Resource Management Council in February 2003. The three regional natural resource management committees have commenced work. The State's natural resource management framework supports land care practices to protect rivers with high environmental values. The Tasmanian and Commonwealth governments signed a partnership agreement to implement integrated catchment management reforms in priority catchments as part of the National Action Plan for Salinity and Water Quality. Despite only limited on-the-ground progress since the 2001 NCP assessment, the State's resolution of the administrative framework for integrated catchment management should enable Tasmania to achieve appropriate catchment management outcomes.

The Council considers that Tasmania achieved satisfactory progress against its structural separation obligations for the 2003 NCP assessment. The Council will await the outcome of Tasmania's review of its Local Government Act before further considering the adequacy of complaints-handling processes for addressing concerns with the standards of service of local government water businesses.

The Council considers that Tasmania achieved satisfactory progress against its obligations to devolve greater management responsibility for irrigation schemes for the 2003 NCP assessment. The Council will consider Tasmania's progress with devolving management responsibility in the South East Irrigation Scheme in the 2004 NCP assessment.

The Council considers that Tasmania made satisfactory progress against its obligations on integrated catchment management for the 2003 NCP assessment. The Council will next consider Tasmania's progress on integrated catchment management as part of its full assessment of water reform in 2005.

National Water Quality Management Strategy

Tasmania continues to make progress in implementing the NWQMS framework, with significant developments since the 2001 NCP assessment including:

- the completion of the State Water Quality Monitoring Strategy;
- the setting of protected environmental values for most of the State's catchments, and pilot schemes to develop water quality objectives;
- further work on the State of River reports;
- the establishment of links between water quantity and water quality issues in water management plans and State of River reporting; and
- the implementation of wastewater and stormwater management strategies.

The Council considers that Tasmania made satisfactory progress in implementing policies that reflect the NWQMS guidelines for the 2003 NCP assessment. The Council will next consider Tasmania's progress in this area as part of its full assessment of water reform in 2005.

Legislation review and reform

Tasmania has essentially completed the review and reform of the 18 water Acts on its NCP program. Several Acts were repealed or amended by the Water Management Act. The Water Management Act established a system of transferable water entitlements and the Irrigation Clauses Act (as amended in 1997 and 2001) established district irrigation rights that are separated from land and transferable within the irrigation district. The Water Management Act includes a provision that allows transfers of water entitlements in unregulated systems to be refused if the quantity of water exceeds the amount that could be used sustainably for the intended purpose. The Irrigation Clauses Act imposes a requirement that appears to have a similar objective — that is the requirement that only an owner or occupier of land in the district, or a person who may hold land in the district, may hold irrigation rights. As discussed above, these provisions are likely to affect the development of the water trading market by limiting the activities of agents, brokers and other potential participants in the market: as a result, they may reduce returns available to holders of irrigation rights and constrain the extent to which water is used for its highest value purpose.

The Council considers that Tasmania has met its review and reform obligations relating to its stock of water industry legislation. For the 2004 NCP assessment, however, the Council will look for Tasmania to consider the need for provisions in the Water Management Act and the Irrigation Clauses Act that may impinge on the development of water trading.

Investment in new rural water schemes

In 2001, the Tasmanian Government announced an intention to proceed with the design of the Meander Dam project, 50 kilometres south west of Launceston. Water from the 43-gigalitre dam would be used primarily to increase the quantity and surety of irrigation water in the region. A mini hydroelectric power plant, connected to the State grid, is also proposed to operate at the site. The Tasmanian (A\$7 million) and Commonwealth governments (A\$2.6 million) are to contribute funding for the project.

At the time of the 2002 NCP assessment, the Tasmanian Government was assessing an application for a permit to commence construction of the Meander Dam under the statutory processes of the Water Management Act and the *Environmental Management and Pollution Control Act 1994*. The development proposal is also a controlled activity under the Commonwealth's Environment Protection and Biodiversity Conservation Act on the grounds of potential impacts on listed threatened species and communities, particularly the spotted tailed quoll and the plant species *Epacris aff. exserta*.

In a draft report in December 2002, an economic study commissioned by the Tasmanian Government concluded that the project would have a positive net present value estimated at A\$30.4 million (at a 6 per cent real discount rate).

The study also reported an alternative evaluation that found a lower, but still positive, estimated net economic benefit of A\$9.6 million.

In late 2002, Tasmania's Director of Environmental Management issued an environment protection notice enabling the dam to proceed (subject to conditions) and the Assessment Committee for Dam Construction issued a permit for the dam. In January 2003, however, Tasmania's Resource Management and Planning Appeal Tribunal set aside the dam permit and environment protection notice following an appeal by the Tasmanian Conservation Trust and a private party. The Tasmanian Government subsequently introduced legislation to overcome the tribunal's decision and permit construction of the dam. The *Meander Dam Project Act 2003*, passed in April 2003, reinstates the dam permit and environment protection notice and removes any right of further review or appeal.

In making a decision under the Environment Protection and Biodiversity Conservation Act, the Commonwealth Minister for the Environment and Heritage must consider relevant environmental impacts and social and economic factors. The Council understands that the Commonwealth Government commissioned further work on the economic, social and environmental impacts of the project, which includes investigating ecological evidence of the effects on the spotted tailed quoll and the *Epacris* species. The Commonwealth Government's approval process is still to be completed.

Tasmania commissioned further analysis and recently submitted two additional reports to assist the Commonwealth Government's assessment: an economic analysis and a report on the social and community impacts of the project. The economic analysis reviewed the economic work submitted to the Resource Management and Planning Appeal Tribunal and took into account analyses undertaken for the Tasmanian Conservation Trust and WWF Australia, and initial work from the Commonwealth Government's evaluation. Assessing the project against a variety of deliberately conservative assumptions, the economic analysis found that the project would provide net economic benefits to Australia. The study of social and community impacts concluded that the Meander Dam is likely to result in: positive economic benefits for the agricultural industry and for rural centres and areas; higher employment, including job opportunities for young people; increased vocational education opportunities, particularly in agricultural and related industries; and an overall strengthening of the sustainability of the Meander Valley community.

If the Commonwealth Government approves the project during 2003-04 (the Tasmanian Government's actions indicate it has decided to proceed with construction upon approval of the project by the Commonwealth Government), the Council would ordinarily assess Tasmania's compliance with the CoAG obligations on new rural infrastructure in the 2004 NCP assessment. The Council considers, however, that there are transparency benefits for both the Commonwealth and Tasmanian governments from the Council providing preliminary views on Tasmania's compliance before the governments make a final commitment to the Meander Dam project.

Otherwise, the two governments would be committing funds without full information on the implications of their decisions.

The Council's preliminary view on the economic evidence is that the recent work commissioned by Tasmania provides a robust case to show that the dam would be economically viable. The analysis accounted for relevant costs and benefits, used an appropriate discount rate and responded appropriately to the issues raised by other parties. Sensitivity analysis indicated that the project is economically viable under a wide range of conservative assumptions. The Council has insufficient information at this time, however, to reach a preliminary view on Tasmania's compliance with the requirements on ecological sustainability.

If the Commonwealth Government approves the project during 2003-04, then the Council will conduct a supplementary assessment to consider whether the project satisfies CoAG's economic viability and ecological sustainability requirements. In conducting the supplementary assessment, the Council will consider the economic and environmental studies undertaken by the Commonwealth and Tasmanian governments. It will also take into account the information provided by other parties, including the Tasmanian Conservation Trust and WWF Australia. Any Council recommendations on Tasmania's competition payments will relate to 2004-05.

Public education and consultation

Public education and consultation activity by Tasmania that relates to this 2003 NCP assessment mainly concerns the development and implementation of water management plans and water and wastewater pricing. Tasmania developed the water management plan for the Great Forester River using a public process. The Government publicly exhibited the draft plan for the catchment in the first half of 2002, providing an opportunity to better understand the issues of and processes for preparing water management plans. It established a local consultative group, including a representative of environmental groups, to assist in finalising the plan. The consultative group will continue to work with the Department of Primary Industries, Water and Environment on ongoing water management issues relevant to the plan. As a result of the Great Forester process, the department established similar consultative groups for other catchments.

In February 2003, the Government conducted workshops for local government officers across the State, to raise awareness of full cost recovery and related pricing obligations. Also in 2003, the Government Prices Oversight Commission gave a presentation on water assets and the NCP to a local government accounting seminar. The Government wrote to all local governments that provide water and wastewater services, encouraging them to test their 2003-04 rating policies against full cost recovery obligations.

The Council considers that Tasmania met its public education and consultation obligations for the 2003 NCP assessment.

Australian Capital Territory

Urban water and wastewater pricing

The ACT Electricity and Water Corporation (ACTEW) — a Government owned corporation — supplies metropolitan water and sewerage services in the ACT. ACTEW and AGL have formed a joint venture (ActewAGL) under which ACTEW retains ownership of water and wastewater assets, while service delivery is contracted to the partnership entity ActewAGL. The Independent Competition and Regulatory Commission regulates ACTEW's water and wastewater services, including service prices.

ACTEW earned a rate of return on combined water and wastewater assets of 6 per cent in 2001-02. ACTEW is subject to all Commonwealth and ACT taxes and tax equivalents. As an incorporated entity, it is bound by the *Corporations Act 2001*, which stipulates that dividends may be paid only from profits (including accumulated retained profits). The ACT Government applies a water abstraction charge of 10 cents per kilolitre. This covers the environmental costs of water use and the scarcity value of water, and applies to all customers.

ACTEW implements trade waste acceptance practices that allow for contracts with users of its services. The waste acceptance practices require users to contribute to the costs of monitoring and, in some cases as a transitional measure, to the costs of treating waste (based on the volume and strength of the discharge). ACTEW is developing a charging regime that accounts for the ACT's specific trade waste circumstances. The ACT Government advised that ACTEW's work will be submitted to the Independent Competition and Regulatory Commission for its review of ACTEW's water and wastewater charges for July 2004 to June 2009.

The Council considers that the ACT met its urban water and wastewater obligations for the 2003 NCP assessment.
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Water entitlements and the provision of water to the environment: progress report

The *Water Resources Act 1998* is the legal basis for the allocation of water, the issuing of licences to take water, and the determination of environmental flow requirements in the ACT. Water rights are separated from land title, are issued in perpetuity and provide the holder with a right to a share of the available resource. The Environment Management Authority maintains a register of licences and water allocations. There is no facility to record third party interests in an allocation, but the ACT advised that it can readily address this issue when the need arises.

The ACT's Water Resources Management Plan commenced in 2000. The plan sets out estimates of total water resources, environmental flow requirements and water available for consumption to 2010. Under the ACT's environmental flow guidelines, flows are protected up to the 80th percentile (that is, the flow that is exceeded 80 per cent of the time). For most subcatchments, extraction for consumptive use is limited to 10 per cent of flows above the 80th percentile. For water supply catchments, 100 per cent of flows above the 80th percentile are available for abstraction (except for spawning flows). Groundwater extraction is limited to 10 per cent of average annual recharge. There are no stressed or overallocated systems within the ACT.

The ACT component of the Murray–Darling Basin Ministerial Council cap on water diversions is still to be finalised. The Government anticipated reaching a final position on the cap during 2003.

Intrastate trading

There has been no water trading in the ACT or between the ACT and another jurisdiction. The lack of trade largely reflects the available resource and the relatively small industrial and agricultural sectors in the ACT compared with other jurisdictions. Interstate trade involving the ACT depends on the development of trading rules for the Murrumbidgee and Murray rivers and the finalisation of the Murray–Darling Basin Ministerial Council cap on water diversions for the ACT. There is no legislative restriction on trading: the Water Resources Act permits the permanent or temporary transfer of all or part of a water allocation with the approval of the Environment Management Authority. The ACT Government considers there is insufficient demand for trading to warrant developing intraterritory trading rules or an intraterritory market.

<p>The Council considers that the ACT met obligations on water trading for the 2003 NCP assessment. The lack of demand for water trading in the ACT means that the absence of trading rules does not currently affect trade. As water use and scarcity, and therefore the demand for trade, increase, trading rules will need to be developed. In the 2004 NCP assessment, the Council will consider the ACT's progress in finalising the Murray–Darling Basin Ministerial Council cap on water diversions and developing arrangements for interstate trade in water.</p>

Institutional reform

The Council considered several outstanding institutional reform matters in the 2002 NCP assessment, finding that the ACT had satisfactorily addressed all relevant structural questions. The Council found that the ACT finalised: a standard customer contract setting out the terms and conditions for the supply of water and sewerage services to customers, including the obligations on both ACTEW and customers; ACTEW's utility services licence, which includes ACTEW's obligations regarding its operations, the environment and its participation in benchmarking processes; and a range of industry and technical codes. The ACT demonstrated in the 2001 NCP assessment that ACTEW has a commercial operating focus. There are no public irrigation schemes in the ACT.

Reflecting its location within the Murray–Darling Basin, the ACT's catchment management framework encompasses the objectives in the Murray–Darling Basin Commission's 1990 *Natural Resource Management Strategy*. The ACT participates in the Murray–Darling Basin Initiative, including activities aimed at halting degradation and improving the quality of resource management in the basin. Lying within the Murrumbidgee River catchment, the Territory participated in the preparation of the Murrumbidgee catchment blueprint by the Murrumbidgee Catchment Management Board (based in New South Wales) and is developing its own integrated natural resource management plan that reflects the approaches in the blueprint. The ACT plan will be the basis for the ACT's participation in the National Action Plan for Salinity and Water Quality.

The ACT also has local level activity under way. It published subcatchment plans for Tuggeranong–Tharwa, Woden–Weston and the Southern ACT Catchment Group, and an implementation plan and support strategy for volunteers engaged in natural resource management.

<p>The Council considers that the ACT met all institutional reform obligations for the 2003 NCP assessment. The Council will next consider the ACT's progress on integrated catchment management as part of its full assessment of water reform in 2005.</p>
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National Water Quality Management Strategy

The ACT continues to implement the NWQMS framework, giving priority to areas of relevance to the Territory. The ACT became the first Australian government to formally regulate drinking water quality when, in 2001, it adopted the Australian Drinking Water Guidelines 1996. ActewAGL published its first annual report on drinking water quality in 2002. The ACT also published a draft policy for sustainable water resource management (including proposals to improve stormwater and waste management) and developed a draft policy for accepting nondomestic trade waste into the sewerage network, based on the NWQMS principles. The ACT is yet to implement the NWQMS guidelines for fresh and marine water quality (NWQMS paper no. 4) and for water quality monitoring and reporting (NWQMS paper no. 7).

The Council considers that the ACT is establishing appropriate processes, instruments and mechanisms to implement the NWQMS guidelines. The ACT's water quality standards and water quality monitoring arrangements do not fully reflect the 2000 revisions of the NWQMS guidelines for fresh and marine water quality (NWQMS paper no. 4) and water quality monitoring and reporting (NWQMS paper no. 7). The Council will next consider the ACT's progress in this area as part of its full assessment of water reform in 2005. The Council will look in particular for the ACT to have addressed the revised NWQMS guidelines for fresh and marine water quality and water quality monitoring and reporting.

Legislation review and reform

The ACT repealed all five water industry Acts that it identified for review in accord with the Competition Principles Agreement. The Water Resources Act is the legal basis for the allocation of water, the issuing of licences to take water, and the determination of environmental flow requirements in the ACT. The Act does not restrict water trading: the permanent or temporary transfer of all or part of a water allocation can occur with the approval of the Environment Management Authority.

The Council considers that the ACT has met its review and reform obligations relating to its stock of water industry legislation.

Public education and consultation

The ACT is addressing its public education and consultation obligations. The work by the Independent Competition and Regulatory Commission makes a significant contribution to the community's understanding of ACT water and wastewater prices and the relationship of prices to service quality and reliability. The commission established a price direction for ACTEW's electricity, water and wastewater charges for 1 July 1999–30 June 2004. Following a reference from the ACT Treasurer, the commission is currently investigating ACTEW's water and wastewater services, to provide for a price determination from 1 July 2004. This investigation (being undertaken in conjunction with a review of the prices of the electricity services provided by ActewAGL) is a public process. The commission released an issues paper in July 2003 as a first step in its public awareness program. The commission is seeking submissions and community views on all aspects of the price review.

The Council considers that the ACT met its public education and consultation obligations for the 2003 NCP assessment.

Northern Territory

Urban water and wastewater pricing

The Power and Water Corporation (PowerWater) provides the majority of the Northern Territory's urban water and wastewater services. Under the *Water Supply and Sewerage Services Act 2000*, the regulatory Minister (currently the Treasurer) is responsible for the economic regulation of PowerWater and the setting of service standards, on independent advice from the Utilities Commission.

PowerWater's water and wastewater operations earned income and community service obligation revenue sufficient to recover total operating, debt servicing and asset refurbishment costs in 2001-02, although it incurred operating losses in most urban centres (apart from Darwin) as a result of the Northern Territory Government's decision that PowerWater should impose uniform tariffs. PowerWater must operate in accord with the Territory's competitive neutrality policy framework, which incorporates taxes and rates (or equivalents). Under the arrangements for Government-owned corporations, dividends are agreed between the shareholding Minister and the PowerWater board. Asset consumption costs are calculated on a written-down replacement cost basis. They are also calculated on a replacement annuity basis for comparative purposes and to ensure compliance with CoAG cost recovery requirements.

Most environmental requirements imposed on PowerWater are conditions of extraction and discharge licences issued under the *Water Act 1999*. While a licence may be issued for up to 50 years, the controller of water may revise licence conditions in the light of ongoing water allocation planning and environmental monitoring programs. In addition, the controller of water may require a licensee, at the licensee's expense, to provide data. Operational environmental requirements are also imposed on PowerWater, including requirements relating to water quality and quantity monitoring and reporting, and the costs of pollution incident reporting. PowerWater's use of water resources is limited to water allocations defined in extraction licences, which are set at environmentally sustainable levels. This provision is intended to mitigate the adverse environmental implications of water consumption in the Territory. PowerWater's annual report contains details of its costs in complying with water allocation requirements and monitoring and reporting obligations.

Water charges in the Northern Territory are use based. There are no free water allowances, ensuring water customers face a price incentive to use water economically. PowerWater intends to phase out cross-subsidies: it reports the remaining cross-subsidies in its annual reports. The Northern Territory Government provides funding to subsidise water and wastewater charges for pensioners in all Northern Territory centres, and for services in the Katherine, Tennant Creek and Alice Springs regions to maintain uniform tariffs across the Territory.

Domestic and nondomestic wastewater charges are based on the number of sanitary units, which the Territory considers to be a good proxy for the volume and quality of waste discharged. PowerWater introduced a trade waste management system on 1 January 2002 that charges for trade waste discharged to PowerWater's sewerage system according to the volume and toxicity of waste.

The Council considers that the Northern Territory met its urban water and wastewater pricing obligations for the 2003 NCP assessment.

Water entitlements: progress report

The Northern Territory has established a comprehensive system of water entitlements, backed by the separation of water property rights from land title and by the specification of entitlements in terms of ownership, reliability, volume, transferability and, if appropriate, quality. Water entitlements are specified in surface water and groundwater extraction licences issued under the *Water Act*. Licences are generally issued for up to 10 years, with the Minister able to approve a longer period. Because water is not scarce, water licences have negligible value and trading does not occur.

The Territory's water rights registry system is a hard copy public database that contains details of licence holders, quantities of water and dates for renewal, but does not register third party interests. A capacity for third parties to register an interest is unlikely to be an issue in the Northern Territory until demand for water increases to the extent that water licences have some value. The Department of Infrastructure, Planning and Environment established a new electronic database to improve the administration of water licences. The department indicated that a formal policy for public access to water licence information (including access via the Internet) is to be prepared in accordance with the *Information Act 2002*, which commenced on 1 July 2003.

Provision of water to the environment: progress report

Water allocation planning in the Northern Territory occurs through an integrated regional resource management process covering both surface water and groundwater. Water allocation plans may be declared for water control districts. The plans include contingent allocations for the environment. The plans are set for 10 years and reviewed every five years. Water advisory committees oversee implementation of the plans.

The Northern Territory Government proposes to develop water allocation plans for four of its six water control districts. It finalised the plan for the Ti-Tree Water Control District in August 2002. The remaining three plans are expected to be finalised in 2003-04, within the CoAG timetable for completing water allocation arrangements.

At 30 June 2003, the Territory had progressed its scientific research on environmental water requirements. It had completed five research projects on environmental flows in the Daly and Douglas rivers and prepared a summary report on the projects. The Government advised that the summary and each report are being used to guide the drafting of the water allocation plan for the Daly River region and as references during the regional consultation on the plan.

Intrastate trade in water

At current levels of development, water supplies in the Territory are plentiful relative to demand. As a result, there is little, if any, demand for water trading and there has been no trade in licensed water entitlements. The Territory's legislation prohibits trade between consumptive and nonconsumptive water uses, to prevent environmental and cultural water allocations from being traded to water irrigators and other water users. In the 2001 NCP assessment, the Council accepted that this rule is consistent with CoAG requirements.

The Northern Territory foreshadowed two general restrictions on water trading in all its water allocation plans. For river systems, the trading of entitlements from downstream to upstream within a specific system will not be permitted without approval. The Territory advised that this requirement reflects concern that uncontrolled downstream to upstream trade could have an impact on environmental water provisions and adversely affect the environment. Upstream trade will be approved only after it has been demonstrated that there will be no impact on the environmental provisions of the relevant water allocation plan. For groundwater sources, trading of entitlements will be restricted to within-aquifer transactions, reflecting physical and environmental constraints.

At 30 June 2003, the Territory had finalised one water allocation plan — the plan for the Ti–Tree Water Control District. Trading of water entitlements is possible, therefore, only in this water control district. In the Ti–Tree plan, trading in groundwater is restricted to within-zone transactions. The Northern Territory Government advised that this provision reflects the management of the groundwater resources within separate zones and the need to limit extractions within each zone to a sustainable level.

<p>The Council considers that the Northern Territory made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.</p>
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Institutional reform

Structural separation

On 1 July 2002, the Power and Water Authority became the first Government business to be covered by the Northern Territory's *Government Owned Corporations Act 2001*. The authority is now known as the Power and Water Corporation (or PowerWater). Under the Government Owned Corporations Act, PowerWater's board of directors is accountable to a shareholding Minister (currently the Treasurer) for the performance of the corporation through a formal statement of corporate intent. Under the Water Act, resource management, water allocation and environmental regulation are the responsibility of the Minister for Lands and Planning. Under the Water Supply and Sewerage Services Act, economic regulation and the setting of service standards are the responsibility of the regulatory Minister (currently the Treasurer) acting on independent advice from the Utilities Commission.

The Northern Territory Treasurer continues to be responsible for agreeing with PowerWater on dividends (but as the shareholding Minister rather than as Treasurer), as well as for setting prices (as the regulatory Minister). This vesting of responsibility for dividends and price setting in the one office theoretically provides a potential for higher prices and dividends, and therefore higher returns to the Northern Territory Government. In performing these two roles, however, the Treasurer is advised by different agencies — by the Northern Territory Treasury on dividends and by the independent Utilities Commission on price regulation — and must comply with the relevant legislation. Dividends are transparently reported (in PowerWater’s annual report, the statement of corporate intent and Budget papers), and the Utilities Commission is able to report publicly on pricing and in its annual report.

Commercial focus of the metropolitan service provider

In previous NCP assessments, the Council found that the predecessor of PowerWater, the Power and Water Authority, operated on a commercial basis. The new Government Owned Corporations Act enhances the commercial focus of PowerWater. It requires PowerWater to operate, as far as possible, on a basis similar to that of a private sector corporation.

Integrated catchment management

The Northern Territory has made some progress in integrated catchment management since the 2001 NCP assessment. The principal achievements are:

- bilateral agreements with the Commonwealth Government on the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension;
- the publication of the Ilparpa Swamp Rehabilitation Plan (Alice Springs);
- the appointment of an advisory committee and extensive community consultation for the Darwin Harbour plan of management; and
- the introduction of new land clearing guidelines and controls.

The Northern Territory has published three catchment management plans, two of which are being reviewed for compatibility with the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension. The Territory is developing three additional plans — including the Darwin Harbour plan, which will encompass a coastal marine protection strategy, a management plan for Darwin Harbour, and the protection of mangroves. The Territory advised that closer integration of water allocation and catchment management processes is unlikely in the near future, although the work program for the Ti–Tree Water Resource Strategy appears to take preliminary steps towards coordinating these processes. The Territory’s natural resource management framework appears to facilitate support for land care practices to protect rivers with high environmental values. The focus on protecting high value rivers is likely to increase as a result of the Territory’s participation in the national action plan and the Natural Heritage Trust extension.

The Council considers that the Northern Territory met its structural separation obligations for the 2003 NCP assessment. The Northern Territory’s institutional arrangements provide an adequate safeguard against conflicts between regulatory and shareholder roles and, for a small jurisdiction, are consistent with CoAG obligations. The Council will, however, continue to monitor outcomes in future NCP assessments.

The Council considers that the Northern Territory made satisfactory progress against its obligations on integrated catchment management for the 2003 NCP assessment. The Council will next consider the Northern Territory’s progress on integrated catchment management as part of its full assessment of water reform in 2005.

National Water Quality Management Strategy

The Northern Territory continues to implement arrangements that account for the NWQMS, principally via waste discharge licensing, water quality monitoring, and drinking water standards. It improved point source pollution management in 2002 by introducing the Trade Waste Management System and the Trade Waste Code. The Territory also contributed to the revised Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000, the Australian Guidelines for Water Quality Monitoring and Reporting 2000, and the NWQMS Guidelines for Sewerage Systems Sludge (Biosolids) Management and Guidelines for Sewerage Systems Overflows.

The Northern Territory addressed regulatory arrangements for drinking water following the 2001 NCP assessment, which questioned whether arrangements addressed the NWQMS objectives. The Territory introduced the Framework for Management of Drinking Water Quality, and PowerWater published the Territory's first comprehensive report on drinking water quality. The Territory's drinking water monitoring program is partly based on the 1987 Australian guidelines, rather than the 1996 guidelines. The NWQMS recognises, however, the practicalities and costs of sampling in widely dispersed minor centres by providing some scope for governments to adapt guidelines to their particular circumstances. PowerWater will review its drinking water monitoring program in 2003 to evaluate its effectiveness.

The Council considers that the Northern Territory made satisfactory progress in implementing policies that reflect the NWQMS guidelines for the 2003 NCP assessment. The Council will next consider the Northern Territory's progress in this area as part of its full assessment of water reform in 2005.

Legislation review and reform

The Northern Territory reviewed the Water Act and Regulations — the legislation providing for the use, control, protection and management of the Territory's water resources — in 2000. The review recommended no change to the legislation. The Territory also reviewed the Water Supply and Sewerage Act. This Act was repealed by the Water Supply and Sewerage Services Act, which retained the single service provider status of PowerWater and implemented an economic regulatory framework.

The Council considers that the Northern Territory met its review and reform obligations relating to its stock of water industry legislation.

Public education and consultation

The Council considers that the Northern Territory met its public education and consultation obligations for the 2003 NCP assessment.

Murray–Darling Basin Commission

In this 2003 NCP assessment, the main element of the water reform program that is relevant for the Murray–Darling Basin Commission is interstate water trading, which is a progress report issue. The commission is examining several issues relating to interstate trade in water, including the development of: a system of exchange rates to allow trading between regions and between different water entitlements in different States; adequate environmental controls for trading; efficient administrative arrangements for processing and approving trades; and a system of access to State-based registry systems to enable those interested in interstate trading to obtain the information necessary to conduct such trades. The commission is also undertaking work on barriers to interstate water trade, in consultation with governments. Recent work focused on two issues: (1) barriers to trade out of irrigation districts and (2) the impact (on interstate trade) of differential financial arrangements for bulk water between the States. The Council will consider further developments in relation to these issues when it assesses progress with interstate trading arrangements in the 2004 NCP assessment.

In 2004, the Council will also consider the implementation by River Murray Water of the recommendations of the independent review of its pricing arrangements undertaken in 2002. As part of this, the Council will consider the adequacy of reporting in the commission's annual report of each government's annual cost shares for River Murray Water and the corresponding bulk water volumes supplied in each State.

1 Water reform: background and scope of the 2003 National Competition Policy assessment

The Council of Australian Governments (CoAG) agreed in 1994 on a water resource policy and strategic reform framework (the CoAG water reform agreement) for Australia's water industry. Overall, the agreement is aimed at improving the efficiency and effectiveness of Australia's water supply and wastewater industries and implementing sustainable water management arrangements that consider the effects of all water use (by agriculture, industry, households and the environment). CoAG brought water reform within the ambit of the National Competition Policy (NCP) in 1995 as one of the four NCP 'related' reforms.

The CoAG water reform agreement takes an integrated approach that addresses together the environmental, economic and social issues associated with water use. It shares the economic efficiency objectives of the NCP, through: provisions on water pricing and cross-subsidies to better relate pricing to use; the requirement that investment in new rural water schemes be economically viable; the requirement to ensure clearly specified, secure water rights; the support for water trading so water is used where it is most valued; and obligations on institutional reform to remove potential conflicts of interest between regulation and service provision.

The agreement has explicit environmental objectives and obligations. It requires that governments: allocate water for environmental purposes; show that investments in new rural water infrastructure are ecologically sustainable; ensure that trading arrangements (particularly cross-border trading) have appropriate ecological safeguards; and implement integrated resource management arrangements and policies to improve water quality. Several of the 'economic efficiency' reforms reinforce this focus on sustainability. Relating price directly to water use provides a better incentive for water conservation. The structural separation requirements ensure that the businesses providing water and wastewater services do not also have responsibility for regulation, including environmental regulation. The requirement that governments undertake public education and consultation programs on water reform helps the implementation of reform by improving people's understanding of the need for change.

This is the fourth NCP assessment of governments' progress with implementing the CoAG water reform agreement, following assessments in 1999, 2001 and 2002. The National Competition Council also conducted

several supplementary assessments on issues in particular jurisdictions.¹ This 2003 assessment considered progress against the reforms that CoAG senior officials scheduled for assessment this year as well as matters that the Council had found in earlier NCP assessments to be incomplete. Water reform activity assessed in 2003 thus encompassed:

- the reform areas that CoAG senior officials determined should be assessed in 2003 — urban water pricing (full cost pricing and consumption-based pricing), institutional reforms (structural separation, performance monitoring and benchmarking of water businesses, a commercial focus by water businesses, devolution of irrigation scheme management and integrated catchment management, except where the Council reached a final conclusion on the implementation of these reforms in an earlier assessment), intrastate trading arrangements and the National Water Quality Management Strategy;
- the achievement of appropriate environmental flow regimes in New South Wales (arising from the supplementary 2002 NCP assessment for New South Wales), Victoria (for five stressed rivers) and Queensland (progress in developing the new Condamine–Balonne Basin water resource plan);
- the implementation of water rights arrangements in New South Wales (primarily establishment of the State’s water access licence system and register of water entitlements);
- new investments in water infrastructure, which need to be shown to be economically viable and ecologically sustainable, in Queensland, South Australia and Tasmania;
- public education and consultation activity, which CoAG senior officials determined needed to be undertaken in conjunction with other reforms; and
- the review and reform of water legislation, in line with the Competition Principles Agreement obligation to review and, where appropriate, reform legislation that restricts competition by 30 June 2002.

All matters considered in this assessment were previously addressed in the 2001 NCP assessment, in which the Council set out what needed to be done to implement the reform program. Governments should have had sufficient time since the 2001 assessment to put in place arrangements that appropriately implement all reform matters being assessed this year. Consequently, the Council made recommendations for reductions or suspensions of 2003-04 competition payments where governments failed to implement appropriate arrangements on significant reform issues. The Council’s recommendations on competition payments for water reform are set out in the findings and recommendations section of this volume and in the overview of progress and recommendations in volume 1.

¹ All NCP assessment and supplementary assessment reports are available on the Council’s web site (www.ncc.gov.au).

In concluding on reform performance and competition payments, the Council accounted for the scope of the work under way under the auspices of CoAG. This work is focusing on sustaining Australia's river systems, particularly matters of resource security, water trading, compatibility between jurisdictions' systems of water management, and change management. The Council also accounted for the Deputy Prime Minister's announcement on 4 June 2003 foreshadowing a new intergovernmental agreement on water, for consideration at the CoAG meeting in August 2003. The foreshadowed CoAG work led New South Wales to postpone the application of its water management arrangements and new licensing system to 1 January 2004. The New South Wales water management arrangements encompass reform elements that were due for assessment in 2003.

The 2003 NCP assessment also reports briefly on governments' progress with implementing the reforms that CoAG senior officials scheduled for Council assessment in 2004 and 2005. The reforms scheduled for assessment in 2004 are rural water pricing, interstate trading arrangements, the conversion of existing water allocations to new water rights systems and progress in implementing environmental allocations. The 2005 assessment will consider governments' implementation of the entire package of reforms. By reporting on progress against the 2004 and 2005 obligations in 2003, the Council sought to encourage governments to continue to attend to delivering the CoAG program in full and on time. There are no recommendations on 2003-04 competition payments arising from the progress reporting against the 2004 and 2005 water reform obligations. Table 1.1 lists the assessment and progress report issues considered in the 2003 NCP assessment.

Table 1.1: Assessment and progress report issues for the 2003 NCP assessment

<i>Assessment issues</i>	<i>Progress report issues</i>
<ul style="list-style-type: none"> • Urban pricing reforms: all State and Territory governments • Intrastate trading arrangements: all State and Territory governments • Institutional reform arrangements: all State and Territory governments • Implementation of the National Water Quality Management Strategy: all State and Territory governments • Completion of NCP legislation review and reform commitments for all water legislation: all State and Territory governments • Access licences and registry system: New South Wales • Provision of environmental water to stressed and overallocated river systems: New South Wales, Victoria and Queensland • Investments in new or extended rural water schemes: Queensland, South Australia and Tasmania • Public consultation and education on the above issues: all State and Territory governments 	<ul style="list-style-type: none"> • Progress towards full cost recovery in pricing by rural water authorities: all State and Territory governments • Progress in converting existing allocations to new water entitlements systems: all State and Territory governments • Progress in determining environmental water allocations: all State and Territory governments

1.1 The elements of the water reform program assessed in 2003

Water pricing

Full cost recovery

Water and wastewater businesses are to set prices to earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be the natural resource management costs attributable to and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the economic regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customer at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement, clauses 3(a)–3(d); guidelines for the application of section 3 of the CoAG water reform agreement and related recommendations in section 12 of the expert group report (the CoAG pricing principles)

Pricing has a significant impact on the amount of water used, the provision of future supply capacity and the total amount of investment in the water industry. Recognising the link between prices and consumption and investment activity, the CoAG water reform agreement sought to address a range of problems. Notably, the price of water and wastewater services in

urban areas often had little regard to patterns of production, usually incorporated cross-subsidies that disadvantaged industrial and commercial customers and, most importantly, provided no incentive to conserve water. For rural water, below-cost pricing distorted rural production decisions, encouraged wasteful water use and often led to water providers making insufficient financial provision for asset maintenance and replacement.

As recognised by the Expert Group on Asset Valuation Methods and Cost Recovery Definitions for the Australian Water Industry, prices need to reflect all known resource costs (Expert Group 1995, p. 14). In both urban and rural areas, the CoAG water agreement obliges water and wastewater businesses to set prices that are consumption-based and fully recover costs (including operating and maintenance expenses, administrative costs, the natural resource management costs imposed on and incurred by the business, finance costs, depreciation expenses and a non-negative rate of return reflecting the opportunity cost of capital). Because most of the cost of providing wastewater services to domestic and small commercial consumers is fixed, use-based charges for services provided to these categories of consumers are less relevant, although charges for services provided to high level waste dischargers should be linked to use.

Water and wastewater businesses are generally the only provider of water and wastewater services in a geographic area. Reflecting this, the CoAG pricing principles impose a stricture that businesses avoid monopoly pricing. Prices should be set to recover no more than efficient business and resource management costs, with the rate of return on capital calculated using the weighted average cost of capital. Most States and Territories subject their monopoly water businesses to price regulation by the jurisdictional economic regulator.

Where service providers are required to provide services to classes of customers at a price below full cost, the cost should be fully disclosed and ideally paid to the service provider as a community service obligation. Cross-subsidies that create inefficiencies should be eliminated and those retained reported transparently. Governments have an obligation to explain the intent of any community service obligations and cross-subsidies to show that they do not undermine CoAG's overall policy objective of an efficient and sustainable water industry. The National Competition Council does not assess the adequacy of governments' explanations — rather it seeks to understand how in totality the community service obligations and cross-subsidies cases do not undermine CoAG's policy objective.

The water reform agreement set a timeframe for implementing the water pricing reforms: 1998 for urban service providers and 2001 for those in rural areas. Following the 2001 NCP assessment, CoAG senior officials agreed the National Competition Council would assess governments' implementation of urban and rural water pricing reforms in 2003 and 2004 respectively. Consequently, in this 2003 NCP assessment, the Council examined cost recovery by urban metropolitan and nonmetropolitan water and wastewater businesses, focusing on those with more than 1000 property connections. The Council also reported on progress towards cost recovery by rural water businesses. The Council considered the following questions in assessing governments' compliance with the CoAG obligation on cost recovery.

- Are urban water and wastewater businesses setting prices that achieve full cost recovery in accordance with the CoAG pricing principles? Pricing by water and wastewater businesses that fully recover costs and is based on efficient resource pricing and business costs encourages efficient customer-driven service provision and appropriate price signals for consumers.
- Are urban water and wastewater businesses applying appropriate asset valuation methods and are businesses earning a real rate of return on the written-down replacement cost of their assets? Robust information on the replacement cost (real cost) of providing water infrastructure, rather than on measures such as historic cost (original purchase price), enables service providers to properly provide for asset replacement/refurbishment in prices. Achieving a non-negative rate of return safeguards against undermining the business's asset base. Factoring the cost of infrastructure into water and wastewater service prices using asset values based on the deprival value method (unless an alternative approach can be justified) better signals the true cost of water consumption.
- Are dividend payment policies and the dividend distributions by water and wastewater businesses reflecting commercial reality and simulating a competitive market outcome? Setting an upper limit for dividend distribution by government water service businesses — on the basis of the corporations law requirement that dividends be paid only out of profits (the current year's profit plus accumulated retained profits) — guards against water and wastewater service providers having insufficient financial resources to conduct their business and is consistent with the Competition Principles Agreement obligations on competitive neutrality.
- What natural resource management requirements are imposed on water businesses and what are the costs of these requirements? Are the costs transparently passed on to water users in prices? To remain viable, water and wastewater businesses need to recover the costs of any environmental and natural resource management obligations imposed on them by governments. Prices that reflect an appropriate level of environmental costs encourage environmentally-aware water use.

- Have cross-subsidies that are not consistent with efficient service provision been eliminated or, at a minimum, has the objective and quantum of remaining cross-subsidies been transparently reported? The Council does not consider whether the rationale for a cross-subsidy is appropriate. Rather, it looks for an explanation of the intent of any cross-subsidies, to ensure that they are consistent with an efficient and sustainable water industry.
- Do community service obligations (CSOs) have an explicit public benefit objective? Are they clearly defined, transparently reported and directly funded, with the cost fully disclosed? The Council does not consider whether the rationale for an individual CSO is appropriate. Rather, it looks for governments to demonstrate that CSOs are provided in a way that does not undermine the achievement of an efficient and sustainable water industry.
- Are urban water and wastewater businesses recovering rates and taxes (or rate and tax equivalents)? The CoAG pricing principles recognise taxes (or tax equivalents) as a component of the full (economic) cost that water businesses are to recover to ensure viability. Most urban water authorities have introduced tax equivalent regimes or the National Tax Equivalent Regime.

Consumption-based pricing

Water businesses are to set prices that reflect the volume of water supplied to encourage more economical water use. Businesses should implement a two-part tariff (comprising a fixed access component and a volumetric cost component), where this is cost effective. Bulk water suppliers should set use-based charges (or a two-part tariff with an emphasis on the volumetric component).

Reference: CoAG water reform agreement, clauses 3(a)-(c)

Consumption-based (or volumetric) pricing provides a financial incentive to use water efficiently, thus rewarding water conservation. Conserving water can defer the need to invest in new water infrastructure, meaning potentially substantial savings to the community and environmental benefits. Most urban water providers had introduced consumption-based pricing by the 2002 NCP assessment. Some water businesses, however, were still setting prices linked to factors such as property value and providing free water allowances. Water charges linked to property value are less likely to provide a strong volumetric signal, and free water allowances in most cases inhibit incentives for economical water use. Wastewater charges can also have a volumetric focus where the charge is linked to the volume of waste and pollutant/toxicity load.

The Council looked for evidence that customers of water businesses (with more than 1000 connections) face a strong volumetric signal, and for entities discharging large volumes of waste and/or high-strength waste to face charges linked to the volume or strength of the discharge. Because use-based

charges for domestic and small commercial consumers of wastewater are unlikely to be cost effective, a fixed charge for the wastewater services provided to these categories of consumers is appropriate.

Where businesses had not introduced consumption-based pricing by 30 June 2003 or committed to do so, the Council looked for robust evidence that the introduction of consumption-based pricing would not be cost effective. Where water charges (or a component of charges) continued to be based on property value or some other measure, the Council looked for governments to show that the method of charging does not undermine the principle of consumption-based pricing or lead to nontransparent cross-subsidies among different customer classes. Where free water allowances are retained or are being phased out over a period beyond 30 June 2003, the Council looked for evidence that most customers face a strong volumetric signal for the bulk of the water that they receive.

Water allocations and entitlements, including provision of water to the environment

Governments are to establish comprehensive systems of water entitlements backed by the separation of water property rights from land title and the clear specification of entitlements in terms of ownership, volume, reliability, transferability and, if appropriate, quality. Governments must have determined and specified water rights, including reviewing dormant rights.

A comprehensive system of water entitlements is defined as *'establishing water allocations to be put in place which recognise both consumptive and environmental needs. The system is to be applicable to both surface and ground water. However, applications to individual water sources will be determined on a priority needs basis (as determined by an agreed jurisdiction-specific implementation program).'*

Reference: COAG water reform agreement, clause 4; and the January 1999 tripartite meeting. The tripartite meeting was held between representatives of the National Competition Council, the High Level Steering Group on Water (augmented by representatives from the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC)) and the Committee on Regulatory Reform to consider the implementation of the CoAG water reform framework. CoAG subsequently endorsed the recommendations from the meeting.

The CoAG water reform agreement acknowledged a need to better define the nature of water rights and to separate them from land title. The agreement also obliged governments to specify the amount of water (in terms of ownership, volume, reliability, transferability and, if appropriate, quality) available for extractive uses and to formally recognise the environment as a legitimate user of water. Governments must make an appropriate amount of water available for the environment. This amount should be determined, wherever possible, on the basis of the best scientific information available and account for the water required to enhance/restore the health of river systems and groundwater basins.

In previous NCP assessments, the Council found that all governments had legislated to establish systems of water rights separate from land title. Implementing these systems involves converting existing water allocations to the new entitlements systems, developing operational systems for registering entitlements, and developing and implementing water management plans for river systems and groundwater basins. Water management plans establish the amount of water that is available in a system and set out the arrangements for sharing that water among different users, including the environment.

In previous NCP assessments, the Council considered the legislative basis for establishing water rights in each jurisdiction. It also previously considered governments' progress in water management planning and in implementing the institutional arrangements needed to support effective water rights systems. On these matters, the Council draws the following interpretations from CoAG decisions.

- Water rights should be linked to a robust adaptive resource planning system.
- Water rights should be clearly specified so as to promote efficient trade within the social, physical and ecological constraints of the catchments.
- Water rights should be specified over the long term, exclusive, enforceable and enforced, transferable and divisible to provide for sustainability and community needs and to reflect the scarcity value of water.
- Water users should have the highest possible level of security in terms of the nature of the right, and absolute security of ownership. (While a 'lease in perpetuity' maximises security, it is not required by the CoAG water reform agreement.)
- Governments may provide compensation where, for example, reductions in reliabilities or other parameters are abrupt or extensive, but the CoAG water reform agreement does not require them to provide compensation. Consequently, whether compensation is provided is not relevant to the assessment of compliance.
- Any constraints on the capacity to trade water rights should be based on a sound public benefit justification and minimise impacts on efficient trading.

This 2003 NCP assessment reported on governments' progress in implementing new water rights arrangements following the passage of legislation in all jurisdictions that created water rights that are separate from land title. The major implementation issues centre on progress with water management planning, the conversion of existing water allocations to new licence systems and the development of systems for registering entitlements. The Council also considered one matter remaining from the 2002 NCP assessment. New South Wales was to have established a new access licensing system (including regulations under the *Water Management Act 2000* to put

in place a system for renewing access licences) and a new system for registering water rights in January 2003. The New South Wales Government deferred these measures — along with the commencement of its water sharing plans — to 1 January 2004 as a result of the Commonwealth Government foreshadowing CoAG work on a new intergovernmental agreement on water.

Provision of water to the environment

Governments are to establish a sustainable balance between the environment and other uses, including formal provisions for the environment for surface water and groundwater. In doing so, governments are to have regard for the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems (box 1.1).

Environmental requirements are to be determined wherever possible on the best available scientific information and governments are to have regard to the intertemporal and interspatial water needs required to maintain the health and viability of river systems and groundwater basins. For river systems that are overallocated or deemed to be stressed, governments are to provide a better balance in water resource use, including appropriate allocations to the environment to enhance/restore the health of river systems.

Governments should also consider environmental contingency allocations, with a review of allocations five years after they have been initially determined.

The 1999 tripartite meeting clarified the commitment to provide water for the environment and timeframes:

For the second tranche [1999], jurisdictions submitted individual implementation programs, outlining a priority list of river systems and/or groundwater resources, including all river systems which have been over-allocated, or are deemed to be stressed and detailed implementation actions and dates for allocations and trading to the NCC for agreement, and to Senior Officials for endorsement. This list is to be publicly available.

For the third tranche [2001], States and Territories will have to demonstrate substantial progress in implementing their agreed and endorsed implementation programs. Progress must include at least allocation to the environment in all river systems which have been over-allocated, or are deemed to be stressed.

By 2005, allocations and trading must be substantially completed for all river systems and groundwater resources identified in the agreed and endorsed individual implementation programs.

Reference: CoAG water reform agreement, clauses 4(b)–4(f); and 1999 tripartite meeting

Provision of water to the environment recognises the importance of maintaining biodiversity, addressing salinity, visually improving waterways, lakes and dams, improving habitats for fauna and flora and contributing to reduced land degradation. Achieving improved environmental outcomes is a central objective of the CoAG water reform agreement. Clause 4 of the agreement obliges governments to determine comprehensive systems of water allocations including environmental allocations for surface and groundwater resources. The 1999 tripartite meeting on water determined that progress should involve allocations for environmental purposes in all stressed and overallocated river systems by 2001. By 2005, allocations must be substantially completed for all river systems and groundwater resources identified in governments' endorsed programs.

A further outcome of the tripartite meeting was that governments, in demonstrating a sustainable balance between the environment and other uses for surface water and groundwater, should provide formal allocations for water systems consistent with the Agriculture and Resource Management Council of Australia and New Zealand/Australian and New Zealand Environment and Conservation Council (ARMCANZ/ANZECC) National Principles for the Provision of Water for Ecosystems (box 1.1). The national principles, while not the framework for decisions on water allocation, provide direction on how water management processes should deal with the issue of providing water for ecosystems. The key objective of the national principles is to sustain and, where necessary, restore ecological processes and the biodiversity of water-dependent ecosystems, recognising that adequate water flow is critical for maintaining natural ecological processes and biodiversity.

National principle 5 requires action (including reallocation) be taken to meet environmental needs where environmental water requirements cannot be met because of existing uses. Principle 4 states that the provision of water for ecosystems should go as far as possible to meeting the water regime necessary to sustain the ecological values of aquatic ecosystems while recognising the existing rights of other users. This principle introduces scope for socioeconomic outcomes to also guide water allocations. Principle 12 requires that all relevant environmental, social and economic stakeholders be involved in water allocation planning and decision-making on environmental water provisions.

The national principles (specifically principles 4 and 5) recognise that where there are existing users, allocations of water for consumptive and environmental purposes should be decided on the basis of full information about the ecological requirements of systems and the impacts on existing users, with the objective of ultimately achieving appropriate environmental outcomes. Integral to this is that the reference groups developing water management arrangements (and therefore determining the amount of water for extractive uses and environmental allocations) be broadly representative of the affected community. The appropriate application of the CoAG water reform agreement (incorporating the national principles) thus depends on governments ensuring that reference groups and their communities have access, wherever possible, to information on: the science-based calculation of the water requirements for sustaining ecological values; the extent of any socioeconomic trade-offs from the recommended water requirements and the rationales for the trade-offs; and the expected impact of any trade-offs on ecological values. The availability of this information (particularly an awareness of the consequences of departing from scientifically-recommended environmental flows) and access to the views of a well-informed community mean that reference groups will be better placed to decide how much water should be provided for environmental purposes.

Obligations relating to environmental allocations were relevant in the 2003 NCP assessment for New South Wales, Victoria and Queensland — all of which have stressed or overallocated river systems. The Council considered the progress made by New South Wales and Queensland in this area in

supplementary assessments in 2002 (see section 1.4). Victoria provided a three-year program for improving the health of its stressed rivers in 2001. Under this program, Victoria committed to establish river health/flow rehabilitation plans for five priority river systems by 30 June 2003. Apart from assessing progress by these three jurisdictions, the Council reported on all governments' implementation of their water management arrangements against the 2005 CoAG deadline for substantial completion of allocations.

Other elements of the CoAG water reform agreement also have implications for environmental outcomes. Clauses 3 (a)–(d) require water pricing regimes to be based on the principle of consumption-based pricing, thus providing a greater incentive for water conservation. Clause 3(d)(iii) obliges governments to show that new rural infrastructure projects or extensions to existing schemes are ecologically sustainable before investing in those schemes. Clause 5, which seeks to facilitate water trading, recognises that trading (particularly cross-border trading) may be legitimately constrained for ecological reasons. Clause 6(c) requires that, as far as possible, the role of water industry standards-setting and regulation — including environmental regulation — be separated institutionally from businesses providing water and wastewater services. Clause 8 defines several obligations relating to the environment including the implementation of the National Water Quality Management Strategy (NWQMS) and the establishment of land care practices to protect rivers with significant environmental value. These reforms are discussed in the following sections.

Box 1.1: ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems

Principle 1: River regulation and/or consumptive use should be recognised as potentially impacting on ecological values.

Principle 2: Provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems.

Principle 3: Environmental water provisions should be legally recognised.

Principle 4: In systems where there are existing users, provision of water for ecosystems should go as far as possible to meet the water regime necessary to sustain the ecological values of aquatic ecosystems whilst recognising the existing rights of other water users.

Principle 5: Where environmental water requirements cannot be met due to existing uses, action (including reallocation) should be taken to meet environmental needs.

Principle 6: Further allocation of water for any use should only be on the basis that natural ecological processes and biodiversity are sustained (that is, ecological values are sustained).

Principle 7: Accountabilities in all aspects of management of environmental water should be transparent and clearly defined.

Principle 8: Environmental water provisions should be responsive to monitoring and improvements in understanding of environmental water requirements.

Principle 9: All water uses should be managed in a manner which recognises ecological values.

Principle 10: Appropriate demand management and water pricing strategies should be used to assist in sustaining ecological values of water resources.

Principle 11: Strategic and applied research to improve understanding of environmental water requirements is essential.

Principle 12: All relevant environmental, social and economic stakeholders will be involved in water allocation planning and decision-making on environmental water provisions.

Intrastate water trading

Water trading arrangements are to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments.

Reference: CoAG water reform agreement, clause 5

The CoAG water reform agreement emphasises the importance of maximising the contribution of water to national income and welfare (within the social, physical and ecological constraints of catchments) through water trading. Where they have not already done so, governments are to implement arrangements for water trading once they have settled water entitlements. The CoAG agreement recognises a need for consistency in trading arrangements, to facilitate cross-border trading where this is possible.

In most jurisdictions, water rights may be traded temporarily (for an agreed number of seasons, including consecutive seasonal assignments) or permanently. In some jurisdictions, it is also possible to lease rights with no limit on the duration of the lease. The water management arrangements

being developed under State and Territory legislation establish the quantum of tradeable volumetric allocations and set the rules governing trading.

Several implementation issues need to be resolved to achieve effective trading outcomes. The Murray–Darling Basin Commission is examining how best to manage many of these issues.

- Definitions of tradeable water rights (the commodity being traded) need to be consistent across supply systems. Where this is not possible, mechanisms such as exchange rates need to be in place to equate levels of entitlement across systems.
- Environmental clearance processes need to be robust.
- Appropriate administrative arrangements, including reliable and accessible water rights registers are necessary. Ready access to data on the price and volume of water being traded will help to develop water markets.
- Institutional and regulatory arrangements and operational decisions by licence holders (including irrigation trusts) need to facilitate trade unless there is a clear public interest argument for restricting trade.

CoAG determined that the National Competition Council should assess governments' progress with intrastate water trading in 2003 and interstate water trading in 2004. By 2005, arrangements to enable trading must be substantially in place. Some of the matters that are important for intrastate trading are also relevant for interstate trading. The Council may therefore revisit matters considered in this and previous assessments (such as consistency in registry systems) when it examines interstate trade in 2004.

Institutional reforms

As far as possible, the roles of water resource management, standard setting and regulatory enforcement, and service provision are to be separated institutionally.

Service providers, in metropolitan areas in particular, are to have a commercial focus, whether achieved by contracting out, corporatisation or privatisation as determined by the relevant government. Service providers are to benchmark their performance and should seek to achieve international best practice.

Constituents are to be given greater responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established.

Governments are to adopt an integrated approach to natural resource management practices, including:

- demonstrated administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management and integrated catchment management;
- an integrated catchment approach to water resource management, including consultation with local government and the wider community in individual catchments; and
- a consideration of land care practices to protect rivers with high environmental values.

Reference: CoAG water reform agreement, clause 6

Governments should, at a minimum, separate the responsibility for the provision of water and wastewater services from the responsibility for regulation, water resource and environmental management and standards-setting in areas such as health and plumbing. The separation of roles is intended to remove the potential for conflicts of interest, which might arise if, for example, a monopoly water business (or its Minister) has responsibility both for providing water and determining the price and quality of that water. Independent economic regulation is appropriate, given water and wastewater businesses are public monopolies. Independent economic regulation, where the regulator recommends on prices taking account of the CoAG pricing principles and provides its recommendations in a public report, also addresses pricing obligations. If water businesses are too small to justify full monitoring (as is often the case for local government businesses), then there should at least be transparency and accountability in the setting and reporting of prices and service standards. The CoAG agreement does not rule out a water industry regulator and a service provider being responsible to the same Minister, but the relevant government must adequately address potential conflicts of interest in such cases.

The devolution of irrigation scheme management to local bodies can take different forms, ranging from the scheme manager's consultation with local constituents on irrigation management issues to the devolution of operational responsibility to the local level, although the obligation does not require

governments to go that far. Any devolution of operational responsibility should occur within an appropriate regulatory framework.

The objective of integrated catchment management is to establish institutional arrangements that enable management outcomes that achieve sustainable ongoing use of land and water resources. Problems such as salinity, river degradation and pollution, biodiversity loss and soil degradation threaten agriculture, rural communities, urban communities and other environmental assets, and are a focus of catchment management activity. Institutional arrangements best have a statutory underpinning and incorporate mechanisms for ensuring effective stakeholder participation. Catchment management should be implemented via partnerships among the different levels of government and nongovernment organisations. Relevant regional strategies include those being developed under bilateral agreements between the Commonwealth, State and Territory governments under the National Action Plan on Salinity and Water Quality.

The requirement to benchmark businesses' performance and the objective that businesses seek to achieve international best practice aim at ensuring that water services are delivered as efficiently as possible. Consistent with this, and with the pricing reforms that seek to ensure water and wastewater businesses earn sufficient revenue to maintain and refurbish their infrastructure, services in metropolitan areas must have a commercial focus. It is up to each State and Territory government to determine how its businesses achieve a commercial focus, whether by contracting out, corporatisation or privatisation.

National Water Quality Management Strategy

Governments are to support ANZECC and ARMCANZ in developing the National Water Quality Management Strategy, by adopting market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal measures, and community consultation and awareness.

Governments are to demonstrate a high level of political commitment and a jurisdictional response to the ongoing implementation of the principles contained in the National Water Quality Management Strategy guidelines, including on-the-ground action to achieving the policy objectives.

Reference: CoAG water reform agreement, clauses 8(b) and 8(d)

The National Water Quality Management Strategy (NWQMS) is a response to community concern about the condition of the nation's water. The policy objective is to achieve sustainable use of Australia's water resources by protecting their quality, while maintaining economic and social development. The strategy incorporates a full mix of approaches including, but not limited to, regulatory and market based approaches, education and guidance. It is based on principles of ecologically sustainable development, an integrated approach to water quality management and community involvement in setting water quality objectives. The strategy requires governments to adopt

an overarching jurisdictional water quality management plan, supported by endorsed objectives for particular water bodies, catchments or uses.

The NWQMS comprises 21 guidelines for delivering a high standard, nationally consistent approach to water quality management (box 1.2). The 21 guidelines have a shared national objective but offer governments the flexibility to respond differently to circumstances at regional and local levels. In particular, developments in integrated resource management (for example, through the National Action Plan on Salinity and Water Quality and the Natural Resource Management Ministerial Council process) have enhanced the original NWQMS guidelines.

The Commonwealth Government, after consulting with the States and Territories, proposed a two-yearly review to assess the implementation of the NWQMS guidelines. The Council indicated in the 2001 NCP assessment that it would look in subsequent assessments for governments to show how they have adopted the NWQMS guidelines. Because the two-year timeframe expired in 2003, the Council expected State and Territory governments to have largely implemented the NWQMS by this NCP assessment.

The process for water quality management is described in the NWQMS Implementation Guidelines (1998), the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) and the Australian Guidelines for Water Quality Monitoring and Reporting (2000). While flexible, the following key elements should be implemented.

- There should be active consultation and engagement with the community in setting the environmental values of water, determining water quality objectives and undertaking management actions, including water quality monitoring.
- Environmental values (values of water use for aquatic ecosystems, primary industries, recreation, aesthetics and drinking) of water resources (freshwater, groundwater, marine water and estuarine water) should be identified. Values should be reported according to the scale (the State, regional or local level) at which they have been determined through public consultation. Governments should detail processes and mechanisms for identifying and amending environmental values, and describe the extent to which they have been implemented.
- Water quality and quantity issues that threaten environmental values should be identified and reported. Governments should detail the mechanisms or processes for identifying and reporting water quality and quantity issues in the context of identified environmental values.
- Water quality objectives and environmental water provisions to protect the declared environmental values should be identified and implemented. Water quality and quantity issues are intrinsically linked. Altered flow regimes cause or exacerbate many water quality problems, so integrated management is required.

- Management actions to achieve water quality objectives should be identified and implemented. Governments should describe the extent to which management actions attain and protect environmental values, water quality objectives and environmental flow provisions, and their status (for example, drafted, gazetted, reviewed). Examples of management actions include protocols for environmental impact assessment, environmental protection policies, load-based licensing, codes of practice, pollution offset programs and catchment management plans and policies.
- Monitoring programs to review and refine water quality objectives, identify the sources of pollution and evaluate the effectiveness of management actions in meeting water quality objectives should be designed and implemented. The programs should include the role of community water quality monitoring.
- There should be public processes for periodic independent auditing and reporting on the effectiveness of actions to achieve water quality objectives and protect environmental values.
- There should be systematic/mainstream application of relevant national guidelines (for example, application for stormwater and sewage systems).

Box 1.2: The National Water Quality Management Strategy guidelines

<i>Policies and Process for Water Quality Management</i>	<i>Release date</i>
1. Water Quality Management — An Outline of the Policies	1994
2. Policies and Principles — A Reference Document	1994
3. Implementation Guidelines	1998
<i>Water quality benchmarks</i>	
4. Australian and New Zealand Guidelines for Fresh and Marine Water Quality	2000
4a. An Introduction to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality	2000
5. Australian Drinking Water Guidelines — Summary	1996
6. Australian Drinking Water Guidelines	1996
7. Australian Guidelines for Water Quality Monitoring and Reporting	2000
7a. Australian Guidelines for Water Quality Monitoring and Reporting — Summary ^s	2000
<i>Groundwater management</i>	
8. Guidelines for Groundwater Protection	1995
<i>Guidelines for diffuse and point sources*</i>	
9. Rural Land Uses and Water Quality — A Community Resource Document	2000
10. Guidelines for Urban Stormwater Management	2000
11. Guidelines for Sewerage Systems — Effluent Management	1997
12. Guidelines for Sewerage Systems — Acceptance of Trade Waste (Industrial Waste)	1994

(continued)

Box 1.2 continued

<i>Policies and Process for Water Quality Management</i>	<i>Release date</i>
13. Guidelines for Sewerage Systems — Sludge (Biosolids) Management	To be released
14. Guidelines for Sewerage Systems — Use of Reclaimed Water	2000
15. Guidelines for Sewerage Systems — Sewerage System Overflows	To be released
16a. Effluent Management Guidelines for Dairy Sheds	1999
16b. Effluent Management Guidelines for Dairy Processing Plants	1999
17. Effluent Management Guidelines for Intensive Piggeries	1999
18. Effluent Management Guidelines for Aqueous Wool Scouring and Carbonising	1999
19. Effluent Management Guidelines for Tanning and Related Industries in Australia	1999
20. Effluent Management Guidelines for Australian Wineries and Distilleries	1998

*The guidelines for diffuse and point sources are national guidelines that aim to ensure high levels of environmental protection that are broadly consistent across Australia.

Water industry legislation review and reform

As well as implementing the CoAG water reform agreement, governments are to review and, where appropriate, reform water industry legislation that restricts competition. In accord with the Competition Principles Agreement, governments must ensure that existing and new legislation does not restrict competition unless:

- the benefits of the restriction to the community as a whole outweigh the costs; and
- the objectives of the legislation can be achieved only by restricting competition.

Reference: Competition Principles Agreement, clause 5

Governments had to review and, where appropriate, reform all legislation that restricts competition existing at June 1996 by 30 June 2002. Reform is appropriate where competition restrictions do not provide a net benefit to the whole community and are not necessary to achieve the objective of the legislation. Any new legislation that restricts competition must also meet this test.

Completion of review and appropriate reform obligations is a key element of the 2003 NCP assessment. Where review and reform implementation was not complete (or a firm transitional path to reform that is in the public interest was not in place) at 30 June 2003, the Council assessed the relevant jurisdiction as having not complied with its legislation review and reform obligation. The Council considered water industry legislation review and reform activity by each jurisdiction, focusing on activity that was still to be completed at the time of the 2002 NCP assessment. Appendix B outlines the status of water legislation review and reform activity by all jurisdictions at 30 June 2003.

New rural water infrastructure

Investments in new rural water schemes or extensions to existing rural schemes are to be undertaken only after appraisal indicates that the scheme/extension is economically viable and ecologically sustainable.

Reference: CoAG water reform agreement, clause 3(d)(iii)

In the past, it was not uncommon for governments to invest in new water infrastructure without appropriate justification. Capital subsidies encouraged investment in noneconomic facilities and overengineering of systems, with adverse economic and fiscal outcomes. Subsidies also encouraged fragmentation, for example where their availability encouraged smaller communities to develop their own facility rather than seek to obtain services from nearby larger authorities. Also, there was often insufficient regard to environmental outcomes.

The CoAG water resource agreement seeks to ensure investment in water infrastructure is justified by requiring that all new investments in rural water schemes or extensions to existing schemes be undertaken only if they are shown, prior to construction commencing, to be economically viable and ecologically sustainable. The Council considers evidence on economic viability where governments contribute funds to a project. It considers evidence on ecological sustainability for all new rural projects, including private investments.

The Council found in previous NCP assessments that State and Territory government mechanisms for appraising the economic and ecological aspects of new schemes are generally satisfactory. Governments' processes appear to provide for appropriate independence, public consultation and scrutiny, and have enough flexibility to match the depth of analysis with the size and significance of the project. The Council's task of assessing compliance involves considering whether governments are applying approval processes appropriately, so new infrastructure decisions are based on robust economic and environmental assessments.

For evidence of economic viability, the Council looks for governments to have analysed relevant economic and social costs and benefits, including any costs of mitigating adverse environmental effects resulting from the new scheme.² For large developments, a robust cost–benefit analysis is an effective way of meeting the CoAG obligation. Appraisals should be based on the best information available, with any assumptions and limitations clearly stated. For appraisals of ecological sustainability, the Council looks for information on the nature of the assessment and decision-making processes as well as mechanisms to monitor the impacts of the development and its compliance with environmental standards. The Council considered economic and ecological evidence on the following three projects in this 2003 NCP assessment.

- The Burnett Water Infrastructure Project in Queensland is a proposal for the construction of the 300-gigalitre Burnett River Dam (previously referred to as the Paradise Dam), Eidsvold Weir and Barlil Weir, and the raising of Jones Weir and Ned Churchward (formerly Walla) Weir. The capital cost of the project is estimated at around A\$210 million.
- The Clare Valley Water Supply Scheme in South Australia involves the construction of 83 kilometres of new pipeline, two pumping stations and a 4-megalitre water storage to transfer up to 7.3 gigalitres per year of filtered and treated River Murray water to the Clare Valley. The water will be used to improve the reticulated supply of high quality water to several townships, to augment supplies to the Mid-North region and to supply water to the Clare Valley region for irrigation and bulk water purposes. While initially expected to be a private sector project, the project proceeded as a SA Water project. It is expected to be completed in November 2003.
- The Meander Dam Project in Tasmania is a proposal for the construction of a 43-gigalitre dam on the Meander River to supply licensed water users including irrigation, town domestic water supplies, and a proposed mini hydroelectric power plant, and to provide environmental flow requirements for the Meander River.

² Economic viability assessments should discount cash flows using an appropriate discount rate such as a project specific weighted average cost of capital.

Public education and consultation

Governments are to consult on the significant CoAG reforms (especially water pricing and cost recovery for urban and rural services, water allocations and trade in water entitlements). They should implement education programs on the benefits of reform.

Reference: CoAG water reform agreement, clauses 7(a)-(e)

CoAG recognises the importance of governments consulting on water reform and involving the community in taking decisions on policy, and putting in place educational programs that show the benefits of reform. Wide consultation and community involvement produces more and better information on which to base decisions. Decisions that are consensus driven are more likely to satisfy stakeholders, and a community that is better informed about water issues and their importance is much more likely to accept change.

The Council assesses governments' performances against public education and consultation obligations each year, focusing on the areas of reform that are due for assessment. Consequently, for 2003, the Council considered governments' public education and consultation activity concerning urban pricing, water management planning (including allocations to the environment), institutional reform, intrastate water trading, integrated catchment management and the water quality commitments relating to the NWQMS.

1.2 The 2003 assessment process

The 2003 NCP assessment framework

As for the previous NCP annual assessments of governments' progress with water reform, the Council released a framework before the 2003 assessment outlining the scope of the assessment. The framework was intended as a guide to the matters being assessed for both governments and water industry stakeholders. The assessment framework aimed to:

- provide a transparent basis for assessing governments' actions to implement the objectives set by CoAG;
- identify the type of information that governments need to provide to demonstrate compliance;
- outline the scope of the assessment, to guide public submissions; and
- provide a basis for identifying areas where reform is proving difficult, as a focus for discussion between the Council and the relevant government.

The Council released the 2003 NCP assessment framework for water reform in February 2003. The Council publicised the existence of the framework directly to many interested parties on its Enews facility and placed the framework on its web site. The Council provided the framework to all governments and upon request to interested parties.

Governments' NCP annual reports

Governments report annually on their progress with implementing the NCP program. For this 2003 assessment, the Council asked governments to report by 31 March 2003, with a focus on the matters being assessed in 2003. Governments provided their annual reports on water reform on the dates noted in table 1.2. To assist the Council, some jurisdictions provided an advance copy in draft pending formal endorsement by the Government.

At the request of the Council, all governments provided additional information on their approach to water reform, augmenting the material in their annual reports. The Council secretariat also met with competition policy and other officials in New South Wales, Victoria, Queensland, South Australia and Tasmania to discuss those jurisdictions' progress on the water reform matters assessed in 2003.

Table 1.2: Governments' provision of NCP annual reports on water reform

<i>Government</i>	<i>Date on which the Council received the 2003 report on water reform*</i>
Commonwealth	17 April 2003 (draft)
New South Wales	27 June 2003
Victoria	31 March 2003
Queensland	11 April 2003
Western Australia	29 May 2003 (draft)
South Australia	28 May 2003 (draft)
Tasmania	23 May 2003
ACT	2 April 2003
Northern Territory	15 April 2003

* To assist the Council, some governments made their reports available initially in draft form, before the relevant government endorsed the draft for public release. The dates reported are the dates on which governments submitted their reports, whether draft or endorsed. All State and Territory reports are now endorsed and publicly available.

Submissions from stakeholders

The Council invited interested parties to make submissions on their views of and experiences with governments' water reform activity. The purpose of inviting submissions was to ensure, as far as possible given available resources, that the Council had access to stakeholder views on governments'

reform progress. Submissions were provided by a range of stakeholders, including environmental organisations, irrigators and irrigator representatives, reference groups involved in water management, water authorities and interested individuals.

The Council advised in the 2003 assessment framework that it invited submissions. It asked interested parties to provide submissions where possible by 4 April 2003, so it could consider submissions in conjunction with governments' NCP annual reports. The Council received 16 submissions and placed them on its web site. Appendix C lists the individuals and organisations that made a submission.

The Council considered all submission matters that were relevant to 2003 NCP assessment obligations. Where a submitter raised issues concerning the reform performance of a particular government(s), the Council provided the submission to the relevant government(s) and sought comment on the issues raised, noting these comments in its findings on compliance.

1.3 The 2002 supplementary assessments in summary

The Council conducted supplementary NCP assessments and consultation meetings with governments during 2002-03 on aspects of the CoAG water reforms that governments had not fully addressed in the 2002 NCP assessment and for which the Council had foreshadowed potential reductions in competition payments. The supplementary assessment and meeting outcomes that are relevant for 2003 are summarised below.

New South Wales

The Council conducted a supplementary assessment to consider the New South Wales Government's progress against the requirement that a legislative and institutional framework be in place by 2001 to enable the determination of water entitlements and trading, including at least allocations for all overallocated and stressed rivers (NCC 2003). Environmental allocations need, wherever possible, to be determined on the best scientific information available, and to have regard to the water requirements for maintaining the health and viability of river systems and groundwater basins.

At the time of the 2002 NCP assessment, the New South Wales Government was reviewing an interim State Water Management Outcomes Plan (SWMOP) — a plan setting the overarching policy, targets and strategic outcomes for the development, conservation, management and control of the State's water sources — to address issues raised during public consultation.

The Government was also developing the first round of water sharing plans (covering about 80 per cent of the State's water, including major water sources), which were intended to achieve a sustainable balance between consumptive and environmental uses. When gazetted, the water sharing plans would set water sharing and operation rules (including rules governing allocations to water users and the environment) for 10 years. In addition, New South Wales has had interim environmental flow rules in place for regulated river systems since 1998.

In the supplementary assessment, the Council found that New South Wales was continuing to work towards implementing the allocation frameworks required by CoAG. New South Wales gazetted the SWMOP in December 2002 and subsequently also gazetted 35 water sharing plans, which are due to come into operation on 1 January 2004. The SWMOP provides water use targets, explains why those targets are needed and describes the anticipated outcomes from meeting the targets. It also specifies requirements to be met by water sharing plans in setting long-term extraction limits for each water source. Provided the water sharing plans (and catchment blueprints and subsequent water management plans) substantially adopt relevant targets, the SWMOP should contribute significantly to the long-term sustainable use of water resources in the State.

The Council identified one matter relevant to the SWMOP, regarding the application of extraction limits for unregulated rivers. Although the SWMOP indicates that all unregulated river water sources will ultimately be subject to daily flow extraction limits, the relevant SWMOP target means that daily extraction components will not be specified in licences (or tradeable) for 20 per cent of stressed unregulated rivers until at least 2008. New South Wales advised that many unregulated rivers, including some stressed unregulated rivers, may not warrant the level of management inherent in daily flow sharing arrangements. For these rivers, which account for a relatively minor share of overall water diversions, New South Wales indicated that it will introduce a sufficient degree of management to protect the environment and the rights of other users; in the meantime, annual allocations and extraction limits during low flows are in place.

The Council considered a sample of the gazetted water sharing plans against the ARMCANZ/ANZECC National Principles for the Provision of Water to Ecosystems. The CoAG water agreement requires governments to have regard for these principles in determining provisions of water for the environment. The Council concluded that New South Wales demonstrated regard for the national principles, except 4, 5, 7 and 9 (detailed in box 1.1).

Principle 4 obliges governments to go as far as possible to provide water to sustain ecological values, while recognising the existing rights of water users. New South Wales advised the Council that extraction limits and environmental water allocations in the water sharing plans generally reflected trade-offs between the needs of the environment and socioeconomic factors. According to the New South Wales Government's own assessment, several of the water sharing plans will make only a low or partial contribution to achieving some of the State's key environmental targets. New South Wales

did not provide the Council with specific information on anticipated environmental impacts or the extent of the trade-offs made in deciding on environmental allocations for each plan. The Council could not assess, therefore, whether New South Wales had gone as far as possible to meeting environmental objectives.

In relation to principle 5, New South Wales advised that the rules in several water sharing plans provide for improved environmental outcomes without taking additional water from users, and that the extraction levels under the existing environmental flow rules in other plans are appropriate. New South Wales also noted that for the unregulated rivers the water sharing plans provide the first formal allocation of water to the environment.

The Council could not conclude in the supplementary assessment on the regard had by New South Wales for principle 5. New South Wales provided no information to the Council to show how the rules in the water sharing plans deliver appropriate environmental outcomes or to support its advice concerning existing environmental flows. The Council acknowledged the Government's argument that the plans provide the first formal environmental allocations for the unregulated rivers, but New South Wales provided no information to substantiate whether these allocations (particularly above the very low flow classes) would change the amount of water available to the environment.

In relation to principle 7, New South Wales advised that considerable public consultation occurred during the preparation of the water sharing plans, with each plan being developed by a local water management committee that accounted for the SWMOP targets and the State's national and international obligations. New South Wales provided no information to the Council, however, on the extent to which it had based the extraction limits and environmental provisions in the plans — particularly the surface water plans — on the available scientific information. There was also little information provided on the extent to which the various rules and limits are expected to achieve environmental outcomes.

The Council also considered the actions taken by New South Wales in relation to the SWMOP and the water sharing plans against ARMCANZ/ANZECC national principle 9, which requires that all water uses be managed in a manner that recognises ecological values. The Council found that the New South Wales Government had demonstrated regard for principle 9 in developing the *Water Management Act 2000*, in setting the targets in the SWMOP and in the policy advisory notes provided to the water management committees responsible for developing the water sharing plans. The Government's own assessments of several plans nevertheless indicate that the plans do not fully meet SWMOP targets on ecological values.

The Council considered that the water sharing plans will have at least an indirect impact on water use, but accepted the New South Wales argument that mechanisms other than water sharing plans will be more significant in managing water use to recognise ecological values — the focus of national principle 9. In the supplementary assessment, therefore, the Council did not

conclude on the regard demonstrated for principle 9 by New South Wales. The Council indicated that it would address this matter in future NCP assessments when it considered the State's implementation of relevant elements of the CoAG water reform agreement, including the catchment blueprint process, the water quality objectives for each major river system and future water management plans that extend beyond water sharing.

At the time of the supplementary assessment, New South Wales undertook to release a series of public information sheets on its new water management arrangements including the expected environmental benefits. To conclude on the regard demonstrated by New South Wales for national principles 4, 5 and 7, the Council indicated to the Government that it should present robust information on the extent to which each water sharing plan improves environmental flows and addressed SWMOP environmental objectives, and how and why socioeconomic trade-offs influenced decisions on the allocation of water for consumptive and environmental uses. The Council advised that in the 2003 NCP assessment it would finalise its consideration of the regard shown by New South Wales for the ARMCANZ/ANZECC national principles.

The 2002 supplementary assessment found that New South Wales needed to undertake other work before it could be considered to have met all of its 2002 water reform obligations. This work included gazetting the four remaining first round water sharing plans, developing the implementation programs to allow the gazetted plans to become operational, and determining a process and timeframe for developing the second round of water sharing plans for the remaining stressed and overallocated systems. (The timing of some of these actions is now affected by the Government's decision to defer the commencement of the gazetted water sharing plans to 1 January 2004.) Given the State's progress in gazetting the SWMOP and 35 water sharing plans (covering the majority of the State's water), as well as the prospect that New South Wales would make available information on the effect of its plans, the Council considered, however, that the outstanding matters did not warrant an adverse recommendation on 2002-03 competition payments.

Queensland

The Council considered two outstanding water reform obligations relating to Queensland in two 2002 supplementary assessments. The first concerned the Queensland Government's actions to manage the Condamine–Balonne Basin and the second concerned the Townsville City Council's actions on water pricing.

Management of the Condamine–Balonne Basin

Water management obligations for the Condamine–Balonne Basin, including allocations of water for environmental purposes, became relevant for Queensland for the 2002 NCP assessment after evidence emerged in 2001 that the basin may be stressed. At the time of the 2002 assessment, the

Queensland Government had not finalised a water resource plan for the basin,³ but was discussing management options with the Commonwealth and New South Wales governments. The Queensland Government had also announced a six-month independent review of the science underpinning the assessment of the current and future ecological condition of the Lower Balonne River system and it had committed to act on the recommendations of this review.

The independent scientific review reported in January 2003,⁴ finding that the rivers and wetlands of the system are in a reasonable ecological condition but that less irrigation water had to be drawn from the system to avoid significant long-term degradation (Independent Scientific Review Panel 2003). In short, the review found that the system was not stressed but may be overallocated. In responding to the review, the Queensland Government committed to implement the recommendations of the review in full via a new Condamine–Balonne Basin water resource plan. The Government confirmed that it intended, consistent with the recommendations of the review, to develop management targets for the Lower Balonne in consultation with the community. Subject to advice from the community reference group, the Government expected to release the new draft Condamine–Balonne Basin water resource plan for public consideration in mid-2003 and to finalise the new plan by the end of 2003. The Government also expected to commence preparation of the resource operations plan (needed to implement the water resource plan) in mid-2003, with a view to finalising it during the first half of 2004.

The Council was satisfied that the Queensland Government's proposed actions met the State's remaining water reform obligations for 2002. The Council indicated that in future assessments it would monitor Queensland's progress in producing a new Condamine–Balonne Basin water resource plan and the associated resource operations plan, which are to be finalised by the 2004 NCP assessment. For the 2003 assessment, the Council indicated it would look for Queensland to have produced a new draft water resource plan, including:

- adoption in the draft water resource plan of outcomes and strategies consistent with the recommendations of the scientific review to ensure the delivery of adequate environmental flows within a reasonable time period;
- close consultation with the community and transparency in developing the plan, as required under the *Water Act 2000*; and

³ A satisfactory Condamine–Balonne Basin water resource plan is critical for setting Queensland's diversion limits under the Murray–Darling Basin cap and for end-of-valley flows for the Narran Lakes in northern New South Wales, which are a wetland of international importance.

⁴ The Queensland Government released the review report on 23 January 2003.

- a commitment by Queensland to the further research recommended by the scientific review, in particular to refine the environmental flow requirements.

Urban water pricing by the Townsville City Council

The CoAG water reform strategic framework required governments to adopt, by no later than 1998, a charging arrangement for water services comprising an access or connection charge and an additional charge to reflect use. Governments did not need to comply with this obligation if they could show that such a pricing arrangement would not be cost effective.

In a supplementary assessment in June 2000, the Council recommended the suspension of 5 per cent of Queensland's competition payments for 2000-01 because Townsville and two smaller local government water service providers had made insufficient progress towards pricing water on a consumption basis. The Council was particularly concerned about Townsville's approach. Townsville is one of the 18 largest Queensland local governments, for which the benefits from pricing reform — more economical water use and savings from deferred investments in water infrastructure — are likely to be greater. The competition payments suspension was lifted in January 2001 when Townsville agreed to bring forward its formal resolution of this matter to June 2001.

Townsville had not satisfactorily resolved this matter by the time of the 2001 NCP assessment, when the Council noted that Townsville had not introduced a two-part tariff for its residential consumers or undertaken to do so. Townsville was, however, employing a user pays approach for charging nonresidential customers. Townsville provided a brief report on the reasons for its approach to pricing water services to residents and undertook to form a committee to review the impacts of pricing changes. The Council was not satisfied, however, that Townsville had provided a sufficiently robust statement of reasons for not introducing a two-part tariff, or that the proposed review of pricing impacts constituted progress towards complying with the CoAG water pricing principles. The Council recommended a permanent reduction of A\$270 000 per year in Queensland's competition payments from 2001-02 until Townsville introduced consumption-based pricing or until there is satisfactory evidence showing that consumption-based pricing would not be cost effective.

Townsville commissioned a further report on the cost-effectiveness of introducing consumption-based pricing, providing the report to the Council in January 2002. This second study concluded that introducing a two-part tariff for residential customers would not provide a net benefit (MWA 2001). It found that the phased introduction of a two-part tariff over five years would cost between A\$1.45 million and A\$3.5 million depending on the treatment of meter upgrade costs. The study argued that there is little opportunity for Townsville to reduce the costs of supplying water because up to 95 per cent of costs are fixed and nonvolume related. The study also argued that there are public interest reasons for not introducing a two-part tariff for residents: the

impact on the corporate vision of 'Greening Townsville'; that reducing water use would increase water prices, given the high level of fixed costs; the need for further investigation of ways of mitigating expected impacts on customer groups; and the effect on the stability of the water business's revenue, given the level of the initial impact of the price increases on demand is unknown.

In the 2002 NCP assessment, the Council questioned the analysis supporting the findings of this second Townsville cost-effectiveness study, including whether:

- the estimated price increases overestimated the effect of introducing consumption-based prices because they included both the move to two-part tariffs and the move to full cost recovery;
- the estimated meter replacement costs and revenue gains accounted for meters needing to be replaced regardless of any decision to introduce consumption-based prices;
- the 'Greening Townsville' objective implied that any reduction in water consumption would mean that two-part tariffs should not be adopted; and
- the inability to identify cost savings from consumption-based pricing is the result of the premise that NQ Water (which supplies bulk water to the Townsville City Council) does not price on a volumetric basis.

In the 2002 NCP assessment, the Queensland Government agreed to ask its independent regulator, the Queensland Competition Authority (QCA), for advice on whether the approach in Townsville's second study met Queensland Government guidelines on the introduction of two-part tariffs and on the questions raised by the Council. While the Queensland Government's actions showed its commitment to resolving questions about Townsville's water prices, there had been little progress in the three years since the matter was first raised. Accordingly, the Council recommended continuing in 2002-03 the permanent reduction of A\$270 000 in Queensland's competition payments, but immediately lifting the 2002-03 penalty if the QCA found the second Townsville cost-effectiveness study to be robust (NCC 2002).

The QCA reported in April 2003, focusing on the rigour of the arguments for nonimplementation of consumption-based pricing in the Townsville cost-effectiveness study and in an addendum (July 2002) that further analysed the demand impacts of a two-part tariff. The QCA also considered additional information that Townsville provided in January 2003. The QCA concluded that the Townsville study did not accord with Queensland's 'Guidelines for Evaluation of Introducing and Improving Two-Part Tariffs', but that the July 2002 addendum and the January 2003 additional information provided a better analysis of the impact of a two-part tariff on water demand, and largely addressed the main shortcomings of the Townsville study.

Nevertheless, the QCA considered that the report and addendum underestimated the reductions in costs from reduced purchases of bulk water, and therefore underestimated the cost savings potentially available to

Townsville (QCA 2003, p. 21). On the basis of likely savings from reduced bulk water purchases, the QCA found that the introduction of a two-part tariff would 'break even' if the demand for bulk water fell by 6.3 per cent. Comparing this to the likely achievable demand reduction for the detached houses sector of about 5 per cent, the QCA agreed there would be no net financial benefit to Townsville from introducing a two-part tariff. The QCA noted, however, that it would be prudent for the Townsville City Council to keep the appropriateness of a two-part tariff under review.

The QCA found that the Townsville study incorrectly combined the effect of implementing both a two part tariff and full cost pricing and did not make the relative impacts of each clear, but that these shortcomings were addressed in the later material. The QCA accepted there are likely to be significant net benefits in terms of tourism, liveability and quality of life from the 'without two-part tariff' case. It considered the benefits of Greening Townsville, while nonquantifiable, could be compared to the potential financial benefits of implementing a two-part tariff. The QCA also noted that practices other than pricing can influence water use and considered that Townsville was implementing comprehensive water use efficiency measures. Overall, the QCA was satisfied that Townsville City Council's decision not to implement a two-part tariff is consistent with CoAG water reform objectives (QCA 2003, p. 27).

The Council considered that the QCA's analysis and findings provided sufficiently robust support for the Townsville case and concluded, therefore, that Queensland had met its NCP obligations on consumption-based water pricing relating to Townsville. The Council recommended that the competition payments penalty imposed on Queensland for 2002-03 be lifted and that the Federal Treasurer reimburse all 2002-03 payments withheld. The Council also noted comments by the QCA recommending that Townsville keep under review the case for introducing consumption-based pricing (NCC 2003a).

Western Australia

In the 2002 NCP assessment, the Council found that Western Australia had not met certain water reform obligations relating to the NWQMS. In discussions at the time of the assessment, Western Australia agreed to address its NWQMS obligations via consultative meetings with the Council in December 2002 and March 2003, such that it would have appropriate arrangements in place by the 2003 NCP assessment. It was agreed that Western Australia would:

- finalise the State Water Quality Management Strategy implementation plan, which has the objective of ensuring integrated and coordinated action across Government agencies and with stakeholders;

- finalise specific State-based implementation plans to reflect the national strategy guidelines for freshwater and marine water quality (national guideline 4), drinking water quality (national guidelines 5 and 6), and water quality monitoring and reporting (national guideline 7); and
- achieve demonstrable progress in implementing NWQMS guidelines 8 and 11–15, including draft State implementation plans for these national guidelines where possible.

At the second meeting on 31 March 2003, Western Australia noted the following progress and anticipated outcomes in relation to NWQMS implementation.

- It had completed a final draft of the State Water Quality Management Strategy implementation plan and was preparing it for publication by 30 June 2003.
- It had made progress in implementing the Australian Drinking Water Guidelines, including:
 - verifying in December 2002 that the Perth metropolitan water supply met the guidelines, and expecting to have adopted the guidelines across the State by the end of 2005;
 - developing a memorandum of understanding between the Department of Health and the Water Corporation;
 - obtaining Cabinet approval for public release of a Statement of Planning Policy for Public Drinking Water Sources by June 2003;
 - preparing a recreation policy for Crown land priority 1 drinking water areas for Government endorsement and release; and
 - releasing a manual on land use planning and drinking water protection.
- It reported its progress in implementing NWQMS guidelines 8 and 11–15, including:
 - preparing a position paper to guide the development of an implementation plan for groundwater protection (national guideline 8);
 - scheduling work on developing a guideline on effluent management (national guideline 11) for 2003-04;
 - having guidelines in place regarding the handling and disposal of trade and industrial waste (national guideline 12);
 - releasing the biosolids guidelines in February 2002, outlining the State's current requirements (national guideline 13);

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- releasing the State Water Strategy in February 2003, which included the proposed development of State guidelines on reclaimed water (national guideline 14); and
 - having in place an implementation guide on sewerage system overflows (national guideline 15).

Western Australia was still to release guidelines on freshwater and marine quality — one of the requirements of the NWQMS. The Government considered it important to first ensure consistency between the approaches being taken by the Environmental Protection Authority and the Natural Resource Management Council (both of which have responsibilities in this area) before finalising and releasing the guidelines.

Under the assessment timetable determined by CoAG, governments needed to be satisfactorily progressing their NWQMS obligations by 2003. The Council noted that Western Australia had made some progress, but reiterated the need for the State to have finalised and released its major strategy documents by the 2003 NCP assessment. Acknowledging Western Australia's progress, the Council considered that a reduction in competition payments for 2002-03 was not warranted. The Council advised Western Australia, however, that it would regard any further slippage against the CoAG timetable unfavourably in the 2003 NCP assessment.

Tasmania

The Council conducted a supplementary assessment in November 2002 on the progress of the State's water authorities in applying full cost recovery principles to urban water pricing and in applying appropriate asset valuation principles. The Council found that Tasmania had met the CoAG obligation in relation to the asset valuation method applied by urban water and wastewater providers. Although most providers do not strictly adhere to the deprival value method, the Council agreed that the application of the accounting standard AASB 1041 (using fair value for specialised assets) achieves a similar outcome. The end result is the application of the depreciated replacement cost method or the depreciated optimised replacement cost method.

The seven local governments previously found not to be complying with full cost recovery commitments each committed to a strategy for achieving full cost recovery, which will see them fully recovering costs by the 2005 NCP assessment. Tasmania reported that the smaller local governments, with relatively limited access to resources, tended to have less comprehensive and more varied approaches. It undertook to provide additional educational support to local governments to assist them meet the CoAG water reform obligations. Specifically, Tasmania committed to:

- developing a water reform education support program for local governments, setting out the scope, objectives, methods and timing;
- revising and issuing guidelines and policy statements, providing educational material, and targeting consultation and correspondence;
- conducting regional seminars and workshops for practitioners; and
- establishing a web site that draws together government water-related information.

The Council was satisfied that Tasmania's proposals in the supplementary assessment met obligations for 2002, but noted that the Tasmanian Government needed to implement the measures that it proposed. The Council indicated that in the 2003 NCP assessment it would consider Tasmania's implementation of its undertakings on full cost recovery, asset valuation and education to support the reform process.

2 New South Wales

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for New South Wales in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing; the establishment of the State's water access licence and registry system; the provision of water to the environment for stressed and overallocated river systems; intrastate water trading arrangements; the remaining institutional reform requirements (arrangements for the separation of State Water and the Department of Infrastructure, Planning and Natural Resources on regulatory decision making and integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. The National Competition Council assessed New South Wales's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by New South Wales towards meeting water reform obligations on rural water pricing and implementing water entitlements, which will be assessed in the 2004 NCP assessment.

2.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.

- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement, clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Four businesses provide metropolitan water and wastewater services in New South Wales: the Sydney Water Corporation, the Hunter Water Corporation, and the water and wastewater businesses of the Gosford City Council and the Wyong Shire Council. The Independent Pricing and Regulatory Tribunal (IPART) regulates the prices of their services. Prices are set at a level that recovers operational, maintenance and administration costs, provides for future asset refurbishment and replacement, provides a dividend to the government owner and earns a rate of return on the value of assets. The IPART price determinations also incorporate taxes or tax equivalents, except for the businesses of the Gosford City Council and the Wyong Shire Council.

In previous NCP assessments the Council found that the New South Wales approach met CoAG water and wastewater pricing requirements, although it noted that the water and wastewater businesses operated by Gosford and Wyong paid neither taxes nor tax equivalents. For this 2003 NCP assessment, therefore, the Council focused on the extent to which the larger providers of nonmetropolitan urban water and wastewater services (those providers with more than 1000 property connections) are fully recovering costs. The Council also reported on the progress of rural water authorities towards full cost recovery against the 2004 assessment timetable set by CoAG.

Nonmetropolitan urban water and wastewater services

Assessment issue: New South Wales is to demonstrate that all larger providers of nonmetropolitan urban water and wastewater services (those providers with more than 1000 connections) are achieving full cost recovery, in accord with the CoAG pricing principles. In the 2002 NCP assessment, the Council found that some local government water and wastewater service providers with more than 1000 connections did not achieve full cost recovery.

Next full assessment: The Council will assess New South Wales's implementation of the CoAG pricing obligations for urban water and wastewater service providers again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

The New South Wales Government reported that 64 of 87 providers of nonmetropolitan urban water services with more than 1000 property connections were fully recovering costs for water supply in 2001-02. Most of the 23 providers with more than 1000 connections that were not fully recovering costs were smaller providers: 16 had between 1001 and 2000 connections; five had between 2001 and 10 000 connections; and two had over 10 000 connections. The two larger providers only marginally failed to achieve full cost recovery, each having an economic real rate of return of - 0.1 per cent. The local water utilities that did not achieve full cost recovery in 2001-02 represented about 3 per cent of the State's total property connections. New South Wales advised that the severity of the current drought has been a significant impediment to the achievement of full cost recovery.

The New South Wales Government advised in previous NCP assessments that IPART's 1996 principles for determining water supply and sewerage charges by local governments are relevant to utilities' achievement of the CoAG pricing obligations. IPART prepared the 1996 principles to assist local governments comply with CoAG water reform requirements, including full cost recovery and cost attribution, the implementation of a pay-for-use tariff for water supply where cost-effective, the removal of any land value component from annual charges for water supply and sewerage, and the explicit reporting of cross-subsidies.

The Government has taken additional steps since the 2002 NCP assessment to encourage best practice pricing (including full cost recovery, consumption-based pricing and trade waste charging) by local water utilities. Between October 2002 and February 2003, the Government conducted seven regional two-day workshops for local water utilities on best practice water supply, sewerage and trade waste pricing, and water supply, sewerage and stormwater developer charges. These workshops were attended by 305 delegates from 97 local water utilities.

In February 2003, the Government issued the Water Supply, Sewerage and Trade Waste Pricing Guidelines and pricing software to all local water utilities. These guidelines are intended to explain the benefits of best practice pricing for water utilities and their customers, and the environment, and to

provide utilities with the tools to move to full cost recovery and consumption-based pricing. The aim of the guidelines is to ensure all providers of nonmetropolitan urban water services that are not pricing on a best practice basis achieve full cost recovery and set water service prices on a consumption basis by July 2004. The Director-General of the Ministry of Energy and Water Utilities reiterated the importance of this in a circular in June 2003. The Ministry will work with providers of nonmetropolitan urban services that are still to apply best practice pricing principles over the next twelve months to assist them with water and wastewater pricing.

The February 2003 pricing guidelines require all utilities to prepare strategic business plans, including a 30-year financial plan that establishes an appropriate level of annual income from water, wastewater and trade waste charges. Local utilities have access to the NSW Financial Planning Model to assist their financial planning. Planning involves each utility negotiating the level of service provision with the affected community, and ensuring income from charges can meet projected recurrent costs (operations, maintenance and administration), the projected capital cost of new and replacement infrastructure, and any dividend and tax equivalent payments. By this 2003 NCP assessment, over 80 per cent of utilities had prepared at least a draft strategic business plan.

The New South Wales Government advised that it had adopted several other measures aimed at encouraging local water utilities to use best practice pricing.

- Best practice pricing is now a prerequisite for eligibility for any Country Towns Water Supply and Sewerage Program grants towards the capital cost of backlog infrastructure.
- The *Local Government (National Competition Policy Review) Act 2003* requires local water utilities to demonstrate compliance with best practice management guidelines before they pay dividends to general local government revenue. The best practice management guidelines include strategic business planning, integrated water cycle management, demand management, drought management and annual performance reporting.
- From 2003-04, best practice pricing by water supply and sewerage services is a condition for local governments applying for special variations to general income. On reaching its general income cap, a local government may apply for permission to levy additional rates for specific projects but may do so only if it demonstrates that its water utility is applying best practice pricing principles. The Department of Local Government is examining whether to extend this condition to applications for local government borrowings.

Discussion and assessment

In 2001-02, there were several local urban water and wastewater utilities with more than 1000 connections that did not achieve full cost recovery. These utilities represented only about 3 per cent of property connections in the State, however. Given that New South Wales has actively encouraged the achievement of full cost recovery since 2001-02, it is likely that the compliance at 30 June 2003 is greater than in 2001-02.

New South Wales's February 2003 best practice pricing guidelines are likely to help remaining local water utilities move to full cost recovery pricing. The Ministry of Energy and Utilities is finalising the guidelines for the best practice management of water supply and sewerage services referenced in the Local Government (National Competition Policy Review) Act. Further, the New South Wales Government increased support to local water utilities, and is introducing greater incentives for utilities to achieve full cost recovery. Eligibility for infrastructure grants, local governments' ability to extract a dividend from their utilities, and applications for special variations to general income will depend on local government business owners complying with the Government's best practice management and pricing guidelines. New South Wales expects that the twelve months from July 2003 will see most local water utilities achieve compliance with full cost recovery obligations. The Council will look in the 2004 NCP assessment for New South Wales to report on progress towards full cost recovery by local water utilities that are not yet recovering costs.

Rural water pricing: progress report

Progress report: New South Wales is to demonstrate progress towards achieving full cost recovery for irrigation districts. In the 2002 NCP assessment, the Council found many rural schemes were not achieving full cost recovery, but noted that the New South Wales approach was likely to continue to deliver improvements within an appropriate timeframe. The Council expected New South Wales to continue to pursue rural full cost recovery consistent with achieving rural full cost recovery by 2004, when the Council will assess compliance with this element of the CoAG water reform package.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

In December 2001, IPART announced caps on annual price rises for bulk water supplied by the Government-owned business bulk water business, State Water. The tribunal capped annual price increases at 15 per cent plus the consumer price index for bulk water from regulated rivers, and 20 per cent plus the consumer price index for water from unregulated rivers and groundwater. This price structure will operate from 1 October 2001 until 30 June 2004. Because of variation among rivers in the current level of cost recovery, IPART estimated that most users (particularly on regulated rivers), would face real price increases of 8.5 per cent or less for full cost recovery to

be achieved. The tribunal considered that greater price increases for users of water from unregulated rivers and groundwater are appropriate because prices and the level of cost recovery are much lower for these systems. IPART estimated that the proposed maximum prices would increase the proportion of recovered costs from 61 per cent in 2000-01 to 74 per cent in 2003-04.

In the 2002 NCP assessment, the Council noted that when this figure is disaggregated by water source the regulated rivers would recover 94 per cent of costs, the unregulated rivers would recover 31 per cent of costs, and groundwater would recover 32 per cent of costs from charges in the final year of the price period. The Council also noted IPART's advice that the cost base is likely to increase over time, because of the increasing need to mitigate environmental impacts. New South Wales considered that this variability makes it difficult to determine an end date for achieving rural full cost recovery.

New South Wales did not report on its progress towards rural full cost recovery for this 2003 NCP assessment. The Council will assess progress against CoAG reform obligations in 2004, where it will look for New South Wales to have made substantial advances towards rural full cost recovery particularly for unregulated rivers and groundwater sources.

River Murray Water cost allocation: progress report

Progress report: The Murray–River Basin states have different policies on passing on River Murray Water costs to water users. All Murray–Darling Basin jurisdictions are asked to outline their policy approach on this issue for the 2003 NCP assessment.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The Murray–River Basin States have different policies on passing on River Murray Water costs to water users. New South Wales and Victoria pass on to irrigators River Murray Water charges for bulk water, but apply different charging arrangements.¹ Charges are part fixed and part variable in New South Wales and mostly fixed in Victoria. South Australia does not pass on River Murray Water costs to irrigators. A consultancy study found that the expansion of permanent interstate trade is likely to be impeded by these differential charging arrangements for bulk water (Scrivco and Hassall and Associates 2003).

¹ River Murray Water recovers the full cost of constructing, operating, maintaining and renewing assets from the Murray–Darling Basin Commission's member governments. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the States, with the Commonwealth Government paying the remaining 25 per cent. The States meet the full cost of the operation and maintenance of assets.

The Murray–Darling Basin Commission’s independent audit of cost sharing arrangements considered that the following actions are necessary to provide clear price signals to water users.

- All River Murray Water costs need to be recognised and all subsidies and community service obligations (CSOs) need to be disclosed.
- Financial and pricing information for River Murray Water should be publicly available.
- States should disclose the level of subsidy and/or CSO per megalitre provided to each water business that receives bulk water from River Murray Water. Disclosure of the level of subsidy is particularly important because the Murray–Darling Basin States have different policies on passing on River Murray Water costs to water users.

IPART’s 2001 bulk water prices determination provides information on the approach in New South Wales. In the prices determination, IPART allocated:

- all costs of water delivery to the Murray Valley;
- half of the Murray–Darling Basin Commission’s water resource management costs to the Murray Valley (93 per cent), the Murrumbidgee Valley (5 per cent) and other inland valleys; and
- the other half of the Murray–Darling Basin Commission’s water resource management costs to the Murray and Murrumbidgee valleys based on estimates of long-term extraction costs.

For each year of the current price determination, IPART then determines the shares of River Murray Water costs that should be recovered from users and from the New South Wales Government. IPART recognises that the costs incurred are not related exclusively to bulk water delivery. Some of these costs, for example, are incurred to meet other needs, such as environmental protection, flood mitigation and navigation. Some current and future costs also relate to past practices and activities.

IPART noted that, in the course of this review, much information had been gathered on the nature of the Murray–Darling Basin Commission’s costs and on how the State’s share of these costs is allocated to users. Given this new information, IPART asked the Department of Infrastructure, Planning and Natural Resources (which incorporates the former Department of Land and Water Conservation) to develop a robust and transparent method for allocating the Murray–Darling Basin Commission’s water resource management costs to users for the next price determination, which is due to commence on 1 July 2004.

Asset valuation

Assessment issue: New South Wales is to determine water and wastewater infrastructure asset values for price-setting purposes using the deprival method unless an alternative approach can be justified. In the 2002 NCP assessment, the asset valuation method being applied in New South Wales for price setting by providers of nonmetropolitan urban water and wastewater services was not clear. In particular, the Council had no information on the optimisation of asset values (that is, whether current values are based on modern engineering equivalents). The Council also had insufficient information on the mechanisms that local governments were using to provide for the renewal of assets. Finally, the available information on pricing by providers of nonmetropolitan urban services did not transparently report the asset values used for price setting.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a) and (b); CoAG pricing principles

Local water and wastewater utilities in New South Wales value water supply and sewerage assets on the basis of depreciated deprival value. Unless better data are available, service providers must value and depreciate water supply, sewerage and stormwater assets with reference to a schedule that lists the costs of modern engineering equivalents and indicates the typical economic life of assets. The New South Wales Government compiled a reference rates manual for local water utilities.

The February 2003 pricing guidelines require all utilities to prepare strategic business plans and a 30-year financial plan that establishes an appropriate level of income from water supply, sewerage and trade waste charges to demonstrate the long-term financial sustainability of each business. New South Wales also annually reports the economic real rate of return for each utility and the current replacement cost of each utility's assets for both water supply and sewerage in the NSW Water Supply and Sewerage Performance Monitoring Report.

Discussion and assessment

The optimised deprival value method that CoAG supports for valuing assets for price setting applies the following rules.

- If the asset would be replaced (meaning that replacement is economically viable), then it should be valued at a replacement cost that is suitably written down to account for the service potential already used and that is modified for technological and demand changes.
- If the asset would not be replaced — and if it would have been sold had the entity not been deprived of it — then the market selling value should be used.

- If the asset would not be replaced — and if it would have been retained and used until the end of its useful life had the entity not been deprived of it — then the asset should be valued at the net present value of the future stream of services that would have been forthcoming had it been retained.

Valuing assets at the written-down current cost — the approach taken by local water and wastewater utilities — is consistent with the CoAG pricing principles where those assets are to be replaced. Further, this approach is likely to enable the entity to maintain its service potential.

Valuing water and wastewater assets at the written-down current cost leads to efficient resource allocation decisions. The written-down current cost provides relevant information about both the current cost of providing the services and the current value of the resources deployed. Use of the State assets reference manual (which lists the costs of modern engineering equivalents and indicates the typical economic life of assets) provides for asset optimisation and appropriate asset consumption.

As noted above, the February 2003 pricing guidelines require all utilities to prepare strategic business plans and a 30-year financial plan that establishes an appropriate level of income from water supply, sewerage and trade waste charges to demonstrate the long-term financial sustainability of each business. The plan takes account of all projected revenue and expenditure over the next 30 years. In addition, New South Wales annually reports the economic real rate of return for each utility and the current replacement cost of each utility's assets for both water supply and sewerage in the NSW Water Supply and Sewerage Performance Monitoring Report, which is published on the web site of the Ministry for Energy and Utilities (energy.nsw.gov.au).

Externalities

Assessment issue: New South Wales is transparently to show how externalities (defined by CoAG for water pricing as the environmental and natural resource management costs attributable to and incurred by water businesses) are incorporated in water and wastewater prices. In the 2002 NCP assessment, the Council found that the externality component of both water and wastewater prices in New South Wales was not sufficiently transparent.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; expert group report on externalities

Most environmental requirements on water businesses are imposed through environmental regulation or economic incentives such as pollution charges. The Environment Protection Authority issues wastewater system licences, for example, which stipulate the standard of discharge from treatment plants to the environment. For a number of years, the licences for treatment plants have required pollution reduction programs.

Water management licences issued by the Department of Infrastructure, Planning and Natural Resources cover environmental externalities associated with water access. The operating licences of the water utilities set out customer service delivery standards, customer protection requirements and broad environmental requirements relating to demand management and catchment management.

IPART incorporates externality costs in prices for the four providers of metropolitan water services and the Sydney Catchment Authority. At each pricing determination, IPART reviews the business's capital and operating expenditure over the previous price path period and its proposed expenditures for the new price period. IPART requires the businesses to provide details of their capital expenditure disaggregated to show expenditure to accommodate growth, expenditure for asset renewal and expenditure to meet regulatory requirements (such as expenditure to meet the requirements imposed by the Environment Protection Authority and the Department of Infrastructure, Planning and Natural Resources). IPART also requires information on the drivers of changes in operating expenditure, particularly those associated with meeting regulatory standards (such as the costs of operating wastewater treatment plants). IPART allows the efficient cost of a justified and deliverable capital expenditure program to meet environmental standards. Where these conditions are met, it allows the capital costs of major environmental projects such as an upgrade of wastewater treatment plants.

Operating costs relating to addressing environmental impacts are less clearly identifiable than capital costs. The operating costs of wastewater treatment plants, for example, are part of the core business of a water agency — namely, treating raw sewage to an acceptable standard before discharging it into the environment. Operating costs are likely to increase where, for example, a wastewater treatment plant is upgraded from primary to tertiary treatment.

Discussion and assessment

IPART's general approach is to incorporate externality expenditures in its pricing determinations where it considers that such expenditure is efficient and incurred by the service provider. The price of bulk water provided by the Sydney Catchment Authority to the Sydney Water Corporation includes, for example, a component for catchment management and remedial work.

The extent to which water and wastewater prices include externality costs is linked to the standards set by regulators. The Hunter Water Corporation, for example, incurred higher operating costs for new wastewater treatment facilities to meet new Environment Protection Authority standards. The older wastewater plants were simple gravity-fed trickling filter processes with limited pumping (and energy use), aeration and chemical requirements. Modern wastewater plants require significant energy and chemical inputs, and incur other costs such as the costs of transporting biosolids off site for recycling and/or disposal. Addressing environmental externalities via

regulatory and standard setting, where the cost to service providers of doing so is passed on through prices, has the effect of ‘internalising’ externalities.

The Council acknowledges that the regulated New South Wales water and sewerage prices incorporate externality costs incurred by the four providers of metropolitan urban water services and the Sydney Catchment Authority. The extent to which externality costs are incorporated is not, however, apparent from the published information on the price paths. Pricing arrangements for the nonmetropolitan urban service providers incorporate externality costs, but again there is insufficient information to determine the extent of this.

Taxes and tax equivalent regimes

Assessment issue: New South Wales is to apply tax and/or tax equivalent regimes for metropolitan and regional urban water and wastewater services. In the 2002 NCP assessment, New South Wales advised that statutory requirements for ringfencing prevent the direct implementation of tax equivalent regimes and shareholder dividend payments regimes by local government water service providers.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; Expert group report on tax equivalent regimes

The water and wastewater prices of two of the four providers of metropolitan water services — the Sydney Water Corporation and the Hunter Water Corporation — include taxes or tax equivalents via the pricing determinations by IPART. The 2003 price determinations for the Gosford City Council and the Wyong Shire Council did not include tax equivalents.

The *Local Government Amendment (National Competition Policy Review) Act 2003* references best practice management guidelines that require all local water utilities to make annual tax equivalent payments. The February 2003 best practice pricing guidelines for local water utilities make clear that prices should incorporate annual tax equivalent payments.

Discussion and assessment

The Local Government Amendment (National Competition Policy Review) Act removed the previous constraint on the incorporation of taxes and tax equivalents in local utility water and wastewater pricing. The arrangements in New South Wales for applying taxes and tax equivalents and recovering these in the prices of water and wastewater services are therefore consistent with CoAG water pricing principles.

Dividends

Assessment issue: Dividends, where required, are to be set at a level that reflects commercial realities and simulates a competitive market outcome. In the 2001 NCP assessment, the Council noted dividend payments by the Sydney Water Corporation and the Hunter Water Corporation that were less than 100 per cent of pre-tax earnings. New South Wales provided no information on the distribution of dividends by local government water utilities.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The New South Wales Government expects Government-owned businesses to make dividend payments that are comparable to alternative commercial investments of similar risk. The Government adopts the private sector definition of dividends, as provided by the *Corporations Act 2001* (Cwlth), whereby a dividend may be paid out of only the profits of a company.

Dividend targets and actual payments are negotiated between the Government (as the shareholder) and the board/management of each business, with reference to the post-tax profits of the business. This approach recognises Government-owned businesses' payment of income tax equivalents as a business expense. Government businesses pay a dividend if cash remains after allowing for working capital, the funding of acceptable investments and an appropriate contingency.

The Sydney Water Corporation, the Hunter Water Corporation and the Sydney Catchment Authority pay dividends. The water and wastewater businesses of the Gosford City Council and the Wyong Shire Council do not pay dividends. New South Wales indicated that information on dividend payments by the Government-owned water businesses is publicly available.

- The Sydney Water Corporation provided a (whole-of-business) dividend of A\$53.4 million (or 60 per cent of net profit after tax) in 2001-02 and A\$103.7 million (or 32.7 per cent of net profit after tax) in 2000-01 (WSAA 2003).
- The Sydney Catchment Authority provided a (whole-of-business) dividend of A\$29.6 million (or 114.9 per cent of net profit after tax) in 2001-02 and A\$10.6 million (or 56.8 per cent of net profit after tax) in 2000-01 (WSAA 2003).
- The Hunter Water Corporation provided a (whole-of-business) dividend of A\$31.1 million (or 99.2 per cent of net profit after tax) in 2001-02 and A\$30 million (or 69.5 per cent of net profit after tax) in 2000-01 (WSAA 2003).

The Local Government Amendment (National Competition Policy Review) Act provides for local water utilities to pay dividends from their water supply and sewerage businesses. Any dividend payment may be made only from the local water utility's profit. Payment of dividends depends on local government owners complying with the best practice management guidelines that are referenced in the Act. New South Wales advised that these guidelines impose requirements to:

- complete a strategic business plan with a 30-year financial plan;
- adopt best practice water supply, sewerage and trade waste pricing;
- adopt best practice water supply and sewerage developer charges;
- adopt best practice trade waste management; and
- undertake annual performance reporting and monitoring.

Discussion and assessment

The Council considers that a reasonable interpretation of the level of dividend to be paid according with the CoAG requirement for 'commercial reality' is the corporations law requirement that dividends be paid only out of profits (the current year's profit as well as accumulated retained profits). This approach provides some safeguard against water and wastewater service providers having insufficient financial resources to properly conduct their businesses. It is also consistent with the competitive neutrality obligations of the intergovernmental Competition Principles Agreement, which require government owned businesses to face the same costs and pressures as private sector businesses.

The approach adopted by New South Wales requires government businesses to pay dividends only out of profits. This approach accords with the CoAG pricing principles. The 2001-02 dividend distribution by the Sydney Catchment Authority exceeded net after tax profit earned in 2001-02, but was drawn from accumulated profits and met the corporations law stricture.

As discussed in the section above on full cost recovery, the Local Government Amendment (National Competition Policy Review) Act contains a strong incentive for local water utilities to adopt the Government's best practice management and best practice pricing guidelines. Local governments' capacity to require their utilities to provide a dividend will depend on their compliance with the management and pricing guidelines.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for investments in costly water infrastructure. Cross-subsidies should ideally be removed where they are inconsistent with efficient service provision and use. Any remaining cross-subsidies should be transparently reported. In the 2002 NCP assessment, the Council found that several water businesses with more than 1000 connections were yet to adopt consumption-based pricing regimes or to justify using a different approach. In particular, some businesses were setting prices on the basis of property values and/or were providing free water allowances, which had the potential to result in cross-subsidies between different customer categories and/or different service types. New South Wales had no mechanism for identifying, measuring and reporting potential cross-subsidies.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)-(c)

In May 2003, IPART set a price path for the Sydney Water Corporation extending to 30 June 2005. The price path will remove all of the corporation's remaining property-based charges. The three other IPART-regulated providers of metropolitan urban water services (the Hunter Water Corporation, the Gosford City Council and the Wyong Shire Council) charge for services via consumption-based tariffs.

At August 2003, 61 of 87 local water utilities with more than 1000 connections were pricing their water services on a consumption basis. Five local water utilities with more than 1000 connections indicated that they will adopt consumption-based pricing by June 2004, and New South Wales expects other local water utilities to resolve to implement consumption-based pricing from 30 June 2004. Of the 26 utilities that were not basing water prices on use, some two thirds employed an access charge for water supply and provided a free water allowance (up to 400 kilolitres annually). Eight of the 26 reduced their free water allowances over the period 2001-02 to 2002-03. As at May 2003, New South Wales reported 22 local water utilities as employing liquid trade waste charges.

The combined property connections of the local utilities that do not employ use-based water prices represent about 3 per cent of connections in New South Wales. All but one of these utilities are located west of the Great Dividing Range, mostly supplying towns that are experiencing little economic growth and that are significantly affected by the current drought. The utilities have focused on maintaining security of supply under existing pricing structures.

New South Wales pointed in previous assessments to the importance of the 1996 IPART pricing principles for local water utilities in setting the direction of the utilities' pricing behaviour. The IPART guidelines contain the following observations and recommendations on use-based water pricing.

- A simple two-part tariff, with a single use component based on the marginal cost of provision, is preferred.
- Water charges that have a prepaid water allowance contain undesirable elements of cross-subsidy, which mean that small users are helping to pay for the costs of water used by larger volume consumers. These cross-subsidies are far from transparent and are unfair and undesirable.
- Some small systems may gain little in efficiency terms from moving to a 'user pays' system. Such systems include those in which extractive demands are low compared with water availability, those in which the marginal cost of supply is low, and those in which customers are unmetered and metering costs are high. Few water supply systems are likely to have these characteristics however.
- The net benefit of volumetric charging for domestic sewage management is yet to be demonstrated in most circumstances.
- The 'free water allowance' provided by many local governments is considerably more than the minimum requirement that possibly constitutes a social good. Individual consumers of water should bear the full cost of service provision when the full benefits of consumption accrue to them alone. (IPART cited 15 kilolitres per person per year and 200 kilolitres per domestic connection per year as examples of the levels at which discretionary use may begin.)
- Subsidised water consumption reduces the incentive to explore options such as water reuse, use of grey water, or the designing of parks and gardens to minimise water use.

As noted in the discussion on full cost recovery, the New South Wales Government issued the Water Supply, Sewerage and Trade Waste Pricing Guidelines and supporting software in February 2003. New South Wales considers that the guidelines comply with the CoAG strategic framework for water reform, the CoAG pricing principles, and IPART's pricing guidelines for local water authorities. The February 2003 guidelines explain the rationale for moving to consumption-based water tariff and trade waste arrangements and offer support material to guide local water utilities. The guidelines also indicate that New South Wales requires all local water utilities providing nonmetropolitan urban water services to disclose cross-subsidies in their annual financial statements and in their development servicing plans.

The guidelines set the objective of encouraging local water utilities that were not implementing best practice water supply, sewerage and liquid trade waste pricing at June 2003 to move to best practice pricing by June 2004. Best practice pricing will be a prerequisite for eligibility for the Government's Country Towns Water Supply and Sewerage Program grants towards the capital cost of backlog infrastructure. It will also be a prerequisite for the payment of a dividend by the water supply or sewerage business to the local government owner.

Regarding trade waste, the best practice guidelines state that each local water utility responsible for sewerage should levy appropriate trade waste fees and charges for all its liquid trade waste dischargers as part of its next annual management plan. The charges proposed are based on the IPART determination for 2002-03 charges for the Sydney Water Corporation and the Hunter Water Corporation.

Discussion and assessment

The majority of consumers of water and wastewater services face consumption-based prices in New South Wales — 61 of 87 providers of nonmetropolitan urban water services with more than 1000 property connections (representing 97 per cent of properties serviced by utilities with 1000 plus connections) adopted consumption-based pricing and a further five are considering adopting a use-based approach during 2003-04. All except one of the local water utilities that are yet to introduce consumption-based pricing are smaller entities servicing areas west of the Great Dividing Range that are significantly affected by the drought. The best practice pricing guidelines issued by the New South Wales Government in February 2003 should help remaining local water utilities move to consumption-based pricing.

The remaining availability of relatively high free water allowances may undermine use-based pricing objectives. While the Council acknowledges that an access charge with a low free water allowance/excess may approximate consumption-based charging (where, for example, the free water allowance provides water sufficient only to meet public health requirements, and where an appropriate consumption fee is charged for discretionary uses above the free allowance), many of the 26 New South Wales water utilities that provide a free water allowance set the allowance above annual household consumption and well above what would be necessary to meet public health requirements.²

Keeping in mind the relatively small proportion of the State's property connections that are not facing use-based prices for water and the actions taken by the New South Wales Government to assist the implementation of use-based pricing, the Council considers that New South Wales satisfactorily progressed its consumption-based pricing obligations for this 2003 NCP assessment. There are, nevertheless, several smaller local government water service providers that are yet to set water prices on a consumption basis. The Council will consider New South Wales's progress with the implementation of consumption-based pricing by these water service providers again in the 2004 NCP assessment.

² Average annual water consumption by households in 1999-2000 was 220 kilolitres.

Community service obligations

Assessment issue: New South Wales is to transparently report the size and nature of community service obligations (CSOs) provided by providers of urban water and wastewater services. In the 1999 NCP assessment, the Council concluded that New South Wales's delivery of metropolitan and nonmetropolitan urban CSOs was consistent with CoAG obligations.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(ii)

Under the New South Wales Government's social policy program, CSOs are defined as noncommercial activities that are pursuant to a Government directive, have a clear social benefit and are funded from the State Budget. Where the Government requires service providers to provide services to consumers at less than the full cost of the service, this discount must be disclosed and made transparent. Ideally, the service should be funded as a CSO, with funding equivalent to the difference between the discounted charge paid by consumers and the full charge of the service.

The providers of metropolitan urban water services receive CSO payments from the State Budget, primarily pensioner rebates and the exemption of certain property categories having to pay access charges. The Local Government Act requires local governments to reduce water supply and sewerage charges for eligible pensioners by 50 per cent, up to a maximum reduction of \$87.50 per year for each service. The Department of Local Government then reimburses a local government for 55 per cent of the pensioner rebate provided. The New South Wales Government also provides financial assistance to local governments under its Country Towns Water and Sewerage Program towards the capital cost of backlog works required to meet public health, environmental standards and reasonable levels of service for current populations.. The local governments are responsible for meeting the full cost of works to meet growth needs and renewals.

The water supply, sewerage and trade waste pricing guidelines state that a decision on whether to provide CSOs to nonrateable properties is a matter for each local government to determine. The guidelines indicate that over 70 per cent of local government water utilities provide no water supply CSOs to nonrateable properties. Where CSOs are proposed, the guidelines expect only a reduction in the water supply access charge. They advocate charging for water used by nonrateable properties on the same basis as for nonresidential customers to provide an appropriate pricing signal and encourage efficient water use.

Assessment

The approach to evaluating and reporting CSOs in New South Wales is consistent with the CoAG water pricing principles.

2.2 Water management: water rights and provisions to the environment

Establishment of water rights systems

Assessment issue: Governments are to implement comprehensive systems of water allocations or entitlements backed by separation from land title and clear specification in terms of ownership, volume, reliability, transferability and, if appropriate, quality.

At the time of the 2002 NCP assessment, New South Wales was converting its system of five-year licences under the *Water Act 1912* to a new system of 15-year access licences under the *Water Management Act 2000*. It was also working on a system for registering water entitlements.

For the 2003 NCP assessment, the Council indicated New South Wales needed to have established: the new access licence system; Regulations under the Water Management Act defining the arrangements for licence renewal; and the new registry system.

Next full assessment: The Council will assess the Government's implementation of the new access licensing system and registry in a supplementary assessment in February 2004.

Reference: CoAG water reform agreement, clause 4(a)

At the time of the 2002 NCP assessment, New South Wales was converting its system of five-year licences under the *Water Act 1912* to a new system of 15-year access licences³ under the *Water Management Act 2000*. It was also working on a system for registering water entitlements.

Under the Water Management Act, all water extractions are required to be licensed.⁴ Licences are separate from land title, transferable, divisible and enforceable. It is not necessary to own or occupy land to hold an access licence. Licences include a share component (specifying shares in the available volume of water from the relevant water source) and an extraction component (specifying times, rates, circumstances and locations for extractions). All licences are categorised according to the priority of access (for example, in relation to regulated rivers, there are high security and general security licences). Reliability is further determined by water sharing plans, which seek to provide security of access for all water users, including the

³ Licences for water utilities (including local council water service providers) are issued for 20 years.

⁴ Licences are not required for the basic water rights of landholders for domestic and stock use, harvestable rights (a percentage of rainfall run-off captured in a farm dam) and native title rights and interests.

environment, during their 10-year term (see next section on provision of water to the environment). Water access licence holders are able to claim compensation for reductions in water access made during the term of a water sharing plan that are inconsistent with the provisions of the plan. The Government was giving priority to converting licences for water sources covered by its first round of water sharing plans (which cover about 80 per cent of the State's water).

Regulations under the Water Management Act define the arrangements for licence renewals. The Regulations give priority to existing licence holders. Current licence holders can apply for renewal before a licence expires. Licences are expected to be renewed subject to standard environmental assessments. The new licensing and approvals system was scheduled for implementation on 1 January 2003.

The access licence register is intended to give licence holders certainty in their entitlement to water, so that access licences can be used as mortgage security in the same way that property can. Third party interests may be registered. The register is to be administered by the Land and Property Information Office and is to be publicly available. It was to be fully operational by January 2003.

Reform progress

On 17 June 2003, the Minister for Natural Resources announced that the new water management arrangements, including the new licensing system, registry and water sharing plans, would not commence until 1 January 2004 (Minister for Natural Resources 2003). The Minister indicated that the deferral was in response to work by CoAG on the issue of sustaining the nation's river systems and the announcement by the Deputy Prime Minister on 4 June 2003 foreshadowing the development of a new intergovernmental agreement on water for consideration by CoAG in August 2003.

From January 2004, the Government will commence issuing around 8800 new water access licences to replace existing licences in the areas covered by the gazetted water sharing plans. The Department of Planning, Infrastructure and Natural Resources is verifying the ownership of existing licences, including third party interests. The department has established a prototype of the water access rights register and is testing this. The register will initially include information on the licences applying to areas covered by the first round of water sharing plans. Licences in other areas will continue to be administered under the Water Act until they have been converted to new licences under the Water Management Act.

Submissions

The NSW Irrigators' Council reiterated concerns about the water entitlements system. It considered, in particular, that 'complete uncertainty' exists before and after each water sharing plan regarding the value of entitlements, the 10-year life of a plan is not sufficient for long-term capital investment and the Act provides significant scope for the Minister to use administrative powers, further attenuating entitlements (NSW Irrigators' Council 2003, p.2). In addition, it noted several transitional and administrative issues in moving to the new registry system (including the transfer of existing mortgages and interests) on which discussions were continuing with the Government.

Macquarie River Food and Fibre raised similar concerns regarding the security of entitlements. It highlighted reductions in entitlements, without compensation, under the water sharing plan for the Lower Murray Groundwater, including significant up-front cuts and reductions during the term of the plan. It emphasised the need for structural adjustment assistance or compensation to assist in reducing overallocations. In correspondence, Macquarie River Food and Fibre criticised the former Minister's decision to address water shortage problems in Nyngan and Cobar by providing water to the towns that would otherwise have been available to irrigators with general security allocations. Macquarie River Food and Fibre considered that this further illustrated the scope for licence holders' security to be eroded.

In contrast, the Environmental Defender's Office (New South Wales) considered that the arrangements under the Water Management Act provide a secure right for consumptive users and are consistent with CoAG requirements.

Discussion and assessment

The Council concluded in previous NCP assessments that the new system of access licences and water sharing plans and the water access rights register are consistent with CoAG obligations on water property rights. The New South Wales Government deferred the commencement of these arrangements until 1 January 2004. The Council accepts that a primary driver for the deferral was the foreshadowed CoAG consideration of national water industry arrangements. As a result of the national process, the Council's 2003 assessment of the New South Wales Government's implementation of its access licensing and registry system needs to be delayed. The Council will finalise its 2003 assessment of these matters in February 2004.

Provision of water to the environment

Assessment issue: Governments are to formally determine allocations or entitlements to water, including appropriate allocations to the environment to enhance/restore the health of river and groundwater systems. In allocating water to the environment, governments are to have regard to the work undertaken by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC). Environmental requirements, wherever possible, are to be determined on the best scientific information available and have regard to the intertemporal and interspatial water requirements that maintain the health and viability of river systems and groundwater basins. Governments needed to have made substantial progress in implementing arrangements to provide water to the environment by 2001, including allocations in all river systems that are overallocated or deemed to be stressed. Allocations must be substantially completed by 2005 for all river systems and groundwater resources identified in each jurisdiction's agreed implementation program.

At the time of the 2002 NCP assessment, New South Wales was still to finalise its State Water Management Outcomes Plan (SWMOP) and the first round of water sharing plans for 39 priority river and groundwater systems (covering about 80 per cent of the State's water). The Council decided to conduct a supplementary 2002 NCP assessment to consider these matters. Conducted in April 2003, the supplementary assessment found that New South Wales had finalised the SWMOP and 35 water sharing plans, but identified other actions New South Wales needed to take to meet all of the State's 2002 water reform obligations. For the 2003 NCP assessment, the Council indicated New South Wales needed to have:

- substantially progressed (or preferably finalised) the four water sharing plans remaining from its first round of 39 water sharing plans;
- published, or at least made available to the Council, the information required to finalise the Council's assessment of whether New South Wales has had due regard in its water sharing plans for principles 4, 5, and 7 (of the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems);
- finalised the implementation programs needed for the gazetted water sharing plans to commence in July 2003; and
- committed to a satisfactory process (ensuring effective community consultation) and timetable for developing water sharing plans for the State's remaining stressed or overallocated river systems.

Next full assessment: The Council will finalise the 2003 NCP assessment of New South Wales's progress in implementing CoAG obligations on the allocation of water to the environment in stressed and overallocated rivers in February 2004.

Reference: CoAG water reform agreement, clauses 4(b-f)

At the time of the 2002 NCP assessment, New South Wales was still developing its water management arrangements and was yet to determine the amount of water that would be provided to the environment in overallocated and stressed river systems. The Government:

- had released an interim State Water Management Outcomes Plan (SWMOP), setting the overarching policy, targets and strategic outcomes for the development, conservation, management and control of the State's water sources, for public consultation in October 2001; and

- was developing water sharing plans for 39 regulated and unregulated river and groundwater systems covering the majority of the State's water — when gazetted, the plans lock in water sharing and operation rules (including rules governing allocations to water users and the environment) for 10 years.

Because the New South Wales Government was still developing the SWMOP and its first-round water sharing plans, the Council was unable to assess whether the State had met its obligations on environmental allocations for the 2002 NCP assessment. The Council supported, however, the direction being taken by New South Wales in the interim SWMOP. The Council also accepted that New South Wales was facing a difficult and complex task in balancing the wide ranging views and opinions of interest groups with the technical information required to make appropriate allocations in the water sharing plans. In addition, New South Wales has had interim environmental flow rules for regulated river systems in place since 1998. Accordingly, in the 2002 NCP assessment, the Council considered it reasonable for New South Wales to have more time to finalise the SWMOP and the first round of water sharing plans, and thus deferred its consideration of the State's progress in meeting CoAG obligations on stressed or overallocated river systems to a supplementary assessment.

In the supplementary assessment in April 2003, the Council found that New South Wales had finalised its SWMOP (in December 2002) and subsequently finalised 35 of the 39 first-round water sharing plans. The Council considered that the SWMOP should contribute significantly to the long-term sustainable use of water resources in New South Wales, provided that the water sharing plans (and catchment blueprints and subsequent water management plans) substantially adopt the relevant SWMOP targets. The Council raised one question concerning daily extraction components for unregulated rivers, which (under the relevant SWMOP target) will not be specified in licences for 20 per cent of stressed unregulated rivers until at least 2008 (significantly later than the target date set by CoAG).

New South Wales advised that many unregulated rivers, including some stressed unregulated rivers, may not warrant the sophisticated level of management inherent in daily flow sharing arrangements. For these rivers, which account for a relatively minor share of overall water diversions, New South Wales advised that it would introduce a sufficient degree of management to protect the environment and the rights of other users. In the meantime, annual allocations and limits on extractions during low flows are in place. The Council indicated in the supplementary assessment that it would look for the water sharing plans to be developed to appropriately address environmental needs in the remaining stressed unregulated rivers.

Further, New South Wales advised that the environmental water allocations in the water sharing plans reflect trade-offs between the environmental needs and socioeconomic factors. At the time of the supplementary assessment, information on the anticipated environmental impacts and on the extent of and reasons for the trade-offs was not publicly available, although New South Wales was preparing public information sheets on its new water management arrangements, including the expected environmental benefits. Accordingly, the Council had insufficient information to assess the Government's regard for four of the 11 relevant ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems (principles 4, 5, 7 and 9).

- Under principle 4, governments need to go as far as possible to provide water to sustain ecological values, while recognising the existing rights of water users. In the supplementary assessment, the Council acknowledged that the appropriate allocation of water for consumptive and environmental purposes is ultimately a matter for judgment based on full information about the ecological requirements of systems and the socioeconomic impacts. Without information on the anticipated environmental impacts and on the extent of and reasons for the trade-offs made in the environmental allocations for each plan, the Council could not determine whether New South Wales had gone as far as possible to meeting environmental objectives.
- Under principle 5, where environmental water requirements cannot be met due to existing uses, government must take action (including reallocation) to meet environmental needs. The water sharing plans for some stressed regulated and unregulated rivers and groundwater sources provide additional water for environmental requirements. New South Wales argued that the rules in several other plans provide for improved environmental outcomes without taking additional water from users, and that the extraction levels under the existing environmental flow rules are appropriate for some rivers and have been reflected in the relevant water sharing plans. At the time of the supplementary assessment, however, New South Wales had not provided the Council with information on how the plans meet environmental needs or with evidence on the appropriateness of existing environmental flows.
- Under principle 7, accountabilities in the management of environmental water provisions should be transparent and clearly defined. While the Government undertook considerable public consultation during the preparation of the water sharing plans, at the time of the supplementary assessment it had not provided the Council with information on the manner in which environmental science was considered and incorporated in the plans, particularly for surface water. There was also little information available on the extent to which the various rules and limits in the plans are expected to achieve environmental outcomes.
- Under principle 9, all water uses should be managed in a manner that recognises ecological values. The Council considered that the New South Wales Government had shown regard for this principle in developing its

Water Management Act and setting the targets in the SWMOP. It noted, however, that the Government had assessed none of the water sharing plans as fully meeting SWMOP targets of relevance to ecological values. Although the plans will have at least an indirect impact on water use, the Council accepted advice from New South Wales that mechanisms other than water sharing plans are more significant in managing water use in a manner that recognises ecological values. The Council indicated that it would consider the Government's regard for principle 9 when it looks at the State's implementation of other relevant elements of the CoAG water resource policy (including, for example, the catchment blueprint process, water quality objectives for each major river system, and future water management plans that extend beyond water sharing) in future NCP assessments.

In the supplementary assessment, the Council identified other actions that New South Wales needed to take to meet all of the State's 2002 water reform obligations. New South Wales needed to:

- substantially progress and preferably finalise by the 2003 NCP assessment the four remaining first-round water sharing plans (the plans for the Hunter River, the Orara River, the Lower Murray groundwater source and the Great Artesian Basin);
- publish, or at least make available to the Council, the information required to finalise the Council's assessment of the Government's regard for principles 4, 5 and 7 (of the National Principles for the Provision of Water for Ecosystems) in the water sharing plans;
- finalise the implementation programs needed for the gazetted water sharing plans to commence; and
- commit to a satisfactory process (ensuring effective community consultation) and timetable for developing water sharing plans for the State's remaining stressed or overallocated river systems.

Given the progress made by New South Wales, and the prospect that it would make available information on the effect of its water sharing plans, the Council agreed to finalise its consideration of the State's environmental provisions for stressed and overallocated river systems in the 2003 NCP assessment.

Reform progress since the 2002 supplementary assessment

New South Wales deferred the commencement of its water sharing plans from 1 July 2003 to 1 January 2004 following the Deputy Prime Minister's announcement on 4 June 2003 foreshadowing a new intergovernmental agreement on water. The New South Wales Minister for Natural Resources indicated that the Government remains committed to the concept of water sharing, stressing that the delay is not a signal for an overhaul of water sharing rules already agreed after extensive consultation. He considered, however, that it would be premature and counterproductive for the State to proceed with the water sharing plans without knowing how they would fit within any new national model.

Since the supplementary assessment, New South Wales published summary guides and fact sheets on almost all of the 35 completed water sharing plans. These provide an overview and explanation of the main elements of each of the plans. The guides include a summary of the environmental water provisions in the plans.

New South Wales provided the following information on its progress in addressing the other matters identified in the 2002 supplementary NCP assessment.

- Of the four remaining first-round water sharing plans, the plan for the Hunter River was finalised but awaiting Ministerial approval. The Government was reviewing a draft of the Great Artesian Basin plan and, following additional modelling, expected a draft of the Orara River plan by the end of October 2003. Some issues remained to be resolved in the plan for the Lower Murray groundwater source.
- Drafts of the implementation programs (needed for the gazetted water sharing plans to commence) were being reviewed by each of the water management committees. The implementation programs would be finalised in time for the plans to commence in January 2004.
- The Government was considering how to progress water sharing arrangements for the State's remaining stressed or overallocated river systems and other river and groundwater systems. New South Wales noted that the first-round plans covered almost all regulated rivers, around 7–8 per cent of unregulated rivers and 20 per cent of groundwater sources.

Submissions

The Environmental Defender's Office raised several concerns with the rigour of the water sharing planning process in New South Wales. It stated:

- *despite legislative provisions prioritising environmental water needs, consumptive entitlements are being given a more secure right through water sharing plans;*
- *water management planning issues are not being coordinated on a statewide basis — water sharing plans have been prepared in an inconsistent and ad hoc manner that does not give effect to the principles of the CoAG agreement;*
- *the environmental requirements of the CoAG agreement have not been taken seriously by either the Government or water management committees preparing water sharing plans — water sources have not been classified according to their health, stress and conservation values and benchmarks for environmental flows are not being based on the best, or even considered, available scientific evidence; [and]*
- *water sharing plans are also failing to adhere to the statutory requirements of the Water Management Act in relation to providing environmental flow rules and mechanisms to address the performance of plans against the objectives of the Act and the CoAG requirements. (EDO 2003, p. 2)*

Macquarie River Food and Fibre considered that the framework, capability and resources required to monitor the impacts of environmental flows are lacking. It also pointed to a lack of commitment to 'active and adaptive management' in protecting the environment, noting that it is easier for governments to set hydrological goals than ecological goals. It noted, however, that the water sharing plan for the Macquarie River is an exception to this Statewide approach:

... our community pushed for a community driven, active management focus, rather than arguing about how many more megalitres should be taken from irrigators for the environment. (MRFF 2003, p. 8)

Both the NSW Irrigators' Council and Macquarie River Food and Fibre reiterated concerns regarding deficiencies in the public consultation process on the draft water sharing plans in 2002. In particular, the NSW Irrigators' Council regarded the process for considering public submissions to be less than satisfactory, with the Government giving water management committees only limited opportunity to account for the submissions. While noting that the Government regularly consults the irrigation industry on regulatory and policy changes, based on its experience with the SWMOP and the water sharing plans, Macquarie River Food and Fibre commented:

... irrigation stakeholders are convinced that the current mode of consultation delivered by the State Government is not genuine, but their demonstration that they are meeting CoAG requirements by conducting public meetings and allowing submissions. (MRFF 2003, p. 9)

Discussion

The guides and fact sheets published by New South Wales since the supplementary assessment provide useful information on the plans for licence holders and the wider community. While the guides summarise the environmental water provisions in the plans, only some provide information on the extent to which environmental flows (or recharge) will be improved and/or examples of the expected environmental benefits. Only a few (mostly the guides for the groundwater plans) indicate the extent to which the extraction limits and other rules in the plans are expected to lead to the sustainable use of the water source. None of the guides provides information on the extent of the trade-offs made in deciding on the environmental allocations or on the rationales for the trade-offs. The guides generally also contain little information on the manner in which the water management committees considered and incorporated the environmental science in developing the plans. New South Wales advised that the guides and fact sheets were not intended to provide detailed information on the environmental benefits of the water sharing plans. It proposes to issue more detailed information on these benefits in the near future.

New South Wales has progressed, but not finalised, the other matters identified by the Council in the supplementary 2002 NCP assessment. One of the four remaining first-round water sharing plans has been finalised (but is still to be approved) and the other three plans have been progressed. The implementation programs for the gazetted water sharing plans appear to be on track for the revised commencement date of 1 January 2004. New South Wales was, however, still considering how to progress water sharing arrangements for the remainder of the State (including for the remaining stressed or overallocated river systems).

In relation to the compliance of its water sharing plans with the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems (particularly principles 4, 5 and 7), New South Wales advised the following.

- The water management committees responsible for developing the plans had a wide representation from the relevant management agencies, the local community, industry groups and environmental interests.
- In developing the plans, the committees were provided with available technical and scientific information and, wherever possible, details of scientific modelling on the effects of alternative environmental flow regimes.

- The committees discussed development of the plans with local communities. All plans were made available as drafts for public consultation. The draft plans included what was known about possible water-dependent ecosystems as well as relevant technical information, and further details were presented at public meetings.
- The nature and extent of public consultation varied between plans. While some committees undertook extensive consultation throughout the entire process, in other cases most of the consultation occurred after release of the draft plan. The committees subsequently considered the responses from the public before finalising their recommendations to the Minister.
- Before the plans were finalised, each committee was provided with an assessment of the extent to which its plan demonstrated progress towards relevant targets set in the overarching SWMOP. The targets are aspirational and the objective is that the water sharing plans contribute to the achievement of the targets over time.
- The plans identify requirements for further studies to improve the understanding of environmental water requirements. Some plans provide scope for amendments (within defined limits) during their 10-year life in response to these studies.
- Each plan includes performance indicators and requirements for monitoring and public reporting against these indicators. If monitoring against the performance indicators shows the plans are leading to environmental outcomes that are unacceptable to the community, the plans can be amended during their 10-year life, subject to the payment of compensation to affected licence holders, or on renewal at the end of the 10-year period (without compensation).

New South Wales considers that the approach it adopted in developing the plans and the environmental provisions in the final plans comply with CoAG requirements. The water management committees, as the representatives of the community, made their decisions on the trade-offs between environmental and socioeconomic objectives on the basis of the best available knowledge of the environmental effects and of the communities' views of acceptable outcomes obtained via public processes. New South Wales considers, therefore, that the Council should not need details of how the water management committees weighed up the relevant information to reach decisions on the trade-offs or on the extent of the trade-offs made.

Several aspects of the water sharing process in New South Wales suggest the likelihood of better environmental outcomes than are available under the State's former processes. The plans allocate water for extractive and environmental purposes, so recognise the environment as a legitimate user of water. For the unregulated rivers, the plans provide the first formal allocation of water to the environment. The plans were developed by water management committees, which had access to a range of scientific and other information, and involved an extensive public process. The plans incorporate

processes for monitoring environmental outcomes and provide for increased environmental allocations if monitoring outcomes indicate this is warranted.

A key objective of the ARMCANZ/ANZECC national principles is to sustain and, where necessary, restore ecological processes and the biodiversity of water-dependent ecosystems, recognising that adequate water flow is critical for maintaining natural ecological processes and biodiversity. Achieving this objective may involve reallocation of water from existing uses, although there is an acknowledgment of the existing rights of other users of water. A key issue in New South Wales is the nature of the trade-offs made when the amount of water identified for environmental flows is less than the best available science recommends. The CoAG water agreement acknowledges the existing rights of water users, meaning that water management committees developing environmental flow regimes may recommend a flow regime that does not meet the scientifically recommended regime in the shorter term. Such decisions imply that the community has agreed to accept the potential consequences. The Council considers, therefore, that there must be sufficient public information on the environmental risks posed by the negotiated flow regimes to allow the community to understand and comment on the water management committee's decisions on water use. Moreover, the water management committees need to be representative of all interests, and the flow regime and associated river health activities must be likely to deliver recommended environmental flow objectives within a reasonable period. In the supplementary 2002 NCP assessment, the Council accepted that the water management committees were generally representative of the community and were provided with the information necessary to make their decisions, to the extent this information was available.

While accepting that the water sharing plans will provide improved environmental outcomes in most cases, the Council has not been able to conclude, from the information provided by New South Wales, whether the plans satisfy the CoAG requirement to allocate an appropriate amount of water to the environment, determined wherever possible on the basis of the best available science and accounting for the existing rights of other water users. Apart from the summary guides and fact sheets already published, New South Wales advised that it intends to provide additional, forward-looking information on the environmental impacts of its water sharing plans. New South Wales will not, however, provide this information until any implications for its water sharing plans resulting from the national work foreshadowed by the Commonwealth Government are clear. New South Wales advised that it does not intend to revisit the basis for the decisions on flows in the plans.

Regarding consultation problems with the development of the SWMOP and the first round water sharing plans in 2002, New South Wales undertook in the 2002 supplementary assessment to monitor future processes to ensure that problems do not arise. The Government noted that the gazettal of the SWMOP and the experience gained from developing the first round of water sharing plans will help to inform the process for future plans.

Assessment

The Council acknowledges that New South Wales deferred the commencement of the water sharing plans to 1 January 2004 to accommodate foreshadowed CoAG work on national water industry arrangements. The national process may alter the approach to some areas of the existing CoAG agreements such as water allocations and entitlements, environmental allocations and trading — all of which are areas covered by the New South Wales water sharing plans.

As a result of the national process, the Council's consideration of this element of the water reform program needs to be delayed, at least until 1 January 2004. The Council proposes to conduct a supplementary assessment in February 2004 of the New South Wales Government's compliance with the CoAG obligation to make appropriate provision of water to the environment for stressed and overallocated rivers. Until then, the Council will work with New South Wales to better understand the basis for and the effects of the environmental allocations in the gazetted water sharing plans. The Council will seek to understand the nature and extent of any socioeconomic trade-offs from recommended environmental flows. In the 2004 NCP assessment, the Council will report all jurisdictions' progress in implementing environmental allocations. Then, in 2005, it will conclude its assessment of jurisdictions' compliance in this area consistent with the timetable established by CoAG.

The Council considered the New South Wales Government's regard for ARMCANZ national principle 9 (that all water uses should be managed in a manner that recognises ecological values) in assessing the State's implementation of integrated catchment management obligations (see section 2.4) and the National Water Quality Management Strategy (see section 2.5).

2.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In the 2001 NCP assessment, the Council found that the trading provisions in the Water Management Act represent a clear improvement on previous arrangements. The Council identified, however, a number of transitional issues and constraints on trade, including:

- the fact that the new trading arrangements were still to commence, with the water sharing plans and the registry system to be finalised and implemented, and the trading rules to be further developed; and
- the limitation on trade out of some regulated irrigation districts.

New South Wales needs to ensure the limitation on water trade out of regulated irrigation districts is removed or demonstrate that the constraint is in the public interest. New South Wales also needs to ensure trading rules in water sharing plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Significant volumes of water are traded in New South Wales each year. With an embargo on new entitlements in many systems, trading is the primary means for new enterprises to obtain water allocations and for existing water users to expand their activities or improve their security of supply.

The Water Management Act includes the following elements of most relevance to trading.

- Water access licences are separated from land, are divisible and can be transferred permanently or temporarily.⁵
 - In irrigation schemes, the irrigation corporations hold bulk access licences. The corporations provide a share of the water to each of the landholders within the irrigation district. Only the corporations can legally trade entitlements to or from their districts. Some of the corporations limit trade out of their irrigation district.

⁵ Basic landholder rights, including stock and domestic rights, are tied to land and are not transferable. Towns are able to buy and sell water entitlements, though sales are restricted to temporary trades of one-year duration.

- The 'share' (or volumetric) component of a licence is separated from the 'extraction' component (which specifies the sections of the water source from which water may be taken). These components may be independently transferred. By separating the share component from the extraction component, water can be traded without requiring complex environmental assessments for approving extraction and use.
- The register of access licences allows third party interests to be registered. The consent of third parties is required before a transaction may proceed.
- Water sharing plans (the bulk of which will commence on 1 January 2004) define the quantity of water available for extraction under access licences and for use by the environment in individual water sources.
- An application to trade must comply with the provisions of the Act and any local transfer rules established in the water sharing plans for the relevant water sources.

Trading to date

During 2001-02, around 710 gigalitres of water was traded in regulated river systems in New South Wales (table 2.1). Trading is concentrated in the irrigation areas in southern New South Wales. The Murray and Murrumbidgee river systems account for almost 60 per cent of total trade, with the Darling and Lachlan systems accounting for a further 15 per cent. Pending the commencement of the water sharing plans, the Council understands that only limited trading in unregulated river and groundwater systems has occurred.

In the regulated river systems, more than 95 per cent of the volume of water traded in 2001-02 occurred as temporary trade; permanent trade accounted for only 33 gigalitres. Most trading is in general (low) security licences. In volume terms, general security licences accounted for around three-quarters of temporary trade and 95 per cent of permanent trade in 2001-02.

Table 2.1: Water trading in New South Wales, 2001-02

<i>River system</i>	<i>Temporary transfers (no.)</i>	<i>Volume of temporary transfers (ML)</i>	<i>Permanent transfers (no.)</i>	<i>Volume of permanent transfers (ML)</i>	<i>Volume of total transfers (ML)</i>
Barwon	1	60			60
Bega			2	60	60
Darling	115	37 157	2	200	37 357
Dumaresq	18	3 227			3 227
Gwydir	120	53 337			53 337
Hunter	11	1 633	64	7 190	8 823
Lachlan	444	67 871	17	4 832	72 703
Macintyre	41	22 879			22 879
Macquarie	223	43 978	21	10 499	54 477
Murray	721	175 369	22	4 072	179 441
Murrumbidgee	691	220 723	16	5 361	226 084
Namoi	186	52 462	4	474	52 936
Total	2 571	678 696	148	32 688	711 384

Source: Government of New South Wales 2003a

While New South Wales has not provided more recent information, trade in the late 1990s represented approximately 10 per cent of total water entitlements. The majority of trade in New South Wales was within the local region or valley: around one-third within the boundaries of the irrigation corporations and a further half within the valley. Intervalley and interstate trade accounted for only 11 per cent and 4 per cent respectively of total trade in water in 1997-98.

Changes in the regulatory environment since 2001

As discussed in section 2.2, New South Wales gazetted 35 water sharing plans in early 2003, applying to areas covering 80 per cent of the State's water. New South Wales intended that these plans commence on 1 July 2003 but deferred commencement until 1 January 2004. Until the new arrangements commence, the licensing and trading provisions of the Water Act remain in effect.

Access licence dealing principles

To provide a basis for the trading rules in water sharing plans, in December 2002 New South Wales gazetted a Statewide Access Licence Dealing Principles Order under the Water Management Act. Access licence dealings include:

- a change to the ownership of an access licence (referred to as a ‘transfer’);
- a change in the category of an access licence (a ‘conversion’, such as from general security to high security);
- the separation (‘subdivision’) or amalgamation (‘consolidation’) of access licences;
- the movement of the share component or extraction component from one access licence to another (an ‘assignment’);
- the movement of water allocations from the account of one access licence to another; and
- a change in the location at which water allocations credited to the access licence may be extracted.

Under the Access Licence Dealing Principles Order, the objective of access licence dealings is to:

... help to facilitate maximising social and economic benefits to the community of access licences as required under the objects of the Act. Dealings do this by:

(a) allowing water to move from lower to higher value uses, and

(b) allowing the establishment of water markets that value the access licences, thereby encouraging investment in water efficient infrastructure, and

(c) allowing greater flexibility to access licence holders.

The general principles applying to access licence dealings are summarised in box 2.1.

Box 2.1: General principles for access licence dealings in New South Wales

Dealings should:

- not adversely affect environmental water and water-dependent ecosystems;
- be consistent with strategies to maintain or enhance water quality;
- in unregulated rivers, not increase commitments to take water from areas of high conservation value;
- in unregulated river and groundwater sources, not increase commitments to take water above sustainable levels;
- in regulated rivers, not increase daily demand at locations and times where demand exceeds delivery capacity;

- in regulated rivers, not increase commitments to take water in lower river or effluent systems where this would result in flow for water delivery exceeding 80 per cent of channel capacity for more than 10 per cent of days;
- not adversely affect geographical and other features of Indigenous significance or of major cultural, heritage or spiritual significance; and
- not adversely affect the exercise of basic landholder rights and have no more than a minimal effect on the taking of water from an approved water supply work.

Source: Access Licence Dealing Principles Order 2002

Apart from these general principles, various principles apply for specific types of access licence dealing.

- Most access licence dealings are prohibited if there is an outstanding debt under the Act in respect of the licence or if the licence has been suspended.
- Access licence dealing rules in a water sharing plan are not permitted to regulate or prohibit intrastate transfers of access licences (that is, the transfer of the licence from one person to another), or the subdivision or consolidation of access licences.
- Access licence dealing rules in a water sharing plan may regulate or prohibit other access licence dealings (that is, apart from intrastate transfers, or subdivisions or consolidations) if doing so in a manner consistent with the general principles.
- Dealings involving a change of water source are prohibited where the movement is from an unregulated to a regulated water source (but not vice versa), or from a groundwater source to a regulated river or unregulated river (or vice versa), and no water allocations remaining in the water allocation account of the cancelled licence may be credited to the new licence.
- Interstate dealings must be consistent with the relevant interstate agreement.

In developing the trading rules that will apply to each water source, water management committees have tailored the Statewide access licence dealing principles to account for the level of stress on the water source and operational constraints. Many of the water sharing plans nominate zones in which water dealings are restricted. New South Wales advised that these restrictions are for environmental reasons or because there is limited supply capacity. It also advised, however, that water management committees were required when developing the water sharing plans to assess the socioeconomic impacts, including the impacts of retaining or removing trading restrictions. New South Wales stated:

A key objective of the Government has been to remove as many restrictions on trade as possible, and the final plans reflect a freeing up of the trading environment. In the Murrumbidgee plan, for example, many of the previous restrictions and penalties on trading, such as the loss of carry-over water, have been removed. (Government of New South Wales 2003a, p. 10)

Examples of restrictions on trading in three of the gazetted water sharing plans (one regulated river plan, one unregulated river plan and one groundwater plan) are shown in box 2.2.

Box 2.2: Examples of trading restrictions in gazetted water sharing plans in New South Wales

Lachlan River regulated water source

- Any dealing that would increase the total volume of share components of access licences allowed to take water from the Lachlan River downstream of Booligal is prohibited.
- The trading of access licences or share components between upstream of Lake Cargelligo and downstream of Lake Cargelligo is limited until a full review is completed.
- The trading of access licences from the Lachlan River regulated water source to the Lachlan River effluent creeks or Willandra Creek downstream of Willandra Homestead is prohibited.
- The assignment of water allocations from a Lachlan River regulated water access licence to an access licence in another water source (such as the tributaries) is prohibited.
- Access licences in the Lachlan River regulated water source may not be transferred to another State.

Kangaroo River unregulated water source

- Individual daily extraction limits of unregulated river access licences can only be traded within the Kangaroo River water source.
- There is to be no net increase in the share component and extraction component in the escarpment zone to more than specified levels.

Upper and Lower Namoi groundwater sources

There are prohibitions on dealings:

- to or from water sources outside the plan area;
- if the total share component or water allocated would exceed 600 megalitres per year per square kilometre;
- if adverse local impacts would result;
- of water allocations from the Quirindi local water utility;
- of supplementary water access licences or allocations;
- of aquifer access licences and water allocations into or out of the Lower Namoi Groundwater Source;
- of aquifer access licences and water allocations into any Upper Namoi groundwater source, with the exception of zone 10; and
- if the total share component of all access licences and the total water allocations in zone 10 would exceed 70 per cent of its recharge.

Trade out of irrigation districts

In both the 2001 and 2002 NCP assessments, the Council identified restrictions on trade out of irrigation districts by some irrigation corporations as a significant impediment to the expansion of water trading both within New South Wales and interstate. These restrictions have not changed since the 2002 NCP assessment. New South Wales advised the Council of the following developments.

- A recent literature review and a survey of irrigation company managers and staff undertaken by Hassall and Associates found that barriers to water trades imposed by the boards of irrigation companies were typically erected in response to fears of ‘stranded assets’. If water entitlements are sold out of the irrigation district, then fewer users are left to meet the ongoing costs of water supply, including the costs of maintaining supply infrastructure. Hassall and Associates concluded that education and persuasion are the Government’s major tools to achieve better internal markets and participation in external markets.
- In work for the Murray–Darling Basin Commission, Hassall and Associates analysed options for the irrigation corporations to address the stranded assets problem. The consultancy identified a number of mechanisms, including an exit fee on trades. (For further information on the consultancy, see chapter 10.) New South Wales considered that the irrigation corporations should examine these mechanisms. It also endorsed the consultant’s proposed approach of consultation with irrigation area managers and workshops on the options.

New South Wales acknowledged that the irrigation corporations could adopt less restrictive mechanisms in dealing with the stranded asset problem. It is considering options for dealing with this issue as part of ongoing interjurisdictional work on water trading through CoAG and the Murray–Darling Basin Commission.

Submissions

Ms Belinda Wilkes, on behalf of horticultural irrigators in the Murrumbidgee Valley, advised that there are a sizeable number of restrictions on permanent trade in the valley, particularly on the transfer of licences out of irrigation areas. While noting that, in some instances, the restrictions seek to avoid stranded assets, Ms Wilkes considered that the restrictions significantly undermine efficient trade.

Ms Wilkes was also concerned about the trading rules in the water sharing plan for the Murrumbidgee River. In particular, she pointed to the prohibition on the assignment of water allocations from a regulated river (high security) access licence water allocation account for applications received after 1 September in any water year. She commented that this ‘restrictive rule bears

no relationship to the ability to physically supply the traded water' (Wilkes 2003, p. 2). Ms Wilkes considered that the rule is anticompetitive and will have a significant influence on the market to the direct benefit of general security irrigators (who are able to undertake temporary sales after the cut-off date).

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

In previous NCP assessments, the Council found that the water trading provisions in the Water Management Act improve the previous arrangements in New South Wales. The main outstanding trading issues at the time of the 2002 NCP assessment were:

- the fact that the new trading arrangements were still to commence, with the water sharing plans and the registry system to be finalised and implemented, and the trading rules to be further developed; and
- the limitation on trade out of regulated irrigation districts.

While the provisions in the Water Management Act relating to licences and trading, as well as the first round of water sharing plans, are now scheduled not to commence until January 2004, the arrangements should provide an effective framework for future water trading. The water sharing plans will cover around 80 per cent of water use in New South Wales. The water sources accounting for the remaining 20 per cent of water use will continue to be administered under the more restrictive Water Act until New South Wales finalises water sharing plans (or other arrangements) for these areas.

Under the arrangements to apply from 1 January 2004 in areas covered by the first-round plans, water access licences are separated from land, are divisible and can be transferred permanently or temporarily. The water access licence register provides security of title, enabling licences to be borrowed against and invested in. The register also allows third party interests to be registered, with their consent required before a transaction may proceed. While the time taken to process trades has been a problem in the past, New South Wales expects significant improvements under the new arrangements.

Trading mechanisms are already well developed in New South Wales, with trade occurring through formal water exchanges, brokers and private sales. Market information (including on prices) tends to be widely available and readily accessible, particularly through the water exchanges. The water access licence register will also be open to the public. Once finalised, the water sharing plans, including the rules for trading to and from a particular water source, are available on the Internet.

The new arrangements also include measures to ensure water trades do not adversely affect the environment or the rights of other water users. All water transfers must be approved by the Government and be consistent with the water management principles in the Water Management Act, the access licence dealing principles and the trading rules in the relevant water sharing plans.

The water sharing plans finalised to date and the Statewide access licence dealing principles provide greater scope for trading than previously possible (for example, trade will be permitted in unregulated river systems where it was not previously possible). Some constraints remain, however, despite the New South Wales Government's stated objective of removing as many restrictions on trade as possible and despite the statement of objectives in the Access Licence Dealings Principles Order. The access licence dealing principles prohibit, for example, dealings involving a change of water source where the movement is from an unregulated to a regulated water source. In addition, the water sharing plans often nominate zones in which dealings are restricted and, in some cases, impose wider restrictions (for example, access licences for the Lachlan River regulated water source may not be transferred interstate).

The guides to the water sharing plans recently released by New South Wales generally indicate that the rules regulating dealings are required for practical management reasons and to protect the environment and the interests of other access licence holders. The restrictions on trading out of the Lachlan River, for example, are in place to protect the environment of the lower river.

Nevertheless, other rationales also underpin the restrictions on trading in some plans. New South Wales advised that, in relation to one plan, the restriction on dealings involving a change of water source where the movement is from an unregulated to a regulated water source is in place to protect an immature water market (on the unregulated rivers) from a well developed market (on the regulated rivers). This restriction appears likely to constrain the extent to which water is used for its highest value purpose and is, therefore, likely to militate against the achievement of CoAG water reform objectives. New South Wales also indicated that it required water management committees to assess socioeconomic impacts in developing the plans, including the impacts of retaining or removing trading restrictions. As an example, the guide for the Lachlan River regulated water source states that the dealing rules may be required to protect social infrastructure.

The prohibition on trade out of some irrigation districts impedes water trading both within New South Wales and interstate. The prohibition appears to be a response to community concern that trade out of a district may result in adverse outcomes, including: the diminution of local production and regional economies; a reduction in the rate base for local governments; and the loss of economies of scale and potential 'stranding' of irrigation infrastructure. In addition, directors of irrigation corporations have responsibility for the ongoing value of the corporation and therefore want to ensure there are no adverse impacts for their shareholder-customers. The

prohibition significantly limits, however, the capacity to achieve CoAG objectives.

While the ability to vary trading rules rests with the boards of the corporations and their shareholder-customers, the CoAG water agreements place responsibility on the New South Wales Government to facilitate trading in water so that water is used to maximise its contribution to national income and welfare where socially, physically and ecologically sustainable. This qualification does not justify restrictions on trade, unless there is rigorous evidence to demonstrate that the restriction provides a net public benefit: the CoAG agreements are clearly predicated on a presumption of encouraging trading in water. Moreover, the institutional reform obligation to devolve irrigation scheme management envisages that devolution is based on governments establishing appropriate regulatory frameworks within which local management takes place. The Council considers that such frameworks should include the ability for a State Government to require change within the irrigation schemes where CoAG objectives are not being met.

The Council accepts that resolution of this issue should be pursued, at least initially, through consultation and negotiation between the New South Wales Government and the irrigation corporations.

New South Wales advised that it is awaiting the outcome of the Murray–Darling Basin Commission’s work on water trading and that resolution will require consultation with the corporations on less restrictive solutions that the corporations could implement. The Murray–Darling Basin Commission’s work, which is examining restrictions in the context of interstate trade, may shed light on the feasibility of using less restrictive alternatives to the current prohibition to achieve the objectives of the irrigation corporations. The alternatives being considered include pricing reforms, long-term contracts, exit fees and, as an interim strategy, annual limits on trade (see chapter 10).

Assessment

Consistent with the New South Wales Government’s stated objective of removing as many restrictions on trade as possible, the water sharing plans finalised to date and the Statewide access licence dealing principles provide greater scope for trading than previously possible. The Government’s decision to defer commencement of the gazetted water sharing plans and the new registry system until January 2004 will delay the commencement of the new water trading rules, with trading occurring in the interim under the Water Act. The Council accepts that the driver for the delay in commencement of the plans was the foreshadowed CoAG consideration of national water industry arrangements.

Although they generally facilitate water trading, some water sharing plans contain restrictions on trading, not all of which appear to be related to a need to protect the environment or to ensure the practical management of trading. Some constraints (for example, the restriction on dealings involving a change

of water source where the movement is from an unregulated to a regulated river) appear to be a response to socioeconomic concerns. New South Wales needs to show a robust net public benefit case for these constraints. The prohibition on trade out of some irrigation districts is a significant constraint on both intrastate and interstate trade, and appears inconsistent with CoAG obligations. New South Wales proposes to consider its approach when the outcome of the Murray–Darling Basin Commission’s current work on trading restrictions is available.

The Council is satisfied that New South Wales made sufficient progress against CoAG obligations on water trading for the 2003 NCP assessment. The Council proposes to work with New South Wales during 2003-04 to better understand the rationale for the trading rules and their consistency with CoAG obligations. In addition, given concerns previously with the time taken to approve trades, the Council will expect New South Wales to report for the 2004 NCP assessment on the timeliness of approvals (based on the first three months of operation of the new system). The Council will also expect New South Wales to have substantially resolved the issue of the prohibition on trade out of irrigation districts by the 2004 NCP assessment, accounting for the Murray–Darling Basin Commission’s work on trading restrictions. Under the CoAG agreements, the New South Wales Government is ultimately responsible for ensuring the prohibition is removed or demonstrating that it is in the public interest.

2.4 Institutional reform

Structural separation: State Water and service standards for nonmetropolitan urban service providers

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement, and service provision are to be separated institutionally.

In the 2001 NCP assessment, the Council found that there was a need for greater transparency in the relationship between State Water and the Department of Land and Water Conservation (now the Department of Infrastructure, Planning and Natural Resources), given the potential conflicts between service provision and resource regulation. In addition, as New South Wales had decided that independent regulation is not appropriate for smaller local government water service providers, the Council indicated it would look for greater transparency in service standards and reporting for these providers.

New South Wales needs to demonstrate sufficient structural separation between State Water and the department and provide further information on service standards and reporting for smaller local government water service providers.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clauses 6(c) and 6(d)

State Water provides certain bulk water services in rural New South Wales. At the time of the 2001 NCP assessment, State Water was a ring-fenced business unit within the (former) Department of Land and Water Conservation. The Independent Pricing and Regulatory Tribunal has provided price regulation for State Water since 1995, setting maximum prices for the supply of bulk water. The Council considered, however, that there was a need for greater transparency in the relationship between the (former) Department of Land and Water Conservation and State Water, in relation to potential conflicts between service provision and resource regulation. In the 2002 NCP assessment, the Council reported that New South Wales was proposing to conduct an independent review of the governance structure of State Water.

In the 2001 NCP assessment, the Council noted that New South Wales had decided that independent regulation is not appropriate for smaller local government water supply and sewerage service providers. As a result, the Council considered that it was difficult for New South Wales to achieve full institutional separation (particularly between service provision and standard setting) for these providers. The Council indicated that it would look for transparency in service standards and reporting to place pressure on local governments to improve their performance.

Reform progress

Following the State election in March 2003, the New South Wales Government transferred responsibility for State Water to the Ministry of Energy and Utilities. The transfer followed consultation with water users. New South Wales considered that the transfer provides a clear distinction between the manager of built assets and the natural resource regulator, and enables greater transparency in the determination of the capital costs and natural resource management costs included in pricing.

In relation to service standards for smaller local government water service providers, New South Wales clarified that it considered that its annual performance report enables customers to compare standards of service across all of the providers (DLWC 2002b). This report is publicly available on the department's web site. Under the Local Government Act, local water service providers are also required each year to prepare and exhibit a management plan for their activities covering at least the next three years. The management plans must include proposed capital works projects and asset replacement programs, as well as the proposed charges and budget for the upcoming year. In addition, under New South Wales's best practice management guidelines issued in February 2003, local water service providers must prepare 30-year strategic business plans. Customers have access to the State Ombudsman if a complaint (including about the standard of service) is not resolved by the relevant water service provider.

Submissions

Submissions from Macquarie River Food and Fibre, Ms Belinda Wilkes (on behalf of horticultural irrigators in the Murrumbidgee Valley) and the NSW Irrigators' Council raised concerns regarding the extent of separation between State Water and the former Department of Land and Water Conservation. Macquarie River Food and Fibre also indicated concerns regarding the new departmental arrangements:

... we are unsure whether the current arrangements deliver efficient, transparent, accountable and independent service delivery. The latest 'separation' of State Water from the old DLWC may not be the most efficient means of achieving institutional separation, despite the independence associated with 'physical' separation. (MRFF 2003, p. 3)

Discussion and assessment

The transfer of responsibility for State Water to the Ministry of Energy and Utilities separates commercial service provision by State Water from the natural resource regulation role of the new Department of Planning, Infrastructure and Natural Resources. The effectiveness of the new arrangements will become clearer over time.

Given the further clarification provided by New South Wales, as independent regulation is not cost-effective for smaller local government water service providers, the Council considers that there is adequate transparency in standards of service and reporting to encourage local governments to improve their performance.

The Council considers that New South Wales has satisfactorily addressed its structural separation obligations for the 2003 NCP assessment.

Integrated catchment management

Assessment issue: New South Wales is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council was satisfied that New South Wales was meeting its 2001 obligations on integrated catchment management.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

In 2003, the New South Wales Government reorganised the responsibilities and administrative arrangements for government agencies involved in the management of natural resources. In particular, it established the Department of Infrastructure, Planning and Natural Resources to improve the coordination of natural resource management by drawing together policy functions spread across several agencies. The Government also indicated that it proposes to establish a Natural Resources Commission to integrate some functions of existing resource assessment and advisory bodies (Healthy Rivers Commission 2003b).

The State Catchment Management Coordinating Committee is the peak body for integrated catchment management in New South Wales. The committee, which advises the Minister on catchment issues, comprises representatives of rural interests, the Local Government and Shires Association, environmental interests, the catchment management community and Government agencies.

The State's catchment management framework is based on the development and implementation of 10-year integrated catchment management plans ('catchment blueprints') by catchment management boards. This framework was established in 2000 under the *Catchment Management Act 1989* and the *Catchment Management Regulation 1999*. It replaced arrangements whereby

43 catchment management committees and five regional catchment committees developed catchment strategies. The new arrangements are designed to provide a more integrated approach and to more effectively harness community, State and national resources.

The State's 19 catchment management boards (and one catchment management trust):⁶

- identify opportunities, problems and threats associated with the use of natural resources;
- identify objectives and targets for the management of natural resources;
- develop management options, strategies and actions to address identified objectives and targets.
- help develop greater community understanding of the issues identified and action required to support rural production and protect the environment; and
- initiate proposals for projects to achieve these functions, and assess projects submitted for funding under Commonwealth and State natural resource management grant programs having regard to targets identified by the board.

The Governor appoints the boards on the recommendation of the Minister for Natural Resources. Membership, which is specified in the Act, comprises community representatives, industry, and State and local government, and draws on expertise in nature conservation, primary production, natural resource use and Aboriginal affairs.

Catchment blueprints developed by the boards are advisory community-Government plans to guide the management of natural resources within particular catchments for a 10-year period. New South Wales provided a support package to help catchment management boards develop their blueprints. Government agencies also provided training in corporate governance and cross-cultural awareness.

The boards drew on the work of the former catchment management committees and regional catchment committees in developing their catchment blueprints. They also developed the blueprints in accord with national frameworks, including the accreditation requirements of the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.⁷ New South Wales signed bilateral agreements with the

⁶ See footnote 8.

⁷ The Commonwealth Government extended the National Heritage Trust to 2006-07 in the May 2001 budget. The Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers endorsed the implementation

Commonwealth Government on the national action plan in May 2002 and the Natural Heritage Trust extension in June 2003. Under the national frameworks, New South Wales will submit catchment blueprints as accredited plans for investment under the plan and trust.

Catchment blueprints establish specific and measurable catchment targets covering biodiversity, water quality and flow, salinity, riverine ecosystems, soil health and native vegetation. They also include management targets and prioritised management actions to achieve targets (see box 2.3). This approach is consistent with target-setting frameworks under the national action plan, as reflected in the National Framework for Natural Resource Management Standards and Targets 2002.

The New South Wales Government endorsed the State's 21 catchment blueprints⁸ in late 2002, following public consultation.⁹ While the boards commenced implementation of the blueprints in 2002-03, some management actions at the catchment level require funding under the national action plan and Natural Heritage Trust extension, which had not been provided at the date of the 2003 NCP assessment. The boards are also developing blueprint investment strategies that will provide further detail on management actions, address monitoring, evaluation and reporting issues, and identify funds required for implementation. Government agencies are providing staff resources and information to help the boards develop investment strategies.

The boards are required to periodically review the effectiveness of their blueprints and submit annual reports to the Minister on progress with implementation. The Minister will appoint an independent audit panel to report on progress at least once every five years. Audit reports will be made public.

framework in October 2002. A significant focus of the framework is on measures to improve water quality.

⁸ There are 19 catchment management boards and one catchment management trust — the Hunter Catchment Management Trust acts as the de facto board for the Hunter region. There are 21 catchment blueprints because two blueprints were developed for the Hawkesbury-Nepean Catchment (one for the upper part of the catchment and one for the lower part).

⁹ The blueprints are public documents. The Southern Sydney catchment blueprint will be released shortly.

Box 2.3: Catchment blueprint targets in New South Wales

Catchment blueprints contain three levels of targets.

A *catchment target* is a specific and measurable indicator of catchment health at a specified point in time. An example of a catchment target is:

- salinity levels in the river at the outflow of the catchment less than 800 EC,¹⁰ exceeded no more than 10 per cent of the time by 2010.

A *management target* is the level of action needed to achieve a catchment target within a specified time. Management targets needed to meet the above catchment target may include:

- salt interception scheme to reduce in-stream salinity by 60 EC by 2010 (short-term effect on salinity);
- dilution flows to reduce salinity by 30 EC by 2010 (short-term effect on salinity);
- no more than 15 per cent loss of existing native vegetation in recharge areas at July 2010 (long-term effect on salinity); and
- remedial works (or land retired) established in all critical discharge areas by 2005 (medium-term effects on salinity).

Prioritised *management actions* state what is to be done, where, by whom and by what cost-sharing arrangements, in pursuing management targets. In the above example they could include management agreements to help maintain native vegetation, major works programs and stewardship payments to retire land under certain conditions.

Source: Government of New South Wales 2003a

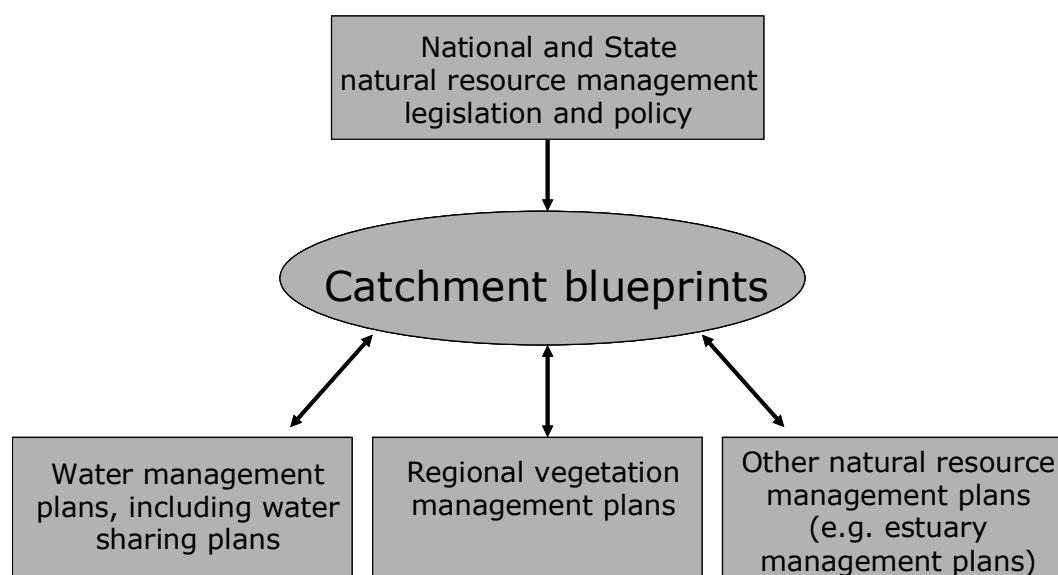
The New South Wales catchment management framework recognises interrelationships between water quantity and water quality management. The catchment blueprint sets overarching natural resource priorities for a catchment as a whole, consistent with national and statewide policy. Where appropriate, blueprints set catchment targets for water quality and river flow, such that water use is managed to deliver outcomes consistent with the interim New South Wales environmental objectives¹¹ (see, for example, Murrumbidgee Catchment Management Board 2003).

Similarly, water management plans (including water sharing plans) and regional vegetation management plans must account for any relevant catchment blueprints. In particular, the plans must address salinity and other targets in the blueprints, and demonstrate how their strategies contribute to meeting those targets (figure 2.1).

New South Wales indicated that future land-use plans will be required to account for natural resource management plans and help meet the objectives and targets set out in these plans (DLWC 2002a, p. 5).

¹⁰ Electrical conductivity (EC) is a widely used method of measuring the salinity of water. It is not a direct measure of salinity, but a measure of the ability of water to carry an electrical current. The EC level increases as the presence of salt increases (Border Rivers Catchment Management Board 2003, p. 27).

¹¹ The Council considers water quality objectives in the context of the National Water Quality Management Strategy.

Figure 2.1: Catchment blueprints in New South Wales

Source: Department of Land and Water Conservation 2002a

Salinity

Salinity is a major issue in New South Wales and relates to drainage from irrigation, saline groundwater and river salinity. The National Land and Water Resources Audit estimated that dryland salinity in New South Wales affects 180 000 hectares, which may grow to 1 300 000 hectares by 2050 (NLWRA 2001). The Murray–Darling Basin Commission has set targets for salinity levels in each major river, which are expected to affect land and water management practices for western areas of New South Wales.

The NSW Salinity Strategy 2000 established a Statewide framework to set:

- salinity targets for acceptable salinity conditions by 2010; and
- management actions to achieve those targets.

The Government set interim salinity targets in August 2000. Catchment management boards then reviewed the targets and developed salinity management targets to include in their catchment blueprints (see box 2.4).

An end-of-valley salinity target has been agreed for all nine major inland rivers in New South Wales. These targets are generally compatible and comparable with salinity targets for the Murray–Darling Basin, and have been derived on a consistent basis.¹² The Murray Catchment Management Board is developing salinity targets for the River Murray.

¹² New South Wales has reported some minor technical differences in approach (Government of New South Wales 2000, p. 16).

The NSW Salinity Strategy has been developed for consistency with the national action plan, under which New South Wales and the Commonwealth Government will invest A\$396 million in salinity and water quality initiatives between 2002 and 2007 (Government of New South Wales 2002, p. 4).

Box 2.4: The Border Rivers catchment blueprint

The Border Rivers catchment blueprint contains the following salinity targets to be achieved by 2012.

- The area of land where the groundwater is within 2 metres of the surface will not exceed 16 800 hectares.
- Median salinity levels in the Macintyre River at Mungindi should not exceed 230µs/cm EC and salinity levels should not exceed 630µs/cm EC more than 20 per cent of the time.
- The median salt loads should remain constant at 68 000 tonnes per year and the salt load should not exceed 171 000 tonnes per year more than 20 per cent of the time.

To meet the salinity targets, the blueprint proposes to:

- maintain appropriate deep-rooted perennial vegetation in recharge areas (which are to be quantified);
- establish at least 15 000 hectares of appropriate deep-rooted perennial vegetation in identified recharge areas;
- use engineering solutions where appropriate to reduce the salt load expressed from significant point sources (such as high flow artesian bores or identified effluent treatment plants) by 7500 tonnes per year;
- manage 1400 hectares of saline discharge areas; and
- ensure no net increase in salt loads as a result of new developments that require a development application.

Source: Border Rivers Catchment Management Board 2003; Government of New South Wales 2002

The Healthy Rivers Commission

The New South Wales Government established the Healthy Rivers Commission in 1996 with the aims of achieving healthy rivers and addressing river health problems, many of which have existed for decades. The commission conducts public inquiries into selected river systems and makes recommendations to the Government on long-term management strategies.

The commission has completed inquiries into nine river systems, with one inquiry under way. The Government has announced a decision on seven of the completed reports. Since the Council's 2001 NCP assessment, the commission released final reports on the Georges River–Botany Bay in November 2001, the Hunter River in August 2002 and North Coast rivers in May 2003 (Healthy Rivers Commission 2003b).

The Government responds to the commission's recommendations via a statement of intent and a public commitment that Government agencies will deliver outcomes in specific timeframes. The Healthy Rivers Commission audits the statement of intent actions after two years, and the water subcommittee of New South Wales Cabinet considers the audit report.

As part of its review of draft catchment blueprints in 2002, the Government provided comments to the catchment boards to ensure that the blueprints reflected any recommendations of the Healthy Rivers Commission, as well as the thrust of recommendations that had not yet been endorsed by the Government.

Land care

Some 1650 Landcare groups in New South Wales undertake activities that include on-ground works, research, monitoring, education and community awareness (Government of New South Wales 2002, p. 12). The Landcare Working Group makes key recommendations about the direction of land care. It is made up of community Landcare representatives from across the State, representatives of State Government agencies and nongovernment organisations, and the State Landcare Coordinator.

New South Wales supports Landcare groups through joint funding with the Commonwealth Government for Landcare coordinators, along with administrative, promotional and financial support. Regional Landcare coordinators help groups develop networks and connect their projects with regional and catchment plans (Government of New South Wales 2001, p. 8).

While there is no designated Landcare position on the catchment boards, most have several members who are involved in Landcare. The boards consulted widely during the various stages of blueprint development, including with the Landcare community. The boards recognise community capacity building as a key component of blueprint implementation and some of the blueprint management actions will involve Landcare groups. Many Landcare and Rivercare groups already work on catchment issues, including streambank erosion and river water quality.

Submissions

The NSW Irrigators' Council, Macquarie River Food and Fibre, and the Environmental Defender's Office criticised aspects of the Government's approach to integrated catchment management. Their key criticisms are that:

- the various strands of natural resource management are not well coordinated;
- in some instances, priorities under the national action plan appear to take precedence over priorities in catchment blueprints; and
- some elements of the administrative framework do not provide for adequate representation of stakeholders.

On the issue of policy coordination, the NSW Irrigators' Council stated:

Catchment management in NSW has been ad-hoc, and opportunistic. There is no clear relationship between the catchment blueprints and resource specific management plans, such as water sharing plans. Indeed, some Regional Vegetation Management Plans and the major Water Sharing Plans were finalised prior to the finalisation of catchment blueprints. Furthermore, there is no linkage (statutory or otherwise) between the catchment blueprints and urban and development planning processes. (NSW Irrigators' Council 2003, p. 6)

Macquarie River Food and Fibre said:

There is no explicit working relationship ... between vegetation, river, groundwater and catchment plans... [I]ntegration is virtually non-existent at present, apart from at the superficial 'target-setting' level. (MRFF 2003, p. 9)

The NSW Irrigators' Council also claimed that:

... there is no clear legislative relationship between natural resource management and regional development plans. When asked to clarify the legislative hierarchy of natural resource management legislation (such as the Water Management Act, Catchment Management Act, Fisheries Management Act and the Threatened Species Conservation Act), then Minister Aquilina simply responded that 'each of the natural resource Acts are intended to complement others'. (NSW Irrigators' Council 2003, p. 7)

The Environmental Defender's Office stated:

Catchment blueprints have ... failed to provide any consistent or meaningful strategy to integrate the management of water and vegetation and issues relevant thereto. (EDO 2003, p. 2)

It also said that:

The Wentworth Group Report to Premier Carr noted that the current catchment plans do not integrate state environmental standards into practical rules which apply across catchments ...

... The [Environmental Defender's Office] submits that one of the major flaws in the current process of catchment management is the fragmented nature of natural resource committees dealing with water, native vegetation and catchments as a whole ... The Catchment Management Act 1989 ... does not set a framework for the matters that catchment boards are to address when preparing catchment plans. Accordingly, the content of the plans produced to date varies widely. Furthermore, water sharing plans and native vegetation plans which are intended to give effect to catchment priorities have been finalised prior to, and often without regard to, Catchment Blueprints. (EDO 2003, p. 12)

Regarding the relationship between the national action plan and catchment management, the NSW Irrigators' Council said:

From the perspective of NSW Irrigators' Council, the imperative for the preparation of the blueprints has not been integrated catchment management but on meeting requirements demanded by the Commonwealth Government for funding under programs such as the National Action Plan for Salinity and Water Quality ...

In September 2002, \$5.6 million over 2 years was directed to priority actions in the 9 targeted catchments, as well as specific activities for the National Parks and Wildlife Service, State Forests and NSW Agriculture. Of this \$5.6 million these agencies directly received \$1.9 million. Interestingly, the priority actions that received first round funding did not necessarily align with the top order priorities identified in the catchment blueprints. (NSW Irrigators' Council 2003, pp. 6 and 8)

Macquarie River Food and Fibre raised similar concerns. It stated:

It is concerning that the [national action plan] funding process is structured so as to vest power and funds through the State Government rather than going directly to catchment bodies. Catchment Management Boards have not been given skills, structure, power, resources and accountability to make investment decisions. There is no relationship between the Catchment Blueprint targets and government funding. (MRFF 2003, p. 9)

On the issue of stakeholder representation, the NSW Irrigators' Council argued that the State Catchment Management Coordinating Committee, the overarching coordinating body for catchment management, lacked a sufficiently broad base. The council said:

The [committee] is made up of 20 members, of which at least 12 are bureaucrats nominated by relevant Ministers. Only 2 of the 20 must be landholders, although there is no requirement for the Minister to accept nominations from peak bodies. Water users are not represented directly on the Committee. Other members of the Committee include representatives from Coastal, Urban and Inland Catchment Management Boards, and a person with an interest in the environment. Indigenous people have no clearly identified statutory position on the Committee. (NSW Irrigators' Council 2003, pp. 6–7)

The NSW Irrigators' Council (2003, p. 7) also argued that the development of catchment blueprints was 'highly bureaucratic, with (Government) agencies making up considerable numbers on boards.'

Some criticisms raised in submissions to the 2003 NCP assessment reflect the findings of the Wentworth Group Report (Wentworth Group 2003), commissioned by the New South Wales Premier in 2002. The report considered that the regional approach to catchment management, as set out

in the national action plan, had not been effectively implemented in New South Wales. Instead, a more centralised approach had been adopted, which the Wentworth Group argued had not been successful. According to the report:

A central reason for the failure of the existing arrangements to produce outcomes is the failure to set practical outcome based standards and to develop guidelines on how to interpret these standards at the catchment level. (Wentworth Group 2003, p. 12)

The report considered that arrangements could be improved by replacing the current State Catchment Management Coordinating Committee (which the report argued is essentially an interdepartmental committee) with an expert-based, natural resource management commission. The commission should report directly to the Minister on a range of matters, including: Statewide standards and targets (for native vegetation, water quality, salinity, biodiversity and soil conservation); the accreditation of catchment strategies against these standards and targets; and the funding priorities for implementing catchment strategies. The report also advocated a shift towards greater regionalisation in the administration of catchment management. The New South Wales Premier announced in March 2003 that the Government welcomed the Wentworth Group Report and many of its recommendations, and would allocate A\$120 million of funding over four years (Carr 2003).

Discussion

The Council found in 2001 that New South Wales was devoting considerable resources to integrated catchment management and meeting its NCP commitments in this area. The principal achievement since 2001 has been the development and Government endorsement of 21 catchment blueprints covering the whole of New South Wales. The blueprints cover water quality and water quantity issues and set a hierarchy of targets that reflect approaches under national and State guidelines. The blueprints incorporate salinity targets and management actions, and dovetail with arrangements under the national action plan. The next stage of reform, which is under way, is the development of accredited investment strategies to implement the catchment blueprints.

Other developments since 2001 include:

- refinements to the administrative framework in 2003 to improve coordination of natural resource management;
- bilateral agreements between New South Wales and the Commonwealth Government on the National Action Plan for Salinity and Water Quality and Natural Heritage Trust extension;
- ongoing work by the Healthy Rivers Commission; and

- the Wentworth Group Report into land clearing and catchment-related issues.

The 2002 supplementary NCP assessment of water reform in New South Wales (NCC 2003b) considered the Government's actions on providing water for environmental purposes to stressed and overallocated river systems (see section 1.4). In the supplementary assessment, New South Wales advised that the catchment blueprint process and the water quality objectives in place for each major river system are significant mechanisms for managing water use to recognise ecological values. The Government considered that these mechanisms satisfy its obligation to manage all water uses in a manner that recognises ecological values (principle 9 of the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems).

There is evidence in the catchment blueprints that New South Wales has considered water use issues, including the relationships between water use and ecological values. The Murrumbidgee catchment blueprint, for example, sets a catchment target for water quality and flow, supported by management targets and prioritised management actions. The supporting documentation includes the National Water Quality Management Strategy (NWQMS), interim State environmental objectives for the Murrumbidgee River and Lake George catchments,¹³ and the State Water Management Outcomes Plan. The broad catchment target for water quality and flow for the Murrumbidgee Catchment as a whole is as follows:

By 2012, in the Murrumbidgee River and its main tributaries, suspended sediment levels will be reduced so that they meet the interim NSW Water Quality Objectives. Flows and water extractions will be managed to maintain or improve river health consistent with the River Flow Objectives (RFOs) and the Murray–Darling Basin Ministerial Council Cap. (Murrumbidgee Catchment Management Board 2003, p. 22)

Several submissions commented adversely on the coordination of natural resource management, the representation of stakeholders, and the role of the national action plan in catchment management priorities. The Wentworth Group Report suggested refinements to the administrative framework and changes to stakeholder representation arrangements, including on the State Catchment Management Coordinating Committee.

New South Wales recognises the need for improved coordination, and made changes to the administrative framework for natural resource management in 2003. In particular, the Government established the Department of Infrastructure, Planning and Natural Resources to deliver integrated infrastructure, land-use and natural resources management. New South Wales advised that it will implement additional institutional, legislative and

¹³ New South Wales established interim environmental objectives for all river systems in 1999. See section 2.5 on 'NWQMS'.

policy reforms once the Sinclair review on Native Vegetation Reform Implementation¹⁴ and the Kibble review of PlanFIRST¹⁵ have reported.

The State's integrated catchment management arrangements continue to be developed in the context of the national action plan and the Natural Heritage Trust extension. This approach is consistent with New South Wales' NCP obligations to implement integrated catchment management. Moreover, the natural resource management framework in New South Wales appears to facilitate consideration of, and support for, land care practices to protect rivers with high environmental values.

Assessment

The Council considers that New South Wales made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, New South Wales:

- implemented administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopted an integrated catchment approach to water resource management and set in place arrangements to consult with local government and the wider community in individual catchments; and
- recognised the need to continue to improve the administrative framework for natural resource management in the State.

As part of its full assessment of the entire water reform package in 2005, the Council will consider:

- progress by New South Wales in implementing catchment blueprints, including accreditation and implementation of blueprint investment strategies; and
- the Government's policy response to the Wentworth Group report.

¹⁴ The Government appointed the review in 2003 to consider implementation of the Wentworth Group Report.

¹⁵ PlanFIRST is a Government initiative to modernise the State's plan making system, and focuses on a holistic approach that integrates economic, social and environmental issues. The Kibble review was set up following the establishment of the Department of Infrastructure, Planning and Natural Resources in 2003.

2.5 National Water Quality Management Strategy

Assessment issue: New South Wales is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council was satisfied that New South Wales was meeting its 2001 obligations on NWQMS implementation.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and 8(d)

The New South Wales Government is implementing the NWQMS through a range of programs using market-based instruments, regulatory controls, water quality monitoring and catchment management policies.

Water quality objectives

The New South Wales Government approved interim environmental objectives for water quality and river flow for all State rivers and estuaries in 1999. The interim objectives remain in place until the Healthy Rivers Commission develops longer term environmental objectives for particular catchments through independent inquiries undertaken for each catchment. In undertaking its inquiries, the commission has regard to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4). Its goal, however, is to develop environmental objectives for the whole ecosystem, rather than confining its approach to water quality and river flow objectives (Healthy Rivers Commission 2003b, p. 38). The objectives developed by the commission are intended to assist catchment management, including the development of water sharing arrangements.

In 2002, the Environment Protection Authority released a consultation paper setting out proposed marine water quality objectives for New South Wales coastal waters (EPA 2002). Once finalised, environmental objectives will be in place for all State waters. New South Wales draws on the methods in NWQMS paper no. 4 to:

- identify the environmental values of water bodies to be protected, for example, aquatic ecosystems and recreational uses; and
- establish water quality objectives, or management goals to help ensure that nominated values are protected.

New South Wales assesses the achievement of water quality objectives by monitoring water quality indicators. The State uses indicators and associated numerical criteria drawn from the Australian Guidelines for Water Quality Monitoring and Reporting 2000 (NWQMS paper no. 7). The numerical criteria are termed ‘trigger values’ — when exceeded, they signal the need for management action.

The water quality objectives are intended to assist catchment and water management planning by identifying local pressures on water quality and setting benchmarks to assess the effectiveness of management actions. The objectives provide key water quality indicators that can be monitored over time.

In turn, the catchment blueprints are a key mechanism for achieving catchment and Statewide water quality objectives. The blueprints establish targets for vegetation management, which will have a direct bearing on water quality outcomes. Some blueprints establish specific targets for managing salinity.

Government regulation

The enhancement of water quality is a key objective of the *Water Management Act 2000*. The Act integrates and consolidates water legislation covering all water sources in the State. Some provisions account for water quality considerations. In particular, the Act addresses water quality issues through:

- the State Water Management Outcomes Plan; and
- water sharing plans.

The State Water Management Outcomes Plan

The State Water Management Outcomes Plan sets the overarching policy context, targets and strategic outcomes for the development, conservation, management and control of the State’s water sources. The plan was gazetted in December 2002 and has effect for five years, after which it will be reviewed and updated.

The plan explicitly provides for the protection and enhancement of the environmental services of aquatic ecosystems, while delivering a framework for using water to meet human needs. It provides direction for management plans addressing water sharing, water use, floodplain management, controlled activities and aquifer interference, and environmental protection. The plan sets long-term outcomes and five-year management targets for water management. Some 27 of its 38 targets address NWQMS requirements.

These outcomes and targets span regulated rivers, unregulated rivers, groundwater, estuarine and coastal water sources.

The Act requires the plan to be consistent with interim environmental objectives for water quality and river flow objectives (established in 1999), as well as longer term objectives set by the Healthy Rivers Commission (see above). The Act also requires the interim objectives to explicitly address future water resource management and actions.

Section 9 of the Act requires all government agency functions exercised under the Act to be in accordance with the State Water Management Outcomes Plan. Licences and approvals, for example, must not detract from the achievement of the plan's outcomes and targets.

Water sharing plans

Water sharing plans under the Water Management Act have been prepared for 80 per cent of the State's surface and groundwater extraction (totalling 35 water sharing plans including 10 for groundwater sources). Although the principal focus of these plans is on the quantity allocated for extractive uses and the environment, the plans also address water quality through:

- maintaining minimum river flows;
- setting commence-to-pump levels in unregulated rivers and environmental flows in regulated rivers, so as to maintain flow and oxygenation, maintain salinity at acceptable levels and prevent the accumulation of nutrients and pollution in stagnant pools;
- providing allowances for the prevention of blue-green algal blooms; and
- providing contingency allowances for wetland and floodplain inundation.

The Act also provides the legislative framework for implementing policies to protect groundwater-dependent ecosystems. Water sharing plans for groundwater sources contain provisions to protect water quality.

- Local impacts are managed via restrictions on access if that is causing a decline in water quality. Falls in water quality are deemed unacceptable if extraction is likely to reduce the water quality to a lower beneficial use class. The use classes are based on NWQMS paper no. 4 and the National Health and Medical Council's Raw Water for Drinking Purposes Guidelines 1996.
- During the construction of new bores, if saline or polluted water is encountered above the producing aquifer, then the water must be sealed off by casing to a sufficient depth to exclude the saline or polluted water from the work.

- Performance indicators include an indicator on the change in groundwater quality to ensure groundwater extraction does not result in a change in beneficial use (that is, a change in the quality) of the aquifer.
- The construction of new bores is not permitted within specified buffer zones (100–250 metres) from contaminated sources listed in a schedule to a plan. These generally involve waste/landfill sites, industrial areas, septic tanks and on-farm disposal pits.

Water quality monitoring

The New South Wales Government established the State Water Monitoring Coordination Committee to develop a coordinated, whole-of-Government approach to water monitoring. The Environment Protection Authority chairs the committee.¹⁶

Preparation of a State Water Monitoring Strategy was approved in 2001. As a first step, New South Wales established an interim approach to review, coordinate and streamline current water monitoring arrangements. The interim approach identifies:

- common protocols for water monitoring;
- avenues for accessing and sharing information; and
- current monitoring programs as a basis for considering future programs.

Data collected under the monitoring strategy will be made publicly available via the Community Access to Natural Resource Information website (www.canri.nsw.gov.au).

New South Wales has about 30 water quality monitoring programs, including agency programs established to meet information needs of the Government (EPA 2003, p.6). The Environment Protection Authority identified several gaps in the State network, including limited monitoring of the ecological condition of waterways and limited ongoing biological and microbiological monitoring in estuarine and coastal systems (EPA 2003, pp. 9–10).

¹⁶ The other member organisations are the Department of Infrastructure, Planning and Natural Resources, NSW Fisheries, the Sydney Catchment Authority, the Sydney Water Corporation, the Hunter Water Corporation, the NSW National Parks and Wildlife Service, State Forests of NSW, NSW Health, NSW Agriculture, the Local Government and Shires Association, NSW Waterwatch, the Commonwealth Scientific and Industrial Research Organisation, the Murray–Darling Basin Commission and the NSW Coastal Council.

Most indicators for physical and chemical properties and contaminants in use can be directly compared to an environmental quality benchmark value such as the trigger values in NWQMS paper no. 7, or site-specific trigger values developed in accordance with that paper. Some of the biological indicators can also be compared to benchmark values. The Environment Protection Authority stated, however, that no benchmark has yet been fully developed for many biological indicators, geomorphological and hydrological measurements. New South Wales is developing benchmarks through programs such as the Integrated Monitoring of Environmental Flows Program (EPA 2003, p. 3).

The water monitoring (river gauging) network continuously monitors temperature and conductivity (indicators of salinity) at an increasing number of gauging stations. The Department of Infrastructure, Planning and Natural Resources is also engaged in integrated monitoring projects, including the Integrated Monitoring of Environmental Flows and the Murray–Darling Basin Commission’s Sustainable Rivers Audit pilot studies. The Sustainable Rivers Audit is considering a number of indicators at a catchment level. Once these indicators have been tested and verified during a pilot program that is under way, New South Wales will consider their adoption.

Market-based measures to promote water quality

New South Wales uses a variety of market-based measures to promote environmental outcomes in areas such as conserving biodiversity, reducing salinity, rehabilitating wetlands, allocating water within environmental limits and reducing in-stream nutrient levels. These instruments aim to modify behaviour by incorporating into market signals some or all of the costs that consumers or producers impose on others in the community through their use of natural resources.

- In June 2002, the Minister for Land and Water Conservation launched an Environmental Services Scheme that rewards rural landholders who help the environment through good land management. Land use initiatives supported through the scheme include the planting of native species using tubestock or direct seeding, commercial tree planting and earthworks for improved drainage.
- The Environment Protection Authority administers market-based measures to manage point-source pollution. Since July 1999, load-based pollution licensing has based the discharge fee on the pollution load released, to create pricing incentives for polluters to perform beyond minimum compliance standards.

- The Hunter Salinity Trading Scheme manages salt concentrations in the Hunter River by limiting the amount of saline mine water that can be discharged under normal flow conditions. Mine water must be stored on site and discharged when high river flows are capable of diluting it sufficiently. The scheme allows mines with the capacity to store large volumes of saline mine water to sell salinity discharge credits to mines where it is not viable to construct sufficient storage capacity.
- The TARGET Project, in the central west of the State, forms part of the NSW Salinity Strategy. The project aims to use incentives to bring about large-scale land use changes in areas that have been identified as major contributors to salinity in the Murray–Darling Basin.
- The Liverpool Plains Incentive Program, also part of the NSW Salinity Strategy, provides financial incentives to landholders to change land use and land management for biodiversity and salinity benefits. While focusing on addressing land degradation, the scheme also covers water quality.

Drinking water guidelines

NSW Health endorsed the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6). The guidelines are applicable to any water intended for drinking, regardless of whether it comes from rivers and streams, underground sources such as bores, or rainwater tanks. New South Wales water authorities report their water quality compliance against these guidelines. NSW Health provides a drinking water testing service to water authorities to assist water quality monitoring.

The New South Wales metropolitan urban water service providers (the Sydney Water Corporation, the Hunter Water Corporation, Gosford City Council and Wyong Shire Council) complied with the microbiological and physical/chemical requirements of the water quality standards set out in their licence in 2000-01. Each utility reports against the 1996 Australian Drinking Water Guidelines (DLWC 2002b, WSA 2003).

New South Wales reported that in 2001-02, 71 per cent of nonmetropolitan water utilities complied with the microbiological water quality guidelines for *E. coli*, and 58 per cent complied for total coliforms; while 83 per cent of nonmetropolitan utilities complied with the physical guidelines and 82 per cent complied with the chemical guidelines. Ten per cent of nonmetropolitan utilities did not report on physical compliance and 6 per cent did not report on chemical compliance. The Government stated that all utilities should carry out and report on the necessary sampling in future (DLWC 2002b, p. xiii).

Wastewater management

The NSW Water Conservation Strategy, released in October 2000, contains 19 strategies and 55 actions to promote significant improvements in water conservation. In rural New South Wales, the Country Towns Water Supply and Sewerage Program provides for technical, management and financial support to local government in the provision of water supply and sewerage services. The program, which was revised in 2000, targets best management practices in the planning and delivery of services. Integrated urban water cycle planning is a condition of the program, which has incorporated wastewater pilot projects such as those at Rouse Hill, Shoalhaven Heads, Albury Wodonga, Quaker's Hill and the lower Hunter. In 2003, the Government announced a doubling of funding for the Shoalhaven Water Recycling Project (Minister for IPNR 2003).

The Ministry of Energy and Utilities reports annually on performance monitoring of all of the State's utilities in water supply and sewerage services. To improve coverage of social and environmental issues, all nonmetropolitan utilities were required to report on an additional 23 social and environmental indicators in 2001-02. The most recent data indicate that the Gosford City Council, the Hunter Water Corporation and the Sydney Water Corporation complied in 2001-02 with their Environment Protection Authority licence for wastewater (WSAA 2003).

Stormwater management

The New South Wales Government launched the Waterways Package in May 1997 to improve urban stormwater management and reduce waterway pollution. The package established:

- a Stormwater Trust Grants Scheme, which allocated A\$51 million to local governments to undertake 252 stormwater projects throughout the State;
- an Urban Stormwater Education Project to educate the community, industry, local councils and other stakeholders about reducing urban stormwater pollution; and
- a stormwater management planning process, whereby local councils are required to prepare stormwater management plans on a catchment basis.

Over 20 projects have been implemented in catchments across the State. The Government allocated an additional A\$20 million to the program in 2001-02, based on the positive outcomes achieved.

Discussion and assessment

New South Wales continues to make progress in implementing the NWQMS framework through a range of policies and initiatives. Significant developments since 2001 include:

- the development of long-term environmental objectives by the Healthy Rivers Commission for a number of river systems, drawing on NWQMS guidelines;
- the release of an Environment Protection Authority consultation paper on marine water quality objectives, drawing on NWQMS guidelines;
- the gazettal of the State Water Management Outcomes Plan, which sets overarching policy contexts, targets and strategic outcomes for water resources, accounting for the NWQMS requirements;
- water quality initiatives implemented through water sharing plans under the Water Management Act;
- the release of an interim approach to reviewing, coordinating and streamlining water monitoring arrangements;
- the development of new water quality benchmarks in accord with NWQMS methods;
- ongoing work on market-based measures to improve water quality; and
- an extension of the stormwater package.

The Council considers that New South Wales made satisfactory progress for the 2003 NCP assessment in implementing policies that reflect the NWQMS guidelines. As part of its full assessment of the entire water reform package in 2005, the Council will consider the State's progress in:

- developing marine water quality objectives;
- refining water quality monitoring arrangements; and
- achieving compliance of nonmetropolitan water utilities with the Australian Drinking Water Guidelines.

2.6 Water legislation review and reform

Assessment issue: New South Wales is to have reviewed and, where appropriate, reformed all legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

New South Wales's schedule of legislation review and reform activity lists 18 Acts, all of which were repealed by the Water Management Act. This Act improves the State's arrangements for water management (including water trading). While the provisions in the Water Management Act relating to water licensing and trading, as well as the first round of water sharing plans, are now scheduled not to commence until January 2004, this is to accommodate foreshadowed work by CoAG on a new intergovernmental water agreement.

The Council considers New South Wales has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation.

3 Victoria

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for Victoria in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing (full cost recovery); the provision of water to the environment in stressed and overallocated river systems; intrastate water trading arrangements; the remaining institutional reform requirements (separation of the responsibilities of water industry institutions and integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the review and reform of water industry legislation that restricts competition. The National Competition Council assessed Victoria's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by Victoria towards meeting water reform obligations on rural water pricing and converting existing water allocations to new water entitlements (which will be assessed in 2004).

3.1 Water and wastewater pricing

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.

- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3a, 3b, 3c and 3d, and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Full cost recovery

Regional urban water authorities

Assessment issue: Victoria is to demonstrate that water and wastewater pricing by regional urban water authorities will achieve full cost recovery, in accord with the CoAG pricing principles. In 2001, Victoria set a three year price path with the objective of ensuring urban water authorities recover costs between the lower and upper bounds of commercial viability by 30 June 2004.

Next full assessment: The Council will assess Victoria's implementation of the CoAG obligations on full cost recovery relating to the water industry again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

There are 15 regional urban water authorities (RUWAs) in Victoria: Barwon Water, Central Gippsland Water, Central Highlands Water, Coliban Water, East Gippsland Water, Glenelg Water, Goulburn Valley Water, Grampians Water, Lower Murray Water, North East Water, Portland Coast Water, South Gippsland Water, South West Water, Western Water and Westernport Water. Collectively, these authorities represent some 575 000 property connections (about 30 per cent of the State's connections).

Victoria conducted a review of prices of water, drainage and sewerage services in 2001 (DNRE 2001a), with the objective of establishing minimum price increases for these services to apply from 1 July 2001 to 30 June 2004. The price review culminated in the establishment of a three-year price determination for water, sewerage and drainage services (including those provided by RUWAs) from 1 July 2001 to 30 June 2004. The review sought to establish prices that would fall between a floor price that ensures commercial viability and a ceiling price that avoids monopoly rents, consistent with CoAG pricing principles. Victoria is in the final year of the price determination. Victoria's June 2003 estimates of cost recovery, which represent the

anticipated outcomes of the second year of the price determination, indicate that all 15 RUWAs achieved the lower bound of full cost recovery in 2002-03.

Victoria advised that the RUWA's achievement of long-term viability involves three steps. Step 1 involved each RUWA increasing prices to achieve full cost recovery and financial viability. Price increases differed across the RUWAs, reflecting the different financial circumstances of each authority and the different price outcomes necessary for each to achieve cost recovery. Step 2 involves consideration of structural and pricing issues in the Victorian Government's green paper, *Securing our water future*, released on 27 August 2003 (DSE 2003). Step 3 involves bringing the water industry under the jurisdiction of the Essential Services Commission, which will occur from 1 January 2004 (12 months later than the date Victoria originally intended). The first water and wastewater price review by the Essential Services Commission will take effect on 1 July 2005.

Victoria's objective is to achieve sustainable water and wastewater businesses. Victoria's intention is to use the green paper to develop a set of pricing principles to guide the way that water authorities structure their water and wastewater prices. At a minimum, prices are to recover operating expenditure, a return on past investments to cover the interest cost on debt, provision for asset renewal, the cost of financing new investments and any dividends.

The green paper states that the Victorian Government will ensure that, from 1 January 2004, all water prices are set in accord with the cost recovery pricing principles being developed through the green paper. The mechanism for this will be a water industry regulatory order, which the Government will finalise before 1 January 2004. The Government will also incorporate the cost recovery pricing principles into the arrangements for the Essential Services Commission's economic regulation of the water industry. It will ask the commission to ensure that water prices are consistent with the Government's cost recovery principles when the commission undertakes its first price review.

Discussion and assessment

Victoria's cost recovery estimates at June 2003 indicate that all RUWAs reached the lower bound of full cost recovery. The Government's green paper, which is investigating pricing principles for achieving sustainable businesses, will help to clarify cost recovery issues, and provide a consistent approach across the water industry. In addition, economic regulation of the water industry by the Essential Services Commission will assist the achievement of appropriate and transparent pricing outcomes by all urban and rural water authorities. Accordingly, the Council considers that Victoria has satisfactorily addressed urban water and wastewater pricing obligations for this 2003 NCP assessment.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for costly investments, where it is cost-effective to introduce consumption-based pricing. In the 2001 NCP assessment, Victoria indicated that two-part tariffs had been implemented throughout.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)–(c)

In the 2001 NCP assessment, the Council found that the widespread adoption of volumetric charges as part of a two-part tariff and the absence of free water allowances ensured that water users across the State had a strong incentive to use water efficiently. The Council assessed Victoria as complying with its consumption-based pricing obligations.

Rural water pricing: progress report

Progress report: Victoria is to demonstrate significant progress towards achieving full cost recovery for irrigation districts. In the 2002 NCP assessment, the Council found that some irrigation districts in the Goulburn–Murray region were not recovering full costs as defined by the CoAG pricing guidelines. Victoria also proposed to refine approaches to renewals annuities and asset valuations.

Next full assessment: The Council will next assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

Rural water services are delivered by five regional water authorities. These authorities manage irrigation systems and services, manage stock and domestic systems, manage headworks such as large dams, and licence private diversions and conduct environmental management activities. Goulburn–Murray Water is by far the largest authority, accounting for 90 per cent of all entitlements used for irrigation, and supplying bulk water services to two other rural water authorities and several regional urban water areas.

Victoria advised that cost recovery estimates for four of the six irrigation supply services operated by Goulburn–Murray Water (Shepparton, Central Goulburn, Campaspe and Pyramid–Boort Gravity Irrigation Supply Services indicate that they are on track to achieve full cost recovery in 2002-03. The Rochester and Woorinen Gravity Irrigation Supply Services are progressing to full cost recovery, and Victoria expected this service to achieve full cost recovery in 2003-04.

In the 2002 NCP assessment, the Council observed that six irrigation supply services supplied by Goulburn–Murray Water were not recovering costs. Goulburn–Murray has had four consecutive years in which sales revenue was well below normal levels as a result of the drought reducing the amount of water in the Goulburn system. Goulburn–Murray is implementing a tariff reform program, reflecting the findings of the financial review of the Shepparton and Central Goulburn irrigation supply services undertaken by Marsden Jacob Associates during 2001. (The financial review found, among other things, that there are significant opportunities to reform tariff structures to reduce or eliminate revenue volatility.) Goulburn–Murray Water commenced its tariff reform program in 2001-02, by introducing a service fee for all of its services. In 2002-03, it introduced an entitlement storage fee to recover the costs associated with ensuring reliability of water entitlements. The authority will introduce an additional service point fee and infrastructure access and usage fees in 2003-04. This will complete the tariff reforms for irrigation supply services. The implementation of a multipart tariff provides improved signals to customers about the type and costs of services provided and improved business viability by reducing revenue volatility.

Victoria is considering its approach to renewals annuities and asset valuation in the green paper.

River Murray Water cost allocation: progress report

Progress report: The Murray–Darling Basin States are to outline their policy approach to passing on River Murray Water costs to water users.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The Murray–Darling Basin Commission’s independent audit of cost sharing arrangements (2001) argued that the following actions are necessary to provide clear price signals to water users.

- All River Murray Water costs need to be recognised and all subsidies and community service obligations disclosed.
- Financial and pricing information for River Murray Water should be publicly available.
- State governments should disclose on a per megalitre basis the level of subsidy and/or community service obligation provided to each water business that receives bulk water from River Murray Water.

Disclosure of the level of subsidy is particularly important because the States have different policies on passing on River Murray Water costs to water users. Victoria's share of River Murray Water costs is apportioned between the State Government and Goulburn–Murray Water as the designated construction authority for the River Murray. The approach to apportioning costs is based on distinguishing between costs relating to broad community benefits and those relating to benefits to irrigators from River Murray Water's operations. Under this approach, the Victorian Government bears the costs relating to broad community benefits while the cost of services to irrigators is borne directly by Goulburn–Murray Water's customers. This approach is premised on the principle that Goulburn–Murray Water's customers should be charged a fair and equitable share of River Murray Water costs.

Victoria has developed principles for determining Goulburn–Murray Water's share of the State's contribution to funding River Murray Water, which are applying as an interim measure because of uncertainties regarding the future commercial reform of River Murray Water. Victoria advised that it will refine its approach as River Murray Water's business develops. In 2001-02, under the interim principles, irrigators paid \$6.629 million of Victoria's \$12.917 million share of River Murray Water costs. Irrigators paid \$8.38 million of Victoria's \$14.245 million share of River Murray Water costs in 2002-03.

Regional urban water authorities: asset valuation

Assessment issue: For price-setting purposes, Victoria is to apply water and wastewater infrastructure asset values based on the deprival method unless it can justify an alternative approach. In the 2002 NCP assessment, the Council found that the asset valuation method applied in price setting for regional urban water authorities was unclear.

Next full assessment: The Council will assess Victoria's implementation of the CoAG obligations on asset valuation again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

Victoria's 2001 price review canvassed two asset valuation methods for application to the water and wastewater industry. The two methods were the 'line in the sand' approach and the optimised depreciated replacement cost method.

- The line in the sand approach involves establishing the appropriate value of each water business's past investment in infrastructure, and setting water and wastewater prices that ensure each business's future cash flows (discounted by the cost of capital) are sufficient to operate and renew existing supply systems and efficiently invest in new systems.

- The optimised depreciated replacement cost method values water infrastructure on the basis of the capital cost that a competitive new entrant would incur if it entered the market. It reflects the optimal configuration and sizing of the network, so removing the effect of any ‘gold plating’, planning decisions that proved incorrect in hindsight, excess capacity and the consequences of development patterns.

Victoria indicated at the time of the 2001 price review that it would apply the ‘line in the sand’ approach to determine regulatory asset values for pricing purposes. It considered this approach to be appropriate because it reduces the complexity of valuing existing infrastructure when information on the original cost of existing investments may be unavailable, technological change may have altered both the cost and functionality of modern equivalent assets, and prices may have been struck for services without adequate regard to the cost of past investments. Victoria also noted that some water infrastructure assets may never need to be replaced. Victoria indicated that the ‘line in the sand’ approach would better achieve the objective of ensuring consistency between current and future water prices, avoiding a process whereby existing asset values, however determined, become an artificial driver of water prices. The Government also considered that the ‘line in the sand’ approach would be consistent with that adopted by most other infrastructure businesses in Australia for which formal periodic price reviews are undertaken.

The consultants that undertook Victoria’s 2001 pricing review developed regulatory asset values using the line in the sand approach. In estimating the opening regulatory asset values for price modelling purposes, the consultants used the higher of the values from applying the recoverable amounts test¹ and written down historical cost. Because of the Government’s concern about the impact on some consumers of the price increases that would result from using the line in the sand opening regulatory asset value, it set price increases for the three years of the price path at consumer price index (CPI) plus two percentage points, CPI plus one percentage point and CPI. It also provided scope, however, for flexibility to increase prices above these levels to achieve full cost recovery objectives.

Between the 2001 price review and the 2003 NCP assessment, Victoria commenced work to achieve a more consistent application of asset valuation methods across the water sector. In October 2002, Victoria established a working group to review how the accounting standard fair value should be applied to the infrastructure assets of water businesses. The working group released a draft accounting and financial reporting bulletin, *Revaluation of water and rail infrastructure assets*, to water businesses for comment in April 2003. Victoria advised that pending the outcome of this consultation, it would determine the need for a water industry-specific statement on asset valuation and reporting.

¹ The recoverable amounts test asset valuation is determined by discounting a businesses expected future cash flows by the weighted average cost of capital. The cash flows should only relate to the existing asset base.

The August 2003 green paper considers asset valuation in the context of long-term business viability and businesses' ongoing capacity to deliver services. At a minimum it proposes to ensure that water authorities generate sufficient revenue to undertake the appropriate renewals expenditure required to maintain the serviceability of existing assets.

Discussion and assessment

The CoAG pricing principles recommend that, for the purposes of setting water and wastewater prices, infrastructure be valued using the optimised deprival value method unless specific circumstances justify using an alternative. The optimised deprival value method values assets at the lower of economic value and optimised depreciated replacement cost.

Victoria will develop its approach to water and wastewater pricing, via the green paper, by 1 January 2004. The green paper indicates that the Government intends to establish an asset valuation method that achieves consistency in pricing across businesses wherever possible. In this regard, the Government proposes to determine a starting asset value for each business, and set prices to ensure that businesses can appropriately maintain existing infrastructure and invest efficiently in water infrastructure. The Government proposes to incorporate these asset values in a water industry regulatory order, which should assist a consistent approach into the future.

Externalities

Assessment issue: Victoria is to show transparently how water and wastewater prices incorporate externalities (defined by CoAG for water pricing to be the environmental and natural resource management costs attributable to and incurred by water businesses). In the 2002 NCP assessment, Victoria reported that costs attributable to natural resource management obligations are included in prices charged by the rural urban water authorities but that the aggregation of the information provided by the authorities means that these costs are not separately identifiable.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; Expert group report on externalities

Victoria advised that wastewater management is the major environmental issue facing the metropolitan and regional urban water businesses. The Government manages wastewater via the issue of wastewater business licences that impose obligations regarding the discharge of treated effluent. The operating licences of the metropolitan urban retail water businesses include, for example, obligations to report to the Environment Protection Authority on compliance with:

- the conditions of any waste discharge licence issued by the Environmental Protection Authority;
- State environmental pollution policy requirements; and
- performance criteria specified in an environmental improvement plan.

The Environment Protection Authority licences for the discharge of treated effluents are public documents. The costs of meeting the licence requirements were included in the financial submissions to the 2001 price review. Accordingly, licence costs were considered in the determination of the revenue required by each urban water business, so are incorporated in prices.

The green paper proposes an increase in water prices so that prices better reflect the scarcity of water resources and the costs related to the impact on the environment of providing water-based services. Victoria considered that bringing the water industry under the jurisdiction of the Essential Services Commission will make the aggregated natural resource management costs more transparent.

Discussion and assessment

Managing water use to reduce environmental and other externalities is a complex task, often involving a suite of measures, including regulation and pricing. The 2001 price review considered the cost of externalities as part of a building block approach to determining the cost of efficiently delivered water and wastewater services. It did not clarify the effect of externalities on prices, however, so did not address the CoAG obligation that the costs of natural resource management requirements imposed on businesses be made transparent.

Victoria's green paper provides an opportunity to investigate the potential for using pricing to appropriately manage externalities, and to ensure via pricing that the external costs of water use are visible. The approach to externalities signalled by Victoria goes further than the CoAG pricing obligation that prices transparently reflect environmental and natural resource management costs attributable to and incurred by water businesses.

Taxes and tax equivalent regimes

Assessment issue: Victoria is to apply tax and/or tax equivalent regimes for metropolitan and regional urban water and wastewater service providers. In the 2001 NCP assessment, Victoria advised that all metropolitan service providers are subject to the State's tax equivalent regime, and that metropolitan services would also be subject to the national tax equivalent regime from July 2002. Victoria advised that it would introduce a State-based tax equivalent regime for regional urban and rural water authorities in July 2001.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; Expert group report on tax equivalent regimes

Victoria introduced a State-based tax equivalent regime to apply from 2001-02 for all regional urban and rural water authorities. This regime comprises the national tax equivalent regime (previously, income tax) and local government rates. The regional urban and rural water authorities also face local government rates, subject to the general exemptions that apply under the *Local Government Act 1989*.

Discussion and assessment

Victoria's tax and tax equivalent arrangements are consistent with CoAG water pricing principles.

Dividends

Assessment issue: Dividends, where required, are to be set at a level that reflects commercial realities and simulates a competitive market outcome. In the 2002 NCP assessment, the Council received insufficient information from Victoria to enable it to determine whether Victoria's method of determining dividends (or the actual dividend payments) reflect commercial realities.

Next full assessment: The Council will assess Victoria's implementation of the CoAG obligations on dividends relating to the water industry again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

The metropolitan urban retail and wholesale water businesses and the RUWAs operate under the standard government business enterprise dividend framework. Under this framework, dividends are determined by reference to two general benchmarks: dividends equivalent to 50 per cent of net profit after tax, and dividends plus income tax payments equivalent to 65 per cent of pre-tax profit. The dividend level for an individual business may vary from the benchmarks as a result of the liquidity of the business, its capital requirements, and gearing and interest cover.

This commercial dividend arrangement, based on profitability and the government business enterprise dividend benchmark, was introduced to the RUWAs in 1999. In the 2002 NCP assessment, Victoria undertook to work on the details of a commercially-based dividend framework, consulting with the RUWAs and the rural water authorities as part of that process. Victoria's green paper will consider consistent dividend arrangements across the water industry in the context of future corporate governance arrangements for the industry.

Discussion and assessment

The Council considers that a reasonable interpretation of the level of dividend that accords with 'commercial reality' is the corporations law requirement that dividends be paid only out of profits (the current year's profit as well as accumulated retained profits). This approach provides some safeguard against water and wastewater service providers having insufficient financial resources to properly conduct their businesses. It is also consistent with the competitive neutrality obligations of the intergovernmental Competition Principles Agreement, which require that government-owned businesses face the same costs and pressures as those facing the private sector.

At the time of this 2003 NCP assessment, Victoria had not progressed its undertaking to work on a commercially-based dividend framework for the water industry. The water industry green paper is, however, considering dividend policy. Notwithstanding the absence of a water industry dividend framework, under the standard public sector dividend framework, the level of dividend paid by water businesses is unlikely to exceed the corporations law benchmark. Given that Victoria is considering a dividend policy for the water industry in the green paper, the Council considers Victoria satisfied CoAG pricing obligations on dividends for the 2003 NCP assessment.

Community service obligations

Assessment issue: Victoria is to transparently report the size and nature of community service obligations provided by urban water and wastewater service providers.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoaG water reform agreement, clause 3(a)(ii)

Victoria provides several water industry community service obligations (CSOs): concessions to pensioners, rebates to certain not-for-profit organisations and payments under the Rates and Charges Relief Grant Scheme. The annual value of these CSOs is available from both the Victorian Department of Human Services and relevant businesses.

Victoria's Minister for Environment and Conservation issued a Direction under the *Financial Management Act 1994* requiring regional urban and rural water authorities to report CSOs in their annual reports from 2001-02. For the metropolitan water businesses, Victoria advised that it is determining the most appropriate means of specifying treatment of CSOs. It expected metropolitan urban water and wastewater businesses to report CSOs in their 2002-03 annual reports. The annual reports of the metropolitan retail businesses are prepared in accord with the *Corporations Act 2001*; those of the metropolitan wholesaler, Melbourne Water, are prepared in accord with the *Financial Management Act*.

Discussion and assessment

Victoria's approach to the treatment of CSOs is consistent with the CoAG water pricing principles.

Cross-subsidies

Assessment issue: Victoria is to ideally remove cross-subsidies where they are not consistent with efficient service provision and use or, where they remain, ensure they are transparently reported. In the 2002 NCP assessment, the Council found that Victoria has no guidelines for identifying, measuring and reporting cross-subsidies for the water and wastewater services industry.

Next full assessment: The Council will assess Victoria's implementation of the CoAG obligations on cross-subsidies relating to the water industry again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles

Victoria removed water and wastewater charges based on property valuations in 1997. In the metropolitan sector, businesses set volumetric charges based on long run marginal cost, which ensures no one customer or location pays less than the incremental cost of supply for services received. As a result, Victoria considered that there is much less variation between the average price paid by different customers in metropolitan and regional urban areas. In the 2001 NCP assessment, Victoria reported that it had undertaken three regional urban water sector case studies that found no cross-subsidisation among customer classes for the water businesses that participated in the study.

Victoria's green paper, which will refine the State's approach to water and wastewater pricing, and the transfer of the economic regulation of the water industry to the Essential Services Commission from 1 January 2004 will enable further scrutiny of any remaining cross-subsidies between services and/or customers. Victoria anticipated that increased transparency of pricing matters (including any remaining cross-subsidies) will be a major outcome of economic regulation. It undertook to consider issuing its water businesses with a pricing guideline on cross-subsidies if the new regulatory arrangements show evidence of continuing cross-subsidies.

Discussion and assessment

With all urban water authorities now setting prices on a consumption basis to achieve at least the lower bound of full cost recovery, the likelihood of cross-subsidisation is diminished. In addition, the outcome of the green paper, and economic regulation by the Essential Services Commission, will help to ensure any remaining cross-subsidies are identified and either removed or transparently reported. The Council considers Victoria has met obligations relating to cross-subsidies for this 2003 NCP assessment.

3.2 Water management: water rights and provisions to the environment

Establishment of water rights systems: progress report

Progress report: Victoria is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

Under the *Water Act 1989*, bulk entitlements are issued to rural and urban water authorities and are a legal entitlement to water. A bulk entitlement defines the volume of water that an authority may take from a river or storage, the rate at which it may be taken and the reliability of the entitlement. Bulk entitlements are granted to rural water authorities for the regulated river systems and to urban authorities irrespective of whether they are supplied by regulated or unregulated rivers. When systems of bulk

entitlements are fully implemented, they will cover approximately 95 per cent of diversions from Victorian rivers.

The majority of water entitlements in Victoria are contained within regulated irrigation districts. In these districts, bulk entitlements are issued to the rural water authorities as the basis for providing water to irrigators. Irrigators who pump directly from rivers require a licence to take and use water.² Individual water entitlements in the irrigation districts are listed in a schedule to the bulk entitlement. In the unregulated river systems, water entitlements are provided through licences that allow the holder to divert water. In water supply protection areas, diversions are managed via streamflow management plans, which Victoria is developing on a priority needs basis. Streamflow management plans include rules covering the granting of new water licences and flow sharing (including environmental flows) under a range of flow conditions. Lower priority rivers are subject to Statewide management rules rather than a formal plan.

Licences are also required to extract groundwater. Where water allocations exceed 70 per cent of the sustainable yield of an aquifer, the Government establishes a groundwater supply protection area and develops a groundwater management plan.

Following amendments to the Water Act in 2002, a licence is required for the taking and use of water by all irrigation and commercial water users in a catchment (including for farm dams). Water licences are specified in volumetric terms. Water remains attached to a landholding at all times (with a transfer detaching the water right from the seller's landholding and re-attaching it to that of the buyer). While bulk entitlements are held in perpetuity, water licences are issued for 15 years with a presumption of renewal. The Water Act provides for compensation in certain circumstances.³

In accord with the Water Act, the Department of Sustainability and Environment maintains a public register of bulk entitlements. Rural water authorities are required to maintain registers of water entitlements in irrigation districts and of licences for diversions from unregulated rivers and use from farm dams. The bulk entitlements and streamflow management plans specify the reliability of supply. Third party interests can be noted on the registers.

² Licences are not required for water extraction for basic domestic and stock rights.

³ A water management plan can specify compensation payments for losses or expenses incurred as a result of an authority directing works to be carried out or works (other than a private dam) to be removed. If the enforcement of a plan confers a benefit on one person to the detriment of another, then the person suffering the loss is entitled to seek compensation from the other party.

Reform progress

During 2002-03, Victoria continued the conversion of existing water rights to bulk entitlements. By March 2003, Victoria had granted 18 bulk entitlements, including one during 2002-03. These entitlements cover approximately 85 per cent of the State's total water resources. Progress on the major systems still to be converted to bulk entitlements was slower than Victoria anticipated, principally as a result of the time taken to convert the Melbourne and associated systems and to achieve stakeholder consensus on the Ovens and Broken river systems. (Establishment of bulk entitlements for the Broken River system is close to finalisation.) Work is progressing on the last two major systems, the Wimmera–Mallee and Loddon river systems. With the exception of the Loddon system (and possibly Melbourne), Victoria expected to complete the conversions for all major systems by the end of 2003 and to grant all bulk entitlements by the end of 2004. The status of bulk entitlements is summarised in table 3.1.

Table 3.1: Bulk entitlements in Victoria, as at March 2003

<i>Water supply system</i>	<i>Status of bulk entitlement</i>
Barwon	Finalised 2002
Broken	Process complete, order being drafted
Campaspe	Finalised 1999-00
Central Gippsland rivers – urban	Finalised 1997-98
Central Highlands – major urbans	Finalised 2002
Central Highlands – urban (part)	Finalised 1998
East Gippsland rivers – urban	Finalised 1997
Glenelg – urban	Finalised 1997
Goulburn	Finalised 1995
Grampians – urban	Part of Wimmera–Mallee process
Kiewa/Rubicon – Southern Hydro	Finalised 1997
Latrobe	Finalised 1996
Loddon	Process commenced 2002
Maribyrnong	Finalised 2000-01
Melbourne	Awaiting review of approach to conversion (environmental assessment complete)
Moorabool	Finalised 1995
Murray	Finalised 1999
North East – urban	Finalised 1999
Otway rivers – urban	Finalised 1997-98
Ovens	Final stages of negotiation
South Gippsland rivers – urban	Finalised 1997
Tarago	Dependent on Melbourne system
Thomson/Macalister	Finalised 2001
Werribee	Finalised 1997
Wimmera–Mallee	Process commenced late 2000

For the unregulated rivers, three streamflow management plans (of 42 plans) were completed before 2002-03 and are in operation. By March 2003, a further 28 were in progress, of which 10 were either well advanced or completed but not yet in operation. Victoria advised that the 10 plans will commence operation by late 2003. Preparation of 11 plans was still to commence. Progress has been slower than expected due to the complexities of negotiations, because the plans have an impact on the security of supply of existing licences. Victoria expected the rate of progress to improve now that it has developed a standard procedure for preparing the plans (including guidelines to assist the consultative committees). It anticipated that all of the plans will be finished by June 2004 (see table 3.2).

Table 3.2: Streamflow management plans in Victoria, as at March 2003

<i>River</i>	<i>Plan completion date / target</i>
Albert*	Under review ^a
Avoca	June 2004
Avon/Valencia/Freestone creeks	June 2003
Avon/Richardson	June 2004
Badger Creek*	June 2004
Barwon/Leigh	June 2003
Bunyip/Tarago*	Under review ^a
Dandenong Creek*	Under review ^a
Delatite*	June 2004
Diamond Creek	June 2003
Fitzroy*	Under review ^a
Gellibrand	June 2001
Hoddles Creek	June 2003
Hopkins	June 2003
Kiewa	June 2003
King Parrot Creek	June 2003
Little Yarra	June 2004
Loddon (above Cairn Curran)	June 2004
Merri	June 2001
Mitchell	June 2003
Moe*	Under review ^a
Moorabool	December 2003
Morwell	June 2004
Mt William Creek	June 2004
Nariel Creek	June 2004
Narracan Creek*	Rescheduled ^b
Olinda	June 2004

(continued)

Table 3.2 continued

<i>River</i>	<i>Plan completion date / target</i>
Ovens (above Myrtleford)	December 2003
Pauls Steel and Dixon Creek	June 2004
Plenty	December 2003
Seven Creeks	June 2004
Snowy*	Rescheduled ^b
Stringy Bark Creek	June 2004
Tambo*	Rescheduled ^b
Tarra	June 2004
Upper Latrobe	December 1999
Upper Maribyrnong	June 2003
Upper Wimmera	June 2004
Wandon Yallock Creek*	June 2004
Watts	June 2004
Woori Yallock Creek	June 2004
Yea	June 2003

^a Part of Melbourne bulk entitlement. Schedule to be determined.

^b Rescheduled to commence in 2003.

* Plan not commenced.

For groundwater sources, the Government had established 18 water supply protection areas by March 2003 (table 3.3). Declaration was being sought for a further four areas (Apsley, Upper Loddon, Mid Loddon and Yarram). The Government had approved seven groundwater management plans, and a further seven were to be submitted for approval by 30 June 2003. Initial meetings of consultative committees were being held in the remaining four areas.

Table 3.3: Groundwater management plans in Victoria, as at March 2003

<i>Groundwater supply protection area</i>	<i>Status of plan / target completion date</i>
Bungaree	To be determined
Campaspe Deep Lead	March 2003
Condah	To be determined
Denison	April 2003
Deutgam	March 2003
Katunga	May 2003
Koo Wee Rup–Dalmore	Completed
Murrayville	Completed
Neuarpur	Completed
Nullawarre	Completed
Sale	April 2003
Shepparton Irrigation Area	Completed
Spring Hill	Completed
Telopea Downs	To be determined
Wandin Yallock	To be determined
Warrion	March 2003
Wy Yung	March 2003
Yangery	Completed

Provision of water to the environment

Assessment issue: Governments are to formally determine allocations or entitlements to water, including appropriate allocations to the environment to enhance/restore the health of river and groundwater systems. In allocating water to the environment, governments are to have regard to the work undertaken by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC). Environmental requirements, wherever possible, are to be determined on the best scientific information available and have regard to the intertemporal and interspatial water requirements that maintain the health and viability of river systems and groundwater basins. Governments needed to have made substantial progress in implementing arrangements to provide water to the environment by 2001, including allocations in all river systems that are overallocated or deemed to be stressed. Allocations must be substantially completed by 2005 for all river systems and groundwater resources identified in each jurisdiction's agreed implementation program.

In the 2002 NCP assessment, the Council was satisfied that the mechanisms contained in Victoria's recently developed river health strategy provide the tools for Victoria to meet its stressed rivers commitment and that Victoria's stressed rivers program was on track against the strategy. The Council indicated it would assess the five priority flow rehabilitation plans (for the Thomson, Macalister, Maribyrnong and Lerderderg rivers and Badger Creek) in the 2003 NCP assessment to ensure they deliver environmental outcomes. The Council indicated it would also look for Victoria to have invested in proposals to improve the environmental health of priority stressed rivers.

Next full assessment: The Council will finalise the 2003 NCP assessment of Victoria's progress in implementing CoAG obligations on the allocation of water to the environment in stressed and overallocated rivers in February 2004.

Reference: CoAG water reform agreement, clauses 4(b-f)

Victoria allocates water to consumptive uses and the environment through the bulk entitlement regime for regulated rivers⁴ and streamflow management plans for unregulated rivers (see box 3.1). For groundwater sources, where allocations exceed 70 per cent of the sustainable yield, Victoria establishes a groundwater supply protection area and develops a groundwater management plan.

Box 3.1: Provision of water for the environment through bulk entitlements and streamflow management plans in Victoria

For regulated rivers, water is generally provided for the environment via conditions on the bulk entitlement of the water authority (for example, a requirement on an authority to release a particular environmental flow regime from a storage). In some cases, however, bulk entitlements may be provided specifically for the environment (such as when allocations are required for wetland watering). In stressed reaches of regulated rivers, water authorities are required to review operations to determine whether changes could improve the environmental flow regime without affecting other users, and to develop and implement a demand management program. In these cases, the Government will ensure no further diversions are allowed; consider whether any unallocated water in storages can be used to improve the environmental condition of the reaches before new abstractions are decided; and ensure trading rules facilitate an improvement in the environmental flow regime where possible.

For unregulated rivers, environmental flows are governed by streamflow management plans or, in lower priority rivers, by Statewide management rules. Environmental flows provided through the plans must be sufficient to sustain agreed ecological values and be consistent with Statewide requirements. If achieving the environmental flow requirements is likely to have significant impacts on existing users, then the measures required to meet these flow specifications are to be phased in over a period proposed by the plan.

Where the above processes may not be enough to restore ecological health or may take too long to do so, the relevant catchment management authority and water authority may develop a stressed river proposal in consultation with their communities. The purpose of such stressed river proposals is to achieve further environmental improvement in rivers that are a high priority in the State's regional river health strategy.

Source: DNRE 2002e, chapter 6.

In the 2001 NCP assessment, the Council found that Victoria, while it had improved environmental flow outcomes, had not fully addressed the CoAG obligation concerning environmental allocations in river systems that are overallocated or deemed to be stressed. The Victorian Government, however, committed to a comprehensive three-year program for improving the health of its priority stressed rivers by developing an overarching Victorian River Health Strategy. The program contained specific measures, including flow rehabilitation plans for stressed rivers. Other measures, such as waterway management plans and catchment nutrient management plans to address water quality, are considered in the Council's assessment of Victoria's implementation of integrated catchment management (see section 3.4) and National Water Quality Management Strategy (see section 3.5) reforms.

⁴ Bulk entitlements are also granted to urban water authorities on unregulated rivers.

The Government developed the Victorian River Health Strategy by the 2002 NCP assessment. The Council was satisfied that the mechanisms contained in the strategy provide the tools for Victoria to meet its stressed rivers commitments and that Victoria's stressed rivers program was on track against the strategy. It indicated that it would assess the five priority flow rehabilitation plans (for the Thomson, Macalister, Maribyrnong and Lerderderg rivers and Badger Creek) in the 2003 NCP assessment to ensure they deliver environmental outcomes. The plans are intended to identify the degree of flow stress, consider options for returning water to the environment, and identify and prioritise work or action that may ameliorate flow stress. Based on the recommendations in the relevant plan, a steering committee of stakeholders considers the most appropriate process for implementing the plan. Under the Victorian River Health Strategy, the Government is committed to funding improvements in the flow regimes in two rivers each year for three years.

Reform progress since the 2002 NCP assessment

Victoria advised the following status for the five priority flow rehabilitation plans.

- Victoria completed the Maribyrnong River plan in June 2002. It adopted the recommended environmental flows in most reaches. For the remaining reaches, Victoria considered the implementation of recommended environmental flows was not a priority at this stage.
 - The plan developed detailed environmental objectives for Jacksons Creek and Deep Creek upstream of the main river channel.
 - For Jacksons Creek, the flow objective is to reduce the impact of irrigation releases during the low flow season to return a more natural low flow regime to the river. The plan identified several options that could achieve this, primarily: managing the timing and volume of releases; selecting alternative storage/distribution options (such as off-stream storage and piping water to irrigators); reducing or relocating demand; and finding alternative supply sources for irrigation. The plan acknowledged that some or all of the options may not be able to be fully implemented due to local constraints and the impact on the social and economic values of the catchment.
 - For Deep Creek, the plan noted that, based on existing information, implementation of the cease-to-divert trigger in the streamflow management plan for the area significantly reduced the flow stress. The flow rehabilitation plan identified, however, that a farm and catchment dam assessment, and further investigation and analysis are required to address data inadequacies before the plan can be completed.

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- Victoria advised that its decision not to address the flow stress in the river at this time was based on three factors:
 - the new environmental flow study undertaken as part of the flow rehabilitation plan indicated that the flow stress in the river is not as severe as anticipated (recommended flows have been mostly met, with passing flows fully met in two locations and slightly lower than recommended in a third location);
 - there is insufficient flow information on some river reaches; and
 - the proposed options for reducing the flow stress in Jackson's Creek are expensive or operationally impractical and, given the marginal ecological gains expected, were assessed as not a priority for further action.
 - As the recommended environmental flows were mostly met, the Government referred the plan to the Port Phillip and Westernport Catchment Management Authority to incorporate specific actions to improve river health into its regional catchment strategy and river health planning. If the authority determines the remaining reaches in the Maribyrnong River to be a regional priority, it will be able to apply for funding to fill the information gaps.
 - The Lerderderg River plan was completed in March 2003. While the recommended flow has been met, there was concern about the need for summer flushes and the extended low summer flow period. The main recommended action to improve the river's flow regime is to modify the Lerderderg Weir to enable it to pass fresher and flushing flows. Following completion of a feasibility study and concept design, Victoria allocated A\$360 000 from stressed river funds to modify the weir. As part of this process, Southern Rural Water's and Western Water's bulk entitlements will be reviewed and amended to accord with the new environmental flow provisions. The new environmental flow regime is expected to be implemented in August 2004.
 - The plans for the Thomson and Macalister rivers were expected to be completed by the end of July 2003. Pending finalisation of the plans, for the Thomson River, the minimum environmental flow recommended in the bulk entitlement process (125 megalitres per day) has been provided. For the Macalister River, the base environmental flow has been improved (from 15 to 60 megalitres per day) but the recommended flow (125 megalitres per day) will not be met at this stage. While the two plans are being developed separately, their proposed actions will be formulated and assessed together because the Thomson, Macalister and Yarra catchments are integrated. Victoria established a Ministerial taskforce to consider the recommendations of both plans in conjunction with the social and economic implications of changing the environmental flow provisions in the bulk entitlements for the Thomson and Macalister rivers. The taskforce is expected to report its recommendations to the Minister towards the end of 2003.
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- Victoria considered that a flow rehabilitation plan for Badger Creek is no longer required, because the cause of and solution to the creek's flow stresses are well understood. Instead, Victoria prepared a report detailing the flow stresses, expected solutions and interim works program. The report indicates that the flow stress is caused by extractions to supply water to Healesville. It also indicates that providing the flows required for the environment would result in an unacceptable impact on Healesville's water supply. The proposed solution is to connect Healesville to an alternative water supply (Melbourne's water supply). An upgrade to achieve this connection is scheduled, but not until 2012. In the interim, Melbourne Water identified a range of works to improve the health of Badger Creek. It committed in the order of A\$200 000 to undertake waterway works that will protect and improve the health of the creek. The work will be undertaken in conjunction with Healesville Sanctuary and will include bed and bank stabilisation, flood protection works and improvements to fish passage via the modification of two in-stream structures.

Given that it considered further implementation of the Maribyrnong plan was not cost-effective for the expected environmental benefits, Victoria committed to implementing the streamflow management plan for King Parrot Creek instead. It considered that the plan for the creek offers greater environmental benefits for the level of commitment required.⁵

As Victoria foreshadowed in the 2002 NCP assessment, it reviewed the timetable for the remaining six flow rehabilitation plans following its completion of the Victorian River Health Strategy. The status of these plans is reported in box 3.2.

Box 3.2: Status of the remaining six flow rehabilitation plans in Victoria

Avoca River

The streamflow management plan is under way. Initial indications are that the flow requirements will be met. A wetland management study of the lower Avoca has commenced. A hydrogeological study and a vegetation survey are to be completed by December 2003. The streamflow management plan will assess the impact of farm dams and identify the appropriate level of water-related development for the catchment. The outcome of the wetland studies will determine how a water management plan for the lower Avoca is developed.

⁵ Victoria provided A\$280 000 of stressed river funds to the Goulburn Broken Catchment Management Authority to undertake environmental flow projects for King Parrot Creek.

Loddon River

The bulk entitlement process is under way. An environmental flow assessment identified the need to review the minimum flows and provisions for fresher flows. It is anticipated that some of the environmental flow recommendations will be met through the bulk entitlement process. The impact of supplying the recommended environmental flows on security of supply is being modelled. Additional work is being undertaken to identify the flow requirements of wetlands. Once the bulk entitlement process is completed, a flow rehabilitation plan will be developed to categorise any ongoing flow stresses and identify actions to address or ameliorate these. Preliminary discussions have commenced with the North Central Catchment Management Authority regarding the development of the flow rehabilitation plan.

Glenelg River

The bulk entitlement process is under way. Initial indications are that the minimum flow requirements will be met. Almost 35 gigalitres of water savings from the Northern Mallee pipeline have already been made available for environmental flows to be shared between the Wimmera and Glenelg rivers. The Government committed the following funding: A\$77 million to building the Wimmera–Mallee pipeline; A\$100 000 of stressed river funds to Glenelg Hopkins Catchment Management Authority to undertake a case study to modify the bed of the river to maximise the ecological benefits of the current minimum flows; and A\$30 000 to the Wimmera Catchment Management Authority to investigate the operational impediments and modifications required to the existing infrastructure to provide the environmental flows in the Wimmera and Glenelg rivers. Preliminary discussions with Glenelg Hopkins Catchment Management Authority have commenced on developing a flow rehabilitation plan. The two pipeline projects are expected to save, and return to the environment, in the order of 100–115 gigalitres of water, which is expected to meet most of the environmental flows recommended for the two rivers. Within the bulk entitlement process, development of an environmental bulk entitlement for this water has been discussed.

Broken Creek

The bulk entitlement process slowed due to the drought. It is expected to be finished by the end of 2003. The environmental flow recommendations are expected to be met. Additional improvements to flows could be realised from the review of the future of Lake Mokoan and the consideration of pipelining the Tungamah domestic and stock district. Feasibility studies for both of these projects were commissioned. Preliminary discussions with Goulburn Broken Catchment Management Authority have commenced on developing a flow rehabilitation plan.

Wimmera River

The bulk entitlement process is under way. Initial indications are that the minimum flow requirements will be met. Further details are provided above for the Glenelg River.

Snowy River

Under the Snowy River rescue plan, 21 per cent of the flow (212 gigalitres) will be returned to the river over 10 years.

Victoria advised that the Minister for the Environment and Conservation established a technical audit panel in October 2002 to review the streamflow and groundwater management plans (including those under preparation). The main purpose of the reviews is to consider whether the information and method used were the best available at the time, and whether the assessment of risks (to the environment and to security of supply) was appropriate. Comprising seven academic experts in relevant fields, the panel has met twice and commenced reviewing the plans. The panel's reviews are to be

made publicly available, with the first findings expected to be available in August 2003.

Victoria also advised that the Department of Sustainability and Environment is collating electronic versions of the environmental flow assessments to which it contributed funds. Once collated and checked for quality, these assessments will be placed on the department's web site and in its library. The documents are expected to be available on the department's web site by August 2003. In addition, the department is encouraging the posting of environmental flow studies on regional web sites through either the catchment management authorities or water authorities. Goulburn–Murray Water and Melbourne Water placed all of the relevant studies associated with their completed streamflow management plans on their respective web sites. Southern Rural Water also intends to make its environmental flow studies available on its web site.

Submissions

Environment Victoria argued that Victoria is 'failing to implement reforms that are consistent with the National Principles for the Provision of Water for Ecosystems' (Environment Victoria 2003, p. 5). It considered that:

- Victoria's performance in protecting and restoring aquatic ecosystems should be measured against the current condition of the State's rivers and wetlands with, for example, only 27 per cent of rivers being in good or excellent condition;
- bulk entitlement and streamflow management planning processes are 'continuing to allocate water in a way that is running down Victoria's ... water resource assets for private and commercial gain' (p. 8);
- Victoria 'is continuing the practice of moving the goal posts for stressed rivers further into the distance and making it difficult to assess progress on commitments on stressed rivers' (p. 17); and
- the Victorian public does not have access to accurate information about the levels of environmental risk being placed on rivers by the Government.

Environment Victoria considered that the Victorian Government should take a range of actions, including:

- making all reports relating to environmental flow studies available on the Internet and in the Department of Sustainability and Environment's library;
- making publicly available information on the scientific methods used to determine all environmental flows and the extent to which each system has achieved scientifically determined environmental flows;

- engaging an independent auditor to annually examine the delivery of environmental flows and assess the ecological health of the river systems;
- transferring responsibility for environmental flows from water authorities to catchment management authorities; and
- changing its policy to ensure the delivery of scientifically determined, rather than negotiated, environmental flows.

Discussion and assessment

The key environmental flow obligation for Victoria for the 2003 NCP assessment was to have in place flow rehabilitation strategies that provide adequate environmental provisions for the five priority stressed systems: the Thomson, Macalister, Maribyrnong and Lerderderg rivers and Badger Creek. Victoria completed flow rehabilitation plans for two of these systems — the Maribyrnong and Lerderderg rivers — and determined a course of action for Badger Creek. It anticipated that the flow rehabilitation plans for the Thomson and Macalister rivers would soon be completed.

Arising from the plan for the Lerderderg River, Victoria committed funding to modify the Lerderderg Weir to enable it to pass fresher and flushing flows. The plan suggests that modification of the weir should meet environmental objectives. The course of action proposed for Badger Creek — the connection of Healesville to an alternative source of supply — is likely to meet environmental objectives. This work is scheduled for 2012. As an interim measure, Melbourne Water committed funding to undertake works to improve the health of Badger Creek.

Given that the recommended environmental flows were mostly met, Victoria decided not to proceed with further implementation of the flow rehabilitation plan for the Maribyrnong River, considering that the Statewide return in terms of environmental outcomes from flow restoration activities would be greater for other rivers. Victoria considered that there is a need (as identified in the plan) for additional information before it commits funds to restoring flows in the Maribyrnong River. The Government referred the plan to the Port Phillip and Westernport Catchment Management Authority to incorporate specific actions to improve river health into its regional catchment strategy and river health planning. The Council has no information on the actions proposed by the catchment management authority. Instead of the remainder of the Maribyrnong plan, Victoria decided to implement the streamflow management plan for King Parrot Creek, which it considered provides greater environmental benefits for the level of commitment required.

A key issue in several jurisdictions, including Victoria, is the nature of the trade-offs made when the amount of water identified for environmental flows is less than the best available science recommends. The CoAG water agreement acknowledges the existing rights of water users, meaning that

reference committees developing environmental flow regimes may recommend a flow regime that does not meet the scientific recommendation in the shorter term. Such decisions imply that the community agreed to accept potential consequences (such as a higher level of environmental risk and/or a certain level of environmental degradation). The Council considers, therefore, that there must be sufficient public information on the environmental risks posed by the negotiated environmental flow regimes to allow the community to understand and comment on the community reference groups' decisions on flow regimes. Moreover, the community reference groups need to be representative of all interests and flow regime and associated river health activities should be likely to deliver recommended environmental objectives within a reasonable period.

Victoria established a technical audit panel to consider whether the information and method used in the development of environmental flows are the best available at the time, and whether the assessment of risks is properly done. The audit panel's reviews are to be made public. Victoria also produced guidelines for the preparation of streamflow and groundwater management plans, which require reference committees to obtain comments from the technical audit panel, including comments on the risks to the environment of the committee's recommended flow regime. The draft plan must incorporate the comments before it is made available for public consultation. In addition, the Department of Sustainability and Environment is making environmental flow assessments and related documentation available in its library and on the Internet.

The audit panel and the information that Victoria proposes to make available should ensure information concerning environmental risks is publicly available as a basis for decisions to accept environmental flows below the scientifically recommended levels. A remaining difficulty, however, is where environmental provisions are decided, or alternative remedial actions are taken, without publicly available information on the extent to which scientifically determined environmental flows will be met and the environmental risks that will arise. In this regard, the Council considers that the Government's public provision of information on stressed or overallocated river systems, such as suggested by Environment Victoria, will help demonstrate compliance with the CoAG environmental flow obligations.

CoAG's proposed consideration in August 2003 of nationally compatible water industry arrangements, including better identification of environmental assets and their water needs, is likely to be relevant to State and Territory decisions on allocations for extractive purposes and on the provision of water for environmental outcomes. The Council proposes to work further with Victoria after the scope of the CoAG work is known, to develop and better understand the necessary flow rehabilitation / river health actions for the five priority stressed rivers, particularly the Thomson, Macalister and Maribyrnong rivers. Consistent with its approach in relation to New South Wales, the Council proposes to defer this 2003 NCP assessment of Victoria's implementation of the CoAG obligation concerning provisions of water for the environment to February 2004.

In the 2004 NCP assessment, the Council will report on all jurisdictions' progress in implementing environmental allocations. Then, in 2005, it will conclude its assessment of jurisdictions' compliance in this area consistent with the timetable established by CoAG. For rivers and groundwater systems that are not deemed to be stressed, under the CoAG timetable Victoria has until 2005 to implement environmental allocations. Despite some delays, the bulk entitlement program appears likely to be completed by December 2004, along with virtually all of the streamflow and groundwater management plans by June 2004.

3.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In previous NCP assessments, the Council found that Victoria has a well-established trading market for water. The Council identified, however, constraints on trade, including:

- the fact water rights must remain attached to land, with a transfer detaching the water right from one landholding and re-attaching it to another;
- in regulated systems, the possibility that a transfer may be refused if it would result in more than 2 per cent (net) of the total water entitlement being transferred out of selected irrigation districts in any given year;
- in unregulated systems, the limit on trade to downstream trade only, along with the 20 per cent reduction in the volume able to be traded (unless under a winter-fill licence); and
- distortions in the temporary market for water trading that arise from the current pricing arrangements for bulk water supply (with a differential return on assets charged for water supplied by rural water authorities to regional urban customers and to rural customers).

Victoria has also been developing streamflow management plans for unregulated rivers and groundwater management plans, which may include trading rules.

Victoria needs to remove constraints on water trading or demonstrate that any remaining constraints are in the public interest. Victoria also needs to ensure trading rules in streamflow and groundwater management plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Victoria has a well-established trading market for high security water, and trading plays an important role in the State's agricultural production. The Water Act and associated Regulations provide the basis for water trading within the State, with different arrangements applying to regulated, unregulated and groundwater systems.

Regulated systems

The water entitlements of irrigators in the regulated irrigation districts are aggregated under the bulk entitlements held by the rural water authorities. The entitlements are transferable, although they remain attached to land at all times.⁶ A transfer detaches the entitlement from the seller's landholding and re-attaches it to that of the buyer.

Water may be transferred into or out of an irrigation district, although a transfer may be refused if it would result in more than 2 per cent (net) of the total water entitlement being transferred out of selected irrigation districts in a given year. Irrigation districts that may employ the 2 per cent rule are: Torrumbarry; the Murray Valley; Shepparton; Central Goulburn; Rochester; Pyramid Hill and Boort; Campaspe; Nyah and Tresco; Woorinen; Merbein, Red Cliffs and Robinvale; and the First Mildura Irrigation Trust. The rule has been invoked twice in recent years.

Trade generally requires the approval of the rural water authorities (and/or the Minister) and is subject to a range of rules and guidelines. The rules are generally designed to minimise any adverse effects of trade on other water users (for example, through physical constraints of the system) and the environment.

Water entitlements cannot be permanently transferred without the approval of any person with a registered interest. The seller is also required to advertise their intention to sell four weeks before applying for a permanent transfer.

Apart from the above constraints on water trading in regulated systems, Victoria's current pricing arrangements for bulk water supply may distort the temporary market for water. The rural water authorities (Goulburn–Murray Water, Southern Rural Water and Wimmera Mallee Water) must incorporate a 4 per cent return on assets in pricing water supplied to regional urban customers but not in pricing water supplied to irrigators. As a result, the charge for supply to country towns is higher than the charge to irrigators for water from the same system. Victoria's review of water industry legislation undertaken by Marsden Jacob Associates (MJA 2001) concluded that this differential in returns creates distortions in the temporary market for water trading. (See also section 3.6, which summarises the review recommendations and the Victorian Government's responses.)

⁶ The Act also permits the permanent or temporary trading of bulk entitlements.

Unregulated systems

Water trade is permitted in unregulated river systems on a similar basis to the trade permitted in regulated systems. Water remains attached to a landholding at all times. The streamflow management plans that are being developed (see section 3.2) will set the trading rules.

Pending completion of the streamflow management plans, generic trading rules are in place for unregulated systems. North of the Great Dividing Range, there is a prohibition on trade upstream and a 20 per cent reduction in trade downstream (unless under a winter-fill licence). In addition, across the whole State, downstream trade from an unregulated system to a regulated system is limited to the amount of upstream trade. These restrictions are temporary measures aimed at protecting the environment and will be removed when the streamflow management plans are implemented.

Groundwater systems

Trade in groundwater is legally possible within an aquifer. Victoria advised, however, that it is exercising considerable caution before permitting widespread trading in groundwater because groundwater resources are harder to assess and have been built up over decades (rather than being annually renewed). In general, Victoria requires that a groundwater management plan (see section 3.2) be developed before it allows trade.

Trading to date

The bulk of water trade (94 per cent in 1999-2000) takes place among irrigators in regulated systems, which account for the vast majority of water rights in Victoria. Almost 90 per cent of all permanent trade occurs in the large regulated systems in northern Victoria. In contrast, unregulated systems account for only around 5 per cent of total water entitlements, and trade is correspondingly smaller. Most of the following data on trading was obtained from the Victorian Government's guide to water trading (DNRE 2001b).

Almost all trading has occurred among farmers. In 1999-2000, 98 per cent of water permanently traded was from one farm to another. At times, irrigators have bought 'spare' water from the Government and rural water authorities (on a permanent basis) and from urban water authorities and the Minister for the Environment (on a temporary basis).

In 2000-01, permanent transfers amounted to just under 25 000 megalitres. This represented almost 1 per cent of the total volume of water entitlements. Permanent transfers increased gradually during the 1990s, rising

significantly in 1997-98 to around the current level. In the 10 years to 2000-01, a volume equivalent to 6 per cent of the total entitlement of irrigators was permanently transferred. Temporary transfers averaged around 25 000 megalitres a year during the early 1990s, but increased substantially to over 200 000 megalitres in 1994-95. Temporary trade has since ranged between 100 000 and 250 000 megalitres each year, representing 3–8 per cent of total water entitlements.

Victoria considers that the higher levels of both temporary and permanent trading since the mid-1990s have resulted from several factors, including:

- the significant widening of the trading rules in 1994 (for example, to permit trade out of irrigation districts);
- the relatively dry conditions since 1994-95;
- the 1995 decision to cap water diversions in the Murray–Darling Basin, and Victoria’s interim steps to implement the cap; and
- the gradual improvement in farmers’ understanding of the opportunities provided by the market and how the market works.

In broad terms, the Victorian data show that permanent trading is moving water away from low return sheep and cattle grazing to higher value dairying and high value horticulture. Victoria considered that temporary transfers have played a crucial role in allowing individual farmers to adjust their water use in drought years. Dairy farmers, for example, have been significant purchasers of temporary water.

Significant trade has occurred into and out of areas, as well as within areas. Of the permanent trade involving Goulburn–Murray farmers until 2000-01, around two-thirds was within the area or was outbound trade that was balanced by trade into the area.

For permanent trades, prices in the Goulburn–Murray region were around A\$700 per megalitre in 2000-01, down from over A\$800 per megalitre in 1998-99. In 2000-01, prices of up to A\$1200 per megalitre were being paid in the more confined Campaspe region. In 1999-2000, prices in the Sunraysia region reached A\$1000 per megalitre but eased somewhat in the following year. In the Goulburn system, prices for temporary water averaged A\$65 per megalitre in 1998-99, A\$56 per megalitre in 1999-2000 and A\$34 per megalitre in 2000-01.

There were about 20 water brokers in Victoria in 2001. The data on temporary trade in the Pyramid–Boort and Torrumbarry areas in northern Victoria indicate that brokers were responsible for almost 30 per cent of contacts between buyers and sellers in 1998-99. In the same year, the Northern Victorian Water Exchange (recently replaced by the Statewide Watermove), then in its first year of operation, accounted for around one-quarter of contacts between traders. Contact was also taking place to a significant extent between neighbours (25 per cent) and through other private

and informal connections (over 10 per cent). By 2000-01, the Northern Victorian Water Exchange was responsible for 31 per cent of temporary trades in the Goulburn–Murray region, with over 900 farmers buying and 800 selling on the exchange. The prices set each week are published in local newspapers and act as a general guide for traders.

Changes in the regulatory environment since 2001

Since the Council's previous review of trading arrangements in the 2001 assessment, Victoria's water trading market has continued to develop. The release of Victoria's guide to water trading (DNRE 2001b) in December 2001 has also improved the transparency of the water market, including the trading rules.

Victoria has retained the trading constraints previously identified by the Council as likely to be inconsistent with CoAG water trading commitments, although it signalled that it will review some of these and replace them with mechanisms that better achieve social and environmental objectives relating to water use. Victoria provided the following advice on these constraints.

- The Government is considering the existing requirement to attach water rights to land in its green paper review of all areas of the water industry (expected to be finalised in early 2004). In the longer term, there would appear to be a net benefit in being able to hold water entitlements without having to hold land. In the short term, however, there is a strong argument against this reform while there is a significant debate about whether up to 40 per cent of water taken out of rivers in the Murray–Darling Basin should be returned.
- The 2 per cent rule represents a loose rein on the pace of change. It allows three times the extent of permanent trade in the Goulburn–Murray district than takes place across the border. It has been invoked only on two occasions, with the effect of only delaying trade for several weeks. The rule was not invoked in 2001-02 or 2002-03.
- The restrictions in unregulated systems (limiting trade to downstream trade only and setting a 20 per cent reduction in the volume able to be traded unless under a winter-fill licence) are a holding measure, to allow some trade to continue but bias it to downstream or winter-fill outcomes. The aim is to put less strain on summer flows pending the development of the streamflow management plans.

- Also as part of the water industry review, and before the Essential Services Commission issues its first pricing determination for bulk water supplies (for the period from 1 July 2005), the Government is considering the issue of differential returns for bulk water supplies.

Victoria has finalised three streamflow management plans for unregulated rivers, with a further 28 in progress and 11 still to commence. In addition, it has completed seven (of 18) groundwater management plans (see section 3.2). In relation to the trading rules in the plans, Victoria's guide to water trading states:

... the streamflow management plans that are nearing completion are tending to confirm the interim, general trading rules that have been operating there — no doubt partly because these plans have tended to be carried out for streams that are stressed. Some of the plans are proposing additional, quite detailed constraints on trade. (DNRE 2001b, p. 61)

The trading rules for the Merri and Upper La Trobe rivers and the Spring Hill groundwater supply protection area, for example, include the following provisions.⁷

- Merri River. Downstream trading is allowed without restriction. Upstream trading is to be decided by Southern Rural Water in consultation with irrigators, within the constraint of no net trading into Spring Creek (a habitat for the vulnerable Yarra pigmy perch) or Drysdale Creek.
- Upper La Trobe River. Downstream trading is allowed without restriction. Trade into four upstream tributaries must not breach specified direct pumping and winter-fill entitlement caps, with winter-fill encouraged (and caps to be adjusted) for two of the tributaries. Trade into all other tributaries is subject to environmental assessment. Up to 500 megalitres can be traded permanently or temporarily from the lower La Trobe system, with a 20 per cent reduction in volume.
- Spring Hill groundwater supply protection area. The seller's bore must be capable of yielding the transferred entitlement. Use of the transferred entitlement may be restricted or prevented if Goulburn–Murray Water considers that such use would interfere excessively with an adjacent bore, or if groundwater levels in the area decline significantly.

⁷ The Council has not examined the individual streamflow and groundwater management plans. The information on the trading rules for the Merri and upper La Trobe rivers was obtained from DNRE (2001b, pp. 62-3) and reflected the rules in the final draft plans (at that time still to be endorsed by the Government). The information on the trading rules for the Spring Hill groundwater supply protection area was obtained from the water trading exchange, Watermove (www.watermove.com.au).

One of the draft streamflow management plans that Victoria expected to finalise in mid-2003 (King Parrot Creek) prohibits trading to outside of the catchment, 'reflecting concern that the potential for local economic development may be eroded, given water can no longer trade into the catchment' (DNRE 2001b, p. 62).

Victoria's rural water authorities jointly established Watermove, building on the operations of the existing Northern Victorian Water Exchange, to conduct trading throughout Victoria. Watermove has been accounting for around one-third of all temporary transfers in northern Victoria and will begin catering for permanent transfers from mid-2003. Following interest from Murray Irrigation Limited, Watermove also now caters for temporary trade to and from southern New South Wales above Barmah Choke. Victoria advised that South Australia is also interested in trading on Watermove, and the Murray–Darling Basin Commission provided a small grant to assist the spread of Watermove's operations in the basin. Victoria indicated an intention to explore options for leasing water, to add to the existing arrangements for temporary and permanent transfers (DNRE 2001b).

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

Victoria's water trading market has continued to develop since the 2001 NCP assessment. Adding to the scope for private trades and the use of brokers, Victoria extended the operations of its water exchange, Watermove, to temporary transfers throughout the State and to and from southern New South Wales. Watermove will begin catering for permanent transfers from mid-2003. Victoria is also considering options for the leasing of water. In addition, through the publication of its guide to water trading in December 2001, and the information available through Watermove (including trading rules and market information on prices and volumes), Victoria significantly improved the transparency of its trading arrangements. Market information and trading mechanisms, therefore, do not constrain water trade in Victoria.

In the 2001 NCP assessment, the Council indicated that it was satisfied that water rights in Victoria are sufficiently specified to allow for efficient trade. While Victoria's registry arrangements do not provide indefeasibility or surety of title, third parties are able to register an interest in a water right. Trades may not be approved without the agreement of these third parties.

Victoria has continued to progress the conversion of the existing rights of water authorities to clearly defined bulk entitlements. Bulk entitlements are in place for approximately 85 per cent of the State's water resources, with all remaining bulk entitlements expected to be granted by the end of 2004. Outside the irrigation districts, the adequate specification of water rights depends on the finalisation of streamflow and groundwater management

plans. While progress with the plans has generally been slower than envisaged, these systems account for only around 5 per cent of water entitlements in Victoria, and almost all of the plans are expected to be completed in 2004.

Victoria's trading arrangements also contain measures to protect the water rights of other users and the environment. Transfer approvals are generally required to account for any likely adverse impacts on existing water uses, waterways or aquifers, and the environment. Within the Goulburn-Murray irrigation district, for example, transfers can be approved only on the basis of supply feasibility, channel capacity, and salinity and drainage criteria.

Victoria has maintained the trading constraints that the Council identified in 2001 as likely to be inconsistent with CoAG water trading commitments. The constraints of greatest concern are:

- the requirement for water rights to attach to land, with a transfer detaching the water right from the seller's landholding and re-attaching it to that of the buyer;
- the differential return on assets incorporated in the price charged for bulk water supplied by rural water authorities to regional urban customers and irrigators, which results in the charge for supply to country towns being higher than the charge to irrigators for water from the same system;
- the 2 per cent rule in irrigation districts, under which a transfer may be refused if it would result in more than 2 per cent (net) of the total water entitlement being transferred out of selected districts in a given year; and
- the restrictions in unregulated systems north of the Great Dividing Range, which prohibit trade upstream and impose a 20 per cent reduction on trade downstream (unless under a winter-fill licence), and the restrictions across the whole State that limit downstream trade from an unregulated system to a regulated system to the amount of upstream trade.

Victoria is considering two of these constraints — (1) the requirement for water rights to attach to land and (2) the differential returns on bulk water supply — as part of the green paper review of the water industry (expected to be finalised in early 2004). As the Council indicated in previous NCP assessments, the requirement for water rights to attach to land is likely to have an impact on the entry and activities of agents, brokers and other potential participants in the water trading market. As a result, the restriction may reduce returns available to holders of water rights and constrain the extent to which water is used for its highest value purpose. Victoria's review of water industry legislation found that the differential returns on assets incorporated in water prices to country towns and irrigators distorts the temporary market for water trading. The water legislation review's proposed solution is to incorporate the same return on assets in prices charged to all water users.

Victoria's view on the 2 per cent rule is that any constraint is, at most, a loose rein on the pace of change in irrigation districts and does not significantly affect trade. The Council recognises that the rule is in place in response to community concern that excessive water traded out of a district may result in adverse outcomes, including: the diminution of local production and regional economies; a reduction in the rate base for local governments; the loss of economies of scale; and the potential 'stranding' of irrigation infrastructure.

The Council considers that the 2 per cent rule does not substantially impede trade in Victoria's irrigation districts and is less restrictive than arrangements in neighbouring States. The rule has been invoked only twice (when it only delayed, not prevented, trade) and was not invoked in 2001-02 or 2002-03. As trade increases, however, the 2 per cent annual limit is likely to be reached more often and could become a substantial constraint on trading. The Murray–Darling Basin Commission's work on interstate trading arrangements may shed light on the continuing appropriateness of the 2 per cent rule.

For the unregulated rivers, the constraints on trading appear to be aimed at mitigating undesirable environmental effects (particularly by putting less strain on summer flows) until the local circumstances of each river are examined and suitable trading rules are established in the streamflow management plans. Initial indications are that the streamflow management plans nearing completion tend to confirm the interim, general trading rules and that some plans propose additional detailed constraints on trade (DNRE 2001b, p. 61). Given that only three (of around 40) streamflow management plans have been finalised, the Council will consider the trading rules in the plans (and in groundwater management plans) in future NCP assessments as the plans are progressively completed. The Council will look for any trading restrictions in the plans to reflect physical or environmental constraints. Where constraints are in response to socioeconomic concerns (as may be the case in King Parrot Creek), Victoria will need to show a robust net public benefit case if it is to comply with CoAG obligations. The Council is encouraged by Victoria's stated position that:

In general, plans should have the minimum barriers to trade required to achieve proper protection of the environment. Thus, 'no trade' up into a creek may be unnecessarily restrictive compared with 'no net trade'. 'Downstream only trade' is harder to accommodate on a water exchange than 'trade only within reaches and to a downstream reach'. (DNRE 2001b, p. 63)

Assessment

Since the 2001 NCP assessment, Victoria's water trading market has continued to develop. The publication of Victoria's guide to water trading and the progressive extension of the operations of Watermove have significantly improved access to, and the transparency of, water trading.

Victoria indicated that it is reviewing two of the remaining constraints on water trading — (1) the requirement for water rights to attach to land and (2) the differential returns on bulk water supply — as part of its green paper review of the water industry. Given that Victoria expects the review to be finalised in early 2004, in the 2004 NCP assessment the Council will look for Victoria to have either removed these constraints or demonstrated that they provide a net public benefit.

The 2 per cent rule currently does not substantially impede trade in Victoria's irrigation districts, but is likely to become a more significant constraint as trade increases. In the 2004 NCP assessment, the Council will consider the continuing appropriateness of the rule in light of the outcome of the Murray–Darling Basin Commission's work on interstate trading restrictions.

Victoria's constraints on trading in the unregulated rivers appear to be transitional measures to mitigate adverse environmental effects pending finalisation of the streamflow management plans. In future NCP assessments, the Council will consider the trading rules in the plans (and in groundwater management plans) against the CoAG obligations on water trading as the plans are progressively completed. Once appropriate provisions are included in the streamflow management plans, the Council expects Victoria to remove the generic constraints on trade in unregulated systems.

The Council considers that Victoria made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.

3.4 Institutional reform

Structural separation

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision are to be separated institutionally. In the 2002 NCP assessment, Victoria indicated it would establish an independent price regulator, the Essential Services Commission, which would oversee the water industry from 1 January 2003.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 6(c) and (d)

Essential Services Commission

The Water Legislation (Essential Services Commission and other amendments) Act provides for the commencement of the Essential Services Commission's jurisdiction over the water industry. With some minor exceptions, the Act comes into operation on a day or days to be proclaimed, or if not proclaimed, on 1 July 2005. The Constitution (Water Authorities) Act commenced in June 2003. The Water (Victorian Water Trust Advisory Council) Act will commence on a date to be proclaimed. If not proclaimed, then it will commence on 1 December 2003.

The first reading speech for the Water Legislation (Essential Services Commission and other amendments) Bill states that Victoria is introducing various transitional arrangements to provide for an orderly transition to economic regulation of the water industry by the Essential Services Commission. Under these arrangements, the first price determination by the Essential Services Commission will take effect on 1 July 2005. The metropolitan water businesses currently have provisions under which a pricing Order is made by the Governor in Council. The existing arrangements for price setting for the RUWAs and rural water authorities under the Water Act will apply until 1 July 2004.

Water services agreements with regional urban water authorities

At the time of the 2002 NCP assessment, the Victorian Government had signed water services agreements with each of the 15 RUWAs. While the agreements have not been publicly released, Victoria indicated that they include obligations relating to:

- service provision, including drought response, emergency response and incident management, environmental management and water conservation;
- accountability, including corporate governance arrangements reflecting the authorities' relationship with the Government as owner; and
- reporting requirements, setting out the content (including key performance indicators and targets) and frequency of reporting to the Minister for Water.

By specifying the authorities' service obligations in the agreements, Victoria intended to clearly and formally articulate the obligations associated with each authority's role as a provider of water and sewerage services to its customers. The agreements clarify that the authorities' role is that of a service provider, not a regulator. Work was progressing on the agreements for the five rural water businesses. Victoria indicated that the obligations in the agreements would be rolled into proposed statements of obligations to be

developed for each water authority. The statements would be publicly available.

Victoria confirmed that it intends to formalise the water services agreements into statements of obligations for the RUWAs. It expects to issue the statements, which will be publicly available, by March 2004. Victoria no longer intends to issue water services agreements for the RUWAs. The authorities' obligations will be clarified in the statements. To assist in developing the statements, in the second half of 2002 Victoria reviewed the existing agreements with the RUWAs. In addition to examining the obligations in the agreements, the review clarified other Government obligations carried out by the authorities that are implied rather than explicitly expressed in legislation or other regulatory instruments.

Regulation of drinking water quality

Following community and water industry consultation, Victoria introduced the Safe Drinking Water Bill in April 2003. This will establish an Office of the Drinking Water Quality Regulator, within the Department of Human Services, to oversee proposed risk management processes to ensure safe drinking water.

The legislation will also provide for drinking water quality standards to be established by regulation. After a public regulatory impact assessment process, Victoria will set standards, as well as requirements for monitoring and reporting against those standards. Standards will be based on the 1996 Australian Drinking Water Guidelines. Victoria expects to develop the standards during 2003-04 with a view to commencing the new regulatory framework on 1 July 2004. The new framework will be designed to gradually improve drinking water quality in a manner that recognises local community resource capabilities. (See also section 3.5)

Discussion and assessment

Victoria's introduction of legislation into the Parliament to establish the Essential Services Commission, with responsibility for regulating the water industry from 1 January 2004, addresses 2003 NCP obligations on institutional structural separation. The Council will monitor progress with establishing the Essential Services Commission in the 2004 NCP assessment.

The statements of obligations on the RUWAs, once finalised and publicly released, are likely to articulate clearly the Government's expectations of its water businesses, and provide the transparency and accountability necessary to clarify the role of the authorities as a service provider not a regulator. Given Victoria's proposed timing for finalisation of the statements, the Council will consider this issue further in the 2004 NCP assessment.

The creation of the Office of the Drinking Water Quality Regulator will clearly separate responsibility for water quality standards-setting from responsibility for providing water services.

Devolution of irrigation scheme management

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established.

In the 2001 NCP assessment, the Council reported that Victoria was continuing to use rural customer consultative committees as the primary vehicle for local input into the management of irrigation areas. The Council was satisfied that the committees give irrigators sufficient involvement (that goes beyond consultation) in the setting of performance standards, prices and other matters.

Victoria should report on the proposed role of the rural customer consultative committees following the establishment of the Essential Services Commission.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

All of Victoria's rural water authorities have rural customer consultative committees (formerly referred to as water service committees). In the 2001 NCP assessment, the Council reported that Victoria was continuing to use the committees as the primary vehicle for local input into the management of irrigation areas. In addition to providing a point of communication between the authorities and their customers, the committees play an important role in negotiating and agreeing price and service level trade-offs. The Council was satisfied that the committees give irrigators sufficient involvement (that goes beyond consultation) in the setting of performance standards, prices and other matters.

The Council indicated, however, that the rural customer consultative committees would need to maintain an active role in decision-making processes after the establishment of the Essential Services Commission for Victoria to continue to meet its CoAG obligation.

Reform progress

As a significant example of the role of the rural customer consultative committees, Victoria advised that comprehensive consultation was undertaken with several committees in the completion of a business case review of the options for improving service delivery and upgrading four pumped irrigation districts in the Mallee. The review was undertaken by the Government in partnership with the First Mildura Irrigation Trust and the Sunraysia Rural Water Authority.

Victoria advised that the rural customer consultative committees, following the establishment of the Essential Services Commission, will continue to provide input to determining pricing proposals and service level requirements for the rural water authorities. Victoria indicated that it is committed to strengthening the committees and more effectively involving the broader customer base, to increase the transparency of negotiations on service levels and prices. It has appointed a working group to prepare a statement of best practice for use by the authorities in engaging with their customers. The statement will set out the role, structure and composition of committees and matters to be considered in making decisions. The working group is undertaking consultation with stakeholders.

Discussion and assessment

Victoria continues to meet its CoAG obligation on the devolution of irrigation scheme management through the rural customer consultative committees.

Integrated catchment management

Assessment issue: Victoria is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council was satisfied that Victoria was meeting its 2001 obligations on integrated catchment management.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a) and (b), 8(b) and (c)

The Victorian Government invests about A\$25 million per year in managing rivers and floodplains, and over A\$150 million per year in general catchment management activities. The State's catchment management framework is based on the development of integrated regional catchment strategies and their implementation by regional catchment management authorities. The *Catchment and Land Protection Act 1994* sets out the statutory basis for these arrangements.

The State environment protection policy, SEPP–Waters of Victoria (developed under the *Environment Protection Act 1970*) provides a framework of objectives for environmental quality. It establishes beneficial water uses,

provides policy direction on activities that pose a risk to beneficial uses and sets Statewide objectives for aspects of river health, particularly water quality. The policy is implemented primarily through catchment and coastal management processes

Regional catchment strategies

A regional catchment strategy is an integrated framework to manage land and water resources in a particular region, covering management objectives and priorities for action and investment. The first strategies were completed in 1997 in partnership between regional communities and Government agencies. Victoria established nine regional catchment management authorities in 1997 to coordinate and implement the strategies. A tenth authority was created in 2002, covering the Port Phillip and Westernport region.

The catchment management authorities are governed by boards that report to the Minister, with membership drawn from the respective regions. In 2002, Victoria published a guide to catchment management, explaining the authorities' role and statutory basis: *Catchment management in Victoria: explaining Victoria's catchment management authorities* (DNRE 2002a). The authorities are responsible for strategic planning for land and water resources management in their region and the provision of integrated waterway and floodplain management. In particular, they:

- review and coordinate implementation of the regional catchment strategies;
- provide advice on Commonwealth and State resourcing priorities at a regional level;
- provide integrated river health and floodplain-related service delivery;
- develop regional investment approaches to implement each regional catchment strategy;
- consult and work with local government to ensure planning schemes and the regional catchment strategies are consistent and mutually supportive; and
- monitor and report on the condition and management of land and water resources.

Catchment management authorities work closely with rural water authorities, landowners, local government, land care groups, environmental groups and the general community to implement their regional catchment strategies, sub-strategies, action plans and work programs. Action plans include regional river health strategies (see below), floodplain strategies, biodiversity strategies, vegetation management strategies, communication

strategies, nutrient management strategies and land and water salinity management plans.

Victoria is refining its approach to integrated catchment management through a number of initiatives, including:

- the review and renewal of regional catchment strategies; and
- the development of regional river health strategies to coordinate all river-related action plans.

Review and renewal of regional catchment strategies

The catchment management authorities are currently engaged in community consultation to review and renew their regional catchment strategies for 2002–2007. Victoria published review guidelines to ensure the renewed strategies satisfy national, state and local government legislative and policy requirements (DNRE 2002c). At the State level, the guidelines highlight a shift towards a whole-of-government approach in natural resource management. Victoria plans to create links across State departments, and recognises the importance of engaging local government through committees and informal processes.

At the national level, the renewed strategies will comprise the integrated natural resource management plans required by the Commonwealth for federal funding under the National Action Plan for Salinity and Water Quality and Natural Heritage Trust extension.⁸ Victoria signed bilateral agreements with the Commonwealth on the national action plan in October 2001, and on the Natural Heritage Trust extension in December 2002. Under these agreements, Victoria will seek accreditation of regional catchment strategies under both the plan and the trust. The renewed strategies will provide the foundation for all investment decisions by governments and some other investors in regional natural resource management.⁹

Victoria originally proposed that the catchment management authorities conclude their reviews of regional catchment strategies by March 2002, with the renewal phase to be completed by September 2002 (DNRE 2002c, p. 6). In recognition that the strategies required more work to satisfy the national accreditation criteria, Victoria has extended this timeframe, with the Minister's agreement. Victoria is refining its strategies by:

⁸ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 budget. The implementation framework was endorsed in October 2002 by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus of the framework is on measures to improve water quality.

⁹ The agreed accreditation process, based on the national accreditation criteria, involves about 80 experts and two rounds of assessment and feedback.

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- adopting a natural resource management focus to catchment issues;
 - applying an assets (values) approach to land and water management;
 - using scientific evidence in target-setting and prioritisation; and
 - engaging with all key stakeholders in the development process.

Victoria now expects the renewed strategies to be completed between April 2003 and June 2004. The original strategies will remain in place until the new strategies are gazetted. Victoria reported that the Glenelg Hopkins regional strategy, gazetted on 8 May 2003, was the first regional strategy to be accredited in Australia under the national frameworks.

To assist catchment management authorities in undertaking reviews, Victoria has provided assistance and information, including on approaches to community consultation (DNRE 2002c, pp. 13 and 15). The assistance included training, workshops and seminars, one-on-one assistance from experts, manuals and guidelines from the Commonwealth and State, a contacts forum and chat rooms.

Victorian River Health Strategy

The Victorian River Health Strategy (DNRE 2002e) sets the framework by which Victoria will make future decisions on the management and restoration of rivers, associated floodplains and wetlands. It also outlines Victoria's policy approach on specific management activities affecting river health, including environmental flows and water allocations.

The framework requires each Victorian catchment management authority to develop a regional river health strategy as a substrategy to its regional catchment strategy. The strategy is intended to coordinate all river-related action plans, including those related to flow, water quality, waterway management and floodplain management. Until now, these action plans have been developed in response to specific issues as they arose within the community (DNRE 2002e, pp. 44–48). River health strategies are required to be consistent with integrated catchment management principles, including the setting of five-year and 10-year regional targets, approaches to planning and decision-making, and the development of action plans. Community participation is a feature of these processes.

Victoria expects most catchment management authorities to release draft river health strategies for comment in the latter half of 2003, and to finalise them in early 2004. At January 2003 most catchment management authorities were progressing this work, with the West Gippsland and Wimmera authorities expected to commence in early 2003 (Government of Victoria 2003, p. 319). Victoria informed the Council that the authorities are integrating the development of river health strategies with their concurrent reviews of the regional catchment strategies.

Victoria is engaged in additional initiatives to strengthen its integrated catchment management framework, including:

- the revised State environment protection policy (SEPP)–Waters of Victoria, which establishes the catchment management framework as its primary delivery vehicle (see the National Water Quality Management Strategy);
- the development of a common framework for all investors in regional catchment management programs; and
- improved governance arrangements for catchment management authorities.

Victoria indicated that it will take several years to fully implement the reforms under way in integrated catchment management. In particular, it will take time for regional catchment strategies, river health strategies and other sub-strategies to reflect projected revisions to the SEPP–Waters of Victoria framework. As regional river health strategies are completed, the regional catchment strategies and action plans will begin to incorporate the information as part of an ongoing iterative process of planning, implementation, evaluation and review.

Victoria's integrated catchment management framework recognises interrelationships between water quality and water quantity issues. Victoria provided the following comments on its framework.

- The SEPP–Waters of Victoria provides direction on environmental quality objectives for waterways that, if met, would ensure water quality within a river meets the definition of an ecologically healthy river. Environmental flow assessments are designed to provide the flow required to meet these qualitative objectives (DNRE 2002e, p. 22).
- The Victorian River Health Strategy recognises that water allocations have an impact on river health, and aims for environmental flows that maintain the ecological assets of a river. The strategy also recognises that changes in land and water use within a catchment (for example, the clearance of native vegetation) may put water allocation and environmental flow provisions at risk. Victoria proposes to amend approvals processes to ensure that large-scale land use changes account for the likely impact on water users and the environment (DNRE 2002e, p. 76). In addition, processes under the Victorian River Health Strategy set the priorities for streamflow management plans and priorities for improving environmental flows in flow rehabilitation plans.
- Environmental flow assessments undertaken by the use of FLOWS (the Statewide methodology for assessing environmental water requirements) will take account of any water quality issues that are flow-related.

Evaluation and review of catchment management

Victoria evaluates the effectiveness of catchment management through assessment and review mechanisms at the program, regional catchment strategy and substrategy levels. Victoria indicated that it is refining its monitoring and evaluation practices to ensure compliance with the National Standards and Targets Framework and the National Monitoring and Evaluation Framework recently adopted by the National Resource Management Council.

Victoria requires each regional catchment strategy (and supporting action plan, including regional river health strategies) to be formally reviewed and updated every five years. In addition, catchment management authorities report annually on resource condition monitoring at the regional level, while the Victorian Catchment Management Council reports on issues at the State level. The council, which is independent of government agencies and regional management bodies, released a comprehensive five-year report in October 2002 (VCMC 2002). The report found that Victoria has a strong integrated catchment management system and that much has been achieved, but argued that further work was needed to improve coordination. The report stated:

The range of strategic documents developed by the State to manage specific degradation issues is impressive. However, we are lacking a coherent system for setting priorities and allocating resources between individual management programs at State level. The next step must focus on designing catchments and the landscape for future sustainability. The planning time frame for such an activity will need to be long-term, probably 30-50 years, to allow the community to adapt and adopt new ideas and management paradigms. The ability to make hard long-term decisions would be greatly enhanced through the development of an integrated catchment management strategy across the State. (VCMC 2002, p.vi)

Victoria acknowledged some of these deficiencies. The Department of Natural Resources and the Environment¹⁰ stated:

... river-related action plans often recognise the linkages between the issues but do not, at this stage, seek to optimise the linkages between plans, nor recognise cumulative impacts of various issues. They do not formally integrate many of their actions nor focus on an integrated river health outcome. There are no clear mechanisms for setting priorities across plans or to ensure a catchment to coast approach. Integration and priority setting tend to occur somewhat haphazardly at the level of the development of work programs. In addition, the State policy context in which the regional plans are undertaken does not provide clear direction. (DNRE 2002e, p. 48)

¹⁰ In December 2002, Victoria transferred responsibilities for water to the Department of Sustainability and the Environment.

Victoria considers that the Victorian River Health Strategy will address some of these issues by establishing an integrated approach to managing particular rivers. The department stated:

Five and ten year regional targets will be set for river protection and restoration through community-driven regional planning processes. These processes will reflect a balance between regional economic, environmental and social imperatives, and will deal with all the issues affecting rivers, such as flow, water quality, riparian and instream habitat, and catchment management. (DNRE 2002e, p. 48)

Victoria reported that the catchment management framework will continue to evolve at a rate that is acceptable to regional communities. Nonetheless, the State's approach to integrated catchment management has already received national and international recognition.

- A recent World Bank report stated that water and catchment management in Victoria is world's best practice (World Bank 1999).
- The Organisation for Economic Cooperation and Development (OECD)'s Environment Performance Review of Australia viewed Victoria's institutional arrangements for catchment management as encouraging, and suggested these institutional arrangements be a model for other States (OECD 1998).
- The recent House of Representatives report on coordinating catchment management recognised the operation of the Goulburn–Broken catchment management authority as a model for catchment management authorities in general (Commonwealth of Australia 2000).

Land care initiatives

The Victorian catchment management framework recognises the importance of volunteer groups (for example, Landcare) in the implementation of regional catchment strategies and substrategies. The catchment management authorities coordinate Landcare groups, which are encouraged to work in areas of high priority identified in the regional catchment strategies and substrategies. The Victorian Action Plan for Second Generation Landcare, *Healthy landscapes, sustainable communities*, sets the direction for Landcare in Victoria for the next 15 years (DNRE 2002d).

At the state level, Victoria has set a goal of reversing the decline in the extent and quality of native vegetation. Land clearing policies are currently under review to give effect to this policy (DNRE 2002e, p. 28).

Salinity

Salinity at groundwater and river levels is a major issue for Victoria. The National Land and Water Resources Audit estimated that dry land salinity in Victoria affects about 670 000 hectares, which may grow to three million hectares by 2050 (NLWRA 2001). The Victorian Government has committed to achieving a reduction in the environmental and economic impacts of salinity by 2015, by focusing on the need for land use change in the future, the role of the Government and the community, the skills of landholders and efficient water use.

Victoria revised its approach to salinity management in 2000, releasing the strategy document *Salinity management framework: restoring our catchments*. The strategy provides for catchment management authorities to develop salinity management plans as sub-strategies of their regional catchment strategies. The current review and renewal of regional catchment strategies aim to ensure salinity management plans satisfy accreditation criteria under the national action plan.

Submissions

Environment Victoria raised concerns that the development of regional river health strategies is well behind schedule. It stated:

While draft guidelines and a draft decision support framework have been made available for regional groups preparing regional river health strategies, neither of these has been released for public scrutiny. Some regions have started using the draft guidelines and decision support framework to prepare their regional river health strategies. Most regions are however well behind schedule and will not complete their strategies until well after the target date of June 2003 and hence after the conclusion of the 2003 NCP assessment. (Environment Victoria 2003)

Discussion and assessment

The Council found in 2001 that Victoria was meeting its NCP commitment on integrated catchment management. Since 2001, Victoria has focused on further reform of the administrative framework and the review of regional catchment strategies. These initiatives are interrelated, and aim to ensure that integrated catchment management is administered in accord with the requirements of the national action plan and Natural Heritage Trust extension.

Although the Victorian Catchment Management Council raised some concerns about policy coherence, the Government appears to have in place, via the Victorian River Health Strategy, a means of coordinating the management of river health issues, including water quality and quantity

issues. The strategy is designed to align with the catchment management authority/regional catchment strategy framework, and reflects the administrative approaches and management processes required under the national action plan.

The review and renewal of regional catchment strategies have been delayed against the original milestones proposed by Victoria. To some extent, the delays are understandable. Catchment management authorities face the concurrent and interrelated tasks of revising their regional catchment strategies and developing river health strategies. Moreover, they are developing these strategies against evolving national and State policy contexts, including the national action plan and Natural Heritage Trust extension. The Glenelg Hopkins regional strategy, gazetted on 8 May 2003, was the first regional strategy to be accredited in Australia under the national frameworks.

The Council considers that Victoria made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, Victoria:

- developed administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management and set in place arrangements to consult with local government and the wider community in individual catchments.

The Council considers that Victoria's natural resource management framework facilitates consideration of, and support for, land care practices to protect rivers with high environmental values. In particular, Victoria's action plan for second generation land care (released in 2002) sets directions for the next 15 years. As part of its full assessment of water reform in 2005, the Council will consider Victoria's progress in the implementation of regional catchment strategies and regional river health strategies.

3.5 National Water Quality Management Strategy

Assessment issue: Victoria is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council was satisfied that Victoria was meeting its 2001 obligations on the NWQMS. The Council stated that it would continue to monitor Victoria's development of NWQMS programs in future assessments.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

Victoria continues to implement the strategic directions of the National Water Quality Management Strategy (NWQMS) through a range of mechanisms, primarily:

- regional catchment strategies, river health strategies and action plans covering water quality, water quality monitoring and wastewater and effluent management at the regional level; and
- regional schedules of State environment protection policies.

These arrangements are being extended and refined through:

- the Victorian River Health Strategy, released in August 2002; and
- the revised State environment protection policy (SEPP)–Waters of Victoria.

Victoria regards water quality as a key aspect of river health that must be managed in an integrated way with other aspects (such as flow, riparian and floodplain condition and instream habitat). This approach is a focus of both the Victorian River Health Strategy and the revised SEPP–Waters of Victoria.

Under Victoria's integrated catchment management framework, catchment management authorities identify environmental assets (values) of waterways and set water quality and river health targets at the regional level by developing regional catchment strategies, regional river health strategies and water quality and nutrient management action plans. In areas where water quality is considered a priority, regional schedules to the SEPP–Waters of Victoria may also be developed. Each of these regional processes uses the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4) as input to the development of water quality targets. In addition, processes adopted by catchment management

authorities, and those set out in the Victorian River Health Strategy and SEPP–Waters of Victoria apply key themes outlined in the NWQMS implementation guidelines (NWQMS paper no. 3): strategic planning; active partnership; an integrated approach; a balance of social, economic and environmental impacts; and adaptive management.

The Victorian River Health Strategy requires each catchment management authority to identify a set of environmental, social and economic water-based assets to be considered in river-related action plans. To facilitate this identification, Victoria has undertaken to develop an assets register, drawing on the environmental values in the NWQMS and the beneficial water uses set out in the SEPP–Waters of Victoria.

The SEPP–Waters of Victoria establishes beneficial water uses,¹¹ provides policy direction on activities that pose a risk to beneficial uses and sets Statewide objectives for aspects of river health, particularly water quality. The revised policy includes risk-based environmental quality objectives that define the level of environmental quality required to protect the beneficial uses. Victoria is adopting objectives derived from NWQMS paper no. 4 except where regionally specific objectives have been identified.¹² Victoria has prepared a policy background paper, *Risk assessment approach – ecosystem protection*, on how it will implement the NWQMS risk-based approach. Victoria is trialling its risk-based approach in the North Central, North East and Corangamite catchments.

In recent years, Victoria's approach to water quality management has emphasised salinity management and nutrient strategies to address the issue of algal blooms. The Nutrient Management Strategy for Victorian Inland Waters (1995) was developed in parallel with the NWQMS, while the Salinity Management Framework was developed for consistency with the NWQMS implementation guidelines. These programs are implemented through the regional catchment strategy framework under the auspices of catchment management authorities. Victoria has 14 catchment-based nutrient/water quality plans covering the whole State to deal with high nutrient levels in waterways. In July 2003, the Government had endorsed eight plans, with the remaining six at various stages of development.

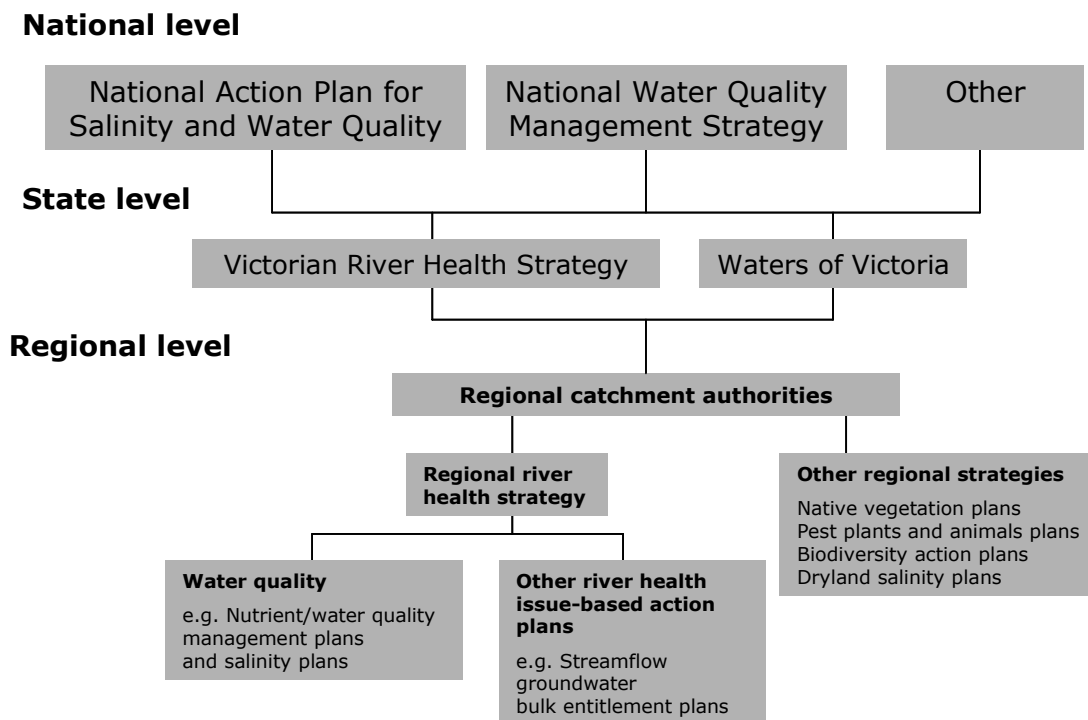
¹¹ Uses and values that the community and the Government want to protect.

¹² The environmental quality objectives describe the level of environmental quality needed to avoid risks to beneficial uses and to protect them. If an objective is not attained, the beneficial uses are likely to be at risk. The nonattainment of an objective will trigger further investigation using a risk-based approach, to assess risks to beneficial uses. From this assessment, actions will be implemented or regionally appropriate objectives will be developed.

A draft State environmental protection policy, *The waters of Western Port Bay and catchments*, was finalised in November 2001. The policy sets water quality targets for the bay and its waterway inputs. Victoria implements NWQMS guidelines (NWQMS paper no. 8) on groundwater through the SEPP (Groundwaters of Victoria), originally gazetted in 1997 and varied in 2002.

Victoria's water quality management framework is outlined in figure 3.1

Figure 3.1: Victorian water policy framework



Source: Government of Victoria 2003, attachment 6.

Water quality monitoring

The SEPP-Waters of Victoria uses the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7) to set default trigger levels where no further information is available. In accord with NWQMS paper no. 7, the Environment Protection Authority has developed regional target levels for a number of parameters.

Victoria has in place a number of frameworks for water quality monitoring, including:

- the Victorian Water Quality and Quantity Monitoring Networks;
- the State Water Quality Monitoring and Assessment Committee;
- the Index of Stream Condition; and
- the Catchment Condition Indicators project, reported by the Victorian Catchment Management Council.

The Victorian Water Quality and Quantity Monitoring Networks monitor streamflows and water quality at 180 sites across regional Victoria, mostly in the upper middle reaches of rivers and streams. Incorporation of the Environment Protection Authority's monitoring sites has increased the number of sites in the disturbed lower and middle reaches of the main rivers, but many major rivers and streams do not have monitoring sites in the lower or undisturbed parts of the catchment. Melbourne Water maintains 50 monitoring sites on urban streams through the StreamWatch program.

The State Water Quality Monitoring and Assessment Committee has been established under the auspices of the Victorian Catchment Management Council to:

- further develop, implement and coordinate Statewide monitoring and assessment of the condition of rivers and streams, wetlands and estuaries; and
- investigate more innovative ways of monitoring to more effectively support regional catchment management.

The committee combines information and skills across a range of organisations and community groups including the Melbourne Water Corporation, the Environment Protection Authority, water authorities, the Department of Sustainability and Environment, and Waterwatch community monitoring.

The Index of Stream Condition benchmarked the environmental condition of 950 Victorian rivers and streams in 1999. The index combines information on the biota, flow regime, water quality and physical condition of a channel and has become a fundamental input to catchment and river health management. In particular, the index facilitates the benchmarking of river conditions, the setting of management objectives and targets, and the assessment of the long-term effectiveness of river management.

Victoria intends to repeat this benchmarking exercise every five years, with the next exercise scheduled for 2004. Victoria noted that some aspects will require updating as knowledge of river science continues to evolve. In particular, the hydrology component will need to account for advances in the area of environmental flows (DNRE 2002e, p. 134). The Department of Sustainability and the Environment will review the Index of Stream Condition before each five-year assessment.

The Catchment Condition Indicator project, completed in 2001 by the Victorian Catchment Management Council (VCMC), collated a range of indicators to facilitate consistent reporting on catchment condition. Information on the indicators is available for public access at www.nre.vic.gov.au/vcio.

Victoria is progressively refining its monitoring programs in consultation with catchment management authorities and other stakeholders to meet the requirements of the new National Framework for Monitoring and Evaluation and the National Standards and Targets Framework which are being used under the national action plan and Natural Heritage Trust extension. In addition, all State water quality and quantity monitoring data, including the Index of Stream Condition benchmarking, are available on the Victorian Water Resources Data Warehouse at www.vicwaterdata.net.

The Victorian Catchment Management Council's five-year report acknowledged Victorian initiatives in water quality monitoring, including the development of the Victoria Water Resources Data Warehouse and the establishment of the State Water Quality Monitoring and Assessment Committee. The council also raised some concerns on the overall coherence of Statewide monitoring. It stated that it:

... had trouble pulling best available information together on water quality. This problem was inherent in synthesising information for all the indicators. There is no Statewide process for collecting, interpreting and updating natural resource management data ...

... (T)here is no responsible body or process for facilitating reporting arrangements, avoiding duplication, cross sharing information, providing consistency and quality control, and communicating natural resource management information to the community. (VCMC 2002, pp. 8–9)

The council also raised concerns over reduced funding of the Victorian Water Quality and Quantity Monitoring Networks:

With reduced funds to support the Victorian Water Quality and Quantity Monitoring Networks, the number of sites monitored for water quality and water quantity has halved over the last two decades. This is of concern as we need consistent, long-term datasets to detect change. (VCMC 2002, p. 33)

Victoria acknowledged that the number of sites monitored for water quality fell from 301 in 1975 to 148 in 2000, but advised that the networks are currently being incorporated into regional water resources monitoring partnerships, to improve the cost-effectiveness of monitoring. Victoria stated that:

The process is aimed at providing the most cost-effective means of meeting all water resource monitoring requirements within a region. The process involves all parties conducting water resource monitoring in each region agreeing on a monitoring configuration that meets their collective needs and agreeing on cost sharing. Statewide requirements are fed into these regional agreements and funded by the State Government. The current investment in water quality and quantity monitoring for Statewide requirements will be maintained at a minimum and will be increased where there is a clear requirement identified within the regional monitoring partnerships. (DNRE 2002e, p. 135)

Water quality evidence

The National Land and Water Resources Audit reported in 2000 on surface water quality against the standards set out in the 1992 Australian Water Quality Guidelines for Fresh and Marine Waters. The audit found that water quality was generally 'fair' across the State although a majority of basins had high levels of turbidity and total nitrogen and phosphorous concentrations. The audit found a significant proportion of Victorian basins exceeded guidelines for salinity, including most western basins in the Murray–Darling and south-east coastal drainage divisions.

Victoria's Index of Stream Condition found that only 27 per cent of Victoria's major rivers and tributaries in 1999 were in good or excellent condition. Thirty-four per cent were in poor or very poor condition, and 44 per cent were moderately impacted (DNRE 2002e, p.26). In large areas of the State the majority of rivers were in poor or very poor condition, and only 56 of the 950 reaches fully met the criteria for ecologically healthy rivers (DNRE 2002e, p.28). The Victorian River Health Strategy concluded that 'Victoria's rivers and streams are showing significant signs of degradation and many are still on a downward trajectory' (DNRE 2002e, p. 31).

Drinking water

Victoria has launched a new regulatory framework for drinking water quality. Following community and water industry consultation, Victoria introduced the Safe Drinking Water Bill in April 2003. This will establish an Office of the Drinking Water Quality Regulator, within the Department of Human Services, to oversee proposed risk management process to ensure safe drinking water.

The legislation will also provide for the setting of drinking water quality standards by regulation. After a public regulatory impact assessment process, Victoria will set standards, as well as requirements for monitoring and reporting against those standards. All standards will be based on the NWQMS 1996 Australian Drinking Water Guidelines. Victoria expects to

develop the standards during 2003-04 with a view to commencing the new regulatory framework on 1 July 2004. The new framework will be designed to gradually improve drinking water quality in a manner that recognises local community resource capabilities.

The Water Services Association of Australia reported that the following water providers complied in 2001-02 with the microbiological and physical/chemical requirements of the water quality standards set out in their licence: the Barwon Region Water Authority, Central Highlands Region Water, Goulburn Valley Water, the Melbourne Water Corporation and Yarra Valley Water. Significant noncompliance was reported for Central Gippsland Region Water and the Coliban Region Water Authority. Compliance by the Coliban Region Water Authority was expected to improve in 2002-03 with the completion of new water treatment plants (WSAA 2003). Victoria reported that Central Gippsland Region Water is undertaking action to address areas of noncompliance, which arise mainly in two small towns.

The water quality standard differs among Victoria's authorities.

- The World Health Organisation's 1984 water quality standards are applied to the Barwon Region Water Authority, Central Highlands Region Water, Central Gippsland Region Water and Goulburn Valley Water.
- The 1987 Australian Drinking Water Guidelines are applied to the Melbourne Water Corporation and Yarra Valley Water.
- The 1996 Australian Drinking Water Guidelines are applied to the Coliban Region Water Authority.

Victoria reported that the adoption of 1987 guidelines by the Melbourne urban water businesses reflects the lower public health risk to drinking water supplies from human pathogens because the catchments that provide Melbourne's water supply are essentially closed. Victoria regards the 1984 World Health Organisation standards as an appropriate measure for drinking water supplies outside the Melbourne metropolitan area — which are generally sourced from open catchments. To some extent, the use of various standards also reflects historical arrangements. Victoria advised that it will apply uniform arrangements across the State under its new regulatory framework, expected to commence in 2004 (see above).

Wastewater and effluent management

Victoria considers that the control of nonpoint source (diffuse) sources of pollution is best achieved through integrated catchment management, such that all land managers are aware of their impacts on water quality and river health, and are committed to reducing these impacts. The SEPP—Waters of Victoria is being revised to recognise the regional planning processes that generate regional targets for water quality and to provide benchmarks for assessing the impacts on water environments.

Victoria is progressively developing and implementing frameworks to control diffuse sources of pollution through the regional catchment strategies and regional river health strategies, nutrient and water quality action plans and SEPP-Waters of Victoria schedules. Where high value environmental, economic or social assets are at risk, the Victorian River Health Strategy provides for the development of a catchment water quality action plan. Through these initiatives, catchment management authorities develop work programs that utilise the NWQMS guidelines, including guidelines for activities and industries that generate effluent.

Victoria developed urban stormwater management guidelines and launched a Victorian Stormwater Action Program in June 2000 to accelerate the implementation of stormwater best practice through stormwater action plans. In addition, the SEPP-Waters of Victoria uses a system of licensing agreements to protect beneficial water uses from the impacts of pollution. Victoria adopts the NWQMS guidelines to manage point source discharges of specific industries (including sewerage waste, effluent from dairy sheds, intensive piggeries, wool scouring and carbonising, tanning, wineries and distilleries) through environmental performance benchmarks in the development of licence conditions. Victoria is considering the NWQMS guidelines as a basis for revising related State guidelines and, where relevant, licence conditions for point source discharges.

The Water Services Association of Australia reported that the following water providers complied in 2001-02 with the Environment Protection Authority license for wastewater: the Central Highlands Region Water Authority, Goulburn Valley Water, the Melbourne Water Corporation and Yarra Valley Water. Noncompliance was reported for the Barwon Region Water Authority, Central Gippsland Region Water and the Coliban Region Water Authority. The current upgrade at Barwon Water is expected to address its noncompliance (WSAA 2003). Victoria reported that action is under way to address areas of noncompliance by each authority.

Discussion and assessment

Victoria continues to make progress in implementing the NWQMS framework. This progress is being achieved via regional catchment strategies, river health strategies and action plans covering water quality, water quality monitoring and wastewater and effluent management at the regional level. Significant developments since the 2001 NCP assessment, some of which are still under way, include:

- policy development in frameworks for setting regional water quality and river health targets through the Victorian River Health Strategy, with the NWQMS guidelines used as input in the development of targets;
- the proposed incorporation of risk-based environmental quality objectives, derived from objectives set out in the NWQMS, under the revised SEPP-Waters of Victoria;

- the development of an assets register, drawing in part on environmental values in the NWQMS;
- the completion of the Catchment Condition Indicators project, and its publication on a web site;
- the introduction of the Safe Drinking Water Bill in April 2003 and the proposed introduction of new regulatory measures and drinking water quality standards based on the NWQMS guidelines.

While the Victorian Catchment Management Council identified some deficiencies in water quality monitoring arrangements, the Victorian River Health Strategy appears to recognise these issues and propose corrective measures. In addition, the National Land and Water Resources Audit found in 2000 that water quality monitoring in Victoria was more intensive and had a greater coverage than in any other State (NLWRA 2001).

The Council considers that Victoria made satisfactory progress for the 2003 NCP assessment in implementing policies that reflect the NWQMS guidelines. As part of its full assessment of water reform in 2005, the Council will consider Victoria's progress in:

- developing risk-based environmental objectives for catchments;
- refining water quality monitoring arrangements; and
- implementing frameworks to control point and diffuse sources of pollution.

3.6 Water legislation review and reform

Assessment issue: Victoria is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council considers that the Government has not complied with National Competition Policy obligations. In the 2002 NCP assessment, Victoria was yet to implement several of the reforms recommended by its review of water industry legislation.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

Victoria's review of the *Water Act 1989*, the *Water Industry Act 1994*, the *Melbourne and Metropolitan Board of Works Act 1958* and the *Melbourne Water Corporation Act 1992*, undertaken by Marsden Jacob Associates, was completed in June 2001. The Victorian Government announced its response to

the review at the end of June 2002. The Government accepted the majority of the review recommendations, and action to implement the Government's response is underway. The review made nine recommendations. These, together with the Government's response and the reform outcomes are discussed below.

Recommendation: Retain exclusive licences

The review recommended that exclusive licences within defined areas be retained as the preferred model of the provision of water and sewerage services, subject to the implementation of independent price regulation, contracting out to achieve efficiency benefits, and vetted competition for cross-border developments.

The Government indicated that it is satisfied with the current single service provider model for delivery of core water and wastewater services. The Government announced measures that will increase the efficiency of the industry, including independent economic regulation of the water industry by the ESC from 1 January 2004, and measures that are intended to encourage competition for provision of future infrastructure. The first price determination by the ESC is to take effect on 1 July 2005.

Recommendation: Introduce vetted competition

The review recommended that competition, on the basis of cost efficiency, for the right to supply major new developments should be encouraged: that is, vetted competition against a cost benchmark. The review suggested the development of a formal protocol to specify the objectives, criteria and the process to follow.

The Government agreed that vetted competition, on the basis of cost efficiency, for new developments on the border of existing businesses should be encouraged. The Government considered that to be effective, vetted competition would need to be underpinned by consistent financial and regulatory frameworks. It proposed:

- the development of a financial framework for all water businesses by December 2002, with the framework fully implemented by 30 June 2003;
- the introduction of vetted competition, commencing with a scoping paper during the first half of 2003; and
- the development of a formal protocol to guide vetted competition by December 2003.

Victoria indicated that the introduction of vetted competition will depend on the outcomes of the water industry green paper review.

Recommendation: Review the case for a State access regime for water infrastructure

The review recommended that the Government implement a review of the costs and benefits of introducing a formal access regime for third party access rights to essential water infrastructure in Victoria.

The Government undertook to a review of the role of a formal Statewide third party access regime for essential water infrastructure, with the review to commence within 12 months of the establishment of the ESC as the economic regulator of the water industry.

Recommendation: Implement alternative approaches to service delivery

The review recommended that:

- customers and grouping of customers should be allowed to supply water to themselves, subject to compliance with health and environmental standards.
- entities supplying water services (beyond an agreed base level) should be licensed and all licensees must comply with health, environmental and pricing guidelines.

The Government agreed to retain alternative approaches to service delivery, subject to compliance with existing health, environment protection and consumer protection obligations. It also proposed changes to drinking water quality management, which would enable entities other than water businesses to be brought under the Statewide regulatory regime after consideration of the benefits and costs on a case-by-case basis.

The Government agreed that entities supplying larger groupings of customers should be subject to regulation. The Government was not persuaded, however, that the cost of introducing additional regulation for larger self supply arrangements outweighed the benefits.

Recommendation: Water entitlements and water trading

The review recommended that Victoria review its approach to pricing bulk water. Currently, there is a difference in the bulk water price to urban and rural users, which arises because there is a different return on assets for water supplied by rural water authorities to regional urban customers and to rural customers. The review suggested alternative arrangements to minimise adverse effects on water markets. The Government agreed that the differential in the price of bulk supplies to regional urban and rural users should be reviewed, and undertook to do this before the ESC sets prices for bulk water (see section 3.3).

Recommendation: Reform the power to require connection to water infrastructure

The review recommended that the power in s. 147 of the Water Act to require connection to water infrastructure be amended to:

- ensure the power to require connection is separated from infrastructure provision and service delivery; and
- provide a power to hear appeals.

The Government agreed that, subject to appropriate appeal rights, compulsory connection powers should be retained. The Government also agreed that s. 147 of the Water Act should be amended to separate the roles of infrastructure provision and service delivery. The Government undertook to develop and consult on a proposal to place statutory obligations on property owners to connect to a reticulated sewerage scheme. The Government intended that legislative proposals be developed during the second half of 2002 with a view to introducing legislation in the 2003 Autumn sittings of Parliament.

The Government subsequently extended the period for consultation with stakeholders to April 2003, and indicated that additional consultation is needed to work through issues raised by stakeholders. The key issues requiring additional consultation, which were raised by the local government sector, concern the additional role envisaged for local governments in the determination of new compulsory sewerage schemes and related costs. The timing of this second stage of consultation means that the legislative proposals will now be developed with the objective of introducing legislation in the 2004 Autumn sitting of Parliament.

Recommendation: Amend provisions for making by-laws

The review recommended that provisions in the Water Act allowing for the making of by-laws should be amended to reflect current practice, with responsibility for drafting by-laws to be held by the Minister, subject to an authority proposing minor amendments to reflect local circumstances.

The Government undertook to change the by-law making powers in the Water Act and the *Melbourne and Metropolitan Board of Works Act 1958* to minimise the risks associated with authorities both setting and enforcing regulatory requirements. The Government undertook to develop and further consult on the details of proposed changes with a view to introducing legislation in the 2003 autumn sittings of Parliament. Victoria subsequently advised that it anticipates that legislative proposals will be introduced in the 2003 Spring sitting.

Recommendation: Retain licensing provisions for drilling

The review recommended retention of the current legislative provisions and associated arrangements for the licensing of individuals for drilling. The Government agreed with the recommendation.

Recommendation: Implement a consistent regulatory framework

The review recommended establishment of a single regulatory and legislative framework to ensure a consistent approach to the different water supply entities. The Government supported this recommendation, undertaking to commence work in 2003 to develop a comprehensive legislative framework for Victoria's water businesses. Victoria advised that work on a scoping paper for establishing a legislative framework for Victoria's water businesses will commence in the second half of 2003.

Discussion and assessment

Victoria undertook a comprehensive review of its water industry legislation. The Government accepted many of the review recommendations and is currently taking implementation action, including legislative action and the development of financial and policy frameworks. Key outcomes to date include: the introduction of legislation to give effect to the economic regulation of the water industry by the Essential Services Commission; the

release for public comment of legislative proposals to allow leasing of water entitlements; the canvassing of options for managing structural change in the water industry; a commitment to review the requirement to own land as a condition of owning a licence and a commitment to review the differential rate of return on bulk water supplies before the Essential Services Commission sets prices for bulk water.

While Victoria has made progress in several important areas, it has not fully implemented the recommendations of its water industry legislation review. The Government advised that the nature and timing of work to implement some of the recommendations of the review of water industry legislation, including the proposal for a State-wide legislative framework for Victoria's water businesses, will depend of the outcomes of the State's water industry green paper review. The Government also noted that there had been some delays with implementing the review recommendations as a result of the November 2002 State election, and the need for additional consultation on some matters.

The Council will look in the 2004 NCP assessment for Victoria to have implemented the key recommendations from the NCP review of its water industry legislation. The Council also draws Victoria's attention to its comments on remaining constraints on water trading, some of which derive from Regulations under the Water Act.

4 Queensland

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for Queensland in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing; the provision of water to the environment in stressed and overallocated rivers; intrastate water trading arrangements; the remaining institutional reform requirements (primarily integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. In addition, Queensland has under consideration a new rural water infrastructure project — the Burnett River Dam and associated weirs — that it must show satisfies the CoAG requirements on economic viability and ecological sustainability. The National Competition Council assessed Queensland's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by Queensland towards meeting water reform obligations on rural water pricing and the conversion of existing water allocations to water entitlements (which will be assessed in 2004) and the provision of water to the environment (which will be assessed in 2005).

4.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.

- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Local government water and wastewater services

Assessment issue: Queensland is to demonstrate that water and wastewater pricing by local government providers will achieve full cost recovery, in accordance with the CoAG pricing principles. In the 2002 NCP assessment, the Council found that all local government water and wastewater businesses with greater than 1000 connections had either implemented full cost recovery pricing or resolved to implement full cost recovery pricing by 30 June 2003. Only six local government businesses, all with less than 1000 connections, had not implemented or committed to implement full cost recovery. The Council indicated that in the 2003 assessment it would seek information on the outcomes of the commitments to implement full cost recovery.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

Local government provides urban water and wastewater services in Queensland. Of the 125 local governments in Queensland, 124 provide water services and 115 provide wastewater services. Queensland applies a three-tier framework, whereby it identifies local government water and wastewater businesses according to size: either type 1, type 2 or other. Types 1 and 2 are operated by the 18 largest local governments and account for over 83 per cent of water connections in the State. Some 68 water and wastewater businesses have more than 1000 property connections.

The water and sewerage businesses of the 18 largest local governments are required under the *Local Government Act 1993* to achieve full cost recovery and apply consumption-based pricing unless they can show that doing so would not be cost-effective. The Queensland Government does not require the water and sewerage businesses of the remaining 106 local governments to implement these pricing reforms, although it encourages implementation via NCP financial incentives for local governments that implement reform and via its Business Management Assistance Program.

The Queensland Government allocated \$150 million of its total \$756 million in competition payments (in 1994-95 prices) to local governments as an incentive for them to implement NCP reforms (Queensland Government 2000). The Business Management Assistance Program provides additional support with reform implementation to local governments outside the 18 largest. The Government advised that, since the 2002 NCP assessment, the Business Management Assistance Program has focused on mentoring and has developed simplified guides to implementing various aspects of the CoAG reform obligations. Recently, the program released a business management compliance policy and manual. The manual provides local governments with a simplified ongoing compliance process aimed at ensuring they continue to apply competition reforms and are able to integrate the required reforms with their existing policies and processes. The process is endorsed by the Queensland Competition Authority.

Each of the 97 local governments participating in the Business Management Assistance Program developed an action plan for implementing the water reforms and was assigned a mentor to provide ongoing assistance with the reform task. Representatives from 60 local governments attended workshops and training programs delivered under the program.

The Queensland Competition Authority annually assesses local governments' compliance with full cost recovery obligations. The authority's assessment covers: the recovery of direct and indirect costs; the development of a method for allocating administrative and overhead costs; the valuation of assets via the deprival method; the adoption of an appropriate method of depreciation for assets; the appropriate treatment of contributed assets; and optimisation of the asset base.

Queensland annually releases service cost and service standard benchmark information on local government water and wastewater businesses in the Queensland Local Government Comparative Information Report. This report is available on the Department of Local Government's web site.

Full cost recovery by the 18 largest local government water and wastewater service businesses

Queensland advised that 17 of the 18 largest local governments applied all elements of the CoAG pricing guidelines for full cost recovery and earned appropriate returns on capital. The exception is Bundaberg Council which implemented all elements of full cost recovery except the identification and

transparent reporting of community service obligations (CSOs). All water and sewerage businesses earned a positive return on capital after tax in 2001-02 except Thuringowa. Queensland indicated that Thuringowa's return on capital is a preliminary figure — one that is yet to include dividend revenue from the transfer of assets to NQ Water and that excludes revenue for performing CSOs (pending clarification of the validity of the CSOs). Table 4.1 shows the return on capital after tax for each of the 18 largest water and wastewater providers.

Table 4.1: Return on capital after tax — the 18 largest local governments in Queensland, 2001-02

<i>Local government</i>	<i>Return on capital after tax (%)</i>
Brisbane	8.1
Bundaberg	8.5
Caboolture	8.2
Cairns	2.6
Caloundra	2.6
Gold Coast	8.2
Hervey Bay	3.8
Ipswich	5.2
Logan	5.0
Mackay	4.7
Maroochy	6.4
Noosa	4.5
Pine Rivers	3.2
Redland	4.5
Rockhampton	4.0
Thuringowa	-0.5
Toowoomba	5.0
Townsville	8.3

Source: Queensland Government (2003, unpublished)

Full cost recovery by local government businesses with more than 5000 connections (excluding the 18 largest)

There are 11 local government water and wastewater service businesses with more than 5000 connections. Combined, these businesses account for 7.4 per cent of all water connections in Queensland. Queensland reported that 10 of these businesses achieved full cost recovery in 2001-02 in accordance with the lower bound of CoAG full cost recovery. The other business — Beaudesert — earned a return of -3.9 per cent on pre-tax capital. Queensland indicated that several factors underpinned the Beaudesert outcome, including (1) an additional once-off depreciation expense being incurred during the financial year, (2) the asset base being nonoptimal, and (3) revenue being understated because CSOs were not independently costed and funded. Advice from the

Queensland Competition Authority indicated that Beaudesert rectified these problems.

Full cost recovery by local government businesses with 1000–5000 connections

There are 39 local government water and wastewater service providers with 1000–5000 connections. Combined, these businesses account for 7.8 per cent of water connections in the State. Queensland reported that 34 of the 39 businesses had achieved at least the lower bound of CoAG full cost recovery or had most elements of full cost recovery in place in 2001-02. Four businesses — Sarina, Broadsound, Banana and Bowen — were yet to implement any elements of full cost recovery. Belyando provided insufficient information to establish its level of full cost recovery.

Discussion and assessment

The data provided by Queensland indicate that several water service providers with more than 1000 connections were not operating in accord with CoAG full cost recovery obligations in 2001-02. Queensland advised, however, that current compliance is probably greater than the 2001-02 data show — a claim that is underpinned by the continuing support (including the Business Management Assistance Program) that the Queensland Government provides to local governments to help them to implement reform. Queensland expected the Queensland Competition Authority's next assessment of reform progress to show substantial advances towards full cost recovery by the water businesses with more than 1000 connections that did not achieve full cost recovery in 2001-02.

Queensland's progress towards achieving the CoAG full cost recovery obligation is sufficient for the 2003 NCP assessment. The Government has a process that should help all remaining local government water businesses with more than 1000 connections to achieve full cost recovery. For the 2005 NCP assessment, the Council will expect Queensland to show that all water service providers with more than 1000 connections are achieving full cost recovery.

NQ Water

Assessment issue: Bulk water suppliers are to charge for water on a volumetric basis, to recover all costs and earn a positive real rate of return on the written-down replacement cost of their assets. The financial information on NQ Water provided by Queensland for the 2002 NCP assessment related to the operation of the water supply board before commercialisation, competitive neutrality adjustments and the application of full cost pricing principles. In the 2002 NCP assessment, the Council indicated that in the 2003 assessment it would consider whether, post-commercialisation, NQ Water is achieving full cost recovery.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: Water reform agreement, clause 3(a)

NQ Water is a commercialised joint local government entity — formed from the Townsville–Thuringowa Water Supply Board — that provides bulk water services to the Thuringowa City Council and the Townsville City Council. The entity traded as NQ Water for the first time in 2001-02.

NQ Water advised the Queensland Government that it was substantially achieving full cost recovery at June 2003, including the:

- recovery of direct and indirect costs associated with supply;
- valuation of assets based on the deprival value method;
- depreciation of assets based on the deprival value allocated over the assets useful life;
- achievement of a rate of return equivalent to the industry benchmark; and
- identification and funding of CSOs.

NQ Water engaged consultants to help develop its remaining full cost recovery reforms.

Discussion and assessment

While Queensland provided no financial data on NQ Water's cost recovery, the elements of CoAG full cost recovery appear to have been considered in the setting of the business's cost recovery objectives. When it next assesses this area of reform in 2005, the Council will expect Queensland to show that NQ Water is achieving full cost recovery.

Rural water and wastewater services: progress report

Progress report: Queensland is to demonstrate significant progress towards achieving full cost recovery for irrigation districts. In the 2001 NCP assessment, the Council noted that price paths to achieve full cost recovery had been set for many of the irrigation schemes. The Council indicated that it would monitor these price paths and seek to ensure sufficient information is being provided through customer councils to enable customers to have informed input in the operation of schemes and to assess whether the benchmarked efficiency improvements in irrigation schemes are being achieved.

Next full assessment: The Council will next assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

In the 2001 NCP assessment, Queensland reported that irrigation accounted for 65 per cent of total water use, while stock and domestic use, industry use (including mining) and power generation represented 14 per cent, 3 per cent and 1 per cent respectively. SunWater, a Government owned corporation, is the State's largest water service provider, accounting for nearly 50 per cent of all water consumed in the State. SunWater supplies 27 irrigation schemes, accounting for 40 per cent of the water used for irrigation.

Queensland's history of heavily subsidising water prices for irrigation means that there will need to be significant price increases to achieve even the bottom of the cost recovery price band set by the CoAG pricing principles. Queensland adopted a two-pronged approach to cost recovery. SunWater is required to improve its efficiency and reduce costs by 15 per cent by 2004, and there is a five-year price path to financial viability for 25 of SunWater's 27 schemes, developed in consultation with scheme participants (Queensland Government 2001). Queensland advised that the current irrigation water pricing arrangements reflect the five-to-seven year price path that the Queensland Government set in October 2000. This price path is designed to ensure the majority of irrigation schemes reach at least financial viability by 2004-05.

Given that a new set of prices needs to be in place by 2005, the Queensland Government commenced consultation with SunWater customers in mid-2002, to outline the issues that need to be considered in developing the new price paths. Called 'talking water reform', this pre-policy engagement involves meetings with customer councils in irrigation schemes throughout the State. During 2002, Queensland finalised price paths for the Bowen–Broken and Kelsey Creek schemes and the Pioneer Valley Water Board. Price paths for the Callide and Eden Bann Weir schemes remain outstanding. Queensland indicated that the hydrological nature of the Callide scheme is difficult to model and that a price path cannot be prepared until this modelling is completed. The Eden Bann Weir has a small number of customers, and Queensland expects to finalise the price path for the weir in 2003.

Dividends

Assessment issue: Dividends, where required, are to be set at a level that reflects commercial realities and simulates a competitive market outcome. In the 2001 NCP assessment, the Council received insufficient information from Queensland to determine whether Queensland's method for determining dividend levels (or the actual dividend payments) reflects commercial realities.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The level of dividend payable by a local government owned corporation is governed by s.711(6) of the Local Government Act. This section states that a corporation's dividend for a financial year must not exceed its profits, after excluding provision for income tax or its equivalents, and any unrealised capital gains from the upward revaluation of noncurrent assets. In relation to water and wastewater businesses that do not operate as local government-owned corporations, the Queensland Competition Authority assesses any internal dividend payments against the corporations law benchmark that dividends should not exceed 100 per cent of accumulated after-tax profit.

Further, the Queensland Audit Office has a mandate to comment on the reasonableness and appropriateness of any internal local government transaction. This mandate extends to dividend payments from business units to their local government owner. The Queensland Audit Office thus routinely monitors all Queensland local governments.

Discussion and assessment

The Council considers Queensland complies with the CoAG obligation relating to dividend payments, because the corporations law (or an equivalent mechanism) covers all local government water and wastewater service providers in Queensland that operate under the Local Government Act. The Queensland Competition Authority mechanism, which applies the corporations law provision on dividend payments, covers businesses that do not operate as a local government-owned corporation and Queensland Audit Office mechanisms cover all local government providers. These mechanisms are a significant safeguard against the payment of inappropriately high dividends and should ensure dividend payments policies reflect commercial practice.

Externalities

Assessment issue: Queensland is to transparently show how water and wastewater prices incorporate externalities (defined for water pricing as the environmental and natural resource management costs attributable to and incurred by water businesses). In the 2002 NCP assessment, Queensland reported that the Business Management Assistance Program does not consider externalities, so policy-level consideration is needed.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; Expert group report on externalities

Queensland's *Water Act 2000* requires all water service providers that operate bulk infrastructure to hold a resource operations licence that imposes, among other conditions, environmental requirements relating to the operation of the infrastructure. The water service providers are required to meet the cost of complying with the licence conditions. Queensland advised that service prices include the costs of complying with environmental requirements where those requirements are imposed on a service provider by a third party such as a State regulatory body.

For water services, Queensland is currently assessing natural resource management costs, as well as investigating the consequences for pricing of externalities and scarcity. It is undertaking this work as part of a public review, for which it released a scoping paper, *Value of water*. As an interim measure, Queensland introduced a water licence fee and a water harvesting charge. For wastewater services, Queensland is reviewing the extent to which the Environment Protection Authority's charges reflect the costs incurred by the authority in licensing businesses and monitoring their performance. Queensland undertook to report on this work in the 2004 NCP assessment.

Discussion and assessment

While externalities are addressed via a range of decision tools, the CoAG pricing principles explicitly require water and wastewater businesses to recover the environmental and natural resource management costs attributable to and incurred by them, and to ensure transparent pricing in relation to these costs. Queensland advised in previous NCP assessments that prices include natural resource management costs, but provided no information to demonstrate the extent of this practice or to show that water and wastewater prices transparently reflect the cost of natural resource management associated with water use. Queensland's review of natural resource management costs and the extent to which prices should reflect these costs should, however, lead to greater transparency in the treatment of externality costs. The Council will revisit this issue in the 2004 NCP assessment, where it will look for Queensland to report on the outcomes of the review.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for costly investments, where it is cost-effective to introduce consumption-based pricing. In the 2002 NCP assessment, the Council had not received sufficient evidence from Queensland to be satisfied that Queensland had met obligations regarding:

- the introduction of two-part tariffs by local government water and wastewater service providers, or satisfactory evidence where consumption-based pricing has not been introduced that introduction is not cost-effective;
- NQ Water's use of appropriate charging arrangements its bulk water supplies; and
- the introduction of trade waste charges where they are cost-effective.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)-(c)

The 18 largest local government businesses

Queensland stated that all of the 18 largest local governments except Thuringowa, Rockhampton and Townsville use appropriate two-part-tariffs for pricing their water services (Queensland Government 2003, p. 71).

- Thuringowa is phasing out its water pricing pilot scheme, whereby customers can choose to stay on an allowance/excess arrangement or go on a two-part tariff. Thuringowa indicated that all residential users will move onto a two-part tariff in 2003-04.
- Rockhampton charges residential customers a flat annual fee of \$472 for water use. Its study of the cost-effectiveness of introducing a two-part tariff found that the cost of metering the arrangement would not be cost-effective. Rockhampton is now metering all residential water consumers, however, and advised that this will involve introducing a two-part tariff for residential users by 2004-05. Rockhampton already applies a two-part tariff for commercial and industrial users.
- Townsville charges residential customers \$403 per year for a water allowance of 776 kilolitres. Consumption in excess of this allowance is charged at \$1.23 per kilolitre. Townsville decided not to introduce consumption-based pricing for residential customers. In a supplementary assessment in April 2003, the Council considered this decision and the supporting evidence on the cost-effectiveness of introducing consumption-based pricing (see section 1.4) The Council was satisfied that there is sufficient evidence to support Townsville's decision. The Queensland Government considers that changing commercial pressures within the Townsville-Thuringowa water industry may prompt Townsville to change its water pricing structure, and it reminded Townsville of the need to keep its residential water pricing structure under review.

Local government businesses with more than 5000 connections (excluding the 18 largest)

Queensland reported that nine of the 11 local government businesses with more than 5000 connections use two-part tariffs that conform with CoAG requirements. Mount Isa undertook a cost-effectiveness assessment that found that a two-part tariff would not be cost-effective. Johnstone resolved to not implement a two-part tariff.

Local government businesses with 1000–5000 connections

Of the 39 providers with 1000–5000 water connections, 22 implemented a two-part tariff in accord with CoAG principles and eight resolved that a two-part tariff is not in the public interest. Of the remaining 9 providers:

- Douglas, Roma and Mount Morgan are conducting cost-effectiveness reports on two-part tariffs;
- Atherton and Whitsunday will implement a two-part tariff during 2003-04;
- Broadsound and Sarina resolved to implement two-part tariffs but are yet to do so;
- Murgon operates a hybrid charging arrangement, whereby industrial customers are on a two-part tariff, while other customers remain on an allowance/excess arrangement; and
- Paroo did not complete a cost-effectiveness report on two-part tariffs.

Urban bulk water suppliers

Four urban bulk water suppliers provide services to local government retail and distribution services in Queensland: the Gladstone Area Water Board; SEQWater; NQ Water; and the Mount Isa Water Board. In earlier NCP assessments, the Council questioned whether the water supply contracts in place with the Gladstone Area Water Board and the Mount Isa Water Board at 1 October 2000, when the boards were established as commercialised entities, charge for water on a consumption basis. The Queensland Competition Authority published the final report of its investigation into the Gladstone Area Water Board's pricing practices in September 2002. The Government is yet to announce a response to the report.

At the time of its establishment as a commercialised entity, the Gladstone Area Water Board had a number of 'take or pay' contracts for the 12-month supply of water. The commercialisation charter required that the water board

renegotiate these contracts in accord with the water board's rate-of-return targets. These new contracts, which will be implemented after the Government responds to the Queensland Competition Authority report, will be volumetrically based. The Mount Isa Water Board charges on a two-part tariff basis, with the fixed cost component applying to the water allocation for each customer and the variable cost component applying to the additional water consumed by each customer.

Following a review of its pricing structure, NQ Water resolved to adopt a revised two-part tariff. It advised the Queensland Government that it expected to introduce a two-part tariff by 1 July 2003.

Trade waste charges

Queensland advised that 28 local governments in urban and regional areas have some form of trade waste charging regime. All of the 18 largest local government providers except Hervey Bay and Thuringowa have trade waste charging regimes. Queensland provided no information for Toowoomba. Thuringowa advised the Queensland Government that it has no emitters of trade waste that are considered 'large' under the Government's model trade waste policy. (The largest emitter in the city is a retail supermarket, which emits waste volumes well under Queensland's definition of a large trade waste emitter.) Smaller local governments do not implement trade waste charging if they have no major generators of trade waste.

Submissions

Mr Jeffery Karykowski submitted that a cross-subsidy from landlord to tenant results from the Queensland *Residential Tenancies Act 1994*, which provides that a tenant does not have to pay for water for which a lessor should be reasonably liable. Mr Karykowski cited advice from Brisbane Water indicating that the amount of water for which the lessor should be reasonably liable, while 'subject to conjecture', might be based on average consumption for a property in the water authority's distribution area. (Average consumption for a residential property in the Brisbane Water area, for example, is deemed to be about 275 kilolitres.) He considered that this cross-subsidy compromises the achievement of consumption-based pricing. He argued that tenants should be charged directly for their use of water and wastewater services (as for electricity and gas), noting that this approach would require a legislative change by the Queensland Government.

Mr Griffith Hodges submitted that the Gold Coast City Council's implementation of consumption-based pricing for residential water customers is insufficient. He recognised that the Gold Coast's staging of price reforms from 1997-98 to 2002-03 represents a movement to consumption-based pricing. He noted, however, that the variable consumption component of the price of water services in 2002-03 represented less than 50 per cent of the

total price for the average household (consuming 200 kilolitres annually) and less than 30 per cent of the total price for households using less than 100 kilolitres per year. The price per kilolitre for households using less than 100 kilolitres annually was more than twice that for households that consume more than 350 kilolitres annually. Mr Hodges submitted that a more appropriate pricing arrangement would require a greater proportion of total costs to be derived from the variable or volumetric component.

Mr Hodges commented that State legislation does not mandate or regulate the proportions of the access and volumetric components within a local government's pricing structure. Mr Hodges also considered that the Gold Coast City Council's water rate remission to pensioners is less than would be saved by a low volume user under his proposed pricing model.

Discussion

All but three of the 18 largest local government water and wastewater businesses have introduced consumption-based pricing. Those that have not done so have provided satisfactory evidence to show that consumption-based pricing is not cost-effective.

There has been considerable improvement since the 2001 NCP assessment in the implementation of consumption-based pricing by the next 11 largest local government businesses. There are now 10 businesses that meet the consumption-based pricing obligation, whereas only three did so in 2001. The exception is Johnstone, which has resolved not to implement a two-part tariff apparently without providing robust cost-effective analysis to support its decision. There is also improved application of consumption-based pricing by local government water and wastewater businesses with 1000-5000 connections. It appears that the Queensland Government's Business Management Assistance Program is contributing to the improved uptake of consumption-based pricing.

In the supplementary 2002 NCP assessment on water pricing by the Townsville City Council (see section 1.4), Queensland reported that NQ Water's operating and fixed costs are shared between Townsville City Council and Thuringowa City Council according to each city's share of use. (In any given year, each city is charged an expected share of NQ Water's costs. This charge is then adjusted in the following year when actual consumption is known.) NQ Water resolved to adopt a revised two-part tariff by 1 July 2003, which is likely to better reflect the consumption-based pricing obligation. At the time of this 2003 NCP assessment, however, Queensland had provided no details on the configuration of the revised NQ Water tariff.

Many of the large customers of the Gladstone Area Water Board are charged under contract arrangements based on a projected volume of water required for a 12-month period, which is not strictly in accord with CoAG consumption-based pricing. While there is scope for the Gladstone Area Water Board to renegotiate contracts which would comply with

consumption-based pricing obligations, the Queensland Government advised that all old contracts will continue to be honoured until the Government responds to the Queensland Competition Authority's report and recommendations on the Gladstone Area Water Board Investigation into Pricing. This investigation recommended implementation of a range of pricing and cost recovery reforms.

Some 28 local governments in urban and regional areas have trade waste charging regimes (including 15 of the 18 largest local government providers). These regimes appear to cover all of the State's large waste dischargers. The price regimes will improve the (volumetric and toxicity) pricing signal and should encourage improvements in the handling of trade waste by the large dischargers, including reduced use of the local government waste disposal systems. Information on the tradewaste charging arrangements of local governments is made publicly available in the Local Government Comparative Information Report.

The Council considers that the cross-subsidy matter raised by Mr Karykowski concerning the requirement under the *Residential Tenancies Act 1994* (and the Residential Tenancies Regulation 1995) that a landlord pay for a 'reasonable' amount of water used by a tenant is relevant to Queensland's implementation of consumption-based pricing. The advice from Brisbane Water provided by Mr Karykowski as part of his submission suggests the effect of the requirement is that a tenant may have access to an amount of water (which in the Brisbane Water area could be around 275 kilolitres a year) that is paid for by their landlord. While this arrangement still relates price to the amount of water used, it is likely to reduce the overall pressure to conserve water because the cost of the water used is not borne directly by the person using the water.

Under the Act, landlords can require their tenants to pay for water charges above a 'reasonable' amount. Such an arrangement must be specified in the tenancy agreement, the property must be individually metered and the amount charged to the tenant must not exceed that charged by the water authority for the water supplied. Where metering is available and landlords require their tenants to pay for water use above a 'reasonable amount', the tenant will have some price signal incentive to conserve water (at least above the 'reasonable amount'). There may also be opportunities for landlords and tenants to negotiate a level of rental that accounts for water use, such that the tenant pays a reduced rental in return for using water conservatively.

The Queensland Government noted that the Brisbane City Council applies two-part tariffs and so provides a price incentive to reduce consumption. The Government also argued that, assuming the property is metered, the regulatory framework allows landlords to recover the costs of tenants' water use above what could be generally considered a reasonable amount while ensuring tenants are not unreasonably required to pay for the water needed for the fair upkeep of the tenanted property. The Government considered that the regulatory framework allows for flexibility in negotiating agreements between landlords and tenants while appropriately protecting tenant's interests.

In relation to the Gold Coast City Council matter raised by Mr Hodges, the Queensland Government stated that the payment of a higher per kilolitre use charge by low volume water users is unavoidable where water pricing incorporates an access component and a use-based charge.¹ Any two-part tariff structure will result in a higher per unit charge at lower consumption levels, depending on the extent to which fixed costs are recovered through the access component. The consumption-based pricing approach adopted by the Gold Coast City Council is that pricing, as far as practicable, reflect the cost structure of the business. The Gold Coast City Council expects that its two-part tariff will improve the price signal to water consumers and should lead to a more efficient and sustainable water industry.

The Queensland Government advised that it has not set a fixed proportion for the access and variable components of a two-part tariff in the Local Government Act because of variations in the type and nature of the systems operated by local governments (and hence the costs of those systems). The Queensland Government indicated that it has provided local governments with an array of tools, expertise and information to assist them with setting appropriate pricing regimes. The 18 largest local government water and sewerage businesses (including the Gold Coast City Council) are subject to prices oversight by the Queensland Competition Authority to ensure that the businesses do not use their monopoly status to price inappropriately.

The Queensland Government advised that the Gold Coast City Council disclosed a CSO of \$1 990 894 to various groups (including pensioners) in accord with State legislative requirements.

Assessment

Queensland has substantially complied with its consumption-based water and wastewater pricing obligations. There are, however, various outstanding issues that the Council will expect the Queensland Government to report on for the next assessment of this area of reform in 2005. These include:

- the adoption of consumption-based pricing methods by the few remaining local government water and wastewater businesses (including a robust cost-effectiveness study by Johnstone that supports its decision to not implement two-part tariffs);
- NQ Water's adoption of appropriate consumption-based pricing; and

¹ The Gold Coast City Council's water charging arrangement for residential users comprises an access component of \$173 per year and a volumetric component of \$0.65 per kilolitre of water consumed. The access and volume charges are generally reflective of other south east Queensland local governments.

- pricing by the Gladstone Area Water Board following the Queensland Competition Authority's September 2002 investigation into the Gladstone Area Water Board's pricing practices.

To the extent that the Residential Tenancies Act and Regulation results in landlords paying for water use by tenants at a level substantially above that needed for the fair upkeep of the tenanted property, there is likely to be a disincentive against conserving water. The implication of the Queensland Government's advice on this matter, however, is that the regulatory framework enables landlords and tenants to readily negotiate arrangements such that the cost of tenants' use of water above the level needed for fair upkeep is met by the tenant.

The Gold Coast City Council's approach to water pricing is consistent with CoAG obligations. The Gold Coast City Council has appropriately-calculated two-part tariffs that provide an adequate pricing signal, and ensures that any CSOs are appropriately funded and disclosed.

Community service obligations

Assessment issue: Queensland is to transparently report the size and nature of community service obligations provided by urban water and wastewater service providers.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(ii)

The Local Government Act requires the 18 largest local governments with significant water and sewerage business activities to identify and publicly report any CSOs. The remaining 107 local governments are not required under the Act to identify and report CSOs. However, Queensland's NCP financial incentive package provides a financial incentive for all local governments to undertake such an analysis. Queensland reported that for 2001-02:

- 16 of the 18 largest local governments identified and reported CSOs, with the exceptions being Thuringowa and Bundaberg (both of which identified CSOs but did not cost them);
- 10 of the 11 local governments with more than 5000 connections (excluding the 18 largest) identified and reported CSOs; and
- 31 of the 39 local governments with 1000–5000 connections identified and reported CSOs.

Queensland indicated that the Queensland Competition Authority advised that both Thuringowa and Bundaberg were likely to have identified and reported CSOs for 2002-03 in accord with the Local Government Act.

The Queensland Local Government Comparative Information Report is the main vehicle for benchmarking and reporting of water and wastewater business performance. Queensland expanded the scope for future reports to include information on whether pensioner rebates apply to water services, whether CSOs are provided and their purpose and value. The report is available on the Queensland Department of Local Government web site.

Discussion and assessment

Queensland local governments demonstrated substantial compliance with requirements relating to the identification and reporting of CSOs. Local governments' performance in this area improved significantly since the 2002 NCP assessment, and there are now very few local governments with over 1000 connections that are not identifying and reporting CSOs. The Council will look for the local governments that are still to identify and report on CSOs to be doing so when it next assesses this area of reform in 2005.

Cross-subsidies

Assessment issue: Queensland is to, ideally, remove cross-subsidies where they are not consistent with efficient service provision and use or, where they remain, ensure they are transparently reported. In the 2002 NCP assessment, the Council found that Queensland's local government water and wastewater providers (other than the 18 largest) had neither removed nor reported their cross-subsidies. Queensland also had no guidelines for identifying, measuring and reporting cross-subsidies for the water and wastewater services industry.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles

The Local Government Act requires that the 18 largest local governments with significant water and sewerage business activities identify and publicly report any cross-subsidies that exist between different classes of customer. The remaining 107 local governments are not required under the Act to identify and report cross-subsidies. Queensland's NCP financial incentive package provides a financial incentive for the smaller local governments to undertake such an analysis however. Queensland advised that cross-subsidy reports for 2001-02 were completed by:

- the 18 largest local governments;
- three of the 11 local governments with more than 5000 connections (excluding the 18 largest); and
- seven of the 39 local governments with 1000–5000 connections.

Information on whether local government water and wastewater businesses contain cross-subsidies will be publicly reported in the Queensland Local Government Comparative Information report for 2003-04. This report will be available on the Department of Local Government's web site.

Queensland advised that many smaller local governments expressed concern at the difficulty in calculating the long-run marginal cost of their water supply activities to determine whether cross-subsidies exist in their charging arrangements. This difficulty prevented some local governments from identifying cross-subsidies within their businesses. The Queensland Government, through the Business Management Assistance Program, prepared and released a simplified model for calculating long-run marginal cost within smaller water businesses. The Government is planning on making the model available to local governments in time for them to disclose cross-subsidies in their 2003-04 NCP annual reports. The Queensland Government anticipates that its model will assist a greater number of local governments to investigate and report on cross-subsidisation in their water and wastewater businesses.

Discussion and assessment

The majority of providers of local government water and wastewater services with more than 1000 water connections now charge for services via appropriately determined consumption-based prices. Many larger businesses have also introduced trade waste charges. This reduces the potential for larger scale cross-subsidisation. Progress with identifying and reporting all remaining cross-subsidies has been slow, however, although the Queensland Government's actions to assist reporting of cross-subsidies remaining in 2003-04 should lead to greater disclosure in the future.

While Queensland has not fully complied with CoAG obligations on cross-subsidies for the 2003 NCP assessment, the Council accepts that the Queensland Government is committed to achieving full compliance with this reform obligation. The Council considers that the actions taken by Queensland are likely to see significant disclosure of cross-subsidies remaining in 2003-04 in the Queensland Local Government Comparative Information Report. The Council will look for Queensland to demonstrate that remaining cross-subsidies are fully reported consistent with CoAG obligations when this area of reform is next assessed in 2005.

4.2 Water management: water rights and provisions to the environment

Establishment of water rights systems: progress report

Progress report: Queensland is to report on progress towards converting existing entitlements to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

Queensland's water allocation process is being undertaken through the development of water resource plans for catchments and basins. Under the *Water Act 2000*, water resource plans specify the rules for the allocation of water, water allocation security objectives and environmental flow provisions. The plans, which have effect for 10 years, are implemented through resource operations plans detailing day-to-day operational rules. Infrastructure operators (such as SunWater and local governments) must hold a resource operations licence and comply with the relevant resource operations plan. Overland flows may be managed via water resource plans. Queensland intends to develop water resource plans and resource operations plans for all of its major water resources.

Once a resource operations plan is approved, water licences under the previous system are converted to water allocations. A water allocation is an authority to take water in accordance with a water resource plan and resource operations plan. Water allocations are separate from land title and their ownership, volume and location are clearly specified. A water allocations register records details of all water allocations and the corresponding interests and dealings. Compensation is payable under the *Water Act* if allocations are changed during the 10-year life of a water resource plan in a way that reduces the allocations' market value.

In areas that will not be covered by a water resource plan and resource operations plan, or where a resource operations plan does not provide for the establishment of water allocations, water licences similar to those under the previous *Water Resources Act 1989* continue. Over time, the licences will be amended to describe the water entitlement in volumetric terms (rather than, under the previous arrangements, describing the area that may be irrigated and the works that may be used to take water). Under a water licence, water remains tied to the land title. Water licences are usually found in areas of

limited demand (for example, much of Cape York Peninsula and small coastal streams). On implementation of the water resource plans currently in progress, water licences are expected to account for no more than 20 per cent of water use.

Reform progress

Progress by Queensland in developing water resource plans and resource operations plans, and the timetable for remaining plans, are reported in table 4.2. It completed water resource plans for six river systems and expects a further three to be completed soon. At May 2003, one resource operations plan — for the Burnett Basin — was completed.

Queensland's water allocation register has been established and is operational. Draft resource operations plans include schedules of existing licences that are to be converted to water allocations. After publication of the draft resource operations plan, existing interest holders may give notice of their intention to have their interest recorded on the water allocations register, after the relevant entitlement is converted to a water allocation. To assist financial institutions to identify cases where water licences are attached to land over which they hold securities, Queensland established a process to match its existing water licence database with real property descriptions on the land registry. Searches are undertaken on request.

Table 4.2: Status and timetable for water resource and resource operations plans in Queensland, May 2003

	<i>Release draft water resource plan</i>	<i>Final water resource plan</i>	<i>Release draft resource operations plan</i>	<i>Final resource operations plan</i>
Barron	2001-02	2002-03	2003-04	2003-04
Border Rivers	2002-03	2002-03*	2003-04	2003-04
Boyne	1999-2000	2000-01	2001-02	2002-03*
Burdekin ^a	2003-04	2004-05	2004-05	2005-06
Burnett ^b	1999-2000	2000-01 2001-02 (amendment)	2002-03	2002-03
Calliope and Baffle	2003-04	2004-05	2005-06	2005-06
Condamine– Balonne ^c	1999-2000 2003-04 (revised)	2003-04	2003-04	2004-05
Cooper	1997-98	1999-2000	–	–
Fitzroy ^d	Before 1999- 2000	1999-2000 2003-04 (amendment)	2002-03	2003-04
Georgina/ Diamantina	2002-03	2003-04		

(continued)

Table 4.2 continued

	<i>Release draft water resource plan</i>	<i>Final water resource plan</i>	<i>Release draft resource operations plan</i>	<i>Final resource operations plan</i>
Great Artesian Basin ^e	After 2004-05			
Gulf	2003-04	2004-05	2004-05	2005-06
Logan (including Albert)	2003-04	2004-05	2005-06	2006-07
Mary (including Burrum and Sunshine Coast catchments)	2003-04	2004-05	2006-07	2006-07
Mitchell	2003-04	2004-05	2004-05	2005-06
Moonie	1999-2000 2002-03 (revised)	2002-03*	2003-04	2003-04
Moreton	2007-08	2007-08	2008-09	2008-09
Pioneer ^f	2001-02	2002-03	2003-04	2003-04
Warrego/Paroo/ Bulloo/Nebine	1999-2000 2002-03 (revised)	2002-03*	2003-04	2003-04
Wet Tropics	2007-08	2007-08		
Whitsunday	2004-05	2004-05	2005-06	2005-06

^a The Burdekin water resource plan is to be amended to include the coastal alluvial aquifer in 2006-07, with the resource operations plan to be amended in 2007-08.

^b The Burnett water resource plan is to be amended to include the Bundaberg coastal aquifer in 2005-06. The resource operations plan is to be amended to include the Boyne and Barker–Barambah in 2004-05; 3 Moon, Elliot, Gregory and Isis in 2005-06; and the Bundaberg coastal aquifer in 2008-09.

^c The Condamine–Balonne water resource plan is to be amended to include Toowoomba Basalts and Eastern Downs Sandstones in 2004-05.

^d The Fitzroy water resource plan is to be amended to include overland flow in 2004-05 and the Callide groundwater in 2005-06. The resource operations plan is to be amended to include the Upper Dawson, Comet, overland flow and water release in 2005-06 and the Callide surface water, groundwater and water release in 2006-07.

^e The Great Artesian Basin was not listed on Queensland's agreed implementation program in 2001.

^f The Pioneer water resource plan is to be amended to include groundwater in 2004-05, with the resource operations plan to be amended in 2005-06.

* Not completed at 30 June 2003.

Provision of water to the environment

Assessment issue: Governments are to formally determine allocations or entitlements to water, including appropriate allocations to the environment to enhance/restore the health of river and groundwater systems. In allocating water to the environment, governments are to have regard to the work undertaken by the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) and the Australian and New Zealand Environment and Conservation Council (ANZECC). Environmental requirements, wherever possible, are to be determined on the best scientific information available and have regard to the intertemporal and interspatial water requirements that maintain the health and viability of river systems and groundwater basins. Governments needed to have made substantial progress in implementing arrangements to provide water to the environment by 2001, including allocations in all river systems that are overallocated or deemed to be stressed. Allocations must be substantially completed by 2005 for all river systems and groundwater resources identified in each jurisdiction's agreed implementation program.

At the time of the 2002 NCP assessment, the Queensland Government had not produced a final water resource plan for the Condamine–Balonne Basin, Queensland's only potentially stressed river system. Queensland was also still developing resource operations plans for the Burnett and Fitzroy basins. Because the Government was discussing ways of addressing the issues associated with the Condamine–Balonne Basin with the Commonwealth and New South Wales governments, and had announced a six-month independent scientific review and a commitment to implement the review's recommendations, the Council decided to conduct a supplementary assessment on the Condamine–Balonne.

In the 2002 supplementary assessment, finalised in March 2003, the Council reported that the independent scientific review had been completed and that the Queensland Government was committed to implementing the review's recommendations via a new water resource plan within a reasonable timeframe. For the 2003 NCP assessment, the Council expected Queensland to have produced, or substantially progressed, a new draft water resource plan for the Condamine–Balonne Basin.

Queensland also needed to demonstrate how it will achieve appropriate environmental outcomes via the development of resource operations plans to implement the water resource plans for the Burnett and Fitzroy basins.

Next full assessment: In 2004, the Council will report on progress by Queensland in implementing allocations to the environment consistent with the CoAG requirement that allocations be determined by 2005.

Reference: CoAG water reform agreement, clauses 4(b–f)

The Condamine–Balonne Basin

In the 2001 NCP assessment, the Council found that the Queensland Government's draft water resource plan for the Condamine–Balonne Basin did not adequately address identified environmental problems. Information at the time of the assessment suggested that the Condamine–Balonne Basin may have the characteristics of a stressed river system but that Queensland had no other river systems that were stressed or overallocated.

Although the Queensland Government had not produced a final Condamine–Balonne water resource plan by the 2002 NCP assessment, it was discussing ways of addressing the basin's issues with the Commonwealth and New South Wales governments. The Queensland Government had also announced a six-month independent review of the science underpinning the assessment of the current and future ecological condition of the lower Balonne River

system, and committed to act on the recommendations of the review. Because evidence emerged only in the 2001 NCP assessment that the Condamine–Balonne Basin may be stressed, and given the Queensland Government’s actions (including the proposed scientific review), the Council deferred its consideration of Queensland’s compliance with environmental obligations in relation to the basin to a supplementary assessment.

The Council completed the supplementary assessment in March 2003, reporting the following findings.

- The independent scientific review, chaired by Professor Peter Cullen, ex-Chief Executive of the Cooperative Research Centre for Freshwater Ecology, reported in January 2003 (Independent Scientific Review Panel 2003). The review found that the rivers and wetlands of the lower Balonne system are in a reasonable ecological condition but are expected to deteriorate if the present capacity to extract water from the system is exercised. The review recommended close community consultation to achieve a target of wetting on average every 3.5 years for the Narran Lakes (a wetland of international importance in northern New South Wales) and an appropriate frequency for the two Culgoa national parks. It also recommended further research to refine the environmental flow requirements.
- The Queensland Government had committed to implement in full the recommendations of the review via a new Condamine–Balonne water resource plan.
- Consistent with the review recommendations, the Government intended to develop management targets for the lower Balonne system in consultation with the community over a three-month period.
- Subject to advice from the Condamine–Balonne community reference group, the Government expected to release the new draft Condamine–Balonne water resource plan for public review in mid-2003 and aimed to finalise the new plan by the end of 2003.
- The Government expected to commence preparation of the resource operations plan (needed to implement the water resource plan) in mid-2003, with a view to finalising it during the first half of 2004.

Given the complexity of the work required and the need for further close consultation with the community, the Council considered the timetable proposed by Queensland to be reasonable. The timetable appeared unlikely to compromise the ecological condition of the lower Balonne system, given the review’s finding that the rivers and wetlands of the system are in a reasonable ecological condition. Accordingly, the Council concluded in the 2002 supplementary assessment that the undertakings of the Queensland Government met the State’s remaining water reform obligations for 2002. The Council indicated that it would monitor in future NCP assessments Queensland’s progress against its undertaking to produce a new Condamine–Balonne water resource plan.

Queensland commenced the development of the new water resource plan for the Condamine–Balonne Basin in early 2003, establishing a community reference group as the primary mechanism for involving the lower Balonne community. The community reference group includes Indigenous representatives and pastoralists from the Narran and Culgoa floodplain areas, irrigators and operators from the St George Irrigation Area and representatives of environmental and catchment management bodies. The Queensland Government advised in June 2003 that it expected to release a draft plan for public consultation in August 2003 and finalise the plan by the end of 2003. Queensland will then develop and implement the resource operations plan during the first half of 2004.

Burnett Basin

Queensland's *Water Infrastructure Development (Burnett Basin) Amendment Act 2001* amended a number of environmental objectives in the Burnett Basin water resource plan. The Council examined these changes in the 2002 NCP assessment, finding that they did not alter its 2001 finding that the Burnett Basin plan meets CoAG requirements on environmental flows. The Council considered, however, that the ways in which the allocations are managed and the infrastructure (including new infrastructure) is operated are likely to be a greater determinant of future environmental health. Consequently, the Council decided that it would consider in the 2003 NCP assessment how the Burnett Basin resource operations plan, which will implement the water resource plan, will achieve the general and ecological objectives in the water resource plan. In particular, the Council indicated it would consider the resource operations plan against principle 4 of the ARMCANZ/ANZECC National Principles for the Provision of Water for Ecosystems.²

Queensland released a draft resource operations plan for the Burnett Basin for public comment in December 2002 and finalised the plan in May 2003. The plan converts most existing entitlements to around 1700 water allocations, grants resource operations licences to existing water service providers (such as SunWater), and includes rules (though not for the Burnett Water Infrastructure Project) for infrastructure operation and water trading. The plan reserves allocations of water to be made available via the proposed dam and related infrastructure. Details of the infrastructure (such as dam and weir height, spillway width and outlet works) are, however, not included in the plan in order to provide flexibility for the final infrastructure design and construction.

² Principle 4 requires, for systems where there are existing users of water, that the provision of water for ecosystems go as far as possible to meet the water regime necessary to sustain ecological values while recognising the existing rights of water users.

The resource operations plan will require amendment, once the detailed design of the new infrastructure is known, to incorporate operating rules to allow for the release of the water, as well as monitoring and reporting arrangements for resource operations licence holders and trading rules. The plan allows for this amendment to be made without the usual public consultation process. In supplementary information provided to the Council, however, the Queensland Government advised that it will consult with water users before any amendments are made. Queensland noted that any amendment to the resource operations plan must be consistent with the water resource plan and must, therefore, not compromise the water allocation security and environmental flow objectives specified in the water resource plan.

The resource operations plan is also to be amended to extend its application to include several other water supply schemes and water resources. The Boyne and Barker–Barambah are to be included in 2004-05; 3 Moon, Elliot, Gregory and Isis in 2005-06; and the Bundaberg coastal aquifer in 2008-09. In the interim, water supply schemes in these areas will be managed in accordance with SunWater’s existing interim resource operations licence.

Water sharing rules are included in the resource operations plan. For water supply schemes, the plan specifies the rules to be used by the resource operations licence holder to determine the percentage of a water allocation’s nominal volume that can be extracted during a year (for each water priority group) and restrictions on the movement of water between years. There are also rules for passing low, medium and high flows aimed at meeting environmental flow objectives. Outside the water supply schemes, water allocations are subject to limits on the maximum rate at which water may be extracted and the flow conditions under which it may be taken (through commence-to-pump and cease-to-pump limits). These limits are also aimed at meeting environmental flow objectives.

The plan specifies requirements for water and natural ecosystem monitoring to determine if the plan’s objectives are being achieved. Reporting on the implementation of the resource operations plan, including the results of the monitoring program, will be included in the Minister’s annual report on the water resource plan.

Other water resources

Queensland finalised a water resource plan for the Fitzroy Basin in December 1999 and released a draft resource operations plan for the basin for public comment in December 2002. The resource operations plan, which was not finalised at the time of the 2003 NCP assessment, will set out how the Fitzroy Basin’s water and storages are to be managed to meet the water security and environmental flow objectives in the water resource plan. The draft resource operations plan for the Fitzroy Basin details a two-stage monitoring program. The first stage involves researching the most appropriate indicators for assessing the effectiveness of the management strategies in achieving

ecological outcomes. This stage commenced in 2002 and is to be completed in 2003. The second stage is a long-term monitoring program (to commence in 2004) that will be designed following the initial research.

Under the Water Act, on finalisation of a water resource plan, the Minister is required to make public a report summarising issues raised during the consultation process and how these have been addressed. The first two consultation reports were released following finalisation of the water resource plans for the Barron River and the Pioneer Valley in December 2002. The reports document changes made in the final plans in response to submissions received on the draft plans, and provide information to enable the community to understand the implications of these changes.

Submissions

Condamine–Balonne Basin

Smartrivers, representing the interests of irrigators in the lower Balonne region, raised concerns with the original water resource planning process and the technical advice underpinning the initial draft Condamine–Balonne water resource plan released in June 2000. Following the findings of the independent scientific review, Smartrivers considered that the Condamine–Balonne should no longer be classified as a stressed river, ‘thereby removing any threat to Queensland’s competition payments with respect to this river’ (Smartrivers 2003, p. 1). (Smartrivers is represented on the community reference group; see below for details of the group’s submission.)

The Queensland Conservation Council expressed concern that the Queensland Government, despite completion of the scientific review, had made no public commitment on the timeframe for finalising the water resource plan for the Condamine–Balonne Basin. It considered that the Queensland Government should be penalised for not having finalised the plan and stated:

The scientific review confirmed that the Condamine–Balonne is in trouble if current allocations are realised and that water has to be returned for environmental purposes if the ecological assets identified in the review are to be successfully maintained into the future.
(Queensland Conservation Council 2003, p. 8)

The Lower Balonne Community Reference Group, established by the Government to help develop the water resource plan, advised the Council of its satisfaction with the process for developing the new plan, noting the improvement in the working relationship between the local community and the Department of Natural Resources and Mines. The group confirmed the advice from the Queensland Government that the draft water resource plan is likely to be available for public release by August 2003.

Burnett Basin

The Queensland Conservation Council reiterated concerns it expressed in previous submissions regarding the water resource planning process for the Burnett Basin. It considered that the additional water allocations for the Burnett Water Infrastructure Project will not allow sustainable environmental flows and would be likely to have major impacts on ecological conditions within the river. In addition, the Queensland Conservation Council was concerned that the draft resource operations plan for the Burnett Basin did not include design, operation or management specifications for the Burnett dam. Instead, the draft plan proposed that future amendments would occur to accommodate the proposed infrastructure, without the need for further public consultation.

Burnett Water for All, representing various community and industry groups, submitted that ‘environmental flows, water allocations and property rights have all been eroded by the Paradise Dam proposal’ (BWFA 2003a, p. 6). It commented that the original water resource plan for the Burnett Basin was changed without any community consultation. The change resulted in the mean annual flow at the river mouth being reduced to 72 per cent of the natural flow, or 9 percentage points less than recommended by the original plan. Burnett Water for All considered that water has been taken from environmental flows, supplemented water allocations and allocations for flood water harvesting, undermining the water rights of existing users (with, for example, the reliability of supplemented water allocations in the Upper Burnett being reduced from over 95 per cent to 90 per cent). In addition, the group was concerned that community consultation had been reduced to the bare minimum. It commented that: the draft resource operations plan was released just before Christmas 2002; documents were difficult to obtain; the submission period was the bare minimum; and this was the first local irrigators heard of the proposed substantial cut to flood water harvesting.

The two submissions are discussed further in section 4.7.

Discussion and assessment

Condamine–Balonne Basin

Under the CoAG water reform agreement, by 2001, governments were to have in place allocations to the environment in all river systems that are overallocated or deemed to be stressed. As the Council noted in the 2002 supplementary assessment, the scientific review found that the rivers and wetlands of the lower Balonne system are in a reasonable ecological condition but are expected to deteriorate if the present capacity to extract water from the system is exercised. While the river system is not currently stressed, the review’s findings on the possible level of water extractions with the present infrastructure indicate that the water resource may be overallocated. Because the water allocations in the Condamine–Balonne Basin will not be formalised

under the new Water Act until the resource operations plan is finalised and implemented, it is difficult to determine whether the resource is overallocated.

The timeframe proposed by Queensland for finalising water management arrangements for the Condamine–Balonne system — the water resource plan by the end of 2003 and the resource operations plan in the first half of 2004 — is reasonable. For compliance with CoAG environmental obligations, allocations must be substantially completed by 2005 for all river systems (stressed, overallocated or otherwise) and groundwater resources identified in each jurisdiction’s agreed implementation program.

For the 2003 NCP assessment, the Council expected Queensland to have produced, or substantially progressed, a new draft water resource plan for the Condamine–Balonne Basin. Specifically, the Council was looking for:

- the draft water resource plan’s adoption of outcomes and strategies consistent with the recommendations of the scientific review, to ensure the delivery of adequate environmental flows within a reasonable time period;
- close consultation with the community and transparency in the draft plan’s development, as required under the Water Act; and
- a commitment by Queensland to the further research recommended by the scientific review, particularly to refine the environmental flow requirements.

While Queensland had not produced a draft water resource plan at 30 June 2003, it advised (and the community reference group confirmed) that the process is substantially progressed. Further, the overall timeframe for developing the water resource plan and resource operations plan for the basin does not appear to be compromised. The Council considers that the Queensland Government is satisfactorily addressing its environmental obligations in relation to the Condamine–Balonne Basin.

For the 2004 NCP assessment, the Council will look for Queensland to have finalised the Condamine–Balonne water resource plan (including appropriate environmental outcomes) and the resource operations plan. Queensland will need to have:

- adopted, as recommended by the scientific review, the interim target of wetting on average every 3.5 years for the Narran Lakes and an appropriate wetting frequency for the two Culgoa national parks;
- provided an opportunity for the Murray–Darling Basin Commission Independent Audit Group to comment on the water resource plan, and considered the audit group’s comments in finalising the plan; and

- explained, in line with the requirements of the Water Act, how the final water resource plan addresses issues raised during public consultations, and adopted monitoring arrangements to evaluate the performance of the plan.

Burnett Basin

In relation to the Burnett Basin, the Council examined the modified water resource plan for the Burnett Basin, which accommodates the Burnett Water Infrastructure Project in the 2002 NCP assessment. The Council concluded that the amendments to the water resource plan would result in only minor changes from the outcomes of the original plan and reaffirmed its finding from the 2001 NCP assessment that the plan complies with CoAG commitments.³

The Burnett Basin resource operations plan, finalised in May 2003, reserves allocations of water to be made available via the project but will require amendment (once the detailed design of the infrastructure is known) to allow for the release of the water. Under the plan, this amendment can be made without the usual public consultation process. The Queensland Conservation Council expressed concern at the lack of transparency proposed, while Burnett Water for All was critical of the consultation process on the draft resource operations plan.

In response to the submissions, Queensland restated its view that there has been extensive public consultation on water allocation and environmental issues. Before any amendments are made to the final resource operations plan to accommodate the detailed design of the new infrastructure, Queensland advised that it will consult further, though the consultation is to be limited to water users. The Council considers that, given the significance of the infrastructure, a wider consultation process would be desirable to reassure the community of the importance of transparency to Queensland's water resource planning process.

As the Queensland Government noted, however, the resource operations plan specifies that the amendments to accommodate the new infrastructure cannot be made until it is demonstrated that the supply of water would not have an impact on the water allocation security and environmental flow objectives in the water resource plan. Given this safeguard, the Council considers that the resource operations plan, once amended, should meet CoAG environmental flow requirements.

³ In response to the issues raised by Burnett Water for All regarding the security and reliability of water rights, Queensland advised that the resource operations plan provides for an independent panel to consider adjustments to water allocations in cases where historic use exceeds the nominal volume of the water allocation.

Other water resources

Queensland is yet to finalise the resource operations plan for the Fitzroy Basin, so the Council will consider this plan and any other completed plans against the relevant national principles in the 2004 NCP assessment.

The CoAG agreement requires that, by 2005, allocations (and trading) must be substantially completed for all river systems and groundwater resources identified in governments' agreed implementation programs. Under Queensland's latest timetable (as at May 2003), some of the plans on its agreed implementation program are not scheduled to be completed until after 2005, including the water resource plan for the Moreton Basin (2007-08) and resource operations plans for the Logan (2006-07), Mary (2006-07) and Moreton (2008-09) basins. In addition, Queensland is proposing amendments to water resource and resource operations plans after June 2005 for the Burnett, Burdekin and Fitzroy basins to expand the plans' coverage of water resources in these basins.

In the 2004 NCP assessment, the Council will seek a report from Queensland on the significance of the water sources for which water resource and resource operations plans will remain to be completed after 2005 (including the expected extent of demand for water trading in these areas). This information is necessary for the Council to obtain a better understanding of the implications of Queensland's current water allocations program for the State's compliance with CoAG obligations.

4.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In previous NCP assessments, the Council found that Queensland had made significant progress towards developing a framework for efficient water trading but substantial work remained on implementation. Arrangements to enable trading are to be implemented through the resource operations plans for each water catchment. At the time of the 2002 NCP assessment, however, Queensland was still to finalise its first resource operations plan. As a prelude to developing the trading provisions in the resource operations plans, Queensland had implemented interim trading arrangements through a water trading trial in the Mareeba Dimbulah Water Supply Scheme.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Water trading in Queensland is still in the early stages of development. Under the Water Act, arrangements for intrastate trading are to be implemented through the resource operations plans for each water catchment. As a prelude to developing the trading provisions in the resource operations plans, Queensland has implemented interim trading arrangements through a water trading trial in the Mareeba Dimbulah Water Supply Scheme. In areas that will not be covered by a water resource plan and resource operations plan, while water licences remain tied to the land title, the water available to be taken under the licence may be temporarily traded.⁴

Water trading under resource operations plans

Under the Water Act, water allocations are separated from land title and trading is possible in areas where a water resource plan and resource operations plan have been finalised. Three types of water trading are permitted:

- permanent transfers of water allocations;
- leases of water allocations (with no limit on the duration); and
- seasonal assignments to another person of (part or all of) the water available to be taken under water allocations and water licences for a water year (with no restriction on the number of consecutive periods in which water can be traded).

The underlying principle for trading rules in the resource operations plans is that transfers must not compromise achievement of the key environmental flow and water allocation security objectives established in the relevant water resource plan. In this regard, irrigators are required to prepare land and water management plans before water purchased via a permanent trade or lease can be used. (This requirement does not apply for seasonal assignments.)

Queensland's water allocations register records details of all of the allocations and the corresponding interests and dealings. Parties with a registered interest must be notified of proposed trades, with their consent required before a change can be registered.

⁴ These arrangements also apply in areas not covered by the trading trial until a resource operations plan is completed.

As reported in section 4.2, Queensland has finalised one resource operations plan since the 2002 NCP assessment. This is the plan for the Burnett Basin, which was approved on 29 May 2003. The plan specifies the rules under which trading can occur in parts of the Burnett Basin (box 4.1), but will require amendment to include trading rules for water from the Burnett Water Infrastructure Project (as well as the Boyne and Barker–Barambah; 3 Moon, Elliot, Gregory and Isis; and the Bundaberg coastal aquifer). Queensland has a further five resource operations plans in preparation, including two draft plans that have been released for public consultation.

Box 4.1: Process and rules for transferring water allocations in the Burnett Basin, Queensland

General process

The resource operations plan includes rules for changing and transferring water allocations.

A change to a water allocation involves a change to the nature of the allocation rather than a transfer of ownership. The most common forms of change are relocation (that is, a change to the location at which the water allocation is taken), amalgamation and subdivision of water allocations. To change a water allocation, the holder must apply to the chief executive of the Department of Natural Resources and Mines for a change certificate. Once issued, the certificate must be lodged with the registrar of water allocations to record the change on the water allocation register. The registrar will not register the change until a supply contract has been entered into between the water allocation holder and the resource operations licence holder (for example, SunWater) for supply of the changed water allocation.

The trade of a water allocation involves a transfer of the ownership of the allocation and may or may not involve any change to the allocation itself. A transfer occurs when the registrar registers the new ownership. To sell a water allocation to, for example, a downstream buyer, the seller may need to apply to change the location of the water allocation to reflect the new downstream location. (Sales within the same zone do not require a location change.) A change certificate and transfer document, to transfer the allocation to the new owner, must then be lodged with the registrar to record the change and transfer.

Water allocation change rules

The water allocation change rules included in the resource operations plan describe changes that are permitted and changes that are prohibited.

Permitted changes include:

- changes to the location of the water allocation between specified zones (subject to maintaining the distribution of medium and high priority water allocations in each zone within a specified range);^a
- a change to the purpose of the allocation from 'agriculture' to 'any' and vice versa;^b and
- the amalgamation and subdivision of water allocations.

Queensland has pre-tested the permitted changes. As a result, the impacts of the changes on other allocation holders and the environment are known to be acceptable. If a water allocation holder applies for a permitted change, the chief executive must approve the application and issue a change certificate.

Prohibited changes include changes: between locations that are not specified as permitted under the plan; to a purpose that is not 'any' or 'agriculture'; to a water allocation priority group that is not 'medium' or 'high'; and that would require an amendment to the resource operations plan.

If a water allocation holder's proposed change is not expressly permitted or prohibited, the holder may apply to change the allocation under section 130 of the Water Act. The department publishes a notice of the application in local newspapers inviting public submissions. The chief executive determines whether the application should be approved having regard to its potential impact, including on other allocation holders and the environment. Refusal of the application may be appealed to the Land Court.

^a Only medium and high priority water allocations have been issued in the Burnett Basin.

^b The purposes for which water may be taken under a water allocation in the Burnett Basin are specified as 'agriculture', 'any' or 'distribution loss'. 'Any' is defined to include all uses of water, including agriculture. 'Distribution loss' covers losses associated with the delivery of water through SunWater's offstream distribution system.

Source: NRM 2003a.

The Mareeba Dimbulah trading trial

A trial of permanent water trading commenced in the Mareeba Dimbulah scheme in 1999. Following the introduction of the new framework for water trading in the Water Act, the trial continued under interim trading arrangements established by a Regulation under the Act. The Regulation effectively continues provisions that existed under the Water Resources Act.

The trial involves the trading of interim water allocations. The main differences between interim water allocations and the water allocations to be traded under resource operations plans are summarised in table 4.3. The interim permanent trading arrangements applying in the Mareeba Dimbulah scheme are summarised in box 4.2. These arrangements will continue until the resource operations plan for the Barron Basin is completed (currently expected to be early 2004).

Subject to the outcome of an evaluation of the Mareeba Dimbulah trading trial, Queensland was considering extending the trial to a number of other areas.

Table 4.3: Features of water allocations and interim water allocations in Queensland

<i>Interim water allocations</i>	<i>Water allocations</i>
Must be re-attached to land	Separated from land title under the Water Act
Terms and conditions same as licences (set periods; may be cancelled, varied or amended at any time)	Granted for a period of 10 years
Administrative data base and licensing system	Water allocations register

Box 4.2: Interim trading arrangements in Queensland established by Regulation under the Water Act

- All or part of the water may be transferred to other land within or outside Queensland provided the water is managed under the interim resource operations licence in the relevant area. (Transfers outside Queensland are not relevant to the Mareeba Dimbulah scheme in north-east Queensland.)
- Water transferred under the Regulation must be used for primary production (or, since 2002, for stock and domestic purposes).
- An application for a transfer must be made to the chief executive of the Department of Natural Resources and Mines by the buyer and seller, and be accompanied by the relevant fee.
- Third parties with a financial or other interest in the land held by the proposed seller must be notified of the proposed transfers. Transfers cannot be approved without their written consent.
- The buyer is required to have a supply contract with the interim resource operations licence holder.
- In making a decision on a transfer application, the chief executive must have regard to the sustainability of the proposed transfer, the purpose for which the water is to be used and any other relevant matters.
- The chief executive may set conditions on the transfer, including that the allocation be adjusted to avoid an adverse impact on the sustainability of land and water resources.

Source: Water Regulation 2002

Trading to date

Before the commencement of the Water Act, there was limited scope for water trading in Queensland. Trade was effectively limited to temporary trades mostly in regulated systems and, since 1999, to the pilot for permanent trades in the Mareeba Dimbulah scheme. There has also been some temporary trade of groundwater in areas of intensive competition.

In 2001-02, temporary transfers (seasonal assignments) in water supply schemes managed by SunWater amounted to around 120 000 megalitres. This was a substantial increase on the previous year. Almost one-third of the trades were in the Bundaberg scheme, though the largest quantities of water traded (in total) were in the Burdekin Haughton scheme and the Nogoa McKenzie scheme. In the previous 10 years, the volume of temporary transfers throughout the State ranged from 12 000 to 69 000 megalitres per year. In 1999-2000, temporary transfers accounted for around 2 to 3 per cent of water use in the Burdekin Haughton and Mary River regions, 5 per cent in the Bundaberg region and over 10 per cent in the Dawson, Emerald and St George regions.

In the Mareeba Dimbulah scheme, since commencement of the trading trial in 1999, there have been around 60 permanent transfers, amounting to almost 1900 megalitres (table 4.4). Queensland advised that, since completion of a review of the trial in early 2002 (see next section), the volume of water permanently traded has increased by over 60 per cent and the number of

trades by over 90 per cent. (Some data on permanent trades in other schemes following extension of the trading trial are reported in the following section.)

Temporary trades in the Mareeba Dimbulah scheme have also grown: from 1660 megalitres in 1999-2000 (2.1 per cent of total water use) to over 2900 megalitres in 2000-01 (3.9 per cent of water use) and to over 10 000 megalitres in 2001-02.

Table 4.4: Permanent transfers in the Mareeba Dimbulah scheme 1999-2000 to 2002-03

<i>Water year</i>	<i>Applications (no.)</i>	<i>Transfers (ML)</i>
1999-2000	4	164
2000-01	9	275
2001-02	25	912
2002-03 (to 20 February)	25	521
Total	63	1872

In the Mareeba Dimbulah scheme, recent prices for permanent trades have been in the order of A\$200 to A\$300 per megalitre. Prices for seasonal water assignments have been around A\$11 to A\$24 per megalitre.

Changes in the regulatory environment since 2001

As noted above, Queensland finalised its first resource operations plan, for the Burnett Basin, in May 2003. Permanent trading is therefore now permitted in parts of the Burnett Basin in line with the rules specified in the plan.

The Department of Natural Resources and Mines completed an evaluation of the Mareeba Dimbulah trading trial in early 2002. The evaluation was undertaken under the guidance of a steering committee comprising representatives of the Department of Primary Industries, Queensland Farmers' Federation, SunWater, Queensland Conservation Council and WWF Australia. Over the period of the trial (from 1999 to March 2002), less than 1 per cent of total allocations in the area were permanently traded, though trade was growing. The evaluation attributed the low level of trade mainly to the low level of water usage relative to total allocations (averaging around 50 per cent). In addition, seasonal water assignments were found to have some advantages over permanent trades. In particular, seasonal water assignments do not require preparation of a land and water management plan, do not attract stamp duty and can be claimed as an income tax deduction.

The evaluation made a range of recommendations on market design, administration and extension of the trial including that:

- the fees payable to the department should be amended to a sliding scale to reflect the economies in processing two or more applications for permanent trade together for the same buyer;
- the level and reasons for the exit fees charged by SunWater (when the trade involves shifting water from a channel to a river), in order to recover fixed infrastructure costs, should be discussed with customer councils;
- the requirement for public advertising of a proposed transfer should be removed to streamline the approval process (given that no submissions have been received in response to the advertisements and that there is a separate requirement for the consent of third party interests to be obtained before a transfer can be approved);
- transfers should be permitted between primary producers and stock and domestic users (so as not to disadvantage landholders outside the town water supply scheme);
- a separate evaluation of land and water management plans should be conducted to ensure the requirement for preparation of a plan (before traded water can be used) is not an impediment to trade;
- the trial trading program should be continued in the Mareeba Dimbulah area; and
- several factors should be taken into account when assessing whether to extend the trial to other areas:
 - whether there is strong demand for trading (as indicated by the level of usage relative to total allocations);
 - the expected timing for finalisation of the resource operations plan for the area (as the trial, to some extent, results in a duplication of market establishment costs); and
 - because of the need for careful examination and hydrological modelling of impacts on environmental flows and water allocation security, extension of the trial should be restricted to channel systems operated by SunWater.

In response to the evaluation, Queensland:

- amended the Water Regulation to:
 - remove the requirement for advertising a proposed transfer;
 - permit transfers between primary producers and stock and domestic users; and
 - adopt a sliding scale of fees for multiple applications;

- evaluated the process for preparing land and water management plans, concluding that it is not an impediment to trade; and
- streamlined the administrative process for trades.

Queensland has continued the trial in the Mareeba Dimbulah scheme and extended it to a small proportion of the water allocated in the Nogoia McKenzie scheme and to the lower parts of the Mary River scheme (including parts of Tinanan Creek). Since the extension of the trial, there have been 14 applications for permanent transfers in the Nogoia McKenzie catchment, accounting for over 1300 megalitres (in the period from 2001-02 to February 2003). In the lower Mary catchment, 2 megalitres has been permanently transferred for stock and domestic use.

Queensland advised that finalisation of the resource operations plans is the preferred approach to introducing permanent trade in other areas. While Queensland currently has no plans to extend the trial to other areas, it would consider extending the trial further if there is community demand and if the environmental impacts are sufficiently understood and can be managed.

During 2003, Queensland amended the Water Act and the *Valuation of Land Act 1944* to enable additional information on sales of water allocations (such as the price paid) to be collected.

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

Queensland is still in the early stages of implementing arrangements for permanent water trading and long-term leases of water allocations. Trade has effectively been limited to temporary trades, mostly in regulated systems, and to permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and a small proportion of the Nogoia McKenzie schemes. There is, however, no restriction on the number of consecutive periods in which water can be temporarily traded. Following completion of the resource operations plan, permanent trading has also been possible in parts of the Burnett Basin since May 2003. Over the next twelve months, Queensland expects to finalise a further seven resource operations plans (Fitzroy, Border Rivers, Moonie, Warrego, Barron, Pioneer and Condamine–Balonne) (see section 4.2).

In the 2001 NCP assessment, the Council was satisfied that water rights will be sufficiently well specified to facilitate trading once the resource operations plans are in place. Water allocations are being progressively separated from land title as the plans are completed. There is no requirement to own land or to have the ability to use the water in order to hold a water allocation. Allocations are recorded on a water allocations register, which provides security of title and includes details of third party interests. The consent of

registered interests is required before a change can be registered. Compensation is payable if allocations are changed in a way that reduces their value during the 10-year life of a water resource plan.

The arrangements include measures to ensure permanent water trades do not adversely affect the environment or other water users. Queensland previously advised that the underlying principle for trading rules in the resource operations plans is that transfers must not compromise achievement of the key environmental flow and water allocation security objectives established in the relevant water resource plan. Approval of a permanent trade depends on an assessment of the potential impacts. In addition, irrigators are required to prepare land and water management plans before water purchased via a permanent trade or lease can be used.

The water allocation change rules included in the one resource operations plan completed to date, for the Burnett Basin, include a range of constraints on trade. The plan specifies changes that are permitted and changes that are prohibited. The permitted changes (between specified locations) have been pre-tested and are known to have acceptable impacts on other allocation holders and the environment. Prohibited changes include changes between locations that are not specified as permitted under the plan or that would require an amendment to the resource operations plan.⁵ Changes that are not expressly permitted or prohibited require approval. The approval depends on an assessment of the potential impact of a trade, including on other allocation holders and the environment. Refusal of the application may be appealed to the Land Court.

Queensland advised that the trading restrictions in resource operations plans typically relate to the physical constraints of the supply system and the flows necessary to ensure achievement of environmental and water allocation security objectives. Based on the Council's initial consideration of the Burnett resource operations plan, the trading rules appear to reflect environmental and physical constraints.

The interim arrangements for permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and Nogoia McKenzie schemes are more restrictive. In particular, an interim water allocation must be re-attached to land and water transferred must be used for primary production or stock and domestic purposes. The amendments introduced following the evaluation of the trial have, however, streamlined the administrative process (for example, by removing the requirement to advertise a proposed transfer). The interim trading arrangements in these areas apply only until the relevant resource operations plan is finalised. The schemes to which the

⁵ While transfers that involve changes to a water use purpose that is not 'any' or 'agriculture', or to a water allocation priority group that is not 'medium' or 'high', are also prohibited, these prohibitions are unlikely to be significant. 'Any' is defined to include all uses of water, including agriculture, and only medium and high priority water allocations have been issued in the Burnett Basin.

trading trial applies will be covered by the resource operations plans for the Fitzroy (Nogoa McKenzie, expected completion late 2003), Barron (Mareeba Dimbulah, early 2004) and Mary (lower Mary River, 2006) basins.

In areas that will not be covered by a water resource plan and resource operations plan, water will remain tied to the land title and trading will continue to be restricted to temporary transfers. Queensland previously indicated that these arrangements will only apply in areas of limited demand and that, in future, regulations may provide for transfers of water licences to other land holdings. Once the water resource plans currently in progress are implemented, these 'old style' water licences are expected to account for no more than 20 per cent of water use.

The development of water trading mechanisms and the availability of market information in Queensland reflect the infancy of permanent trading and its current restriction to only a few schemes. Trading is, however, possible through private trades, brokers and a private web-based water exchange. Information on prices, quantities, locations and how to effect a trade has been limited but is improving. The Department of Natural Resources and Mines and SunWater collect information on trading. During 2003, Queensland amended the Water Act and the Valuation of Land Act to enable additional information on water sales (such as the price paid) to be collected. This information is to be made publicly available. Publication of the resource operations plan for the Burnett Basin has improved the availability of information on water allocations and the process and rules for trading in parts of the Burnett region. Market mechanisms and the availability of information are expected to improve further as additional resource operation plans come into effect and the market for permanent trade becomes more widespread.

Assessment

While it is in the early stages of implementing arrangements for permanent water trading, the Council is satisfied that Queensland has made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.

Queensland is yet to finalise its resource operations plans. The one finalised plan, for the Burnett Basin, will require future amendments to incorporate significant water resources within the Burnett region. Final resource operations plans are necessary to enable permanent trading (outside areas covered by the trading trial) and to define the water trading rules. Consistent with Queensland's stated intention, the trading rules in the Burnett Basin resource operations plan appear to reflect environmental and physical constraints. The Council will look for trading rules in subsequent plans also to facilitate trading where it is socially, physically and environmentally sustainable.

In line with CoAG requirements, by 2005 allocation and trading must be substantially completed for all river systems and groundwater resources identified in governments' agreed implementation plans. As discussed in section 4.2, Queensland's revised timetable for developing its resource operations plans indicates that some plans on its agreed implementation program are now not scheduled to be completed until after 2005, including plans for the Logan (2006-07), Mary (2006-07) and Moreton (2008-09) basins. In addition, amendments after June 2005 are proposed for the Burnett, Burdekin and Fitzroy plans to expand the plans' coverage of water resources in these basins. As indicated in section 4.2, the Council will seek to understand the implications of the current timetable for Queensland's compliance with CoAG obligations in the 2004 NCP assessment.

Several provisions in Queensland's interim arrangements for permanent trades under the trading trial in the Mareeba Dimbulah, lower Mary River and Nogoa McKenzie schemes are inconsistent with the CoAG water trading obligations. In particular, an interim water allocation must be re-attached to land and the water transferred must be used for primary production or stock and domestic purposes. These are interim arrangements, however, pending finalisation of the relevant resource operations plans. Such conditions would require a robust supporting rationale if they are retained in the resource operations plans.

Outside areas that will be covered by a water resource plan and resource operations plan, water will remain tied to the land title and trading will continue to be restricted to temporary transfers. The Council understands these arrangements are to apply only in areas of limited demand, outside the river and groundwater resources identified in Queensland's agreed implementation program, with affected areas expected to account for no more than 20 per cent of the State's water use. On this basis, the arrangements would not appear to be an issue for compliance with CoAG obligations. The Council considers, however, that it would be preferable if Queensland did proceed with a regulation to at least enable transfers of water licences to other land holdings where there is demand for this to occur.

The Council will revisit Queensland's intrastate trading arrangements in the 2004 NCP assessment when it considers interstate trade. In line with CoAG obligations and the reform timeframe, the Council will focus on the extent to which Queensland's trading arrangements enable water to be used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments. For the 2004 NCP assessment, the Council will expect Queensland to:

- report on the trading arrangements in subsequently completed resource operations plans;
- report on the significance of the water sources for which resource operations plans will remain to be completed after 2005, including the expected extent of demand for water trading in these areas;

- confirm that the demand for trading in the areas not intended to be covered by a water resource plan and resource operations plan is low and commit to considering the implementation of water management (including trading) arrangements if demand increases;
- report on the timeliness of approval processes for applications to trade (in the Burnett Basin as well as in the schemes covered by the trading trial); and
- outline developments in water trading mechanisms and the availability of market information.

4.4 Institutional reform

Structural separation: transparency of pricing matters

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision are to be separated institutionally by 1998. In the 2002 NCP assessment, the Council noted that the Queensland Government published information on local government pricing, CSOs and cross-subsidies. The Council advised that it would consider whether the information available on local government pricing and related matters provides sufficient transparency and that it would report on Queensland's progress with drinking water quality standards.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(c) and (d); CoAG pricing principles

Since the 2002 NCP assessment, the Queensland Government has identified areas of weakness in the Queensland Local Government Comparative Information report, and has improved the format in readiness for future reporting. Queensland's 2001-02 report now provides sufficient detail on charging arrangements, CSOs, cross-subsidies and trade waste charges. The Government tabled the 2001-02 report on 9 August 2002. The report is available on the Department of Local Government's web site. The Council has reported on Queensland's progress with drinking water quality standards in section 4.5.

Devolution of irrigation scheme management

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established.

In irrigation schemes managed by SunWater, the establishment of customer councils is intended to give irrigators the opportunity to provide input into SunWater's decision-making process. In the 2001 NCP assessment, the Council indicated that it would monitor the operations of the customer councils to ensure SunWater is using them as an effective mechanism for irrigator input into decision making.

Queensland needs to demonstrate that customer councils are providing an effective mechanism for irrigator input into decision making in irrigation schemes.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

In irrigation schemes managed by SunWater, the establishment of customer councils is intended to give irrigators the opportunity to provide input into SunWater's decision-making process. In the 2001 NCP assessment, the Council indicated that it would monitor the operations of the customer councils to ensure SunWater is using them as an effective mechanism for irrigator input into decision making.

Reform progress

During 2002, SunWater established a new customer council in the Mareeba Dimbulah Water Supply Scheme, bringing the total to 12 customer councils. Of the 27 water supply schemes operated by SunWater, the customer councils cover 20 schemes. Irrigators in two schemes (the Burdekin–Haughton and Proserpine River) have declined to form customer councils until pricing disputes with the Government are resolved. Pricing in these schemes is being investigated by the Queensland Competition Authority. In the interim, Queensland indicated that the irrigators have been working closely with SunWater, through irrigator committees. In the other five schemes not covered by customer councils, Queensland considers that individual customer liaison is preferable, as customer numbers are small.

Queensland advised that the customer councils continue to function as independent organisations. The councils control the content of meetings and their own budget, which is funded by SunWater based on requests from the councils.

Queensland reported that the following activities were undertaken with the customer councils during 2002.

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- Setting of service targets. Targets for service levels in 12 schemes were finalised by the end of May 2003, with most of the remainder to be finalised by the end of June 2003. Customer councils provided significant input into determining which aspects of service would be measured and the appropriate levels of service. SunWater expected to commence measuring and reporting on performance to customer councils from July 2003.
 - Scheme management arrangements. SunWater worked with customer councils to improve the arrangements for scheme management (such as water ordering, rain shutdowns and sharing of system capacity for delivery). The agreed operating rules for most schemes were expected to be finalised by the end of June 2003; the rules for 12 schemes were completed and distributed to customers by the end of May 2003.
 - Drought management strategies. In schemes experiencing drought conditions, SunWater and customer councils worked closely to develop strategies to maximise opportunities from the limited supplies available.
 - Review of standard supply contracts. The review was finalised following a second round of consultation with customer councils. This resulted in further improvements in the standard supply contract.
 - Scheme operational issues. Customer councils participated in decisions on day-to-day scheme operations (such as the timing of shutdowns for maintenance or weed control). SunWater also worked closely with councils in developing proposals and submissions relating to future water management, as part of the development of resource operations plans.
 - Customer charter. Customer councils were involved in the development of SunWater's customer service charter, which outlines the principles applying to the relationship between SunWater and its customers.
 - Transparency of financial information. The previous level of provision of financial information to customer councils was maintained. Councils were provided with financial information, including on:
 - total costs as a percentage of the efficient cost targets;
 - total revenue as a percentage of the price path targets;
 - the benchmark proportion of costs between cost categories; and
 - actual renewals expenditure compared to the renewal annuity revenue collected.
 - Meetings between council chairs and the board. The chairs of customer councils met throughout the year with the SunWater board to discuss significant issues including:
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- water pricing, including tariff structures and the roles of SunWater and other agencies;
 - the coordination of submissions to the department on draft water resource plans; and
 - the outcomes of research on customer satisfaction.
- Dedicated facilitator. SunWater appointed a facilitator to operate at arms length from its water supply business to assist customer councils in resolving issues with SunWater. While initially established on a temporary basis, the role has been made permanent. The facilitator reports directly to SunWater’s chief executive officer and board on issues raised by the councils.

Submissions

The Pioneer Valley Water Board and Eton Irrigators raised concerns regarding the effectiveness of the Mackay Customer Council. The two organisations, which are irrigator representatives on the customer council, expressed dissatisfaction with the process used to establish price paths for irrigation supply in SunWater schemes, particularly the ‘token consultation’ with irrigators. They were particularly concerned that the costs on which prices were based have ‘no sound justification’. Pioneer Valley Water Board and Eton Irrigators stated:

... the customer council has been established by SunWater solely to meet the legislative requirements of the Water Act 2000 with no real intent for it to have a role in the management of the irrigation areas. The major issue for customer council irrigator representatives is the denial of access to actual cost information for operation of the schemes and that the council cannot be effective until this information is made available. (Pioneer Valley Water Board and Eton Irrigators 2003, p. 2)

Smartrivers, which represents irrigators in the lower Balonne region, considered that customer input into SunWater’s decision-making process through the customer councils ‘is not happening in a balanced manner’. Smartrivers commented that:

Decisions made by SunWater have the potential to affect all water users and it is paramount that we get the chance to have a say in decisions made regarding the river, and that these decisions be modelled before any form of implementation takes place. ... Current customer council meetings are closed to observers and as such are not seen to be fair, open and transparent.

We are also concerned at the accuracy of the minutes that are taken at the customer council meetings. (Smartrivers 2003, p. 2)

Discussion

To meet Queensland's water reform commitments, customer councils need to have effective input into decision-making processes. The water reform framework envisages more than consultation; it requires the councils to have input into decisions on the management of irrigation schemes.

The information provided by Queensland indicates that the customer councils have contributed significantly to decisions on several important aspects of scheme management during 2002, including:

- the determination of target service levels, which are fundamental to ensuring services meet customer needs;
- the development of orderly and efficient arrangements for day-to-day scheme management; and
- the development of drought strategies.

In addition, SunWater appears to have provided increased opportunities for customer councils to make their views known to its board and to have issues resolved at the highest level of the organisation (in particular, through the appointment of the dedicated facilitator).

In response to the concerns raised by Pioneer Valley Water Board and Eton Irrigators, Queensland advised the following.

- Customer councils are not provided with details of the operational costs for scheme infrastructure because SunWater considers the information to be commercial-in-confidence. SunWater does, however, provide shareholders and customers with an annual summary of scheme operations outlining total revenue and costs on a customer percentage basis.
- Consultation has been an ongoing process in the development and implementation of rural water price paths for SunWater schemes throughout the State. Irrigator concerns have been documented and published on the Department of Natural Resources and Mines' web site and will contribute to the next phase of policy development.
 - For the preparation of the 2000 price paths, the consultation included full briefings to scheme local management committees over the previous 18 months, special presentations to 40 local management committee members in Brisbane and briefings to peak bodies.
 - As a separate process, consultation was also undertaken with the Pioneer Valley Water Board in the development of the 2002 price path. Irrigators were provided with forecasts of efficient benchmarked costs and additional information on these costs was provided to the Pioneer Valley Water Board. Concurrently, the Queensland Government undertook a financial viability study to establish that the board would not be adversely affected by the new charges.

- In response to irrigators' concerns in 2001 (particularly in the Mackay region), the Queensland Premier established a task force. The taskforce, in consultation with irrigators, identified improvements to the process for developing future pricing arrangements, including a pre-policy engagement process involving information sessions with irrigators. During 2002-03, representatives from the Department of Natural Resources and Mines and Queensland Treasury visited irrigator groups around the State as part of the pre-policy engagement phase, to improve understanding of the basis for current and future rural water pricing consistent with COAG requirements. For Eton and Mackay irrigators, four meetings were held, with approximately 200 irrigators in attendance.
- Customer councils have been directly involved in developing rules for the day-to-day management of schemes (for example, for water ordering, rain shutdowns and sharing of system capacity for delivery). Full scheme management by customer councils, however, is not viable. SunWater, and not the customer council, is responsible for the commercial management, assets and liabilities of the scheme.

In relation to Smartrivers' submission, Queensland advised that customer councils are independent organisations that control their own membership, business agenda and processes. As customer councils are established to enable SunWater and its customers to discuss the management of the provision of supplemented water (that is, water within a water supply scheme), Queensland pointed out that the matters discussed would not be relevant to the lower Balonne floodplain harvesters. Nevertheless, Queensland considered that it may be useful for forums to be developed for discussions between Smartrivers and the customer council and SunWater. It suggested that Smartrivers contact SunWater and/or the customer council if it wanted to pursue this option.

Assessment

The Council is satisfied that, for the most part, SunWater is using the customer councils as an effective mechanism for irrigator input into its decision-making process. It appears to the Council that, where problems have arisen, Queensland has adopted a flexible approach to improving the level of engagement with irrigators (for example, on pricing) and that Queensland is willing to make further improvements as the need arises.

The Council therefore considers that Queensland is meeting CoAG obligations on local involvement in the management of irrigation schemes. It will consider further progress by Queensland in the 2005 NCP assessment.

Integrated catchment management

Assessment issue: Queensland is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council was satisfied that Queensland was meeting its 2001 obligations on integrated catchment management, but stated that it would monitor in forthcoming assessments Queensland's application of water use plans.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

The *Water Act 2000* and other statutes covering water, vegetation and land use management are the legislative underpinnings of integrated catchment management in Queensland. The Chief Executive Officers' (CEOs) Land and Resources Committee establishes whole-of-government mechanisms to coordinate natural resources management, including the management of catchments. In particular, a regional natural resource management taskforce within the Department of Natural Resources and Mines provides central policy and planning mechanisms. The taskforce runs working groups to coordinate and guide natural resources management, including water quality management.

Queensland recently revised administrative arrangements for integrated catchment management to reflect the State's participation in the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.⁶ The Queensland and Commonwealth governments signed a bilateral agreement on 1 March 2002 to invest up to A\$162 million in national action plan programs aimed at improving the health of Queensland's natural resources (including catchments) to ensure their sustainable use. At June 2003, the Queensland and Commonwealth governments were continuing to negotiate a bilateral agreement to implement the Natural Heritage Trust extension.

⁶ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 Budget. The implementation framework was endorsed in October 2002 by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus is on measures to improve water quality.

A coordination group with representatives from several State agencies oversees Queensland arrangements under the national action plan and Natural Heritage Trust extension. Under the national action plan, program management boards with broad representation coordinate Statewide salinity and water quality initiatives. The Water Quality Workplan Implementation Board, for example, has representation from academia, the Commonwealth Scientific and Industrial Research Organisation, industry and government.

At the regional level, natural resource management plans are to be developed and implemented by 14 regional bodies designated by the Queensland and Commonwealth Joint Steering Committee. The regional bodies, which are autonomous and community based,⁷ have been structured to meet institutional and operational requirements of the national action plan and Natural Heritage Trust extension. The 14 regional plans will cover all of the State (see table 4.5). Queensland provides information for stakeholders on the development of regional strategies at www.nrm.qld.gov.au/salinity.

⁷ Under the national action plan and Natural Heritage Trust extension, Queensland must ensure that regional natural resource management bodies have a majority community membership which balances production and conservation interests, includes local government and seeks effective participation by all relevant stakeholders including indigenous interests. Nomination processes must be transparent and open to all.

Table 4.5: Natural Resource Management regions in Queensland

<i>Region</i>	<i>Principal natural resource management focus</i>
Torres Strait	Indigenous title issues, land degradation on islands, management of marine and fishing resources, and water quality issues from Papua New Guinea mining.
Cape York	Indigenous land use agreements, industry, conservation of natural resources, tourism, weeds and feral pests management.
Wet Tropics	Downstream effects of tourism and intensive agriculture and horticulture, including impacts on water quality in the Great Barrier Reef lagoon; reef water quality plan; acid sulphate soils; timber industry rainforest management.
Northern Gulf	Extensive agriculture and rangelands, mining, tourism and fishing in rivers and Gulf of Carpentaria.
Southern Gulf	Rangelands, grazing, weeds management, mining in the mineral provinces, conservation areas and tourism.
Burdekin	Intensive agriculture, irrigation, fishing, rangelands, weeds and feral pests, mining and old mine sites rehabilitation, reef water quality plan.
Mackay Whitsunday	Intensive agriculture, tourism, conservation, impacts on inshore and near shore reefs of Great Barrier Reef lagoon, reef water quality plan.
Fitzroy	Mining and old mine site rehabilitation, soil erosion, grazing land management, weeds and feral pests, reef water quality plan.
Lake Eyre	Rangelands, weeds and feral pests, remote area tourism, Great Artesian Basin.
Burnett/ Mary	Intensive agriculture, water allocations, salinity, horticulture, reef water quality plan.
Condamine	Irrigation, intensive agriculture, horticulture, soil and land degradation, water allocation, salinity.
Murray Darling	Irrigation, intensive agriculture, horticulture, soil and land degradation, water allocation, salinity.
Warrego Paroo	Grazing lands, rangelands, overland flow and beneficial flooding, weeds and feral pests, Great Artesian Basin.
South East Queensland	Population growth, urban expansion, acid sulphate soils, preservation of open space, tourism, intensive agriculture and horticulture, conservation and forest and timber industries.
Western South East Queensland Catchments	Agriculture, horticulture, irrigation, urban expansion, population growth lifestyle land tenures, water supply catchments and water quality impacts on Moreton Bay.

Source: Government of Queensland 2003b

Queensland reported that its 14 regional natural resource management bodies will build on the earlier work of around 40 catchment committees and 13 regional strategy groups. In 2001, Queensland reported that the Queensland Committee of Natural Heritage Ministers had endorsed 27 catchment strategies covering 80 per cent of the State. Some committees had commenced implementation of catchment strategies. In addition, the regional strategy groups were developing natural resource management plans for particular regions. All of Queensland had a regional strategy endorsed or in progress, drawing on input from community groups, industry and catchment groups.

While Queensland's 14 natural resource management plans will incorporate the regional strategies developed in 1997–2002, the national action plan and Natural Heritage Trust frameworks refine a number of the original processes, including for identifying strategic assets, and for setting targets and performance indicators for actions to manage threats to those assets. The revised plans will also draw on new information and current scientific approaches. The regional natural resource management bodies have been allocated A\$9.8 million of interim funding to undertake these tasks.

Queensland reported in 2003 that the regional bodies for the Burdekin dry tropics, the Fitzroy Basin, the Burnett and Mary basins, the Upper Brisbane catchment, the Condamine River catchment, and the Queensland Murray Darling (covering the Balonne Maranoa and Borders Rivers catchments) are progressing their revised plans. A draft plan has been circulated for the Queensland Murray Darling. There has been good progress in the Burdekin and the Fitzroy regions, but neither has yet finalised a draft plan for accreditation. Queensland expects to develop a timetable for the completion of plans by the end of calendar year 2003, noting that progress in some regions has been slow due to delays in the State's participation in the Natural Heritage Trust extension.

As was the case in 1997–2002, catchment strategies developed by catchment groups are the building blocks of the regional plans. The natural resource management plans developed by the Burnett Mary group are, for example, largely distilled from the Burnett and Mary catchment strategies, with relevant standards and targets added through an iterative process to meet the national action plan and Natural Heritage Trust requirements.

The chairs of Queensland's 14 regional bodies formed a collective in March 2002 to provide leadership, improve coordination and share workloads. In addition, Government agencies support the regional bodies in management planning and in identifying priority actions. In particular, four regional coordination groups, comprising State and Commonwealth Government officers, were formed in November 2002 to improve information flows, coordinate policy and provide general assistance. Queensland has also set terms of reference for a State Natural Resource Management Advisory Group to provide strategic policy advice and feedback on regional planning. The group has not yet convened.

Evaluation and review

Processes established under the national action plan provide frameworks to assist catchment managers in evaluating the effectiveness of natural resource management plans. In particular, the National Framework for Natural Resource Management Standards and Targets 2002 provides nationally agreed directions for and approaches to natural resource planning, target-setting, best practice management and performance measurement. Queensland's 14 regional bodies are required to adopt this framework to gain accreditation of their natural resource management plans. Queensland

published draft guidelines in September 2002 to assist regional groups in developing and gaining accreditation of their plans. Queensland expects to release revised guidelines in September 2003.

Beyond processes under the national action plan, Queensland is progressing a State Monitoring, Evaluation and Reporting Framework to address the effectiveness of natural resource planning and management by regional groups. In addition, processes adopted by the Brisbane City Council to monitor and evaluate management of the Brisbane River and Moreton Bay catchments are now being adopted elsewhere, including in the Burdekin and Townsville regions and the wet tropics catchments flowing into the Great Barrier Reef lagoon.

Coordination of quantity and quality issues

Queensland's natural resource management framework provides for coordination of water quantity and water quality issues. Queensland advised that consultation processes in several catchments on water resource plans and resource operation plans were designed in cooperation with regional natural resource management bodies. Queensland published draft guidelines that require regional natural resource management plans to recognise and be consistent with water resource plans and resource operation plans.

The State has identified opportunities to strengthen links between these activities by:

- promoting inputs from water resource plans and resource operation plans into natural resource management planning, including on relevant targets, policy, investment criteria, monitoring standards; and
- developing shared or complementary monitoring frameworks, adopting complementary approaches to on-ground investment, and using common data and triggers for planning reviews.

Queensland reported that the parties involved in water resource plans, resource operation plans and community-based natural resource management plans recognise the respective roles and responsibilities of their counterparts and are working towards complementary and coordinated approaches to managing water resources in their respective regions.

Salinity issues

The National Land and Water Audit was unable to estimate the extent of dryland salinity risk in Queensland in 2000 due to inadequate data on shallow groundwater systems.⁸ Based on the limited data available, the audit estimated that 3.1 million hectares of farming land could be seriously threatened in 50 years. The regions considered most at risk of dryland salinity are the Fitzroy, Murray–Darling, Gulf and Burdekin (NLWRA 2001). The audit also showed that water in the Condamine–Balonne and the Warrego rivers may be undrinkable in as soon as 50 years. In 2002, the Queensland Premier released a salinity hazard map for the Queensland Murray–Darling Basin, indicating that up to 26 million hectares of Queensland's section of the basin are at serious risk of salinity over the next 30–50 years (Beattie 2002).

Queensland proposes to address salinity issues through natural resource management plans developed under the national action plan as well as through land care practices (see below). Natural resource management planning will identify areas at risk and set and monitor targets on nationally agreed matters, as set out in the National Framework for Natural Resource Management Standards and Targets 2002. Queensland intends to focus on the catchments of the Fitzroy and Burdekin rivers; the Lockyer, Burnett and Mary rivers; the Balonne, Condamine and Maranoa rivers; and the Border rivers (NRM 2003b).

Land care

Queensland advised that over 325 groups (including Landcare, Bushcare, Coastcare and Environmental groups) participate in 300 types of land care activities. Statewide, these groups engage about 8000 persons. Land care activities take place in all regions of the State, with the highest concentration in the Murray–Darling catchments, the Moreton Bay catchments and the wet tropics. Other focal areas include the Fitzroy Basin (especially the Dee River), and parts of the Mackay Whitsunday coastline.

Weed control activities are the most common land care activity, followed by tree planting, mostly to protect riverine ecosystems and improve water quality. Farm-based nature conservation activity is also occurring, particularly in the Queensland headwaters areas of the Murray–Darling Basin and the rangelands of the Burdekin Basin.

Queensland reported that Landcare, Catchment, Environmental, Bushcare and Coastcare groups are now identified according to the geographical

⁸ Queensland was the only jurisdiction not assessed. The audit estimated that 48 000 hectares of farming land was subject to dryland salinity risk in 2000, based on field observations in the early 1990s and workshop based consultations.

boundaries of their respective natural resource management regions. The 14 regional natural resource management bodies will set the directions of these groups by using national action plan/Natural Heritage Trust funding to purchase actions required to help address their regional targets.

Queensland is undertaking additional measures to protect rivers with high environmental values. In May 2003, the Queensland and Commonwealth governments unveiled proposals to reduce land clearing in the State.⁹ Key elements under discussion include a phased elimination of broadacre clearing of remnant vegetation by 2006. As an interim measure, Queensland implemented a temporary halt on new land clearing permits from 16 May 2003. The Government also expects to release a rivers policy in 2004 to protect rivers with high conservation values. The policy will consider a range of issues including land care policies.

Water use plans

Queensland has a capacity under the Water Act to prepare water use plans to address or prevent land and water degradation associated with water use. Queensland did not consider it necessary to prepare water use plans by the time of the 2003 NCP assessment. Instead, its current approach to salinity and water quality issues is to focus on the development of regional salinity and water quality management strategies through natural resource management plans developed under the national action plan. Queensland indicated, however, that it would apply water use plans, as necessary, in the context of an approved regional natural resource management plan.

In addition, the Water Act requires that a Land and Water Management Plan be prepared for irrigation developments using new or additional water allocations (see also section 4.2). The plan must describe how and where irrigation water supplies are to be used, and address issues of soil suitability, salinity, erosion, drainage, the suitability of irrigation techniques and water quantities that may be applied. Queensland is also investigating other mechanisms through which to manage the impact of land use activities on water quality — for example, the Great Barrier Reef Protection Plan (see assessment of the National Water Quality Management Strategy in section 4.5).

⁹ The Australian Greenhouse Office reported that in 1999, Queensland accounted for around 80 per cent of the 469 000 hectares of woody vegetation cleared nationally. In Queensland, the clearing rates were 47 per cent higher in the last years of the decade than in 1990–95 (Environment Australia 2002).

Discussion and assessment

The Council found in 2001 that Queensland had demonstrated considerable progress in developing integrated catchment management strategies. It noted that implementation of strategies had commenced in parts of the State. Between the 2001 and 2003 NCP assessments, Queensland focused on revising the administrative framework to implement integrated catchment management in accord with the requirements of the national action plan and Natural Heritage Trust extension. Under the new arrangements, 14 regional bodies are to develop and implement regional natural resource management plans, building on the work previously undertaken by catchment committees and regional strategy groups. Queensland has established support mechanisms to assist the regional bodies in this work. While progress in some regions has been slow due to delays in the State's participation in the Natural Heritage Trust extension, the Queensland Murray Darling body has released a draft plan.

Refining the administrative framework has been a substantial task, and sets the groundwork for further reform. This work is, however, only the first step towards delivering integrated catchment management outcomes. The task now is to finalise the plans for accreditation and proceed to implementation.

The Council considers that Queensland made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, it:

- developed administrative arrangements and decision making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments.

Queensland's natural resource management framework appears to facilitate the consideration of, and support for, land care practices to protect rivers with high environmental values. In particular, there are recent initiatives for substantially reducing the broadacre clearing of remnant vegetation in the State. As part of its full assessment of water reform in 2005, the Council will consider Queensland's progress in finalising and implementing regional natural resource management plans. The Council will also consider Queensland's proposed rivers policy to protect rivers with high conservation values.

4.5 National Water Quality Management Strategy

Assessment issue: Queensland is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council was satisfied that Queensland was meeting its 2001 obligations on the NWQMS, but expressed concern about the State's water quality monitoring arrangements.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

The Queensland Government developed, and is continuing to develop instruments to apply the NQWMS. It provided the following details on its implementation of key elements of the strategy.

Queensland Water Quality Guidelines

The Environmental Protection (Water) Policy 1997 adopts the NWQMS approach of establishing:

- the environmental values of waterways for protection;
- water quality objectives to protect environmental values; and
- protocols for sampling, measurement, analysis and reporting.

The purpose of setting environmental values is to protect waterways by directing appropriate land and water use planning and management. Environmental values, for example, provide direction to local government in developing plans on wastewater, stormwater, trade wastes and other matters affecting water quality.

As a basis for progressing its approach to water quality management, Queensland is using the NWQMS guidelines to develop a method of establishing the environmental values of waterways. The State conducted a trial to develop preliminary environmental values for the Condamine–Balonne river system, the river systems flowing to Moreton Bay, and Trinity Inlet (Cairns). The method is being refined in the Mary River catchment to ensure complementarity with the water resource planning process. More generally, the need to establish environmental values for waterways is being written into guidelines for developing regional natural resource management plans (see assessment of integrated catchment management).

At the time of the 2001 NCP assessment, the Environmental Protection Agency was developing Queensland Water Quality Guidelines based on the scientific framework outlined in the NWQMS. A draft of the guidelines had been presented to local governments, and publication on a web site was scheduled by September 2001. The Environmental Protection Agency reports that the draft guidelines allow water quality to be assessed against locally derived reference values, as recommended in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (NWQMS paper no. 4). If Queensland guidelines are not available for a particular indicator, then the Environmental Protection Agency refers parties to the relevant guidelines in NWQMS paper no. 4 (EPA 2003).

Queensland reported in 2003 that, while the draft guidelines are made available to parties on request, the Government recognised a need for further development work and has not formally published them. Queensland is engaged in the ongoing development of the guidelines, including the development of regionally appropriate environmental objectives in place of the national trigger values. In addition, the Government is extending traditional water quality assessment to river condition assessment through the development of indicators and indexes of aquatic ecosystem health. The Government is undertaking this work in partnership with research organisations. Queensland considered these approaches are consistent with the directions in NWQMS paper no. 4.

Queensland reported that it accords a high priority to formally approving and publishing its water quality guidelines. It expects to publish the first iteration (focussing on physical-chemical indicators) in December 2003. The process of collecting data to establish regionally relevant trigger values for a broad range of indicators will be ongoing.

South East Queensland Regional Water Quality Management Strategy

The South East Queensland Regional Water Quality Management Strategy, developed in cooperation with local government and community and industry groups, adopted NWQMS principles in establishing an integrated water quality plan for south east Queensland waterways. It established draft environmental values for waterways (using NWQMS methods), water quality objectives, a water quality monitoring program and a framework for management action. The strategy adopts the scientific framework outlined in NWQMS paper no. 4 and reflects the findings from baseline monitoring and modelling of water quality indicators.

Great Barrier Reef Protection Plan

The Queensland and Commonwealth governments signed a memorandum of understanding in August 2002 on a joint approach to protecting the Great Barrier Reef from land-based pollution. The Great Barrier Reef Protection Plan aims to halt and reverse within 10 years the decline in quality of water entering the reef. The plan identified practical actions to improve water quality and reduce adverse impacts on the marine environment. Many of these actions will be implemented through regional natural resource management plans (see assessment of integrated catchment management). Water quality targets developed in these regional plans will be consistent with the approach set out in NWQMS paper no. 4.

The Trinity Inlet Waterways initiative of April 2002 is a strategy to integrate the management of the core business activities of key agencies in the region — such as management of the fish habitat area, the marine park, and environmentally relevant activities. The initiative provides direction to local government planning bodies.

Other water quality management initiatives

Work conducted for water resource planning provides significant information for water quality management purposes. Queensland expects current studies on the Condamine and Fitzroy River catchments, for example, to improve understanding of the impact of flow changes on river health. Information from the studies will be used to develop more robust and relevant indicators of the ecological impact of water resource planning processes. Queensland expects the bulk of these studies to be completed by late 2004.

Queensland is also funding research on other water quality management issues, including:

- salinity and other human impacts on river health, as part of Queensland's participation in the national action plan (see 'integrated catchment management');
- the sustainability of lungfish and turtle populations in the Burnett River system; and
- inland aquatic ecosystems (research conducted in partnership with the Consortium for Integrated Resource Management) to inform the management of the health of waterways.

Water quality monitoring

The Environmental Protection Agency has primary responsibility for monitoring and assessing the quality of estuarine and near-coastal waters, while the Department of Natural Resources and Mines is responsible for freshwater quality. A report on water quality in Queensland (NRM 2000) described quality as good or excellent for most basins for which data are available. However, 14 basins had insufficient water quality data for analysis. Basins identified as being most likely to respond to improved management practices are the Condamine, Burnett, lower Mary, upper Mitchell, Dawson and Emerald. The Council observed in the 2001 NCP assessment that water quality objectives could be compromised in the absence of adequate data (NCC 2001e, pp. 136–7).

The National Land and Water Resources Audit 2000 commented on deficiencies in Queensland arrangements for monitoring shallow groundwater systems associated with dryland salinity. The audit considered that there was ‘an urgent need to establish a State-wide monitoring network of groundwater, surface water, key land use and biodiversity parameters to better inform managers of the trends and implications of dryland salinity.’ (NLWRA 2001).

Queensland has been reviewing its water quality monitoring arrangements to ensure that the scope of indicators, and their spatial and temporal coverage provides an adequate description of the condition of waterways. In line with NWQMS paper no. 4, Queensland is extending monitoring to include river biota (fish and macroinvertebrates). The Government is investigating a consolidated measure, similar to Victoria’s index of stream condition. A scoping workshop comprising internal and external experts has commenced work in this area.

To improve targeting of water quality monitoring programs, Queensland let a consultancy in June 2003 to review its current arrangements. Consistent with the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7), the first stage of the review will assess Queensland’s information needs from monitoring programs. This initial stage will take into account assessments such as those carried out internally (NRM 2000) and by the National Land and Water Resources Audit (NLWRA 2001)¹⁰. Queensland expects an initial consultancy report to be available in October 2003.

The review will later consider the design of monitoring programs to best meet information and evaluation needs over the longer term. These processes will

¹⁰ Queensland reported that the monitoring issue raised by the National Land and Water Resources Audit 2000 is also being addressed under the State Salinity Action Plan. The Government has completed salinity hazard mapping for the State and is now undertaking modelling to assess the risks posed by land use to physical and environmental assets. Hydrogeological investigations involving drilling programs will monitor groundwater levels and salinity concentrations.

observe NWQMS paper no. 7. An outcome of the consultancy will be to refine the proposed index of stream condition framework.

Based on the information needs identified by the consultancy, the Government aims to develop regional, issues-based partnerships for water quality monitoring with local government, regional natural resource management groups, industries and universities. The Moreton Bay Environmental Health Monitoring Program (under the South East Queensland Regional Water Quality Management Strategy) is an example of the type of waterway monitoring programs that Queensland envisages. The Moreton Bay program encompasses marine water, estuarine water and freshwater from Noosa to the New South Wales border, and uses a range of monitoring and reporting techniques covering aquatic ecosystem health. Local communities are actively involved with the program.

Coincident with these activities, Queensland is participating in field and other technical work in the trial of the 'Sustainable Rivers Audit' by the Murray–Darling Basin Commission. The trial aims to provide a scientific platform on which to base various indicators of river condition. The trial recognises that biota and biological processes are the fundamental measures of river health and, thus includes indexes for these. As noted above, Queensland is now extending all water quality monitoring to include river biota.

Queensland makes water quality and river health data available via publications and on the web sites of the Environmental Protection Agency (www.epa.qld.gov.au and www.healthywaterways.env.qld.gov.au) and the Department of Natural Resources and Mines (www.nrm.qld.gov.au). The Government is also developing a regional information services framework under the national action plan and Natural Heritage Trust extension to strengthen natural resource management information networks so water quality and river health data are available to assist regional natural resource management bodies in their planning.

Drinking water quality

The Australian Drinking Water Guidelines 1996 are incorporated into guidelines for the planning and design of water supply schemes in Queensland. Queensland Health is responsible for regulating drinking water quality. Currently, the department does not systematically monitor drinking water quality throughout the State. Suppliers can voluntarily submit samples of drinking water for testing by the department.

Queensland is reviewing the management of drinking water quality as part of the review of the *Health Act 1937*. Queensland expects a new Public Health Bill to be drafted by the end of 2003, and the new Public Health Act to be proclaimed in 2004. Queensland intends to introduce a requirement that public and private sector drinking water providers prepare drinking water

quality management plans based on the risk management framework of the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6).

In the interim, Queensland Health is developing guidelines in consultation with local government and the water industry on circumstances where water providers must notify Queensland Health of identified public health risks. Queensland intends to eventually incorporate the notification guidelines into the drinking water quality management plans under the Act.

Unpublished data (WSAA 2003) indicate that Gold Coast Water did not fully comply in 2001-02 with the Australian Drinking Water Guidelines for bacteriological standards and physical-chemical standards. Queensland reported that Gold Coast Water introduced new water quality sampling arrangements in 2001 that are more rigorous than the national guidelines. Gold Coast Water fully complied with the national guidelines on total coliforms and colour, and achieved 99.8 per cent compliance against the national guidelines on turbidity. Gold Coast Water achieved 97.66 per cent compliance with pH requirements and is taking action to address pH issues, which arise only in isolated parts of its network. Gold Coast Water considers that the nonconforming pH results would be excluded under the national guidelines as being 'nonrepresentative' and noted that the results were not at levels that raise public health issues. Queensland Health has standard arrangements in place with Gold Coast Water to advise of any possible health risk with water quality.

Guidelines for groundwater protection

Queensland has developed maps showing the vulnerability of aquifers to contamination from land use activities. The Government has provided copies to local governments for use in planning schemes, and to regional bodies for use in the development of natural resource management plans. Queensland has also amended the Water Act to require that water bore drillers be licensed and to set bore construction standards that protect aquifers from leakage. These initiatives reflect the NWQMS guidelines for groundwater protection (NWQMS paper No. 8).

Other NWQMS modules

Queensland is using the NWQMS guidelines for diffuse and point source pollution (NWQMS papers nos. 10–20a) as key reference documents in the development of State guidelines on urban stormwater management, sewerage effluent management, environmental planning and water services infrastructure funding. The *Environmental Protection Act 1994* also provides for the Minister to approve codes of practice for meeting general environmental duty. Several codes have been approved for agricultural industries. Queensland used the NWQMS guidelines for dairying (NWQMS

paper no. 16) and piggeries (NWQMS paper no. 17) as reference documents in the development of industry best practice codes.

Unpublished data (WSAA 2003) indicate that:

- Brisbane Water did not comply with the Environmental Protection Agency Licence for Wastewater from 1999-2000, although its compliance had improved significantly by the date of the 2003 NCP assessment.
- Gold Coast Water did not comply in 2001-02 with the Environmental Protection Agency Licence for Wastewater.

Queensland detailed a number of corrective actions taken by Brisbane Water to prevent any recurrence of noncompliance. Queensland reported that noncompliance for Gold Coast Water was primarily associated with plant augmentation, which is now completed. Gold Coast Water will also review the effectiveness of all plants to consistently meet licence requirements.

Discussion and assessment

Queensland continues to progress in implementing the NWQMS framework. Developments since the 2001 NCP assessment, some of which are still under way, include:

- progress in developing environmental values based on the NWQMS methods for several major river systems;
- the introduction of measures to improve water quality monitoring and information dissemination;
- the implementation of the NWQMS principles in the South East Queensland Regional Water Quality Management Strategy;
- a review of drinking water quality arrangements to align with the NWQMS guidelines; and
- progress in groundwater protection.

The State continues to refine the Queensland Water Quality Guidelines, which have been in development for several years. Queensland expects to publish a first iteration of the guidelines by the end of 2003.

The Council considers that Queensland is establishing appropriate processes, instruments and mechanisms to implement the key elements of the NWQMS. Progress in one important area — development of the Queensland Water Quality Guidelines — has been only gradual. The Council will look for the guidelines to be in place for the 2005 NCP assessment.

4.6 Water legislation review and reform

Assessment issue: Queensland is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations. In the 2002 assessment, Queensland had no outstanding water legislation reviews or reforms.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

The Queensland *Water Act 2000* amended or repealed a range of water industry legislation. Queensland also reviewed and/or reformed several other water Acts.

The Water Act establishes Queensland's water allocation and water trading arrangements, via the development of water resource plans for catchments and basins (see section 4.3). The Act appears to impose no unwarranted restrictions — in particular, there is no requirement to own land or to have the ability to use the water in order to hold a water allocation. Under the Water Act, water resource plans specify the rules for the allocation of water, water allocation security objectives and environmental flow provisions. The water resource plans, which have effect for 10 years, are implemented through resource operations plans, which detail the day-to-day operational rules. The development of water trading will depend on the implementation of water resource and resource operations plans. In the 2001 NCP assessment, the Council was satisfied that water rights will be sufficiently well specified to facilitate trading once the resource operations plans are in place.

The Council considers that Queensland has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation.

4.7 Investments in new rural water schemes

Assessment issue: Investments in new rural water schemes or extensions to existing schemes are to be undertaken only after appraisal indicates the scheme or extension is economically viable and ecologically sustainable.

In 2001, the Queensland Government announced its intention to proceed with the Burnett Water Infrastructure Project. By the time of the 2002 NCP assessment, the project had passed through Queensland's environmental assessment processes (with the exception of the Ned Churchward Weir raising). The project had also been approved by the Commonwealth Minister for the Environment and Heritage under the *Environment Protection and Biodiversity Conservation Act 1999*. The Queensland Government modified the Burnett Basin water resource plan in 2001 to incorporate the impact of the proposed additional infrastructure, but was still to complete the resource operations plan. A study of the regional economic impact and a cost-benefit analysis included in the environmental impact assessment in October 2001 concluded the project would deliver significant net economic benefits.

Queensland will need to demonstrate that the Burnett infrastructure project satisfies the CoAG tests of economic viability and ecological sustainability before the project proceeds.

Next full assessment: The Council will examine investments made by the Government when the Government decides to proceed, to ensure that it has demonstrated that the project meets the tests of economic viability and ecological sustainability.

Reference: CoAG water reform agreement, clause 3(d)(iii)

In 2001, the Queensland Government announced its intention to proceed with the Burnett Water Infrastructure Project. The project comprises construction of the 300 gigalitre Burnett River Dam (previously referred to as the Paradise Dam), Eidsvold Weir and Barlil Weir, as well as the raising of Jones Weir and Ned Churchward (formerly Walla) Weir. The capital cost of the project is estimated at around A\$210 million.

The Government established a new State-owned company, Burnett Water Pty Ltd, to undertake impact assessment work, make applications for necessary approvals and complete all other work required to enable the construction and operation of the proposed infrastructure.

By the time of the 2002 NCP assessment:

- the project had passed through Queensland's environmental assessment processes (with the exception of the Ned Churchward Weir raising, for which the evaluation of the environmental impact statement was deferred) — the Queensland Coordinator-General determined that the detrimental impacts of the project would be adequately addressed through the adoption of a series of mitigation measures;

- the project had also been approved (subject to certain conditions) by the Commonwealth Minister for the Environment and Heritage under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*, in late 2001/early 2002 — further details of the environmental assessment processes are reported in the 2002 NCP assessment (NCC 2002, pp. 4.41–44); and
- the Queensland Government had modified the Burnett Basin water resource plan in 2001 to incorporate the impact of the proposed additional infrastructure.

A study of the regional economic impact and a cost-benefit analysis by Network Economics Consulting Group (NECG), included in the environmental impact assessment in October 2001, concluded the project would deliver significant net economic benefits (NECG 2001). Depending on assumptions concerning the speed of take up of the water, the net economic benefit was estimated at between A\$1.7 billion and A\$2.2 billion (using a 6 per cent real discount rate). The study projected that the value of agricultural production would increase by over A\$1 billion per year. This was expected to support the creation of over 7500 jobs, three-quarters of which would be in the Wide Bay–Burnett region. The project's construction phase was expected to produce 1200 full-time jobs and to support the retention of 1700 existing jobs. In the 2002 NCP assessment, the Council stated that it considered the NECG report to represent best practice because of the extent and depth of the analysis (and clear presentation of the strengths and limitations of the analysis) and the experience and credibility of the analysts (NCC 2002, p. 4.43).

Finalisation of the Burnett Basin resource operations plan (which is necessary for the dam to receive a firm water allocation) was a condition for a final decision to proceed with the dam.

Developments since 2002

Following the completion of the Burnett Basin resource operations plan in May 2003 (see section 4.2), the Queensland Government's commitment to proceed with the Burnett Water Infrastructure Project was confirmed in its 2003-04 Budget in June 2003 (Government of Queensland 2003c, p. 20). In addition to the more than A\$30 million already spent on the project, the Government has provided A\$60.5 million in 2003-04 for construction and related activity. Construction is expected to commence in late 2003. The raising of the Ned Churchward Weir, however, cannot proceed before the Coordinator-General's evaluation of the weir raising is completed and approval is obtained under the Commonwealth's Environment Protection and Biodiversity Conservation Act.

Developments related to ecological sustainability

Since the completion of the environmental impact statement, Burnett Water and its advisers have undertaken extensive additional hydrological modelling work to confirm that operational arrangements for the project will comply with the requirements of the water resource plan for the Burnett Basin. Following scrutiny of this work by the Department of Natural Resources and Mines, the Government incorporated the water to be reserved for the proposed infrastructure in the draft resource operations plan which was released for consultation in December 2002. After further public consultation, the resource operations plan was finalised in late May 2003. While the water reservations were included in the plan, the available operational details were not included in either the draft or final plan, to provide scope to optimise performance levels during finalisation of the detailed design and the early construction phase.

In 2002, the Government allocated A\$7 million, under the Burnett Program of Actions, to address long-standing whole-of-catchment environmental issues identified during the environmental impact statement process and to assist in finalising the evaluation of the environmental impact statement for raising of the Ned Churchward Weir. The issues being addressed by the program include water quality, fish passage, rehabilitation of vegetation and the sustainability of lungfish and turtle populations (with the latter of particular importance for the Ned Churchward Weir raising). Queensland advised that, although this research is being accorded a high priority, it is not clear when sufficient information will be available to finalise the evaluation of the environmental impact statement for raising the Ned Churchward Weir. As an interim measure, the Department of Natural Resources and Mines has reserved water for the weir raising in the resource operations plan, to facilitate the process if the outstanding environmental issues are adequately resolved.

The development conditions that have been placed on Burnett Water through the environmental impact statement and related processes were gazetted by the Minister for State Development in October 2002. The conditions oblige Burnett Water to implement a comprehensive set of environmental measures to mitigate any adverse impacts from the dam and to ensure the sustainability of important animal and vegetation species. A net gain for conservation in relation to vegetation is one of the key conditions mandated by the relevant requirements arising from the environmental impact statement process.

In December 2002, as part of addressing these requirements, the Goodnight Scrub National Park was expanded. The area of the national park was increased by 340 hectares (the new area of 395 hectares less 55 hectares being revoked to accommodate the dam). In addition, Queensland advised that Burnett Water is committed to:

- seeking to purchase further high value conservation land for addition to the conservation estate, with a target of acquiring an additional 110 hectares for this purpose;
- providing financial compensation to the Queensland Parks and Wildlife Service for the value of resources to be lost from the reserve associated with the national park — this financial compensation will be used to expand the conservation estate; and
- retaining most of the revoked national park land in its present condition where it is vegetated — the area between the full supply level and the one-in-100-year flood line (with the dam in place) will continue to be available for wildlife use as an effective extension of the national park.

Developments related to economic viability

To build on the NECG study of the economic impacts of the project, undertaken during the environmental impact assessment process, Queensland commissioned considerable further work. The work focused on:

- the prospects for Burnett primary producers and the key commodities produced by them; and
- the capacity and willingness of potential users to pay for new water allocations at prices that at least meet the minimum levels of cost recovery required by CoAG.

The additional studies contain commercial-in-confidence material and have not been made public by Queensland. Queensland reported, however, on several of the findings in its 2003 NCP annual report (Government of Queensland 2003a). Queensland also provided the Council with a copy of each of the studies on a commercial-in-confidence basis. The following information is mainly drawn from Queensland's annual report, but reflects the findings of the studies.

During 2002, Burnett Water commissioned ACIL Consulting (now ACIL Tasman) to examine independently the agricultural production increases estimated by NECG. NECG estimated that additional agricultural production would total over A\$1 billion a year. In the long term (15 years), most of the increase was projected to result from increased horticulture (vegetables, citrus, other fruit and nuts), but with sugar production the main contributor in the intervening period. While increased pigmeat and dairy production was also projected, these activities were estimated to be a minor contributor to the overall increase. The projected production increases, relative to current levels, are substantial, particularly for horticulture. The projections implied a five to six fold increase in horticultural production and a 25 per cent increase in sugar cane production at full development.

ACIL was asked to examine whether the level of increase in agricultural production projected by NECG is reasonable in the context of the production resources required and market opportunities for the commodities concerned. The ACIL report also discussed risks that could affect regional prospects. ACIL found that, while some of the production increases projected by NECG are substantial, the implied annual average rates of increase in production are not dissimilar to, and in many cases much smaller than, the rates achieved in recent years in the Burnett region. ACIL concluded that:

The key point about the NECG projected production increases is that they are not inconsistent with the track record for horticultural production in the region which in turn reflects market opportunities and the demonstrated capacity of producers to compete against suppliers elsewhere in Australia as well as overseas. Indeed compared to the recent past they appear to be conservative. (Government of Queensland 2003a, p. 79)

During 2002, the Department of State Development commissioned PricewaterhouseCoopers to investigate and provide advice on a range of water market issues related to the Burnett project. PricewaterhouseCoopers prepared four reports:

- *Investment Scenarios of the Burnett Basin Water Projects* (February 2002), referred to below as study 1;
- *Water Pricing Issues for the Burnett Basin* (August 2002), study 2;
- *Burnett Water Projects — Market Analysis* (December 2002), study 3; and
- *Burnett Water Projects — Pricing Proposals* (December 2002), study 4.

Queensland advised that the studies confirm that regional water demand is in excess of the new entitlements to be created by the Burnett project and that these entitlements will be able to be sold and/or leased at price levels that address CoAG requirements.

Study 1 investigated the appropriateness of a Government role in the project. The study assessed the economic growth prospects of the region, relative to the rest of Queensland, with and without the water infrastructure project. It also compared the dam and associated weir projects to alternative ways of achieving the Government's employment and development objectives for the region. In addition, the study developed a model for the purposes of analysing the commercial viability of the project and Government (community service obligation) funding requirements, based on price and demand information. The Queensland Government accepted the study's results, and associated sensitivity analysis, as a basis for advancing the project.

Study 2 considered the appropriate basis for establishing an efficient price for water from the Burnett project. The study discussed key issues to be considered in setting an efficient price, including the indicative cost of delivering water services, the structure of appropriate charges, the level of cost recovery that should be supported by those charges and an efficient economic framework for establishing prices. This study was mainly an explanation of factors relevant to pricing and is not central to the assessment of economic viability.

Study 3 provided information on the willingness and ability of irrigators to pay for new water services. The study was based on a farm survey program and associated statistical analysis. Queensland advised that the financial modelling of irrigators' ability to pay reinforced the results of the willingness to pay surveys, suggesting that most types of irrigated farms have the capacity to pay significant up front amounts to purchase water entitlements (in addition to annual delivery charges). For sugar cane farms, the analysis indicated an inability to purchase entitlements in a once-off payment but the capacity to pay significant annual amounts to lease water entitlements. Queensland advised that the main findings from the market analysis indicated:

- customers are prepared to pay significant up-front amounts to purchase water allocations, in excess of the ARMCANZ minimum price benchmark;
- willingness and ability to pay profiles vary significantly across three subregions within the Burnett River catchment; and
- some customer classes (in particular, small sugar cane farms) are unlikely to have the financial capacity to pay to purchase water through a single up-front instalment.

Study 4 updated and brought the previous studies together, explored price setting procedures for the Burnett project and discussed potential community service obligation (CSO) implications. Queensland advised that, in this study, PricewaterhouseCoopers proposed a final price setting procedure involving:

- establishment of a 'pre-sale' process by tender, before the infrastructure is completed, to provide a means of testing the market and creating revealed price signals to prospective customers;
- sale of high security water entitlements through a separate tender process;
- sale of medium security water entitlements through an auction process with
 - a single round auction of central and southern region allocations and
 - a staged auction process for the lower region (given the larger volumes);

- further investigation of mechanisms to support a form of ‘instalment plan’ for bidders to purchase entitlements through a series of annual payments;
- establishment of a reserve price of at least the minimum cost recovery benchmark (having regard to ongoing delivery charges), but not releasing this information to bidders as this would compromise achievement of the competitive benefits of the market mechanism;
- no pre-defined quantitative limit on the amount of water released in initial sales, to avoid any possible inappropriate use of market power by the project proponents; and
- no constraints in terms of land ownership or the purpose for which water can be used, as this would lead to constraints on the depth of the market.

The Queensland Government intends that water marketing be undertaken by a commercial marketing organisation, to be appointed through a competitive process.

Submissions

The Council received two submissions relating to the economic viability and ecological sustainability of the Burnett project.

Burnett Water for All, representing various community and industry groups, opposed the project on the basis that it is not economically viable or environmentally or socially sustainable. It considered that the Queensland Government is fully committed to the project and requested the Council to undertake a supplementary assessment of the project during 2003-04. The group raised several matters, in addition to its criticisms of the water resource planning process for the Burnett Basin (see section 4.2), to support its views, including the following.

- To cover capital expenditure, the cost of the water from Burnett Dam should be around A\$1270 per megalitre. Bundaberg cane growers are arguing that this cost will be too high and the most they are prepared to pay is around A\$375 per megalitre. Based on this, it is very doubtful whether the dam will be subject to full cost recovery.

- In its response to the environmental impact assessment, Queensland Treasury seriously questioned the claimed economic benefits, stating they are optimistic.¹¹ The projected A\$650 million in additional vegetable production, for example, represents a 120 per cent increase over existing production levels in Queensland as a whole (A\$540 million). It is also questionable whether markets have been identified for this level of vegetable produce.
- The economic analysis in the environmental impact statement does not account for the economic costs to the region resulting from: losses from reduced water harvesting; losses from reduced water reliability; increased salinity; the loss of future opportunities for inland Burnett communities; algal blooms; losses to fishing and tourism; the loss of ecosystem services; and compliance with mitigation strategies.
- An alternative dam site on Degilbo Creek would provide around 80 per cent of the water yield of the Burnett River Dam but cost only A\$30 million to build. It would also cause far less environmental impact.
- Salinity effects have not been properly considered in the assessment of the project.
- The dam will flood a large section of the habitat of two threatened species, the Queensland lungfish and the Elseya turtle.
- The Queensland Government has ignored the views of the Burnett Catchment Care Association, clearly showing the Government's level of commitment to integrated catchment management.

The Queensland Conservation Council remained extremely concerned that the Queensland Government is committed to the Burnett River Dam despite strong evidence suggesting the dam is neither ecologically sustainable or economically viable. The Queensland Conservation Council contended that a large number of questions remain regarding the project's compliance with CoAG obligations and requested the Council to undertake a supplementary assessment of the project during 2003-04.

In relation to economic viability, the Queensland Conservation Council considered that the current state and future of the sugar industry cast considerable doubt on the economic evaluation by NECG, with cane production in the Burnett region likely to contract rather than expand and cane growers not able to afford to pay a reasonable price for water. The Queensland Conservation Council and the Australian Conservation Foundation provided the Council with a copy of a study, which they had

¹¹ The Queensland Government advised that the comments from Queensland Treasury related to an early theoretical water allocation scenario before more detailed water infrastructure project specifications and feasibility information were developed. It also advised that the NECG study considered all relevant issues, including those raised by Treasury.

commissioned, questioning the economic viability of the project. The study questioned the level of likely water demand at CoAG-complying water prices, particularly at future depressed sugar and cane prices. The study also adopted a significantly higher estimate of environmental costs than the NECG evaluation. Based on available data, the study concluded that the project's rate of return would be lower than required for it to be considered economically viable. It also concluded that 'there is no reasonable expectation that the economic benefits arising from [alternative lower volume] scenarios will be exceeded by the high volume Burnett River Dam project' (Queensland Conservation Council 2003b, p. 3).

In relation to the project's environmental impacts, the Queensland Conservation Council reiterated concerns it expressed in previous submissions. In particular, as noted in section 4.2, it considered that the water resource plan for the Burnett Basin will not provide sustainable environmental flows. It considered that the project would be likely to have major impacts on ecological conditions within the river and was concerned that insufficient action was being taken to maintain lungfish habitat. The Queensland Conservation Council also expressed concern that the resource operations plan for the Burnett Basin could be amended without public consultation to accommodate the detailed design, operation and management specifications for the dam. It considered that development of the dam warrants the highest level of public scrutiny.

Discussion and assessment

The Council aims to assess new rural schemes against the CoAG obligations on economic viability and ecological sustainability in the year in which the relevant government decides the scheme can proceed. Given that the Queensland Government confirmed in June 2003 its intention to proceed with the Burnett Water Infrastructure Project, the Council assessed Queensland's compliance with CoAG obligations as part of the 2003 NCP assessment.

The Queensland Government considered that the economic viability and ecological sustainability of the Burnett River Dam and associated weirs have been clearly demonstrated and that the assessment processes have been exhaustive. It pointed to the extensive public consultation that it has undertaken on water allocation and environmental issues. In relation to alternative options, Queensland advised that, as reported in the environmental impact assessment study, the Government investigated other supply and demand management options but found that these would not adequately address the region's water requirements.

While submissions criticised the ecological sustainability of the Burnett project, as the Council noted in the 2002 NCP assessment, with the exception of the raising of the Ned Churchward Weir, the project passed through Queensland's environmental assessment processes. It was also approved under the Commonwealth's Environment Protection and Biodiversity Conservation Act. The Queensland Government advised that various

processes are under way to meet the environmental conditions imposed on the project. In addition, in the 2002 NCP assessment, the Council concluded that the modified water resource plan for the Burnett Basin, which accommodates the project, complies with CoAG commitments. As discussed in section 4.2, the Council also considers that the resource operations plan should be sufficient to meet CoAG environmental flow requirements. The Council, therefore, considers that Queensland met its CoAG obligation to show that the project is ecologically sustainable, with the exception of the raising of the Ned Churchward Weir for which the environmental processes are still to be completed.

Burnett Water and the Department of State Development commissioned studies of the economic and commercial aspects of the project. The economic analysis undertaken by NECG as part of the environmental impact assessment process concluded that the project would deliver significant net economic benefits, estimated at A\$1.7–\$2.2 billion (at a real discount rate of 6 per cent). A subsequent study by ACIL Consulting support the level of increase in agricultural production projected in the NECG study. In addition, studies by PricewaterhouseCoopers indicated that regional water demand would be sufficient to take up the new entitlements from the Burnett project and that these entitlements could be sold and/or leased at price levels that address CoAG requirements.

The findings in the NECG evaluation (the only work that is publicly available) were questioned in submissions and particularly in the study commissioned by the Queensland Conservation Council and the Australian Conservation Foundation. The study concluded that the project's rate of return would be lower than required for it to be considered economically viable. The study, and the submissions that questioned the Burnett project, were prepared without the benefit of the additional confidential studies that the Queensland Government made available to the Council.

In response to the issues raised in submissions and the Queensland Conservation Council and the Australian Conservation Foundation study, the Queensland Government provided additional information to the Council, including further work from NECG and PricewaterhouseCoopers. In a report to Burnett Water, subsequently provided to the Council, NECG advised that it considers the Queensland Conservation Council/Australian Conservation Foundation study to have serious deficiencies (NECG 2003). Among other criticisms, NECG considered the study:

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- incorrectly suggests that CoAG requires ‘upper bound’ prices to be recovered from water users, whereas CoAG permits ‘lower bound’ pricing with transparent CSO funding and requires economic viability not commercial viability;
 - seriously inflates environmental costs, including by not taking account of the mitigation strategies endorsed by Commonwealth and State authorities — Burnett Water’s estimate of the total environmental costs associated with the development of the dam is approximately A\$17 million, compared with the estimate in the study of A\$130 million, with ongoing costs in the order of A\$1 million per annum;
 - overestimates the cost of water to irrigators (and CoAG-complying water prices), including through the exaggerated estimate of environmental costs;
 - uses a short-term and simplistic view of the economics of the sugar industry — NECG noted ACIL’s finding that, despite current low prices, sugar could still be profitably grown, with prices expected to rise in the near term, and NECG pointed to opportunities for farmers to shift to other production if sugar returns fall to unacceptably low levels; and
 - contains other errors, including assumptions that the capital costs associated with the dam would be amortised over 25 years (compared with a dam life of at least 150 years) and that water entitlements would effectively have no value at that time, and ignoring demand for higher priced, high security water.

NECG concluded that:

... project specific studies [have been] undertaken by leading consultants on the socio-economic impact, economic cost-benefit, commodity markets and the water market. All have demonstrated that the project is economically robust. The sole dissenting voice is the QCC-commissioned paper, prepared without reference to Burnett Water. It suffers from factual errors in its data and technical approach.

The Burnett River Dam is an economically and commercially robust project. (NECG 2003, p. 29)

PricewaterhouseCoopers made similar criticisms of the Queensland Conservation Council/Australian Conservation Foundation study in correspondence to the Department of State Development sighted by the Council.

Accounting for the confidential studies and the further information provided by Queensland in response to the criticisms raised in submissions and the study, the Council considers that Queensland met its CoAG obligation to show that the project is economically viable.

The Council, therefore, concludes that Queensland met CoAG obligations for the Burnett Water Infrastructure Project, with the exception of the ecological sustainability of the raising of the Ned Churchward Weir. For the raising of the weir, the Council considers that approval under Queensland's and the Commonwealth's environmental approval processes, and a commitment by Queensland to meet any conditions imposed as a result of these processes, would demonstrate compliance with the CoAG obligation on ecological sustainability.

5 Western Australia

The elements of the water reform program that are relevant for Western Australia in this 2003 NCP assessment are: water and wastewater pricing; intrastate water trading arrangements; the remaining institutional reform requirements (separation of responsibility of water industry institutions and integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. The National Competition Council assessed Western Australia's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by Western Australia towards meeting water reform obligations on rural water pricing and converting existing water allocations to water entitlements (which will be assessed in 2004), and towards meeting CoAG obligations on the provision of water to the environment (which will be assessed in 2005).

5.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.

- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3a, 3b, 3c and 3d, and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Urban water and wastewater service providers

Assessment issue: Western Australia is to set prices to recover the full cost of water and wastewater services in accordance with the CoAG pricing guidelines. In the 2001 NCP assessment, Western Australia did not provide evidence sufficient to show that prices were being set in accord with CoAG principles. In that assessment, however, Western Australia advised that it proposed to expose monopoly government water and wastewater businesses to independent prices oversight. The Council considered that independent regulation of water and wastewater prices, where the regulatory authority applies the CoAG pricing principles, would be consistent with the CoAG water reform agreements including in relation to transparency in pricing.

Next full assessment: The Council will assess Western Australia's implementation of the CoAG pricing obligations for urban water and wastewater service providers again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a) and (b); CoAG pricing guidelines

There are three major providers of urban water and wastewater services in Western Australia: the Water Corporation, Aqwest and the Busselton Water Board. The Water Corporation, which is a corporatised entity, is by far the largest business. It provides public water supply, sewerage, drainage and irrigation services to 1.7 million people in 300 towns and communities throughout Western Australia. There are 20 local government authorities operating sewerage schemes, several of which provide services to large numbers of residential properties.

The major urban service providers

Western Australia stated that the three major providers apply tariffs for water supply based on achieving full cost recovery in accordance with CoAG pricing principles. The Government indicated that most of the State's urban wastewater services are also now recovering costs consistent with CoAG commitments.

While recognising in the 2001 NCP assessment that Western Australia's metropolitan urban water and wastewater services were, for the most part,

recovering costs, the Council raised concerns about the lack of transparency of the State's pricing process and about whether pricing in the future would continue to address CoAG obligations. At the time of the 2001 assessment, Western Australia indicated a commitment to establishing an independent economic regulator that would deal with the economic regulatory aspects in the water sector, in particular price regulation.

Western Australia has the Economic Regulation Authority Bill 2002 currently before the Parliament. The Economic Regulation Authority (ERA) will be an independent pricing and regulatory body with coverage of several industries that are currently regulated by Ministers, sector specific regulators and public sector officials. Western Australia proposes that the ERA will:

- regulate access to significant economic infrastructure under industry specific access regimes;
- grant industrial licences and ensure compliance with terms and conditions applying to licences; and
- make expert recommendations to the Government about tariffs and charges for government monopoly services, and recommend on any other matters requested by the Government.

Western Australia had intended that the ERA commence on 1 July 2003. The Bill has been delayed in the Legislative Council and the 1 July commencement date was not met. The Government advised, however, that it remained committed to establishing the ERA.

The Bill provides scope for the Government to refer to the ERA for inquiry any matter relating to a regulated industry including electricity, gas, rail and water. In relation to water, the Bill provides scope for inquiry and report on water and wastewater prices and for such inquiries to be on a routine basis. Western Australia advised that, in anticipation of the establishment of the ERA, it would develop a draft reference that refers water and wastewater pricing for consideration by the ERA.

The local government service providers

In previous assessments, the Council raised the matter of wastewater pricing by the City of Kalgoorlie–Boulder, which provides services to almost 10 000 residential properties. The Council queried whether pricing of wastewater by Kalgoorlie–Boulder achieved full cost recovery in accordance with the CoAG pricing principles, noting that prices did not incorporate taxes or tax equivalents and wastewater assets were not valued on a deprival basis. In this 2003 NCP assessment, Western Australia reported that:

- Kalgoorlie–Boulder uses a gross rental value based charging system for residential and nonresidential customers (as part of the city's overall rating system) to recover the costs of all services provided, so that the

separate costs (including the asset replacement and maintenance costs) of the wastewater service cannot be identified and recovered from users;

- the price of the wastewater service provided by Kalgoorlie–Boulder does not incorporate either an income tax equivalent or payroll tax component; and
- Kalgoorlie–Boulder values its assets using the accounting standard AASB 1041 for specialised assets.

Western Australia argued that the primary objective of imposing taxation equivalents on government businesses is to promote competitive neutrality by uniform application of income tax laws. The Government considered that the structure and size of City of Kalgoorlie–Boulder’s wastewater business, and the geographical isolation of its market, mean there are unlikely to be any private competitors. Kalgoorlie–Boulder’s wastewater business is also exempt from payroll tax. Western Australia considered that the payroll tax exemption would have virtually no impact on the price of the service to the customer and that the relatively small size of the wastewater business meant that the business would have virtually no impact on the State’s economic performance.

Discussion

Western Australia’s statement that the Water Corporation is achieving full cost recovery outcomes in price setting does not, in the absence of information to show that the corporation is setting prices in accord with the CoAG pricing principles (including on transparency), meet reform obligations. Establishment of the ERA and references to the authority to consider pricing by the State’s monopoly water and wastewater businesses against the CoAG pricing principles would address Western Australia’s urban water and wastewater pricing obligations and would significantly improve transparency.

Generally speaking, CoAG’s lower band of full cost recovery requires taxes and tax equivalents to be included in prices. If some water and wastewater businesses are incorporating tax equivalents in prices while others are not, the resulting differences in prices may encourage distortions in consumption and investment behaviour. If, for example, prices in one geographic area are substantially lower than in other geographic areas, there will be incentives for businesses and other customers to relocate to the area offering lower prices. If the price difference occurs because of inconsistent application of cost recovery arrangements rather than a genuine difference in business efficiency, then there may be adverse regional and national economic effects.

Kalgoorlie–Boulder’s geographic isolation means that it is unlikely that businesses would relocate if wastewater prices are relatively lower than in other regions. The Council thus accepts that Kalgoorlie–Boulder’s approach to wastewater pricing is likely to have very little impact on resource allocation. The Council would be concerned, however, if there were widespread inconsistencies in prices across the water and wastewater industry because of differences in the treatment of taxes.

Assessment

Western Australia's current approach to water and wastewater pricing raises questions about whether the State is meeting the obligation to achieve full cost recovery in the pricing of water and wastewater services in accord with CoAG pricing principles. While the major metropolitan providers may be fully recovering costs, the lack of transparency of pricing arrangements for water and wastewater services means that it is not possible to be certain that CoAG pricing principles are being appropriately applied.

The Council acknowledges that the Western Australia Government demonstrated a firm commitment to establishing the ERA and that the Government indicated that it would provide a reference to the authority asking it to recommend, against the CoAG pricing principles, on water and wastewater pricing. Western Australia would meet the CoAG obligations on urban pricing for this 2003 NCP assessment if it established the ERA and announced comprehensive terms of reference (encompassing the CoAG pricing principles) asking the authority to recommend on water and wastewater pricing. The Council would look for the ERA to have completed an investigation of water and wastewater pricing such that its recommendations are available to the Government in regard to prices in 2004-05.

Kalgoorlie–Boulder's approach to wastewater pricing contravenes the CoAG pricing obligations because it makes no provision for certain taxes (or equivalents). The breach is unlikely to be significant because of Kalgoorlie–Boulder's geographic isolation.

Asset valuation

Assessment issue: For price setting purposes, Western Australia is to determine water and wastewater infrastructure asset values based on the deprival method unless it can justify an alternative approach. In the 2002 NCP assessment, the Council noted that Western Australia was considering introducing improved asset valuation methods, and that Aqwest and the Busselton Water Board were considering asset values in conjunction with evaluating the introduction of a two-part tariff. The Council also noted that the City of Kalgoorlie–Boulder was not using the deprival value approach to valuing wastewater assets for price setting.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a) and (b); CoAG pricing guidelines

Western Australia advised that the prices of all services provided by the Water Corporation are determined on the basis of the written down replacement cost of the assets used in providing each service. Western Australia also advised that both Aqwest and the Busselton Water Board recently revalued their noncurrent assets in accordance with the accounting standard AASB 1041 and reconfirmed their commitment to setting prices

using accurate asset valuations based on the accounting standard AASB 1041.

As discussed above, the City of Kalgoorlie–Boulder sets wastewater charges for its residential and nonresidential customers using a property valuation based system as part of the city’s overall rating structure. The cost of wastewater assets, which is determined using the accounting standard AASB 1041, is a component of the city’s total cost structure, rather than itemised as an element of the cost of providing the wastewater service.

Discussion and assessment

Unlike the Water Corporation, which sets prices on the basis of the written down replacement cost of relevant assets, Aqwest and the Busselton Water Board — which are the State’s other significant water and wastewater service providers — determine asset cost for price setting on the basis of the accounting standard AASB 1041. The City of Kalgoorlie–Boulder also employs the accounting standard AASB 1041 but does not assess the cost of providing wastewater services separately to other services.

Western Australia considered that the relatively small size of operation of the three service providers (other than the Water Corporation) means there are only minor differences in valuation outcomes using the fair value approach and the deprival value approach for valuing noncurrent assets. Western Australia believes that the difference in value using the two approaches is not significant enough to warrant maintaining separate asset registers using the two methods.

The Council, in previous assessments, acknowledged that application of the accounting standard AASB 1041 (using fair value for specialised assets) achieves a similar outcome to the deprival method. The end result is the application of depreciated optimised replacement cost. The accounting standard AASB 1041 does not, however, have the stricture of periodic revaluations so there is no guarantee that assets valued using fair value will be maintained at a value that approximates depreciated replacement cost over time. Western Australia’s approach to valuing water and wastewater assets for price setting purposes is consistent with CoAG pricing principles.

Externalities

Assessment issue: Western Australia is to transparently show how externalities (defined by CoAG for the purposes of water pricing to be the environmental and natural resource management costs attributable and incurred by water businesses) are incorporated into water and wastewater prices. In the 2002 NCP assessment, the Council noted Western Australia's advice that externalities are considered in all cases as part of resource management decision making, so are directly factored into the cost of any action that has the potential to produce environmental externalities. Western Australia reported that it was considering how to value externalities by using a distribution rule for their direct inclusion in pricing.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)(i); CoAG pricing principles; expert group report on externalities

Western Australia advised that the Cabinet has approved an investigation by the Water and Rivers Commission into the development of water resource management charges that will see water users contributing to some or all of water resource management costs attributable to users. The investigation commenced in December 2002 through bilateral discussions with key stakeholder representatives via a stakeholder reference group. The purpose of the stakeholder reference group was to:

- finalise a set of key principles for the development of charging structures;
- confirm the issues to be resolved and assist in their resolution;
- assist in identifying proportional beneficiaries (or impactors) of water resource management and proposed contribution to costs;
- assist in the development of options for recovering those contributions;
- assist in identifying future water resource management activities and standards; and
- identify a preferred process for ongoing stakeholder involvement in setting water resource management levels of service and contributions for water users.

Western Australia indicated that it is also considering a proposal to introduce more accurate cost recovery methods for water resource licensing and compliance tasks. If the proposal proceeds, full details of services and the relevant fees will be provided to stakeholders. Western Australia believed that further work is necessary to address equity issues and develop stakeholder support before it introduces charges that address broader water resource management costs. This work is to be carried out in a timeframe suitable to both the Government and key stakeholders.

Discussion and assessment

While there is a range of decision tools relevant to addressing externalities, the CoAG pricing principles explicitly require water and wastewater businesses to recover the cost of environmental and natural resource management activity associated with water use attributable to and incurred by businesses, and to ensure transparency in pricing in relation to these costs. Western Australia advised in previous assessments that natural resource management costs are included in prices, but provided no information to demonstrate the extent to which this is occurring or to show that water and wastewater prices reflect the resource management costs associated with water use. The Council thus considers that Western Australia is still to meet this element of the CoAG water pricing obligations. Western Australia is, however, contemplating means to better identify and cost natural resource management activity relevant to the use of water. Such work would be a useful step towards a better understanding of the costs of the various mechanisms aimed at natural resource management and particularly the possibilities for dealing with external costs via pricing.

Dividends

Assessment issue: Dividends, where required, are to be set at a level that reflects commercial realities and simulates a competitive market outcome.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

At present, the only State government water business that is required to provide a dividend to the Government is the Water Corporation, in accordance with the *Water Corporation Act 1995*. The dividend policy of the Water Corporation is set by the corporation's board as a percentage of profits and agreed to by the Minister as part of the corporation's statement of corporate intent. The statement of corporate intent is tabled in Parliament and made available to the public. The legislation governing Aqwest and the Busselton Water Board, the *Water Boards Act 1904*, does not provide for the payment of dividends.

The dividend paid by the Water Corporation represented 79 per cent of after tax profits in 2000-01 and almost 88 per cent in 2001-02 (WSAA 2003). Future dividend payments by the Water Corporation listed in the 2003-04 Western Australian Budget range from approximately \$268 million in 2003-04 to almost \$355 million in 2006-07.

The Machinery of Government Taskforce Report, endorsed by the Western Australian Government on 18 June 2001, recommended that all government business enterprises (including Aqwest and the Busselton Water Board) be

reviewed with the objective of clarifying their commercial responsibilities. The review is to investigate the payment of dividends by Aqwest and the Busselton Water Board. Western Australia did not report on progress with this investigation in this 2003 NCP assessment.

Discussion and assessment

The Council considers that a reasonable interpretation of the level of dividend that accords with ‘commercial reality’ is the *Corporations Act 2001* (Cth) requirement that dividends be paid only out of profits (the current year’s profit as well as accumulated retained profits). This approach provides some safeguard against water and wastewater service providers having insufficient financial resources to properly conduct their businesses. It is also consistent with the competitive neutrality obligations of the intergovernmental Competition Principles Agreement, which requires that government-owned businesses face the same costs and pressures as if operating in the private sector.

Dividends paid by the Water Corporation are transparently reported although not as a proportion of the corporation’s profits, and there is no policy requirement governing the size of the dividend paid by the corporation. Nonetheless, the corporation’s dividend payments in recent years have aligned with the CoAG requirement that dividends reflect commercial realities. The foreshadowed review of water and wastewater pricing following the creation of the ERA provides an opportunity for further consideration of this matter, as well as the review of all Government business enterprises with the objective of clarifying their commercial responsibilities. Western Australia has complied with CoAG obligations relating to the level of dividend for this 2003 NCP assessment.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied to encourage more economical water use and to defer the need for costly investments, where it is cost effective to introduce consumption-based pricing. In the 2001 and 2002 NCP assessments, the Council identified aspects of Western Australia’s approach that raised questions about compliance with the CoAG water reform agreements, including:

- the availability of free water allowances for community groups and institutions;
- charges for residential wastewater services based on gross rental value;
- country commercial water and wastewater charges;
- commercial wastewater charges by the City of Kalgoorlie–Boulder; and
- the potential for cross-subsidies, which need to be transparently reported.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3; Expert group report

Free water allowances

The Water Corporation removed the free water allowance for community groups and for institutions on 1 July 2002. These customers now face commercial, consumption-based charges. All free water allowances for all categories of customers of the Water Corporation, Aqwest and the Busselton Water Board have now been removed.

Residential wastewater charges

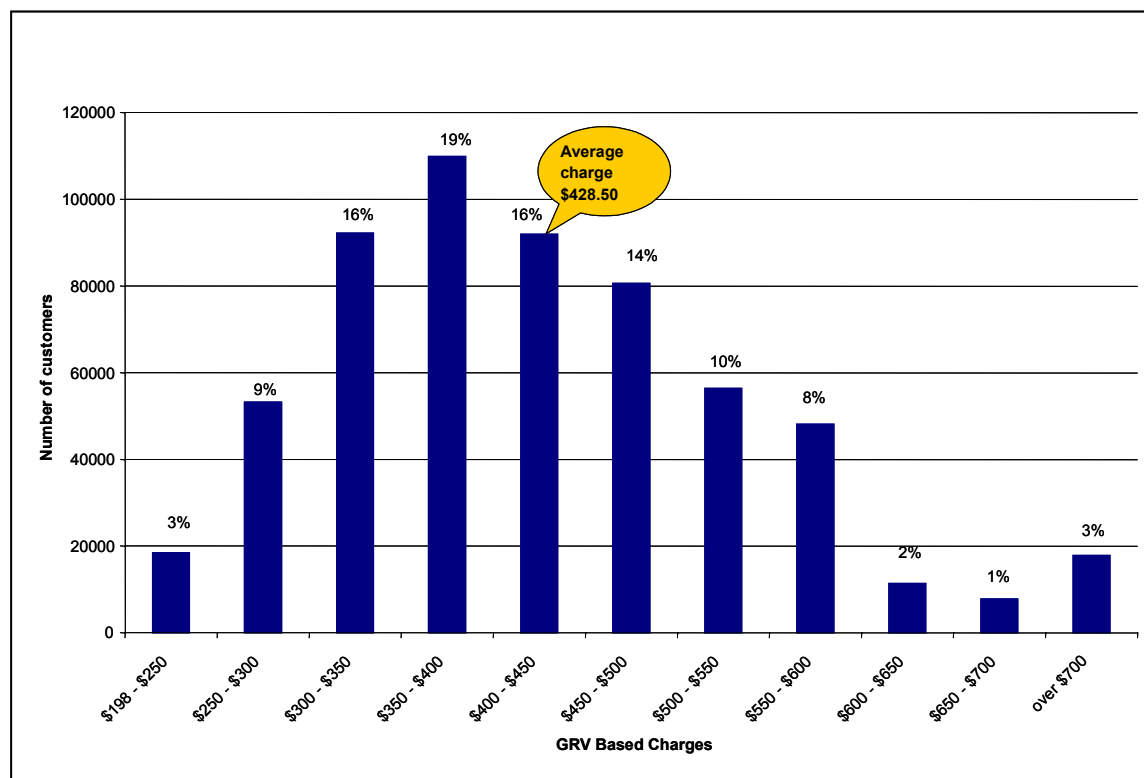
Western Australia decided to retain charges based on gross rental value for residential wastewater customers across the State, subject to the Water Corporation publishing information on the distribution of wastewater charges in its annual report.

Western Australia proposed that cross-subsidies be illustrated using a distribution chart or another similar medium. The Water Corporation and the Western Australian Department of Treasury and Finance are to determine the means of illustrating cross-subsidies.

Western Australia stated that the decision to retain valuation-based charges for residential wastewater services reflects the Government's concern about the large redistributive impacts that would have resulted from moving to a uniform charge for wastewater services.¹ Chart 5.1 illustrates the current distribution of charges and indicates the average charge that would have been required to recover the cost of wastewater services in 2002-03. The chart indicates that an average flat charge would increase prices for almost 50 per cent of the State's residents, with almost 30 per cent (accounting in general for the lower socioeconomic metropolitan suburbs) experiencing increases of at least A\$100.

The ERA will be able to investigate the rate in the dollar for the valuation-based Statewide residential sewerage charge and, if it considers it necessary, can consult with stakeholders on the level of the charge.

¹ Western Australia advised that a study of domestic water use patterns by the Water Corporation found that the volume of in-house water discharged was constant throughout the year and differed only marginally among households, principally as a result of differences in household size.

Chart 5.1: Distribution of residential sewerage charges in Western Australia, 2002-03

Source: Government of Western Australian (2003)

Country commercial water and wastewater charges

The Minister for the Environment and Heritage recently approved the introduction of a two-part tariff for commercial (nonresidential) water customers of Aqwest and the Busselton Water Board. In both cases, the two-part tariff will be introduced on 1 July 2004 and phased in over five years. The required base tariff rate will be set by each board to be revenue neutral after taking account of all expenses faced in providing water services.

Western Australia has replaced country commercial wastewater charges with the metropolitan commercial charge regime. This comprises a two-part major fixtures and volumetric tariff. The new charges were introduced on 1 July 2003 and will be phased in over six years.

City of Kalgoorlie–Boulder commercial wastewater charges

The City of Kalgoorlie–Boulder sets wastewater charges on the basis of gross rental value as part of its general rating system. Western Australia does not propose to change this pricing regime because of its concerns about the large redistributive impacts and administrative expense.

Discussion and assessment

The Water Corporation, Aqwest and the Busselton Water Board now levy two-part tariffs for all water services that are consistent with the CoAG consumption-based pricing obligations.

The Council accepts that introducing two-part tariffs, which include a metered use component, for residential wastewater services is generally not cost effective. Several jurisdictions have found this to be the case. In New South Wales, for example, the Independent Pricing and Regulatory Tribunal found that pay-for-use sewerage pricing for residential customers is not warranted. Western Australia's decision to base charges for residential wastewater services on property rental values may not, however, reflect well the cost of services provided to different classes of customer. This is evident from the Water Corporation's study of domestic water use patterns, which found that the volume of in-house water discharged differed only marginally among households (due mostly to differences in household size). If wastewater discharge is roughly equivalent across households, then allocating wastewater costs via a property value based charge will result in nontransparent cross-subsidisation from customers with lower value properties to those with higher value properties. Either a uniform charge or a charge that relates to the volume of water (using a discharge factor) used may better reflect the services used, and so reduce the likelihood of cross-subsidisation.

Western Australia indicated that it will identify and report cross-subsidisation, and that the Water Corporation will publish relevant information in its annual report. Such action will meet the CoAG obligation to transparently report remaining cross-subsidies.

Rural water pricing: progress report

Progress report issue: Western Australia is to demonstrate progress towards achieving full cost recovery for irrigation districts

Next full assessment: The Council will assess governments' implementation of rural water pricing and full cost recovery obligations in 2004.

Reference: CoAG water reform agreement, clause 3(a and d)

Western Australia has three rural irrigation schemes, the South–West Irrigation Cooperative, the Carnarvon Irrigation Scheme and the Ord Irrigation Scheme. Western Australia did not provide information on the extent to which rural water service charges are covering the full costs of supply. In the 2004 NCP assessment, the Council will assess governments' compliance with the CoAG pricing obligations for rural water supply.

5.2 Water management progress report: water rights and provisions to the environment

Establishment of water rights systems

Progress report: Western Australia is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

Under the *Rights in Water and Irrigation Act 1914*, water users in proclaimed areas generally require a licence.² Water licences may be issued for between five and 10 years or for an indefinite period. There is a presumption that fixed-term licences will be renewed if licence conditions are met. Licences are separate from land title. They are specified in volumetric terms, with reliability determined in water management plans (see next section on provision of water to the environment).

The Act includes restrictions on who can hold a water licence.³ Only a person who owns, occupies or has access to the land on which the water occurs may hold a licence, and then only if they intend to use the water. Licences include a time limit for water entitlements to be used (before the entitlement may be forfeited).

² The Act provides for any watercourse, wetland or groundwater area to be proclaimed for the purpose of sustainable management. Licences are not required for riparian water rights and rights to take surface water and water from non-artesian wells for stock or domestic purposes. Areas of minor resource allocation and usage (where allocation is less than 30 per cent of sustainable yield) are generally not proclaimed or subject to licensing requirements. Nearly all groundwater and some surface water areas have been proclaimed.

³ A person is eligible to hold a licence if:

- the person is an owner or occupier of the land to which the licence relates;
- the person is permitted by the owner of the land to which the licence relates to take and use the water for a sufficient period;
- the person is a public utility;
- the person is authorised by or under a written law to engage in an activity in relation to land or water; or
- the person is within a class or description of persons that is prescribed by local by-laws.

To manage areas of overallocation or water shortages, or areas where extraction is causing environmental harm, the Act provides for the Water and Rivers Commission to issue a direction overriding all other rights recognised by the Act. The commission is required to give reasons for a direction, and water users can appeal to a tribunal to ensure their rights are protected.

The Water and Rivers Commission maintains a register of licences and entitlements. Although the register does not provide indefeasibility of title, it does allow the entitlement holder to register third party interests. A working group was established to provide a forum for the commission, industry and financial institutions to discuss registration issues.

The Act requires licence changes to be made in a fair way that properly considers the needs of all licence holders. Compensation is generally payable only where the impact of a licensing decision is inconsistent with the impact on other water users in the area.

Reform progress

Since the 2001 NCP assessment, the Water and Rivers Commission has issued only one direction overriding other rights under the Rights in Water and Irrigation Act. The direction was in the form of a 'water shortage order' restricting the watering of lawns and gardens to certain times.

In March 2003, the Water and Rivers Commission released draft policy guidelines on the management of unused licensed water entitlements for a period of public consultation (WRC 2003b). This reflected a decision by Western Australia, with the introduction of water trading, to reassess the State's approach whereby the commission reclaims and re-issues water entitlements that are not being used. Where water entitlements are no longer being used, the draft policy guidelines propose that the commission will negotiate with the licensee regarding their short and long-term water requirements. Where the licensee cannot satisfy the commission that they continue to require all of their current entitlements, the commission may recoup and re-issue (or retire) the unused water entitlements. The commission's level of management of unused entitlements will reflect the extent to which available water is allocated, with fully allocated areas subject to more active management. Water resource management committees will be involved in developing strategies and criteria for managing unused entitlements. The Water and Rivers Commission is also investigating more efficient use of its unused allocations. In particular, the commission is considering the feasibility of issuing licences for a finite (short to medium) term to permit access to water resources that are reserved for future town supply. The commission released a discussion paper for public comment in March 2003 (WRC 2003c). These matters are discussed further in section 5.3 in relation to their effect on intrastate trade.

Since June 2002, the register of water licences and entitlements has been available for public viewing at Water and Rivers Commission offices or on

request from the commission. Western Australia advised that it developed an Internet version of the register but it is not yet operational. The Government has allocated funding with a view to Internet access becoming operational in 2003-04. The working group on registration issues is temporarily on hold, following the withdrawal of the major banks. Western Australia considered that third party interests can be registered effectively within its existing system, though it is monitoring registration developments in other States. The commission has offered to reconvene the group.

Provision of water to the environment

Progress report: Western Australia is to report on progress in implementing allocations to the environment by listing all draft and final water management plans and explaining each plan's stage of development.

Next full assessment: The Council will assess the Government's progress in implementing CoAG obligations on the allocation of water to the environment in 2004, consistent with the CoAG requirement that allocations be substantially completed by 2005.

Reference: CoAG water reform agreement, clauses 4(b)-(f)

Western Australia derives most of its water supply from groundwater and has no stressed or overallocated river systems. Western Australia's approach to allocating water to the environment (formalised in the Rights in Water and Irrigation Act) is delivered via a tiered system of statutory water management plans (regional, subregional and local).⁴ The plans are the basis for allocating water, setting environmental flows and adjusting allocations. They also include arrangements for ongoing monitoring and review. Water management plans continue indefinitely, with review every seven years (or later if water use has not increased).

The subregional (or local) plans define environmental water requirements (the water regime required to maintain ecological values at a low level of risk) and environmental water provisions (the water reserved for the environment). Environmental water provisions are set in the plans either as notional or interim allocation limits, or as formal assignments if the water resource is highly or fully committed. Environmental water provisions may be less than environmental water requirements where some ecological impact has been accepted. The Environmental Protection Authority has an ongoing role in assessing the adequacy of environmental water requirements and environmental water provisions in the plans.⁵

⁴ Overland flows can be managed under local by-laws if the use of the overland flow causes a reduction in the flow of a watercourse or has a significant effect on the quality of the water of an ecosystem.

⁵ The State groundwater environmental protection policy and other similar policies provide for the statutory identification and priority management of 'critical areas'

The Rights in Water and Irrigation Act provides for the establishment of water resource management committees, including community and stakeholder representatives. Public consultation is an ongoing part of the Water and Rivers Commission's planning process for establishing and reviewing water management plans. The process for most of the larger plans includes a formal public review stage.

At the time of the 2001 NCP assessment, allocation limits for consumptive use had been set in all proclaimed groundwater areas, based on the estimated sustainable yield. Preliminary environmental water requirements had also been determined for all 174 groundwater management units and 44 surface water basins. Around 30 per cent of the systems (less than 10 per cent by sustainable yield) required more detailed work (including on environmental water provisions) to bring them up to the appropriate level of management. Only two groundwater management units (Collie and Murray–Cockleshell Gully) had allocations exceeding the sustainable yield and work was underway to reduce usage to sustainable levels.

Reform progress

Western Australia continues to progress the development and/or review of its water management plans. It advised that the planning process is on track against the revised implementation program agreed in the 2002 NCP assessment. Apart from those assessed as being a low priority, for which no further action is proposed, almost all plans (or reviews of the plans) are scheduled to be completed by 2005.

5.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In previous NCP assessments, the Council found that Western Australia had established a framework for the transfer of water rights but trading was still in its early stages. The Council identified constraints on trade, including:

through regulations and other subordinate legislation. This may include areas where the environmental values of water are not being attained or which are considered by the authority to be 'stressed'.

- provision for local by-laws to prohibit trades;
- restrictions on who can hold a water licence (that is, only a person who has access to the land on which the water occurs); and
- a time limit for water entitlements to be used (before the entitlement may be forfeited).

Western Australia has also been developing water management plans, which may include trading rules.

Western Australia needs to remove constraints on water trading or demonstrate that any remaining constraints are in the public interest. Western Australia also needs to ensure trading rules in water management plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Western Australia established provisions for water trading through amendments to the Rights in Water and Irrigation Act, which took effect in January 2001. At the time of the 2002 NCP assessment, Western Australia reported that its trading system was fully operational.

The Rights in Water and Irrigation Act permits a licence holder to transfer all or part of their water entitlements to another party entitled to own a licence. Trades may be permanent or temporary,⁶ and require the approval of the Water and Rivers Commission. Under the Act and the policy guidelines issued in 2001 (WRC 2001b):

- trades must be consistent with an approved water management plan or, if there is no plan, with approved commission policy or guidelines;
- the commission may refuse trades to:
 - protect the environment and other users from damage;
 - ensure outcomes continue to be beneficial to the State;
 - prevent non-efficient uses and monopolies in water;
 - meet policy objectives;
 - encourage or preserve complementarity and diversity (in the market); and/or
 - preserve the trading market from distortion;
- the commission actively discourages speculation in the market; and

⁶ Riparian right allocations, stock and domestic rights and environmental water provisions are not tradeable.

- a commission decision not to approve a trade is subject to appeal to a tribunal.

To limit the scope for speculation in the water market, the Act contains constraints on water trading, including:

- a provision for local by-laws to prohibit trades;
- restrictions on who can hold a water licence (that is, only a person who has access to the land on which the water occurs and who intends to use the water);⁷ and
- a time limit for water entitlements to be used (before the entitlement may be forfeited).

The Act also contains, however, a provision for local by-laws to be made to enable a person other than an owner or occupier of land (or who has access to the land) to hold a licence.

The commission may not approve a trade without the written permission of a party with a registered interest in the entitlement being traded.

While regional management plans are high level and usually make little reference to trading issues, subregional and local area water management plans may include trading provisions. The plans are required to be compatible with the Statewide transferable water entitlements policy guidelines or to address potential conflicts or limitations on the implementation of the guidelines. Some entitlements may not be tradeable as a result of water resource management constraints identified in the plans. In the 2001 NCP assessment, the Council noted that the draft trading rules for the Wanneroo groundwater area limited water trade to one subarea. (Section 5.2 reports on Western Australia's progress in developing water management plans.)

Trading to date

In many parts of Western Australia, water resources are not fully allocated and the demand for trading is low. Around one-third of Western Australia's water resource systems, however, are at a highly or fully allocated level, and these are the areas in which water trading has developed or is most likely to develop.

The only significant area for trading in surface water is the South West Irrigation Scheme. In 2002-03, temporary transfers within the scheme

⁷ Special provisions apply where a person who is not eligible to hold a licence is buying property and wants to make prior arrangements to purchase an entitlement. In these circumstances, the commission may give an undertaking that it will approve the trade once the property purchase is finalised.

amounted to around 10.9 gigalitres (7 per cent of licensed entitlements) and permanent transfers amounted to less than 0.2 gigalitres (significantly less than 1 per cent). In addition, around 3 gigalitres (2 per cent) were transferred with property sales. In the 10 months to May 2003, trading in groundwater consisted of 1.7 gigalitres in temporary transfers, 0.06 gigalitres in permanent transfers and 15.5 gigalitres transferred with property sales.

Given the infancy of the trading environment, information on the price (or total value) of water trades is limited. Western Australia provided a few examples of groundwater trades, for which prices ranged from around A\$500 per megalitre in the Wanneroo area to A\$1300 per megalitre in the Busselton–Capel area, for permanent trades of around 30 megalitres. No information is available on the time taken to process water trading applications.

Changes in the regulatory environment since 2001

At the time of the 2001 NCP assessment, Western Australia's policy guidelines for water trading were in draft form. The Minister for Water Resources released the final policy guidelines in late 2001, following a period of public consultation. The Water and Rivers Commission is required to review the effectiveness of the policy guidelines annually for the first three years, then at intervals not exceeding five years. Any significant changes must be subject to public consultation.

To supplement the policy guidelines, in February 2003 the commission released an interim subpolicy to guide the operational management of trading (WRC 2003a). The subpolicy sets out the resource management process to be undertaken as the level of water use in an area approaches the sustainable limit, in preparation for the commencement of trading in that area. The initial stages of the process (for example, the determination of environmental water provisions and the review of sustainable limits) are typically completed through subregional or local area water management planning. The commission subsequently identifies, recoups and reallocates unused entitlements. Where the resource management process has not been completed or the water resources are highly or fully allocated, trading applications must be supported by the relevant regional manager and the managers of various commission branches (hydrology and water resources, catchment and waterways, and resource allocation). The managers are required to consider a range of matters, including whether the trade is likely to have adverse environmental, social and economic impacts.

As noted in section 5.2, in March 2003, the Water and Rivers Commission released draft policy guidelines on the management of unused licensed water entitlements for public consultation (WRC 2003b). Except in extenuating circumstances, the commission will not approve trade in water entitlements that have not been used. Commission decisions on licensed entitlements and

transfers are, however, subject to appeal. Under the draft policy guidelines, once trading has been established in an area, the commission will not recoup water entitlements that were acquired through trading (except in exceptional circumstances, such as where there is anticompetitive or speculative behaviour).

In section 5.2, it was also noted that the Water and Rivers Commission is investigating more efficient use of its unused allocations, particularly the feasibility of issuing short to medium term licences to permit access to water reserved for future town supply. The discussion paper, released by the commission in March 2003 (WRC 2003c), acknowledged that the commission would need to consider the impact of such a change on trading (including whether and how to charge for temporary access to unused allocations).

Since the commencement of trading, the commission has accepted the role of collecting and providing market information. It anticipates continuing this role until the market matures and brokers are established to provide information to potential buyers and sellers. The commission intends to publish an annual tradeable water entitlements report, covering the price, volume, locality and purpose of trades. Reports are to be available from the commission's regional offices and website.

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

Since the 2001 NCP assessment, Western Australia has established a fully operational system for water trading. It finalised policy guidelines for water trading and released an interim subpolicy to guide the operational management of trading. It also implemented procedures to minimise the risk of trading for the environment, with the Water and Rivers Commission able to refuse trades that would result in adverse environmental impacts. The commission has the additional role of collecting and providing market information until the market further develops. Trade is concentrated in the South West Irrigation Scheme, reflecting the infancy of trading and the low level of demand for trading in the many parts of the State where water resources are not fully allocated.

In the 2001 NCP assessment, the Council found that water rights are sufficiently specified in Western Australia to enable water users to form a reasonable expectation of the potential benefits and risks of trading. Licences may be issued for between five and 10 years or for an indefinite period. There is a presumption that fixed term licences will be renewed if licence conditions are met. While the commission's register of water licences and entitlements does not provide indefeasibility of title, it does allow the entitlement holder to register interests. The commission may not approve a trade without the written agreement of any person with a registered interest in the entitlement.

Notwithstanding this protection, the Council considered that the power of the Water and Rivers Commission to issue a direction, overriding all other rights recognised by the Rights in Water and Irrigation Act, increases the risk to entitlement holders and may have an impact on the value of water entitlements. Western Australia previously advised that the provision is intended to enable the commission to manage water resources where immediate action is necessary and that it is likely to be applied only temporarily and in extreme circumstances. Since the 2001 NCP assessment, the commission has issued one direction in the form of a 'water shortage order', but this order restricts only the watering of lawns and gardens to certain times. In practice, the commission's power appears not to have been used in a manner that would significantly influence the value of water rights. The requirement for the commission to disclose its reasons for a direction, along with the ability of water users to appeal to a tribunal, helps minimise the risk for water entitlement holders.

In previous NCP assessments, the Council identified several mechanisms in the Rights in Water and Irrigation Act that may constrain trade in water entitlements, including:

- a provision for local by-laws to prohibit trades;
- restrictions on who can hold water licences; and
- a time limit for water entitlements to be used (before the entitlement may be forfeited).

Western Australia provided the following advice on the status of the three constraints.

- Currently, no local by-laws prohibit trade, because no circumstances have arisen that require trade to be prohibited. Western Australia considers that this provision is unlikely to be used.
- There is provision for local by-laws to be made to enable a person other than an owner or occupier of land (or who has access to the land) to hold a licence. This provision could allow anyone to hold a licence, but has not yet been used.
- The Water and Rivers Commission recently released draft policy guidelines on the management of unused entitlements for public consultation (as noted above).

The provisions in the Act appear to be largely a response to community concern about potential speculation in the water market and the possible adverse environmental impacts of water trading. Nonetheless, the provisions have the potential to reduce the security of entitlements and constrain the movement of water to its highest value use. The restrictions on who can hold water licences, for example, may have an impact on the entry and activities of agents, brokers and other potential participants in the water trading market, and on the ability of financial institutions to obtain ownership of a water

entitlement in the case of default. All of the provisions have the potential to reduce returns available to holders of water entitlements.

While Western Australia advised that the Water and Rivers Commission is reviewing the management of unused entitlements, the draft policy guidelines issued for public consultation suggest the commission is formalising and clarifying the existing arrangements rather than countenancing substantial change. The draft policy guidelines retain the capacity for the commission to recoup and re-issue unused entitlements, and to not approve trade in entitlements that have not been used. This may encourage over use to protect ownership. Even where trading is established in an area (in which case, the commission generally does not recoup entitlements acquired through trading), the draft guidelines retain the capacity for the commission to recoup entitlements in the event of anticompetitive or speculative behaviour. Commission decisions on licensed entitlements and transfers are subject to appeal.

There is also scope for the commission to refuse trades to prevent monopolies in water. In other industries, such matters are left to regulation under fair trading laws, including the *Trade Practices Act 1974*. The capacity for the Water and Rivers Commission to refuse approval for a trade because it would lead to monopolisation would be unlikely to conflict with CoAG water trading objectives, however, if the commission applies an appropriate competition test — such as that in the Trade Practices Act — in reaching its decision. The Council would need to be confident that a decision to refuse approval was based on rigorous analysis against the competition test.

Western Australia's subregional and local area water management plans contain trading rules, so are relevant to the assessment of the State's compliance with water trading obligations. The water management plans are required to be compatible with the Statewide transferable water entitlements policy guidelines or address potential conflicts or limitations on the implementation of the guidelines. As the Council noted in the 2001 NCP assessment, the draft trading rules for the Wanneroo groundwater area limit water trade to one subarea and prevent entitlements being temporarily traded (or leased) for a period of less than two years. Western Australia advised that the latter requirement is intended to address community concerns about speculation and potential environmental impacts. The Council has not specifically considered the trading rules in other water management plans for this assessment, but will do so in the 2004 NCP assessment when it considers the environmental provisions in the plans.

Assessment

The Council considers that Western Australia made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. Several provisions in Western Australia's trading arrangements raise questions about consistency with CoAG water trading obligations, but the

Council accepts that these currently do not constrain trade to a significant extent.

For the 2004 NCP assessment, the Council will expect Western Australia to report on:

- any subsequent directions issued by the Water and Rivers Commission and whether they are likely to have a significant impact on the risks to entitlement holders and the value of water rights;
- arrangements in place to ensure the restrictions on who can hold a water licence do not unjustifiably constrain the entry and activities of agents, brokers and other potential participants in the water trading market, or the ability of financial institutions to obtain ownership of entitlements in the event of default;
- any local by-laws introduced to prohibit water trade and the rationale for those by-laws;
- the Water and Rivers Commission's final policy guidelines on the management of unused entitlements, particularly the consistency of those guidelines with CoAG obligations;
- the commission's power to refuse trades to prevent monopolies in water, particularly the need for the power given the Trade Practices Act and the nature of the competition test applied in reaching a decision to refuse approval for a trade;
- the outcome of the commission's annual review of the effectiveness of the policy guidelines for water trading; and
- the timeliness of approval processes for applications to trade.

In the 2004 NCP assessment, the Council will conclude on the appropriateness of constraints in Western Australia's trading arrangements. In line with CoAG obligations and the reform timeframe, the Council will focus in 2004 on the extent to which Western Australia's trading arrangements enable water to be used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

Also in the 2004 NCP assessment, the Council will report on actions by all jurisdictions, including Western Australia, to allocate water to the environment to ascertain that governments are continuing to make progress against the CoAG obligation to make appropriate environmental provisions by 2005. This assessment will require the Council to consider Western Australia's subregional and local water management plans, so the Council will consider the trading provisions in the plans at the same time. In particular, the Council will look for these provisions to facilitate trading where it is socially, physically and environmentally sustainable.

5.4 Institutional reform

Structural separation

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision are to be separated institutionally. In the 2001 and 2002 NCP assessments, Western Australia foreshadowed the introduction of the Economic Regulation Authority with coverage of the water industry.

Next full assessment: The Council will assess Western Australia's implementation of the CoAG obligations on structural separation relating to the water industry again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 6(c and d)

In the 2001 and 2002 NCP assessments, the Western Australian Government stated that it intended to establish the ERA to undertake a range of economic regulatory functions currently performed by Ministers, sector specific regulators and public sector officials. (For water, the Minister for Environment and Heritage has responsibility for resource management and water service regulation and the Minister for Government Enterprises has responsibility for water service delivery.) The ERA's work would include making expert recommendations to the Government about tariffs and charges for government monopoly services, and about any other matters requested by the Government. At the time of the 2002 NCP assessment, the Office of Water Regulation was reviewing water service standards and considering the desirability of establishing a water ombudsman.

The Bill to create the ERA was before the Western Australian Parliament at the time of this 2003 NCP assessment. The Bill provides scope for the Government to refer to the ERA for inquiry any matter relating to a regulated industry including electricity, gas, rail and water. In relation to water, the Bill provides scope for inquiry and report on water and wastewater prices and for such inquiries to be on a routine basis. Western Australia advised that in anticipation of the establishment of the ERA, it is developing a draft reference for the ERA to consider water and wastewater pricing. (See also the discussion on pricing above.)

Western Australia advised that the draft report of the review of the *Water Services Coordination Act 1995* recommended the establishment of a 'multi-utility' ombudsman incorporating the water industry. The Minister for the Environment is considering the final report on the review.

Discussion and assessment

As discussed in relation to water and wastewater pricing, the lack of transparency in the determination of Western Australia's pricing outcomes

means that it is not possible to be certain that CoAG pricing principles are being appropriately applied. Regulation of prices and service standards for the water industry by the ERA would provide a means of demonstrating compliance with the CoAG pricing principles and would address a significant component of Western Australia's institutional reform task. At the time of this 2003 NCP assessment, the Western Australian Parliament was still considering the Economic Regulation Authority Bill 2002 that creates the ERA. For the Western Australian Government to meet its water pricing and institutional reform obligations for this 2003 NCP assessment, it would need to enact the legislation to create the ERA, and announce appropriate terms of reference for consideration by the ERA of water and wastewater regulatory matters. The terms of reference would need to ensure that the ERA is able to consider and recommend on pricing against the CoAG pricing principles.

The creation of a multi-utility ombudsman as recommended by the review of the Water Services Coordination Act would provide a transparent means for addressing customer concerns with the standards of service of water and wastewater businesses.

Devolution of management responsibility for irrigation schemes

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established. In the 2002 NCP assessment, the Council indicated that it would monitor progress in devolution of local management in the Ord and Carnarvon regions.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

Western Australia has three main irrigation systems: the South–West Irrigation Cooperative, the Carnarvon Irrigation Scheme and the Ord Irrigation Scheme. The management of the South–West Irrigation Cooperative, which includes both the Preston Valley and the South–West Irrigation District and supplies water used to irrigate more than 9700 hectares, has been devolved to local constituents.

In August 2001, the Water Corporation and the Carnarvon Irrigation Cooperative signed an operation and management contract providing for the transfer of the Carnarvon Irrigation Scheme to the irrigation cooperative by 30 June 2003 (subject to Government approval). The transfer gives the Carnarvon Irrigation Cooperative responsibility for retail water service delivery, and operations maintenance and renewal of the pipe distribution system and service connections.

On 1 July 2002, the management of the Ord Irrigation Scheme was transferred from the Water Corporation to the Ord Irrigation Cooperative, and by December 2003 the assets will also be transferred. Following the transfer the Water Corporation will continue to supply the Ord Irrigation Cooperative with bulk water under a water supply agreement. The Ord Irrigation Scheme will own, operate and maintain the Ord Irrigation Scheme (stage 1) distribution system and will have responsibility for retail water service delivery to growers in the scheme. The Water Corporation will continue to own, operate and maintain the M1 channel (the main irrigation channel) and the Hillside Levies.

Discussion and assessment

The Council is satisfied that Western Australia has met its obligations to increase the degree of local irrigation scheme management for this 2003 NCP assessment. It will consider progress by Western Australia with devolution in the Ord Irrigation Cooperative in the 2004 NCP assessment.

Integrated catchment management

Assessment issue: Western Australia is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council found that Western Australia might have been slow to address catchment issues beyond those relating to salinity. The Council found in 2002 that Western Australia had made some progress and met its outstanding 2001 commitment.

Next full assessment: The Council will consider Western Australia's progress with implementing integrated catchment management in 2004. The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

The issue of dryland salinity is the impetus for natural resource management policy in Western Australia. The Salinity Action Plan 1996 led to the creation of a State Salinity Council and five regional natural resource management groups. In accord with national and State policy frameworks, including the National Action Plan for Salinity and Water Quality and the Natural

Heritage Trust extension,⁸ the original focus on salinity evolved into a broader natural resource management framework that encompasses catchment issues. Consistent with this approach, the Government replaced the State Salinity Council in 2002 with a new body: the Natural Resource Management Council. The community based⁹ council is the State's peak body for natural resource management. A senior officers group on natural resource management provides whole-of-Government policy coordination on integrated catchment management and natural resource management.¹⁰

There are now six regional natural resource management groups, mostly located in the south-west of the State: South Coast, South West, Swan, Avon,¹¹ Northern Agriculture and the Rangelands. Each group has subcatchment groups and local action groups. Membership of each group comprises representatives from the community and the Government. A Regional Chairs Coordinating Group was established, comprising the chair of each natural resource management group, senior Government representatives and representatives of the Pilbara and Kimberley.

Since 1997, the natural resource management groups have developed and launched several programs, including 22 salinity projects (State Salinity Council 2002). In addition, the groups are developing regional natural resource management strategies with the support of local government and State Government agencies. The strategies aim to integrate land, water and biodiversity issues for a particular region. They also provide the foundation for partnership agreements with government agencies, covering funding and resource support.

Western Australia reported in 2001 that all regional groups had drafted natural resource management strategies. The regional groups have since been reviewing and refining their strategies, setting outcomes and targets, and establishing monitoring and evaluation programs that are consistent

⁸ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 budget. The Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers endorsed the implementation framework in October 2002. A significant focus is on measures to improve water quality.

⁹ The council comprises eight community members (one of whom is the chairperson) selected by Cabinet on the basis of expertise in areas that include biodiversity, agriculture and local government. The chief executive officers of government agencies with responsibilities in natural resource management also sit on the Council.

¹⁰ The Department of Agriculture, Conservation and Land Management, the Water and Rivers Commission, the Department of Environmental Protection, the Ministry for Planning and the Department of Land Administration are represented on the committee.

¹¹ The Swan and Avon are one group under the national action plan, but two groups under the Natural Heritage Trust extension.

with the national action plan and Natural Heritage Trust extension. They are using the National Framework for Natural Resource Management Standards and Targets 2002 as a guide to refining their strategies. The national framework is also being used in the development of a State monitoring and evaluation framework.

State agencies have been working with the regional groups to update their strategies against the accreditation criteria set by the Natural Resource Management Ministerial Council. As part of this process, the regional groups participated in workshops and discussions with Commonwealth agencies to better understand Commonwealth and State requirements and to refine the strategies.

In 2002, Western Australia reported that two regional strategies were being rewritten, one was undergoing consultation and the remaining two were being reviewed following consultation. More recently, some regional groups called for community input to broaden the focus of their strategies to encompass nature conservation, water and social and cultural assets (Avon Catchment Council 2003). A number of the groups are seeking community participation through workshops, newsletters and information on their web sites.¹²

Western Australia reported that work had progressed slowly in 2003 on the natural resource management strategies because it had not reached a bilateral agreement on the national action plan with the Commonwealth Government.¹³ It expected all but the Rangelands strategy to be accreditable within 12 months of a bilateral agreement.

Western Australia claimed that delays in Natural Heritage Trust extension funding further hampered progress on the regional strategies. The State Government reached a bilateral agreement on the extension with the Commonwealth Government in January 2003, and funding was provided in June 2003 to the regional groups to develop their regional strategies and to encourage community involvement in natural resource management (AFFA 2003). Western Australia stated that Natural Heritage Trust funding would accelerate work on finalising the regional strategies.

Links with water quantity management

Western Australia's natural resource management framework recognises interrelationships between water quality and water quantity management.

¹² Western Australia provides links to the websites of regional natural resource management groups at www.salinity.org.au.

¹³ From Western Australia's perspective, the principal issue with the Commonwealth pertains to recognition of Western Australia's spending on salinity issues since the launch of its Salinity Action Plan in 1996.

The Government considers that natural resource management principles are an integral part of the statutory process for water management planning, as required by the *Rights in Water and Irrigation Act 1914*.

Western Australia reported that links between water quality and water quantity issues are also being explored through the Water and Rivers Commission's input in the development of the regional natural resource management strategies and processes to identify priority management actions in those strategies.

Waterways WA

The Water and Rivers Commission is developing a management framework of strategies and actions to protect rivers and estuaries. The framework, called Waterways WA, aims to: identify waterway condition, values and pressures; safeguard significant waterways; restore and maintain waterway health; improve the management of waterways; balance values, expectations, ecology and uses; and challenge future directions. Western Australia expects to complete the framework in 2003.

The Government aims to provide coordinated management of waterways within an integrated catchment management framework. The framework is being developed to establish strong links with the work of regional natural resource management groups and is to satisfy requirements of the national action plan and Natural Heritage Trust extension (WRC 2001).

The framework's aim of safeguarding significant waterways involves:

- ensuring State, regional and local planning and policy processes (for example, those for national parks and reserves) recognise and protect wild rivers;
- assessing and progressing the best long-term management option for each wild river;
- developing a comprehensive and adequate reserve system for waterways; and
- promoting the identification and protection of waterways with high ecological and social/cultural values by assigning a heritage conservation management category that is recognised in planning at all levels.

As part of the strategy, Western Australia is developing a model to assess and prioritise waterways management needs and actions. The model assesses waterway values, the condition of and pressures on waterways, and threats, and assigns management responses.

The Water and Rivers Commission developed a river restoration manual and training course for designing and implementing river restoration activities. Western Australia reported that the commission also supports the

development of a Statement of Planning Policy for Water Resources (which includes waterways) to guide all planning documents within the State.

Salinity

The National Land and Water Resources Audit 2000 found that Western Australia has the largest area of dryland salinity in Australia and the highest risk of increased salinity in the next 50 years. The audit estimated that 4.3 million hectares of land in the south west of Western Australia have a high potential to develop a dryland salinity problem, of which 81 per cent is agricultural land. The high-risk area is predicted to expand to 8.8 million hectares by 2050. The audit report predicted that around 1520 kilometres of stream length are at risk from salinity, rising to 2850 kilometres by 2050.

Given the magnitude of salinity issues, much of Western Australia's early work in natural resource management focused on this problem. The State released its first salinity action plan in 1996, followed by a revised plan in 1998. The State Salinity Strategy 2000 adopted a broader approach to salinity management in a natural resource management context, with increased emphasis on community participation in programs. The five goals of the strategy are to:

- reduce the rate of degradation of agricultural and public land, and recover, rehabilitate or manage salt-affected land where practical;
- protect and restore key water resources to ensure salinity levels are kept to a level that permits safe potable water supplies in perpetuity;
- protect and restore high value wetlands and natural vegetation, and maintain natural (biological and physical) diversity within the region;
- provide communities with the capacity to address salinity issues and to manage the changes induced by salinity; and
- protect infrastructure affected by salinity.

The Salinity Taskforce recommended further policy changes in September 2001 to reflect the national action plan and emerging science on salinity issues. In particular, the taskforce recommended the creation of a Natural Resources Management Council to replace the State Salinity Council (Salinity Taskforce 2001). Western Australia adopted this recommendation in 2002.

Current salinity activities include a joint initiative with the Natural Heritage Trust to map and monitor the extent of salinity at the farm and catchment levels. In addition, the regional natural resource management groups have been developing salinity investment frameworks as a key component of their regional strategies. The salinity investment frameworks adopt an assets-based approach to identifying resources at risk, setting goals and priorities, and developing investment strategies. Western Australia provides

educational and community information on salinity initiatives at www.salinity.org.au.

Land care

Western Australia has many land care groups, including some 145 statutory Land Conservation District Committees. Most land care groups, including the district committees, have links to the regional natural resource management groups. While each regional group has a different constitution and membership structure, all generally have representatives from subregional groups (which are often district committees).

Community Landcare Coordinators work with community groups to help them undertake work such as revegetation, catchment and farm planning, and sustainable farming practices. The coordinators are mostly funded by the Natural Heritage Trust and many are financially supported by local government and the community.

Discussion and assessment

The Council raised concerns in 2001 about the pace at which Western Australia was addressing integrated catchment management issues. It was concerned that Western Australia might have been slow to address catchment issues beyond those relating to salinity. This slowness appeared to have manifested particularly through delays in the establishment of partnership agreements with natural resource management groups. Western Australia acknowledged in previous NCP assessment that it had been slow to take up strategies aimed at the recovery of catchments, such as reducing tree clearing.

Western Australia's progress on integrated catchment management between the 2001 and 2003 NCP assessments continued to be slow. All regional groups had developed natural resource management strategies by 2001, but the Government has not endorsed any of these under State processes in the absence of accreditation mechanisms under the national action plan. (The new accreditation mechanisms are not available to the Western Australian Government until it reaches a bilateral agreement on the National Action Plan for Salinity and Water Quality with the Commonwealth Government.) Western Australia has now received Natural Heritage Trust extension funding which should enable it to refine its regional strategies in anticipation of a bilateral agreement on the national action plan. The Council will assess this area again in the 2004 NCP assessment, when it will look for evidence of significant progress.

The Waterways WA framework is intended to facilitate the consideration of, and support for, land care practices to protect rivers with high environmental values. In its 2004 assessment, the Council will look for the framework to be in place in accord with the milestone proposed by Western Australia.

5.5 National Water Quality Management Strategy

Assessment issue: Western Australia is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2002 NCP assessment, the Council found that Western Australia was not achieving its NWQMS obligations. The Council held two consultative meetings with Western Australia following the assessment.

Next full assessment: The Council will consider Western Australia's progress with implementing the NWQMS in 2004. The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and 8(d)

At the time of the 2002 NCP assessment, Western Australia had endorsed the State Water Quality Management Strategy as its framework for implementing the NWQMS. The next stage was to develop the strategy's implementation plan so as to establish priorities and ensure coordinated action by relevant government agencies and stakeholders.

At the time of the 2002 NCP assessment, Western Australia undertook to progress its NWQMS obligations by:

- holding consultative meetings with the Council in December 2002 and March 2003;
- finalising the State Water Quality Management Strategy implementation plan, which has the objective of ensuring integrated and coordinated action across government agencies and stakeholders;
- finalising implementation plans to reflect the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4), the Australian Drinking Water Guidelines (NWQMS paper no. 6), and the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7); and
- achieving demonstrable progress in implementing NWQMS papers 8 and 11–15, including drafting State implementation plans where possible.

NWQMS arrangements

Western Australia published its State Water Strategy in February 2003, drawing together information gathered during community consultation, various water forums and the Water Symposium held at Parliament House from 7–9 October 2002. The strategy covers several water issues, including

conservation (providing water for the environment), water use (transferring water between regions and water trading) and reuse (recycling grey water), and protection and management (implementing catchment protection and land use controls). The Government formed a working group headed by the Premier — the State Water Strategy Working Group — which is to develop guidelines for implementing the matters covered in the strategy.

Western Australia published its State Water Quality Management Strategy implementation plan in July 2003. The plan is a status report of existing initiatives in Western Australia to implement the NWQMS. It states that the NWQMS guidelines are being implemented through:

- the development of regional natural resource management strategies (see the discussion on integrated catchment management in section 5.4);
- the draft State sustainability strategy;
- salinity programs;
- the Waterways WA program (see the discussion on integrated catchment management in section 5.4);
- regulatory instruments, including environmental protection policies; and
- nonregulatory instruments, including Environmental Protection Authority guidance statements, guidelines and codes of practice.

Western Australia cited the development of the draft Environmental Protection (Cockburn Sound) Policy 2001 as an example of NWQMS implementation through the identification of environmental values, environmental quality objectives and environmental quality criteria (Government of Western Australia 2003b, pp. 20 and 23).

The State Water Quality Management Strategy implementation plan notes a delay in the implementation of several NWQMS modules. In particular, Western Australia scheduled implementation of NWQMS papers 4 and 7 for 2003-04. Development of several other NWQMS modules is also scheduled for 2003-04 (Government of Western Australia 2003b, pp. 28–30). The Government indicated that it needs additional time to ensure consistency between the approaches of the Environmental Protection Authority and the Natural Resource Management Council, both of which have responsibilities for water quality issues. Western Australia thus undertook to release its guidelines as soon as possible.

Western Australia made some progress in implementing elements of the NWQMS. In relation to the 1996 Australian Drinking Water Guidelines:

- a Memorandum of Understanding between the Department of Health and the Water Corporation is in place;

- a Statement of Planning Policy for Public Drinking Water Sources was published;
- a recreation policy for Crown land priority 1 drinking water areas has been prepared by the Waters and Rivers Commission and was published in July 2003; and
- a planner's manual on land use planning and drinking water protection has been published.

In relation to NWQMS papers 8 (groundwater protection) and 11–15 (management of sewerage systems), Western Australia advised that:

- it was developing an implementation plan for the groundwater protection guidelines (NWQMS paper no. 8);
- it had scheduled work on developing guidelines on effluent management (NWQMS paper no. 11) for 2003-04;
- guidelines on the handling and disposal of trade and industrial waste (NWQMS paper no. 12) are now in place;
- the biosolids guidelines released in February 2002 outline the State's current requirements on sludge management (NWQMS paper no. 13);
- the management of reclaimed water (NWQMS paper no. 14) is covered in the State Water Strategy, and the State Water Strategy Working Group is developing guidelines on matters including reclaimed water;
- an implementation guide on sewerage overflows (NWQMS paper no. 15) was released in November 2002; and
- discharges from wool scouring (NWQMS paper no. 18) are regulated via an Environmental Protection Authority licence.

Western Australia formed the Community and Industry Advisory Committee to ensure the involvement of community and industry groups in the preparation and development of water quality management guidelines, strategies and programs associated with the implementation of the NWQMS. Several stakeholder groups are represented on the committee including the Irrigation Association of Australia (Western Australia), the Chamber of Commerce and Industry, local government, the Motor Trade Association and the Wine Industry Association (Western Australia).

Discussion and assessment

Western Australia undertook preparatory and development work between the 2002 and 2003 NCP assessment, including publishing the State Water Quality Management Strategy implementation plan. This plan is an

important element of NWQMS implementation because it sets out the State's processes for achieving its water quality objectives.

While Western Australia made some progress since the 2002 NCP assessment, its implementation of NWQMS arrangements is slow. The Government is proposing to implement several key NWQMS guidelines (including NWQMS papers 4 and 7) only in 2003-04. It appears to be still developing its institutional framework, and is still working to achieve consistency in the approaches of the Environmental Protection Authority and the Natural Resource Management Council. While accepting that Western Australia has taken an important step for this 2003 NCP assessment by publishing the State Water Quality Management Strategy implementation plan, the Council will again assess the State's progress in implementing the NWQMS in 2004. The Council will look for Western Australia to have advanced its implementation — particularly in areas that the Government undertook to address in 2003-04, including implementation of guidelines for fresh and marine water quality and guidelines for water quality monitoring and reporting.

5.6 Water legislation review and reform

Assessment issue: Western Australia is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations. In the 2002 assessment, Western Australia had several key water legislation reviews in progress.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement clause 5

Western Australia listed 35 water industry regulatory instruments for NCP review, of which it has completed reviews of 32. Of the remaining three, Western Australia commenced one review and proposes to repeal two without review. The completed reviews recommended repeal of one instrument, reform of 18 others and no change or found no competition issues in 13 cases.

The Government endorsed the findings of each of the 32 completed reviews, mostly in 1999 or 2000. The Government proposed to reform eight regulatory instruments via the Acts Amendment and Repeal (Competition Policy) Bill 2002, but now delayed to 2003. These reforms will now be included in a second competition policy omnibus Bill. Western Australia is drafting amendments or is developing drafting instructions for another five

instruments. Reform activity is under way for most of the remaining instruments where action was recommended but is not yet completed.

Assessment

Western Australia substantially completed its program of review of water industry legislation and regulation and the Government endorsed the findings of the 32 completed reviews. Implementation of the recommended reforms is, however, not complete. Western Australia is yet to implement the recommended reforms to 19 water industry regulatory instruments. As the Competition Principles Agreement requires that the review and appropriate reform of legislation that restricts competition be complete, the Council considers that Western Australia has not met its NCP obligations on water industry legislation.

The Council draws Western Australia's attention to provisions in the Rights in Water and Irrigation Act that may constrain trading in water entitlements (see section 5.3). The Council will consider in the 2004 NCP assessment whether Western Australia's regulatory arrangements meet the CoAG obligation to facilitate water trading.

6 South Australia

The elements of the Council of Australian Government (CoAG) water reform program that are relevant for South Australia in this 2003 NCP assessment are: water and wastewater pricing; intrastate water trading arrangements; the remaining institutional reform requirements (primarily separation of responsibility of water industry institutions and integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. The National Competition Council assessed South Australia's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by South Australia towards meeting water reform obligations on rural water pricing and converting existing water allocations to water entitlements (which will be assessed in 2004) and towards meeting CoAG obligations on the provision of water to the environment (which will be assessed in 2005).

6.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.

- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Urban water and wastewater businesses: SA Water

Assessment issue: South Australia is to demonstrate that SA Water sets prices for water and wastewater services to achieve full cost recovery in accordance with the CoAG pricing principles. In the 2001 and 2002 NCP assessments, the Council considered that the lack of transparency of South Australia's water and wastewater pricing process made it difficult to be confident that pricing decisions were (and would be in the future) consistent with the CoAG pricing principles.

Next full assessment: The Council will assess South Australia's progress with urban water and wastewater pricing again in the 2004 NCP assessment. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

SA Water is South Australia's primary supplier of water and wastewater services to Adelaide and country towns. In 2000-01, SA Water provided water and wastewater services to over one million people.

The prices of the services provided by SA Water are determined by the South Australian Cabinet each November for the following financial year, on the recommendation of the Minister for Government Enterprises. The Cabinet does not make the information it considers in determining prices or the reasons for its pricing decisions publicly available. While South Australia has established the Essential Services Commission of South Australia (ESCOSA), replacing the former South Australian Independent Industry Regulator, the commission has no pricing oversight role for SA Water.

South Australia considers that its water and wastewater price setting is not inconsistent with CoAG pricing principles, noting that SA Water's prices are above avoidable costs and below standalone costs. South Australia advised that the estimate of the short run marginal cost of water services supplied by SA Water is of the order of 35 cents per kilolitre across the system. The current charge is \$1.00 per kilolitre, with the difference reflecting augmentation costs, a raw water component, a resource management component and 'externality' costs.

The South Australian Government advised the Council in August 2003 that it would publish an annual transparency report on SA Water's water and wastewater prices, with the first statement to cover charges applying from 1 July 2004. Terms of reference provided by the Government indicate that the report will establish the relationship of Cabinet decisions on water and wastewater prices to the CoAG pricing principles, provide information on SA Water's financial performance in the context of the decision and past and future expenditures, and address details of revenues, community service obligations (CSOs), SA Water's capital expenditure program and SA Water's profit and the distribution of that profit. The Government indicated that the annual reports would be widely published (in the SA Water annual report and on the Internet).

The Government advised that it will require ESCOSA to review the processes adopted in preparing advice to the Cabinet for the Cabinet's decision on the level and structure of SA Water's prices, with respect to the adequacy of the application of the CoAG pricing principles. ESCOSA will also be asked to advise on the extent to which information relevant to the CoAG pricing principles is made available to the Cabinet. The reports from ESCOSA will be incorporated in the Government's annual transparency statements.

Discussion

Without rigorous supporting evidence, South Australia's claim that SA Water is achieving full cost recovery does not satisfy the CoAG water and wastewater pricing obligations. South Australia needs to demonstrate that it applies all CoAG pricing principles in setting the price of SA Water's water and wastewater services. The Council raised this matter in both the 2001 and 2002 NCP assessments, suggesting that South Australia introduce arrangements such as independent economic regulation of water and wastewater services and/or a public price setting process.

The Council considers that economic regulation of SA Water by ESCOSA is the preferred approach, because it would allow independent and transparent consideration of pricing and related matters, including asset valuation, CSOs, cross-subsidies, externalities and the distribution of dividends. Nevertheless, the Council acknowledges that an independent, robust and transparent report, prepared annually, which shows that pricing by SA Water for water and wastewater services complies with the CoAG pricing principles, including on price-related matters, would meet the CoAG requirements. Publicly available annual reports would enable transparent scrutiny of the basis on which SA Water's prices are set.

An important element of the CoAG pricing principles is the requirement that prices be set on the basis of an appropriate revenue target for SA Water. The pricing principles state that the revenue target should be based on efficient resource and business costs, with prices set to achieve this target and the cost and other elements that determine the revenue target and the target's connection with prices made clear. Water Services Association of Australia data for the period 1995-96 to 2000-01 show that SA Water's per unit

operating costs appear to have remained about constant in real terms, unlike per unit operating costs in many other comparable urban water businesses, which declined over the same period (WSAA 2001 and 2003).

Assessment

The Council considers that South Australia, on the basis of currently available information, has not demonstrated satisfactory compliance with the CoAG pricing principles in relation to SA Water's water and wastewater pricing. The publication of annual transparency statements, as the South Australian Government has committed to do, provides a mechanism for demonstrating that SA Water's pricing complies with the CoAG pricing principles. Annual transparency statements would also help to satisfy South Australia's institutional reform and the public education and consultation obligations.

The South Australian Government's commitment to produce annual transparency reports to address SA Water's pricing from 1 July 2004 and advice of terms of reference for the first report, is a significant step towards the State showing that it is complying with the CoAG water pricing obligations. On the basis that the terms of reference allow ESCOSA to comment on the outcome of the annual statements — to indicate whether or not it would have reached the same conclusion as the transparency report, and if it would not, whether the conclusion reached is reasonable — the Council considers that the Government's commitment and its advice on terms of reference is sufficient for this 2003 NCP assessment.

In the 2004 NCP assessment, the Council will look for South Australia to have published its first transparency report and for that report to include a rigorous assessment of SA Water's 2004-05 water and wastewater prices against the CoAG pricing principles. Publication of the report will address transparency obligations. The Council will look for evidence in the report that SA Water's prices satisfy all CoAG pricing principles. In particular, the Council draws South Australia's attention to the pricing principles requirements that (1) prices are determined on the basis of a revenue target for the business that is based on efficient resource and business costs and (2) that the dividends paid reflect commercial reality (see the discussion on dividends below).

The Council will look for ESCOSA to have had full opportunity to comment on the processes adopted in preparing the Cabinet advice on SA Water's pricing and the information made available to the Cabinet, as is provided for in the Government's terms of reference. The Council will also expect ESCOSA to advise on whether or not it would have reached the same conclusion as the transparency report, and if it would not, whether the conclusion reached is reasonable. The published annual transparency reports should include ESCOSA's comments. The Council would regard any unwarranted departure from such an approach as compromising South Australia's compliance with the CoAG obligations on water and wastewater pricing.

SA Water dividend payments

Assessment issue: Dividends, where provided, are to be set at a level that reflects commercial realities and simulates a competitive market outcome. In the 2002 NCP assessment, the Council expressed a concern about South Australia's dividend policy, noting that it may result in dividends in excess of 100 per cent of after tax profits. This could have unintended impacts on the capital structure and financial resources of SA Water, which may affect the long term sustainability of water and sewerage services.

Next full assessment: The Council will assess South Australia's progress with the requirement that dividends be set at a level that reflects commercial realities again in the 2004 NCP assessment. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a); CoAG pricing guideline 5

South Australia advised that from 2001-02 it has set a target dividend for SA Water of 55 per cent of earnings before interest, tax, depreciation and amortisation (EBITDA) less 'stay in business capital'. Dividend payments, borrowings and capital expenditure programs for SA Water are determined by the South Australian Cabinet.

The dividend paid by SA Water in 2001-02 was \$137.175 million (SA Water 2002). South Australian Government officials advised the Council that this represented in excess of 100 per cent of SA Water's accumulated profits for the year. In each of the three financial years from 1998-99, the dividends paid by SA Water as a proportion of profit after tax were 111.08 per cent, 120.12 per cent and 95.90 per cent (WSAA 2001).

Discussion

The CoAG water pricing principles require that dividends be set at a level that reflects commercial realities and simulates a competitive market outcome. This provision is aimed at reducing risks to the solvency of water businesses and the long term sustainability of water services, within an environment consistent with the economic efficiency and competitive neutrality objectives of the broader NCP agreements (see NECG 2002). The Council considers the corporations law requirement that dividends not exceed 100 per cent of accumulated after tax profit is a reasonable interpretation of the CoAG requirement on dividend distributions.

The Council expressed concern about South Australia's dividend policy in the 2002 NCP assessment (NCC 2002, vol. two, pp. 6.1–6.5). A dividend policy based on 55 per cent of EBITDA may result in dividends consistently in excess of 100 per cent of after tax profits, which could have unintended impacts on the business's capital structure and financial resources. This concern is exacerbated by the absence of independent regulation of prices and service quality in South Australia. The absence of service quality regulation reduces the scope for scrutiny aimed at protecting water and wastewater consumers from the potentially adverse consequences of a run down in

financial viability. The absence of price regulation means there is no independent scrutiny to ensure future capital expenditure needs are appropriately taken into account in pricing.

South Australian Government officials stated that the Cabinet process by which the dividend level for SA Water is determined means that matters such as SA Water's future viability are appropriately considered. Officials also noted that the Cabinet considers SA Water's capital works program and funds all expenditure that the Cabinet considers to be necessary. As a result, South Australia believes that the corporations law requirement relating to dividends is not relevant to SA Water. Further, South Australia argued that SA Water is, and is projected to remain, in a sound financial condition. As a means of improving transparency, South Australian officials undertook to ask SA Water to report the dividend it pays to the Government as a proportion of after tax profit in its annual reports.

Assessment

The Council considers that the dividend policy for SA Water does not sufficiently address the CoAG requirement that dividends reflect commercial realities and simulate a competitive market outcome. The current target dividend of 55 per cent of EBITDA means that dividends could exceed 100 per cent of after tax profit (which occurred in 2001-02) and potentially undermine the long-term sustainability of SA Water.

Reporting by SA Water of the dividend it pays as a percentage of after tax profits (which South Australian Government officials have undertaken to pursue) would provide greater transparency. Transparency would be enhanced further if the Government were also to explain its rationale for the level of dividend paid by SA Water, particularly where the level exceeds the corporations law limit of 100 per cent of after tax profits. Such information would provide South Australian consumers of water and sewerage services with a valuable insight into the likely consequences for the delivery of water and sewerage services of the Government's dividend policy.

The Council accepts that it is not the objective of the South Australian Cabinet to impose arrangements, including on the level of the dividend, that inappropriately diminish SA Water's capacity to provide adequate water and sewerage services. There is a danger, however, that the ability of SA Water to provide adequate services may be compromised if it is required year after year to provide dividends in excess of 100 per cent of after tax profits. While South Australia argued that the Cabinet process of allocating, among other things, capital works budgets for SA Water will prevent this, the paucity of relevant information on the public record makes it difficult for consumers to draw this judgment. In addition, the arrangement whereby the Cabinet determines outcomes for SA Water on prices and dividend levels indicates considerable Cabinet involvement in decision-making on business issues. Such a level of involvement may reduce SA Water's commercial focus and,

depending on the matters on which decisions are taken by the Cabinet, compromise the separation of water regulation and service provision.

As noted above, the South Australian Government has undertaken to produce an annual pricing report to transparently show the relationship of SA Water pricing to the CoAG pricing principles. These principles include the requirement that dividends be set at a level that reflects commercial reality. In accord with the Government's undertaking on the transparency report, the Council will look for the report to address the matter of SA Water's profit and the distribution of that profit. In future NCP assessments, the Council will consider the level of dividend paid by SA Water. Where the level of dividend paid exceeds 100 per cent of after tax profits, the Council will look for South Australia to show that there are unlikely to be unintended impacts on SA Water's capacity to provide water and sewerage services of appropriate quality.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied to encourage more economical water use and to defer the need for costly investments. In the 2002 NCP assessment, the Council noted the progress achieved by South Australia in introducing cost recovery for all categories of water users but undertook to monitor the implementation of consumption-based pricing for commercial users and the implementation of consumption-based charging for trade waste.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)–(c)

South Australia introduced consumption-based charges — incorporating a fixed access charge and a volumetric charge — for all consumers of water services except commercial customers in July 1995. Residential customers (homes and vacant residential land) and business customers (industrial, primary industry, hotels and motels and public institutions) currently face an annual charge comprising an access and a volumetric component. South Australia legislated to remove the free water allowances applying to commercial water users (including wholesale, retail and financial services) in November 2001.

South Australia's legislation provides a five-year transition to full water use charges for commercial customers, commencing on 1 July 2002. Consumption-based pricing for commercial customers is being phased in on a revenue-neutral basis. As revenues from the water use (volumetric) component of the charge increase, the property value-based access (fixed) charge will reduce via offsetting reductions in the rate in the dollar used to determine the access charge. The rate in the dollar used to determine the access charge will continue to reduce over the transition period to offset the additional revenue that accrues as the discount on use previously provided as part of the free water allowance is phased out. Full consumption-based

charging for water used by commercial customers will apply from 2006-07. South Australia advised that over half of the State's commercial customers could expect a reduction in their water bill and that the five-year phase in period would assist adjustment by those whose water bills are likely to increase. The charges applying in 2002-03 are shown in box 6.1.

Box 6.1: Water charges for commercial customers in South Australia, 2002-03

0-125 kilolitres:	8 cents per kilolitre (80 per cent discount on 40 cents per kilolitre)
Above 125 kilolitres up to allowance:	19.4 cents per kilolitre (80 per cent discount on 97 cents per kilolitre)
Above allowance:	97 cents per kilolitre
Commercial water prices for 2003-04 have already been determined as:	
0-125 kilolitres:	16.4 cents per kilolitre (60 per cent discount on 42 cents per kilolitre)
Above 125 kilolitre up to allowance:	40 cents per kilolitre (60 per cent discount on \$1.00 per kilolitre)
Above allowance:	\$1.00 per kilolitre

Source: Government of South Australia (2003)

SA Water does not generally apply consumption-based charges for wastewater services. South Australia advised that the amount of discharge is a relatively minor driver of costs and that measurement of the quantity of discharge and pollutant loading is therefore not practical for the vast majority of consumers.

There are about 7000 registered dischargers of trade waste in South Australia, including about 45 that discharge large quantities of waste. SA Water imposes consumption-based charges for 43 of the large dischargers.¹ The basic trade waste charge rate reflects avoidable cost, but there is a 50 per cent surcharge for high concentration flows (applying to the component of the pollutant load that represents the high concentration). For existing dischargers facing increases in the trade waste charge compared to what they paid previously, discounts are available to manage the transition to full application of the new charges. This discount is equal to 80 per cent in 2002-03, declining by 20 percentage points each year until 2006-07 when full charges will apply. Commercial wastewater and trade waste charges applying in South Australia in 2002-03 (before the application of discounts) are summarised in box 6.2.

¹ Two large dischargers are exempt from the trade waste charging regime in the interim on the basis of a pre-existing agreement with the South Australian Government.

Box 6.2: Commercial wastewater and trade waste charges in South Australia, 2002-03

Commercial wastewater and trade waste charges in 2002-03 (before application of any discounts) are:

<i>Flow (excluding 'domestic' wastewater)</i>	3.4 cents per kilolitre
<i>Biochemical oxygen demand</i>	
For loading portion up to 1000 milligrams per litre	17.8 cents per kilogram
For loading portion above 1000 milligrams per litre	27 cents per kilogram
<i>Suspended solids</i>	
For loading portion up to 500 milligrams per litre	16.2 cents per kilogram
For loading portion above 500 milligrams per litre	24 cents per kilogram
<i>Total dissolved solids</i>	
For loading above a threshold	\$1.28 per kilogram

Source: Government of South Australia (2003)

Discussion and assessment

The Council is satisfied that South Australia is appropriately addressing consumption-based pricing obligations relating to water and wastewater services. South Australia's arrangements may imply a cross-subsidy between commercial users of water services during the period of transition to full water use charges, and a cross-subsidy to large trade waste dischargers during the period of transition to the new trade waste charges. Under the CoAG pricing principles, such cross-subsidies should be reported transparently. This matter is discussed in the following section.

Cross-subsidies and community service obligations

Assessment issue: Governments are to, desirably, remove cross-subsidies that are not consistent with efficient and effective service, use and provision. Where cross-subsidies continue to exist, they should be made transparent. Where service delivers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation. In the 2002 NCP assessment, the Council acknowledged that the steps South Australia was taking to introduce consumption-based pricing for water and (some) wastewater services were appropriate, but noted that South Australia would need to identify and report all cross-subsidies among different classes of consumers of water and wastewater services.

Next full assessment: The Council will assess South Australia's progress with transparently reporting remaining cross-subsidies and CSOs in the 2004 NCP assessment. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)

South Australia stated that, apart from major trade waste dischargers, there are no significant cross-subsidies within urban water and wastewater pricing. It explained that because water supply is a capital intensive industry, the ongoing incremental cost imposed by any individual customer tends to be substantially less than the average cost of providing the service. Under the State's urban water pricing arrangements, no customer paid total annual charges of less than A\$1.00 per kilolitre for water in 2002-03. South Australia advised that this is above the incremental cost. South Australia also advised that, given economies of scale, it is most unlikely that the charge imposed would have exceeded the stand-alone cost of providing the same supply to any one customer in isolation.

For wastewater, the incremental cost imposed by an individual customer tends to be lower (as a proportion of total annual costs) than it is for water supply. A high proportion of the cost of providing a wastewater service is fixed. Only a relatively small number of large trade waste dischargers impose annual incremental costs that are likely to exceed the annual charge imposed. When fully implemented in 2006-07, the trade waste charging framework will remove the cross-subsidy to the large dischargers.

In the 1999 NCP assessment, the Council reported that South Australia's 1996 *Community service obligations: policy framework* required CSOs to be delivered via a purchase agreement between the relevant Government Minister and SA Water. At the time, the South Australian Government reported that CSO arrangements had been negotiated in regard to the pricing of nonmetropolitan water and wastewater services, pensioner concessions and exempt properties. The Government also advised that it would use a CSO to phase in its trade waste charges, commencing in 2002-03. In the 2001 NCP assessment, the Council considered that South Australia had met its obligation to transparently report CSOs. In this 2003 NCP assessment, South Australia indicated that SA Water delivered a number of explicit CSOs, although these were not highly transparent.

Discussion and assessment

South Australia's fully volumetric water and wastewater pricing regimes, which are being phased in over five years from 2002-03, will achieve, by 2006-07, the CoAG objective of removing cross-subsidies that are not consistent with efficient and effective service, use and provision. The Council endorsed this transitional movement to fully volumetric pricing in previous NCP assessments.

During the phase-in period, the pricing regimes are likely to result in cross-subsidisation among different customers. In the information provided for this 2003 NCP assessment, South Australia identified major trade waste dischargers as the only significant area of cross-subsidy, and advised that the cross-subsidy will cease by 2006-07. South Australia's comments in relation to expected changes in the water bills faced by commercial consumers of water services — that about half of all commercial consumers could expect to face a

reduction in their water bill when fully volumetric water charges are applying in 2006-07 — suggest that there may also be cross-subsidisation among commercial consumers of water services.

The annual transparency reports on SA Water's water and wastewater pricing and its relationship to the CoAG pricing guidelines, which the South Australian Government has undertaken to produce (see the earlier discussion on urban water and wastewater pricing), offer a vehicle for the Government to report any remaining cross-subsidies and to identify and report the CSOs delivered by SA Water. The Council will look for South Australia to identify and report remaining cross-subsidies and the CSOs provided by SA Water in the annual transparency statements.

Rural Murray Water cost allocation: progress report

Progress report: The Murray–River Basin States have different policies on passing on River Murray Water costs to water users. All Murray–Darling Basin jurisdictions are asked to outline their policy approach on this issue for the 2003 NCP assessment.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

The Murray–River Basin States have different policies on passing on River Murray Water costs to water users. South Australia does not pass on to irrigators River Murray Water charges for bulk water.² New South Wales and Victoria pass on these costs, but apply different charging arrangements. Charges are partly fixed and partly variable in New South Wales and mostly fixed in Victoria. A consultancy study found that the expansion of permanent interstate trade is likely to be impeded by these differential charging arrangements for bulk water (Scriverco and Hassall and Associates 2003).

South Australia is investigating cost recovery matters relating to River Murray Water via a consultancy. The brief for this study indicates that South Australia seeks a 'review of costs associated with managing River Murray Water in South Australia, New South Wales and Victoria'. The study will also identify the beneficiaries of each State's expenditure component, provide a comparison of each State's water charging policies, comment on the extent to which externalities are accounted for, and discuss the effect of different

² River Murray Water recovers the full cost of constructing, operating, maintaining and renewing assets from the Murray–Darling Basin Commission's member governments. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the States, with the Commonwealth Government paying the remaining 25 per cent. The States meet the full cost of the operation and maintenance of assets.

policy, regulatory and administrative components. The study is scheduled for completion in October 2003.

6.2 Water management progress report: water rights and provisions to the environment

Establishment of water rights systems

Progress report: South Australia is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

The *Water Resources Act 1997* provides the framework for a hierarchy of water management plans for water resources in South Australia: water allocation plans; local water management plans; and catchment water management plans (see section 6.4 for a discussion of catchment water management plans). The Act differentiates between prescribed water resources, which are subject to licensing, and non-prescribed water resources. Prescription is based on the level of consumptive use and the condition of the water resource.

For prescribed resources, water allocation plans are the main tool for allocating water to water users and the environment. The water allocation plans specify rules on how water can be allocated, transferred and used. The plans are prepared by catchment water management boards or, where there is no board, by a water resources planning committee. The plans must be consistent with the overarching State Water Plan 2000, which sets the policy framework for all water plans, and are to be reviewed every five years. Surface water runoff (and farm dams) can be considered in the plans. At the time of the 2002 NCP assessment, South Australia had completed water allocation plans for 14 of the 15 prescribed water resource areas on its original implementation program (see next section on provision of water to the environment). (Local water management plans or broader catchment water management plans may be used to manage nonprescribed water resources.)

Once a water resource is prescribed, the extraction of water from that resource requires a licence.³ Licences specify volumetric allocations and the conditions of use. The Act provides for both water 'holding' allocations and water 'taking' allocations. A water holding allocation enables a person to hold water but not use it without first converting it to a water taking allocation. Licences are the holder's personal property; are issued in perpetuity (unless they are terminated under the Act); and are separate from land title, transferable and enforceable. The State Water Plan sets a target of 2005 for all water allocations to be converted from an area to a volumetric basis and for all water use to be measured. There is no provision for compensation in the event that a water allocation is reduced (provided the reduction accords with the objectives of the Act). Decisions are subject to appeal to the Environment, Resources and Development Court.

In line with the requirements of the Act, South Australia maintains a water licence register. The register records all water rights and transfers, and includes provision for the registration of third party interests. Registered third parties must be notified before a licence transaction may proceed. At the time of the 2001 NCP assessment, South Australia was planning to upgrade its water licence register towards a full Torrens Title system and to enable access via the Internet.

Reform progress

South Australia advised that water allocations have been converted to a volumetric basis in most areas of the State. The main area still to be converted is the South East Catchment. To assist in the conversion process in this catchment, South Australia is installing meters in around 200 sites to obtain information on the volumes used by irrigators. The information from the metering project will be used in reviewing the water allocation plans in the catchment. The revised water allocation plans are due to be completed in June 2006. The water licences in the South East Catchment will then be converted to a volumetric basis in accordance with the revised plans.

The first stage of South Australia's upgraded water licence registry system will be implemented in 2003. South Australia expects the system to be fully implemented by 2004-05.

Discussion

South Australia's scheduled completion date for the water allocation conversion process is later than the 2005 deadline set by CoAG for allocations

³ In most areas licences are not required for stock and domestic use. The exceptions are the River Murray, the northern Adelaide plains prescribed wells area and the recently prescribed Far North wells area.

(including specification in terms of volume) to be substantially completed. While the South East Catchment is only one area of the State, it is a significant catchment having seven prescribed water resources. South Australia advised that water allocations in two of these prescribed water resources are specified on a volumetric basis. In the other five, water allocations are partly volumetric, with the remaining allocations being quasi-volumetric through the use of volume-to-area conversion factors.

The Council draws the South Australian Government's attention to the need to have substantially completed the conversion process in the South East Catchment in line with the CoAG deadline. For the 2004 NCP assessment, the Council will look for South Australia to demonstrate continuing progress in the South East Catchment and to provide information on the proportion of allocations, for the water resources on South Australia's agreed implementation program, that will not be specified in volumetric terms by 2005.

Provision of water to the environment

Progress report: South Australia is to report on progress in implementing allocations to the environment by listing all draft and final water allocation plans and explaining each plan's stage of development.

Next full assessment: The Council will assess the Government's progress in implementing CoAG obligations on the allocation of water to the environment in 2004, consistent with the CoAG requirement that allocations be substantially completed by 2005.

Reference: CoAG water reform agreement, clauses 4(b)-(f)

In prescribed areas, water allocation plans are the primary mechanism for providing water for the environment. In developing the plans, the water needs of dependent ecosystems within or downstream of the prescribed resource are assessed. Under the Water Resources Act, the plans must provide for the sustainable allocation and use of the available water. Environmental water provisions are formally recognised and protected through the plans, which also include monitoring arrangements. Under the Act, the Minister may reduce the water allocations stipulated on licences to prevent damage to dependent ecosystems or a reduction in water quality.

At the time of the 2002 NCP assessment, South Australia had completed water allocation plans for 14 of the 15 prescribed water resource areas on its original implementation program. The only outstanding plan was for the River Murray, which was due to be completed in July 2002. South Australia was also in the process of prescribing the Marne River and possibly other eastern Mount Lofty catchments as stressed systems. The Council indicated that any new systems that are prescribed would be assessed as additions to South Australia's implementation program.

In mid-2002, South Australia was also about to commence a stressed resources review to improve its approach to identifying water resources under stress (or at risk of stress) and appropriate management responses. South Australia has largely identified stressed water resources by assessing the development pressures on the resource, rather than assessing the ecological health or state of the ecosystems that depend on the resource. Water-dependent ecosystems in South Australia generally rely on seasonal wetting from larger rivers (such as the River Murray), ephemeral streams or shallow groundwater systems. Little information is available on the latter two types of systems, which account for the majority of the State's water-dependent ecosystems.

Reform progress

The water allocation plan for the River Murray prescribed watercourse was adopted in July 2002. The final plan appears to be consistent with the draft plan considered in the 2002 NCP assessment. The plan sets a total volume of River Murray water that may be allocated each year. Specific volumes are defined for particular uses, within the constraint of South Australia complying with the Murray–Darling Basin Ministerial Council cap on diversions. The plan provides up to 200 gegalitres each year for wetland management purposes and a further 22.2 gegalitres for environmental land management (in particular, for minimising the effects of rising saline underground water) in the Lower Murray Reclaimed Irrigation Areas. The plan acknowledges that halting the ecological decline of the river would require substantial further action beyond the environmental water provisions in the plan:

The current median flows to South Australia must be increased. The river is in ecological decline, with the current median flow of 4714 gegalitres per annum (38 per cent of natural median). A return to the flows of 1970 (63 per cent of natural median) would achieve significant ecological improvement in the river. However, an increase to 7025 gegalitres (55 per cent of natural median) would ... halt the decline in river health. This is an increase of approximately 2200 gegalitres in the annual median. (River Murray Catchment Water Management Board 2002, p. 6)

In addition to finalising the water allocation plan, in May 2003 South Australia announced a 'Save the Murray' levy of A\$30 a year for residential ratepayers and A\$135 a year for non-residential ratepayers. The levy is to apply from October 2003 and is expected to raise A\$20 million a year. It is to be paid into a Save the Murray Fund. Around A\$10 million a year is to be spent on specific restoration programs, with the balance funding South Australia's contribution to a basin-wide initiative to provide water for increased environmental flows. The Murray–Darling Basin Ministerial Council is to further consider options for improving environmental flows in the River Murray at its meeting in November 2003 (against three reference points of 350, 750 and 1500 gegalitres of flow restored in an average year).

South Australia prescribed two additional water resources in the South East Catchment: (1) the Tintinara Coonalpyn prescribed wells area and (2) the Morambro Creek prescribed watercourse and prescribed surface water area. The Tintinara Coonalpyn water allocation plan was adopted in January 2003. The South East Catchment Water Management Board is preparing the Morambro Creek plan, which is expected to be completed in 2004. South Australia recently prescribed the Great Artesian Basin (Far North prescribed wells area), Marne River and Saunders Creek, with the water allocation plans expected to be completed in late 2005 or early 2006. The status of South Australia's water allocation plans at February 2003 is shown in table 6.1.

South Australia also proposes to prescribe water resources in the Baroota area near Port Germein, in Greenock Creek adjacent to the Barossa Valley, and on Kangaroo Flat on the northern Adelaide plains. The Council will consider the Tintinara Coonalpyn water allocation plan, and any subsequently completed plans, as part of the 2004 NCP assessment.

Table 6.1: Water allocation plans for prescribed areas in South Australia, February 2003

<i>Water allocation plan</i>	<i>Status of plan</i>
Angas Bremer	Adopted 2 January 2001
Barossa	Adopted 22 December 2000
Clare Valley	Adopted 4 February 2001
Comaum–Caroline	Adopted 29 June 2001
Lacepede Kongorong	Adopted 29 June 2001
McLaren Vale	Adopted 6 November 2000
Mallee	Adopted 21 December 2000
Morambro Creek	Under preparation
Musgrave	Adopted 2 January 2001
Naracoorte Ranges	Adopted 29 June 2001
Noora	Adopted 2 January 2001
Northern Adelaide Plains	Adopted 22 December 2000
Padthaway	Adopted 29 June 2001
River Murray	Adopted 1 July 2002
Southern Basins	Adopted 31 December 2000
Tatiara	Adopted 29 June 2001
Tintinara Coonalpyn	Adopted 22 January 2003

Source: Government of South Australia (2003)

South Australia advised that it has made significant progress with the stressed resources review since 2002. It has:

- developed a working definition of a stressed water resource for the State;
- specified the groundwater resources to be covered by the stressed resources methodology, based on the classification in the National Land and Water Audit and the State Water Plan;

- developed draft criteria to identify stress in groundwater resources (based on the model used in Queensland), with the aim of prioritising and managing aquifers according to the level of stress (high, medium or low);
- identified an approach based on geomorphology (or physical characteristics), similar to that adopted in the eastern States, to categorise surface water systems — hydrological and ecological indicators will be used to evaluate the stress level of the resource, as a basis for developing management options; and
- given initial consideration to identifying appropriate case studies to trial the methodology.

The stressed resources review will also identify information that should be collected for monitoring purposes. The review's findings on monitoring will be further considered in a complementary review of the State's water monitoring programs.

6.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In previous NCP assessments, the Council raised concerns about the limitation on the volume of water that may be permanently transferred out of some irrigation districts. The Central Irrigation Trust has a 2 per cent cumulative limit on the proportion of entitlements that can be permanently traded out of the trust's districts.

South Australia needs to remove constraints on water trading or to demonstrate that any remaining constraints are in the public interest. South Australia also needs to ensure that trading rules in water allocation plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Growing demand from agricultural activities such as viticulture has created a strong demand for water trading in some parts of South Australia. Water trading is possible in regulated irrigation schemes and in prescribed areas where water licences have been issued. Different arrangements apply to trading in irrigation schemes and prescribed areas.

Irrigation trusts

Under the *Irrigation Act 1994*, in irrigation areas the irrigation trust holds a 'taking' allocation. Whether the trust devolves all or part of this allocation to its members varies among the trusts. South Australia advised that only a small number have devolved ownership of the water to irrigators through internal administrative arrangements. Where the allocation is devolved, subject to the trust's approval, the owner of an irrigated property may transfer all or part of their allocation to another land owner within their district or to the trust. An irrigation trust may trade all or part of its surplus allocation (the allocation held by the trust in excess of the sum of entitlements held by individual irrigators) to another party outside the trust.

There are limits on the volume of water that can be traded out of some irrigation districts. For permanent trades, the Central Irrigation Trust imposes a 2 per cent cumulative limit on the proportion of entitlements that can be traded out of the trust's districts and a limit on transfers from a property of 25 per cent of the landholder's original water allocation. South Australia advised that there is no restriction on temporary trade in the Central Irrigation Trust and that none of the State's other 24 trusts on the River Murray has indicated it has any ceilings or restrictions on trade in water entitlements. Other information, however, suggests there may be a range of additional constraints on trade. A consultancy study undertaken for the Murray–Darling Basin Commission reported that the Central Irrigation Trust also has a limit of 4000 megalitres per year for temporary trade to private diverters. In addition, the study reported that there is no permanent trade within the Renmark Irrigation Trust, and that the Sunlands and Golden Heights Irrigation Trusts have permitted only permanent trade into their areas (Hassall and Associates 2002, pp. 48–53).

Other areas

Outside the irrigation trusts, water trading is possible in any prescribed area where licences have been issued to water users under the Water Resources Act (see section 6.2). Objectives and principles or rules for trading are included in the water allocation plans for prescribed areas (see box 6.3 for the objectives included in a recently completed plan). The trading provisions in the plans must be consistent with the overarching State Water Plan. The State plan includes the following provisions of relevance to trading:

- the nature of South Australia's highly variable surface water and watercourse water resources will generally mean that water allocations may be transferred downstream in a catchment but not upstream;
- while transfers of water between catchments are generally not supported because of potential environmental impacts, a transfer is supported if it is within the ecological limits of the taking and receiving environments; and

- in relation to groundwater trading, transfers are not permitted:
 - between management zones (which may include aquifers) unless specifically provided for within the water allocation plan;
 - to areas of high intensity extraction unless a detailed hydrological assessment and a monitoring program suggests minimum risks to the resource and any groundwater-dependent ecosystems; and
 - unless they have positive or neutral effects on water quality outcomes, consistent with the higher value uses required of the water bodies.

Box 6.3: Transfer objectives for confined aquifers in the water allocation plan for the Tintinara Coonalpyn prescribed wells area

- To prevent loss of biodiversity and to protect local and regional ecological processes dependent on underground water from significant degradation, arising from the taking and use of underground water from the confined aquifer.
- To ensure that the management, taking and use of underground water from the confined aquifer protects the environment and prevents and/or addresses significant degradation of any other resource including soil, water and vegetation.
- To promote the efficient use of water according to industry best practice standards.
- To manage the confined aquifer underground water resource in a cautious manner so that it may continue to be utilised by future generations and is available for stock and domestic supply.
- To provide flexible and fair access to the confined aquifer.
- To encourage and expedite an active water market so that water allocations are readily available for future economic development.

Source: South East Catchment Water Management Board (2003)

The transfer of a licence and all or part of the water allocation attached to the licence is subject to Ministerial approval. All parties having a registered interest in the licence must be notified of an application to trade before the Minister can grant approval. The Minister may direct that an expert (approved or appointed by the Minister) undertake an assessment of the effect of granting the application. In reaching a decision, the Minister must ensure that:

- the transferred allocation and conditions placed on the licence are consistent with the relevant water allocation plan; and
- the trade is in the public interest.

The Minister may reduce the allocation or vary the conditions of the transferred licence before approving the trade. The Minister's decision may be appealed.

Trading to date

South Australia was the first State to introduce formal trade in water entitlements. Trade is concentrated in the River Murray, though there is also significant trade, mostly in groundwater, in other areas such as the northern Adelaide plains. Data on trading for selected areas of South Australia for 2002-03 are shown in table 6.2.

Trade may be temporary (for short or long terms) or permanent. In the River Murray, most trade occurs through temporary transfers. In 2002-03, temporary transfers accounted for over 80 per cent of the volume traded in the River Murray. In several other areas, permanent trade exceeds temporary trade. In 2002-03, for example, permanent trade accounted for almost 60 per cent of the total volume traded in the northern Adelaide plains, and for over 90 per cent in the Mallee.

Table 6.2: Water trading in selected areas, South Australia, 2002-03

<i>Region</i>	<i>Temporary transfers (no.)</i>	<i>Volume of temporary transfers (ML)</i>	<i>Permanent transfers (no.)</i>	<i>Volume of permanent transfers (ML)</i>	<i>Volume of total transfers (ML)</i>
Barossa	3	118	32	505	623
Mallee	2	86	4	1 039	1 125
Northern Adelaide Plains	57	2 295	94	3 295	5 590
Padthaway	2	219	2	154	373
River Murray	410	68 809	217	14 912	83 721

Source: www.dwlbc.sa.gov.au/water/trading

While South Australia did not provide recent price information, the State Water Plan released in late 2000 reported indicative water prices for permanent trade in the River Murray and South East Groundwater regions ranging from A\$800 to A\$1200 per megalitre. The plan noted that prices could be five times this in areas of shortage where high value crops are grown. Overall, prices had doubled over the previous decade (South Australia 2000).⁴

⁴ In practice, the buy and sell advertisements on South Australia's water trading noticeboard web site generally do not indicate prices, stating only that price is negotiable.

Changes in the regulatory environment since 2001

South Australia advised that there have been no significant changes to the legislative and institutional arrangements for water trading since previous NCP assessments.

The Department of Water, Land and Biodiversity Conservation recently launched a web site to promote water trading. The web site is aimed at facilitating water trading in all areas of South Australia through the provision of up-to-date, as well as historical, water trading market information. The market information on the web site is updated daily. The web site also provides a mechanism for buyers and sellers to make initial contact. It includes a water trading noticeboard for potential traders to place 'wanted to buy' and 'for sale' advertisements detailing volumes, prices and contact information.

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments.

In the 2001 NCP assessment, the Council indicated it was satisfied that water rights in South Australia are sufficiently specified to enable efficient trade. Licences are issued in perpetuity and are separate from land title. In most regulated systems, the irrigation authority holds the water-taking allocation and provides a share of this allocation to individual irrigators. This entitlement is freely transferable within the scheme and able to be traded outside the scheme through the authority. Outside the regulated systems, water licences are vested in the end users and are specifically recognised as personal property. The register of water rights includes provision for the registration of third party interests. Registered third parties must be notified, and have an opportunity to object, before the Minister can approve a trade. South Australia's provision for water 'holding' allocations allows financial institutions to more easily obtain ownership of a water right in the case of default.

South Australia's trading arrangements contain a range of measures to protect the water rights of other users and the environment. In approving trades, the Minister must take into account the relevant water allocation plan and the broader public interest. For longer term trades, approval to use the traded water is also subject to the completion of an Irrigation Drainage and Management Plan, with the water purchaser obliged to offset any salinity impacts over time.

Permanent and temporary water trading in South Australia is undertaken through a variety of mechanisms including private trades, brokers and water

exchanges (including the Central Water Exchange operated by the Central Irrigation Trust). The web site recently established by the Department of Water, Land and Biodiversity Conservation will improve the availability of water market information throughout the State and facilitate contact between buyers and sellers. While South Australia has not provided data on the timeliness of trade, the provision for 'holding' allocations allows water to be traded without the usual delays for environmental and other clearances associated with a 'taking' allocation.

Trade out of irrigation districts

The main outstanding water trading issue identified by the Council in previous NCP assessments is the limit on the volume of water that may be permanently transferred out of some irrigation districts. In particular, the Council identified the Central Irrigation Trust's 2 per cent cumulative limit on the proportion of entitlements that can be permanently traded out of the trust's districts as a significant constraint on trade. South Australia advised that the trust also has a limit on permanent transfers from a property of 25 per cent of the landholder's original water allocation. As noted above, there are reports of other trading restrictions, including on temporary trade out of districts in the Central Irrigation Trust and on permanent trade out of districts in other trusts (Hassall and Associates 2002).

At the time of the 2002 NCP assessment, South Australia reported that the 2 per cent cumulative limit on permanent transfers out of irrigation districts had been reached for approximately 25 per cent of allocations held by the Central Irrigation Trust. The limit had been reached in five of the smaller irrigation districts in the trust's area (each with less than a 5 gigalitre allocation). The three districts holding the majority of the water (20 gigalitres or more per district) had not reached their 2 per cent cumulative limit. South Australia did not provide more recent data. As demonstrated by five of the districts having reached the 2 per cent cumulative limit, the arrangements constrain South Australia's capacity to fully achieve CoAG objectives, although the scope for long-term temporary trade may mitigate the effect of the limit on permanent trade (provided there is no similar restriction on temporary trade in the Central Irrigation Trust).

The Council understands that the trusts developed the limits on trading in response to concern that trade out of a district may result in adverse outcomes including: the diminution of local production and regional economies; a reduction in the rate base for local governments; the loss of economies of scale; and the potential 'stranding' of irrigation infrastructure. South Australia advised that, while the restrictions may have been established initially to limit the rate of change, more recently trust members have imposed trading limits because of concerns about the environment and future uncertainty about the amount of water available for extraction associated with implementing the 'Living Murray' initiative. South Australia also advised that the Central Irrigation Trust's 25 per cent limit on transfers

from individual properties and other internal rules were developed to reflect the operational constraints of running the irrigation infrastructure efficiently.

No legislative or regulatory limits on trade out of the irrigation districts are imposed by the South Australian Government. The trading rules are set by the irrigation trusts (not by the Government). The trusts are private entities, run by a board consisting of elected irrigators. Nevertheless, the CoAG water agreements place responsibility on the South Australian Government to facilitate trading to enable water to be used to maximise its contribution to national income and welfare, where socially, physically and ecologically sustainable. This qualification does not provide a justification for constraining trade, unless there is rigorous evidence to demonstrate that this would provide a net public benefit and is necessary to achieve the trust's objective: the CoAG agreements clearly oblige governments to encourage trading in water. Moreover, the obligation to devolve irrigation scheme management requires that governments establish appropriate regulatory frameworks for local management. To be effective, such frameworks need to include the ability for governments to require change within the irrigation schemes where CoAG objectives are not being met.

As indicated by South Australia, the Murray–Darling Basin Commission is currently undertaking work on trading restrictions, in consultation with governments, in the context of facilitating interstate trade. The consultancy undertaken for the commission considered several alternatives to restrictions on trade out of districts including exit fees, pricing reforms, long-term contracts and, as an interim strategy, annual limits on trade (Hassall and Associates 2002) (see chapter 10). The commission's work may shed light on the feasibility of using less restrictive alternatives, to the current limits on outward trade, to achieve the objectives of the Central Irrigation Trust.

South Australia advised that the Central Irrigation Trust indicated it would consider implementing exit fees if it was forced to relax the trading limits for its districts. According to South Australia, the trust estimated that exit fees could be up to A\$1500 per megalitre for some districts because of the high cost of infrastructure. The trust considers this would effectively prevent any trade out of its districts given the market price of water is less than A\$1000 per megalitre. South Australia did not provide information to enable the Council to verify the trust's estimates.

Trading provisions in water allocation plans

At the time of the 2002 NCP assessment, South Australia had completed almost all of the water allocation plans associated with its original implementation program but was developing plans for several more recently prescribed areas (see section 6.2). South Australia needs to ensure that as further water allocation plans are progressively completed, and as existing plans are reviewed, the trading provisions in the plans facilitate trading where it is socially, physically and environmentally sustainable.

The Council considered the trading provisions in the two most recently completed plans for the River Murray prescribed watercourse and the Tintinara Coonalpyn prescribed wells area. In both plans, the trading provisions are directed at facilitating trade in a manner that maximises economic benefits while protecting the environment and the interests of other water users. The plans do not appear to contain provisions that conflict with CoAG water trading obligations.

In the 2001 NCP assessment, the Council noted that ‘reduction factors’ on water allocations that are traded had been mooted as a mechanism to reduce allocations in some areas to a more sustainable level. Under such an arrangement, the transfer results in the volume of water allocations acquired by the buyer being less than the volume sold (by the amount of the reduction factor). This approach was proposed, for example, in the draft water allocation plan for the northern Adelaide plains prescribed wells area. Based on its examination of the final plan, however, the Council noted at that time that reduction factors were not applied.

In commenting on changes to trading rules, the South Australian Government stated that:

Of note are the reductions in the volume of allocations when water is traded in the McLaren Vale and Northern Adelaide Plains Prescribed Wells Areas. (Government of South Australia 2003, p. 55)

South Australia subsequently provided further clarification.

- In the northern Adelaide plains, reduction factors have applied to transfers of allocations since 1984. From early 2002, permanent and temporary transfers have been subject to a 20 per cent reduction in the total volume of water allocations transferred.⁵ Previously, only permanent transfers were subject to reductions (generally 10 per cent for commercial irrigation and 70 per cent for other uses). The water allocation plan does not include details of the reduction. The condition on the transfers is applied at the discretion of the Minister. Water licensees were advised of the current reductions by correspondence from the department in early 2002.
 - South Australia advised that, while the groundwater resources in the area have been identified as overallocated, a number of factors (including the recent completion of the Virginia pipeline scheme, which takes significant volumes of treated waste water to the area) meant that proportional reductions were not applied across all licences. South Australia considers that the application of reduction factors to

⁵ At the completion of a temporary transfer, the 20 per cent of water allocations retained by the Minister are returned to the licence holder. Transfers within families, between partners in a partnership, or within the same entity are generally not subject to the reduction. The reduction may be waived where the transfer results from the sale of land.

transfers has a smaller impact on existing operations. It intends to continue these arrangements to reduce the demand on groundwater as a precaution.

- In McLaren Vale, under the water allocation plan, licences were transferred from an area basis to a volumetric basis. As a transitional measure, the plan provides additional water for crops that require more water (per hectare) than grapevines. (The additional water is only a small proportion of the total water allocated, as the area is mostly a grape-growing district.) A reduction factor is applied to transfers of water allocations from use on other crops to grapevines (including where the existing licensee switches to growing grapevines).
 - South Australia considers that the reduction factor applied in McLaren Vale returns a licence to its intended volumetric entitlement and, as such, has no adverse impact on trade.

As the Council noted in the 2001 NCP assessment, reduction factors on traded allocations effectively tax trade and have the effect of limiting water trade rather than water use. Reduction factors on traded allocations are, therefore, likely to be inconsistent with CoAG trading obligations. As the reduction factor in McLaren Vale is intended as a transitional measure and affects only a small proportion of water allocations, it is likely to have only a small effect on trade. South Australia advised that there were 158 water trades (18 per cent of licensees), totalling 5.8 gigalitres (22 per cent of the resource), in the northern Adelaide plains in 2002-03. While significant trade in the area is occurring, it seems likely that the reduction factor is restricting trade at least to some extent. Alternatives to reducing allocations upon transfer include the Government reducing allocations for all water licence holders in an area by a uniform percentage and/or buying allocations in the market. These alternatives are likely to be more effective in reducing water use to a more sustainable level without adversely affecting trade.

Assessment

The limits on trade out of South Australia's irrigation districts represent a significant constraint on both intrastate and interstate trade, and appear to be inconsistent with CoAG obligations. Under the CoAG agreements, it is the responsibility of the South Australian Government to ensure the limits are removed or to demonstrate that they are in the public interest.

Despite the existence of the constraint on water trading, the Council considers that South Australia made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment. In the 2004 NCP assessment, however, the Council will look for substantive progress by South Australia towards removing the limits or replacing them with a less restrictive alternative. As a first step, South Australia should pursue removal of the limits, or their replacement by less restrictive measures, through

consultation with the Central Irrigation Trust, accounting for the work being undertaken by the Murray–Darling Basin Commission.

The Council will revisit the trading provisions in the water allocation plans in the 2004 NCP assessment. South Australia will need to demonstrate that the trading provisions — including the ‘reduction factors’ on water allocations that are traded in some areas — facilitate trading, where it is socially, physically and environmentally sustainable, consistent with CoAG obligations. The Council will also expect South Australia to report on the timeliness of trading approvals to confirm that the approval process is not a constraint to trade.

6.4 Institutional reform

Structural separation

Assessment issues: As far as possible, the roles of water resource management, standard setting and regulatory enforcement and service provision are to be separated institutionally. In the 2001 and 2002 NCP assessments, the Council raised concerns about the extent of separation of service delivery and price setting, given the Minister for Government Enterprises is the owner of SA Water and has the power to set prices. The lack of transparency in South Australia’s price determination process meant the Council could not be confident that pricing appropriately reflects CoAG pricing principles (and would do so in the future). The lack of transparency exacerbated the Council’s concerns about pricing-related aspects, including the possibility of cross-subsidies and possible unintended impacts resulting from SA Water being required to pay dividends that exceed 100 per cent of its after tax profits.

Next full assessment: The Council will assess South Australia’s implementation of the CoAG obligations on structural separation relating to the water industry again in 2004. The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(c) and 6(d)

As discussed in urban water and wastewater pricing (section 6.1), the South Australian Cabinet determines SA Water’s water and wastewater prices on the recommendation of the Minister for Government Enterprises. Performance targets for SA Water (set out in its Charter and Performance Statement) are determined by the Minister for Government Enterprises and the Treasurer. The Cabinet considers SA Water’s capital works program and funds work that it considers to be necessary.

Unlike most other jurisdictions, SA Water’s prices and service standards are not the subject of independent regulation. There is no publicly available documentation detailing the decisions taken by the Cabinet and the supporting reasoning. As discussed in section 6.1, the South Australian Government has, however, undertaken to publish an annual transparency

report on SA Water's water and wastewater pricing and its relationship to the CoAG pricing principles.

Discussion and assessment

The lack of transparency in the price setting and related arrangements for SA Water makes it very difficult for the Council to be confident that pricing decisions are consistently based on the principles in the CoAG water reform agreement. In previous assessments, the Council indicated that this concern would be addressed if South Australia were to place responsibility for advising on water and wastewater pricing and service regulation with an independent body and/or conduct a public price-setting process. Under such an arrangement, the independent body or public price-setting process would recommend on SA Water's prices (determining the level of revenue for SA Water based on efficient resource pricing and business costs) and release a public report containing its recommendations. The Government could then respond publicly to that report and outline its rationale where it adopts an approach that diverges from that recommended.

South Australia's current arrangements do not satisfactorily address the structural separation obligations. The Government's proposed annual transparency reports on SA Water's water and wastewater pricing and the relationship of pricing decisions to the CoAG pricing principles will, however, help to address the Council's questions about the extent of separation in decision making on pricing and service delivery matters.

Devolution of irrigation scheme management

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through operational responsibility being devolved to local bodies subject to appropriate regulatory frameworks being established.

In the 2002 NCP assessment, the Council reported that South Australia had established the Loxton Irrigation District as a private irrigation district and was progressing the devolution of management in the remaining Government irrigation districts — the nine districts in the Lower Murray Reclaimed Irrigation Areas.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

In the 2002 NCP assessment, the Council reported that South Australia had established the Loxton Irrigation District as a private irrigation district. It was also progressing the devolution of management in the remaining Government irrigation districts, in the Lower Murray Reclaimed Irrigation Areas. The South Australian Government owns and operates nine of 24 irrigation schemes in the lower Murray, representing 70 per cent of the irrigation areas.

The Government completed a major study of options for improved management and rehabilitation in the Lower Murray Reclaimed Irrigation Areas in June 2001. The study concluded that the preferred option is rehabilitation of the most viable parts of the irrigation areas after restructuring the dairy industry. (Further details of the study are reported in section 6.7.) During 2002-03, the Government approved the study's preferred option. To assist with restructuring and rehabilitation works, the Government is providing financial assistance to eligible landowners. For irrigators in the Government irrigation districts, the conversion of the district into a private irrigation district is a condition of accepting the financial assistance for infrastructure rehabilitation. The Government expects assistance for rehabilitation to commence in late 2003-04.

The conversion of the Government irrigation districts into private irrigation districts will require the establishment of an irrigation trust (or several trusts). The owners of irrigated properties become members of the trust and jointly make decisions about the management of the irrigation district. Irrigation and drainage infrastructure assets will be transferred to the trust (including land occupied by drainage pump stations and existing supply and drainage channel reserves). The trust will be responsible for the operation, maintenance and future replacement of the infrastructure. Levee banks and waterfront land will remain Government owned.

Discussion and assessment

South Australia has made significant progress in developing arrangements for devolving management in the remaining Government irrigation districts, in the Lower Murray Reclaimed Irrigation Areas. By making assistance for infrastructure rehabilitation in Government irrigation districts conditional on conversion into a private irrigation district, the Government has provided a financial incentive for the conversion to occur.

The Council is satisfied that South Australia continues to meet its CoAG obligations on the devolution of irrigation scheme management. It will consider South Australia's progress with devolving management in the Lower Murray Reclaimed Irrigation Areas in the 2004 NCP assessment. The Council will look for South Australia to retain appropriate regulatory arrangements to ensure the restrictions on water trading out of other irrigation districts (see section 6.3) are not extended to the Lower Murray Reclaimed Irrigation Areas.

Integrated catchment management

Assessment issue: South Australia is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council was satisfied that South Australia was meeting its 2001 obligations in relation to integrated catchment management, but raised concerns about the pace of reform in parts of the State. The Council found that South Australia had met commitments in this area for the 2002 assessment.

Next full assessment: In 2004, the Council will assess South Australia's progress in enacting its proposed reforms to reduce the administrative complexity of natural resource management. The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

South Australia is moving to integrate its natural resource management arrangements. Currently, the State has separate arrangements for catchment management and integrated natural resource management (INRM) planning. In July 2003, the Government released a draft consultation Bill to merge legislative and administrative arrangements for these processes.

Catchment water management plans

The *Water Resources Act 1997* provides for the sustainable management of South Australia's water resources through an integrated hierarchy of water plans under an overarching State Water Plan (completed in 2000). At the regional level, the Act provides for statutory catchment management water boards to develop and implement catchment water management plans for designated areas. The plans establish programs to monitor and improve the health of ecosystems.⁶ The boards' activity is primarily funded through land-based and water-based levies, supplemented by State Government appropriations and funding under the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.⁷

⁶ Water allocation plans, which are subsets of the catchment plans can provide legal protection of environmental water needs through the licensing of water use.

⁷ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 Budget. The implementation framework was endorsed in October 2002

South Australia has eight catchment areas, covering 95 per cent of the State. The Government adopted catchment management water plans for six catchments, while plans for the arid areas and Eyre Peninsula are not expected until 2004. Table 6.3 details the status of the various plans.

Table 6.3: Catchment water management plans in South Australia

<i>Catchment board</i>	<i>Status</i>
Torrens	Adopted May 2002
Patawalonga	Adopted May 2002
River Murray	Adopted March 2003
Northern Adelaide and Barossa	Adopted March 2001
Onkaparinga	Adopted December 2000
South East	Adopted May 2003
Arid areas	Plan initiated; adoption not expected until 2004
Eyre Peninsula	Plan initiated; adoption not expected until 2004

Source: Government of South Australia 2003

The catchment framework provides for close coordination of water quality and water quantity issues. In particular, the catchment boards are responsible both for water allocation planning and qualitative issues associated with water management planning, including revegetation and erosion control in riparian zones, and structural works. More generally, all water resource management decisions must comply with the State Water Plan 2000, the relevant water allocation plan and the relevant catchment management water plan.

In accord with the Act, the South Australian Water Resources Council reviewed the implementation of catchment management water plans in 2002. The review demonstrated that the boards are achieving, or working towards achieving the objectives set out in the plans. It found that a large number of on-ground works are established and that measurable improvements in water resource condition are emerging. The review report cited initiatives in wetland management, stormwater pollution management and riparian restoration (WRC 2002a, pp. 68–70). It also made recommendations to improve administrative efficiency and win stronger community support for water resource management (WRC 2002a, pp. 21–22). The catchment management water boards are required to account for the review recommendations.

by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus is on measures to improve water quality.

Integrated natural resource management

South Australia signed a bilateral agreement with the Commonwealth Government to implement the National Action Plan for Salinity and Water Quality in June 2001,⁸ and the Natural Heritage Trust extension in April 2003. To facilitate its participation in these initiatives, South Australia established eight regional groups to develop INRM plans and investment strategies. The eight groups are established administratively and are incorporated bodies. Membership comprises stakeholder organisations, government and the community. Some groups are largely skills based, while others are representative. The boundaries of INRM regions correspond to those designated under the national action plan and Natural Heritage Trust extension, but differ from the areas designated under catchment management water plans.

INRM plans for the five regions designated under the national action plan are nearing completion. The plan for the Mt Lofty Ranges and Greater Adelaide region has been formally accredited by the Commonwealth and South Australian governments. Plans for the Northern and Yorke agricultural district, Kangaroo Island, the South Australian Murray Darling Basin and the South East have been submitted for accreditation following extensive consultation in their respective regions. South Australia expects the plans to be accredited by December 2003. The five regions are also well advanced in the development of investment strategies⁹ under their INRM plans. The Mt Lofty Ranges and Greater Adelaide group has released an advanced draft for public consultation. All five regions have undertaken to submit investment strategies for accreditation by 30 September 2003.

The three remaining regions (not funded under the national action plan) are less well advanced, but have received funding from the Natural Heritage Trust extension to commence work on their INRM plans. South Australia has set milestones for these groups to submit their INRM plans and investment strategies by February 2004.

The regional groups are drawing on the National Framework for Natural Resource Management Standards and Targets 2002 in developing their INRM plans, to the extent that appropriate data, scientific knowledge and expertise within the groups are available. The South Australian Government supports the INRM groups through measures that include foundation funding, Government agency representation on each group, guidance on the form and content of the INRM plans and investment strategies, workshops, and support from regional coordinators.

⁸ Negotiations on implementation of the plan were continuing in 2003, including on funding of investment strategies for the INRM plans.

⁹ The investment strategies are the basis for funding under the national action plan and Natural Heritage Trust extension.

Reform of natural resource management arrangements

South Australia has been refining its legislative and administrative arrangements for natural resource management for a number of years. The 2002 review of the Water Resources Act found a strong case for better coordination. The review stated:

The issue of consistency between the plethora of natural resource management plans, strategies and agreements which currently exist, highlights the need for INRM arrangements to be expedited. Rather than a number of processes which result in the preparation of numerous plans relating to the management of natural resources and requiring that they be consistent with each other — which gives rise to issues of precedence — a serious effort at the coordination of natural resource management planning processes is required. This is expected to be the outcome of the new natural resource management arrangements currently being developed. (DWLBC 2002a)

A recent natural resource management newsletter made a similar point, stating:

natural resource management has become synonymous with a myriad of natural resource management groups, plans, projects and offices which is creating confusion. (DWLBC 2003b)

The previous State Government released a draft consultation Bill on INRM reform in February 2001. The Bill lapsed in Parliament leading up to the 2002 State election. The new Government then released a discussion paper, *New directions in natural resource management*, in November 2002 and a draft Natural Resource Management Bill for public consultation in July 2003. Workshops are being held in 18 locations across the State, after which the Bill will be redrafted. South Australia expects the Natural Resource Management Act to be proclaimed in early 2004 (DWLBC 2003a).

The Bill proposes to bring together three Acts: *the Animal and Plant Control (Agricultural Protection and Other Purposes) Act 1986*, *Soil Conservation and Land Care Act 1989* and *Water Resources Act 1997*. The Bill would also merge the State's eight catchment management water boards and 56 soil, animal and plant control boards with the eight INRM groups to form eight new regional natural resource management boards (DWLBC 2003b). South Australia proposes to establish the boards in regions based on the current water catchment areas.

Under the proposed reforms, the Minister for Environment and Conservation would be responsible for the overall direction of natural resource management. A coordinating natural resource management council would provide strategic advice to the Government, periodically review the regional natural resource management plans and prepare a State natural resource management plan to coordinate planning.

The natural resource management boards and local groups operating at the subregional level would assume many responsibilities currently undertaken by the catchment management water boards, regional INRM groups and other bodies. In particular, the natural resource management boards would develop and implement natural resource management plans that take into account existing:

- catchment water management plans and water allocation plans;
- soil conservation and management plans;
- animal and plant control management processes; and
- INRM plans and investment strategies.

The boards will review the plans, policies and strategies that the catchment management water boards and INRM groups developed (or are developing) under current arrangements, and incorporate them as appropriate into natural resource management plans under the new framework (DWLBC 2003c, p. 4). Amalgamation of these plans will not occur until the new system is in place.

The Government took the following preliminary steps to implement the proposed reforms.

- It established an Environment and Conservation portfolio to bring together major natural resource management agencies, and a Department of Water, Land and Biodiversity Conservation within that portfolio.
- It established a central interim natural resource management council, made up of representatives from major natural resource management organisations. The interim council is working with existing catchment, regional and local bodies to develop INRM arrangements and advise the Government on developing and implementing the new arrangements. The membership and functions of the interim council will be revisited once arrangements for natural resource management are finalised.
- It established a natural resource management integration taskforce and project team to support the natural resource management council in developing and implementing policy and legislation. The taskforce comprises senior officers from the Department of Water, Land and Biodiversity Conservation, the Department for Environment and Heritage, and Primary Industries and Resources SA. It is directed by a project steering committee comprising the chief executives of the first three departments, the executive director of Planning SA, and the chair of the natural resource management council (Government of South Australia 2002, p. 4).

South Australia developed its proposed model, including the operation and composition of the natural resource management council and the boards, for consistency with the accreditation requirements of the national action plan and the Natural Heritage Trust extension.

Salinity

Salinity is a major and growing issue for South Australia. The National Land and Water Resources Audit 2000 estimated that South Australia has 390 000 hectares affected by dryland salinity, which could grow to 6 million hectares by 2050 (NLWRA 2001). Groundwater is too saline for irrigation in most of the South Australian Murray–Darling Basin. The Murray–Darling Basin Commission’s salinity and drainage strategy has reduced river salinity in the River Murray, but the problem remains serious.

The South Australian Government formed the State Salinity Committee in 1999 to progress State salinity action. The Committee oversaw the development of the Directions for Managing Salinity in South Australia statement, the South Australian River Murray Salinity Strategy 2001–2015 and a draft State Dryland Salinity Strategy.

At the regional level, salinity issues are addressed through a range of mechanisms, including catchment plans developed by the catchment management water boards, the work of soil conservation boards, and legislation controlling native vegetation clearing. The INRM groups also develop and implement regional plans and investment strategies that address salinity issues under the national action plan. South Australia’s Natural Resources Management Bill 2003 proposes to progressively shift the responsibilities of these bodies to regional natural resource management boards from 2004 (see above).

The River Murray Salinity Strategy 2001–2015 establishes a partnership arrangement with the River Murray Catchment Management Water Board to determine investment priorities in salinity management. Within this framework, local action plans will address subcatchment issues. The strategy sets time-based targets as a means of measuring and reporting progress. Implementation will be supported through funding under the national action plan. To ensure continued funding, South Australia will explore market mechanisms including salinity credit trading.

Land care

Landcare began as a formal movement in South Australia in 1990 and has developed to involve approximately 300 Landcare groups, consisting of people from Indigenous and ethnic communities, farmers and pastoralists, urban and rural community groups. The groups work in partnership with government, industry, schools and their communities on projects addressing issues of dryland salinity, erosion, reduction in biodiversity, feral animals,

weeds, and marine and coastal issues. Landcare groups are funded from sources that include the Commonwealth Envirofund, the Natural Heritage Trust extension, and the national action plan. Some Landcare groups receive funding and support from catchment water management boards to progress priority actions in their catchment water management plans.

Other programs

South Australia supported the development of river management plans for 11 catchments. Nine of the plans are completed and the remaining two are being edited. The plans, which comprise actions to protect and/or rehabilitate rivers, were developed with community input. Their actions focus on erosion control, riparian revegetation, water quality improvement and biodiversity conservation. Catchment water management boards have drawn on the plans to develop catchment plans, through which funding has been acquired to protect and rehabilitate rivers. Landcare groups have also used the plans to attract funding for river works.

In the few areas in South Australia without a catchment water management board, soil conservation boards have taken an active role in improving land and riparian management practices to reduce adverse impacts on watercourses, and to protect areas of high environmental values.

Discussion

South Australia continues to progress in implementing integrated catchment management. Developments since the 2001 NCP assessment include:

- the finalisation and adoption of six catchment management water plans, including the River Murray and South East plans in 2003;
- a review by the Water Resources Council of the implementation of catchment management water plans;
- significant progress in the development of INRM plans and investment strategies by the regional INRM groups;
- bilateral agreements with the Commonwealth Government on the national action plan and Natural Heritage Trust extension;
- the release of a discussion paper on natural resource management reform in November 2002 and a draft Bill in July 2003, with a view to proclaiming the Natural Resources Management Act in early 2004; and
- preliminary steps towards implementing natural resource management reform, including the establishment of the Department of Water, Land and Biodiversity Conservation, a central natural resource management council and a natural resource management integration project taskforce.

While six of the catchment management water plans are finalised, the State has been slower in developing plans for the arid areas and Eyre Peninsula. In addition, one INRM plan was published, but most are still in development. To some extent the pace of INRM planning may reflect (1) the continuing negotiations on the national action plan and Natural Heritage Trust extension into 2003, and (2) the INRM framework's focus on developing plans and investment strategies under the national frameworks.

The administrative inefficiencies of the concurrent operation of multiple natural resource management and related frameworks have been widely identified by stakeholders in South Australia and acknowledged by the Government. The Natural Resources Management Bill 2003, currently released for consultation, proposes to improve coordination by consolidating the 72 regional groups involved in natural resource management into eight natural resource management boards.

Assessment

The Council is satisfied that South Australia:

- is developing appropriate administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments; and
- recognises the need to continue to improve the legislative and administrative framework for natural resource management in the State.

Moreover, the natural resource management framework in South Australia appears to facilitate the consideration of, and support for, land care practices to protect rivers with high environmental values.

The review of the Water Resources Act found that the reform of administrative arrangements for natural resource management should be progressed as a matter of urgency. In accord with the milestones published by South Australia, the Council would expect the reforms to be in place by early 2004. In the 2004 NCP assessment, the Council will consider South Australia's progress in enacting its proposed reforms to reduce the administrative complexity of its natural resource management arrangements.

6.5 National Water Quality Management Strategy

Assessment issue: South Australia is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council found that South Australia was meeting its NWQMS obligations for 2001, but raised concerns about the State's lack of progress in implementing the Environment Protection (Water Quality) Policy. In the 2002 NCP assessment, the Council found that South Australia had not met its outstanding commitment to implement the policy, but accepted the Government's reasons for the delay. The Council stated that if the policy was not in place for the 2003 NCP assessment, then the Council would account for this noncompliance in its NCP payments recommendations. The Council also stated that the Government should have released, by 2003, draft modules for public consultation, showing the proposed implementation of specific guidelines for freshwater and marine water quality, drinking water, and water quality monitoring and reporting.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and 8(d)

Environment Protection (Water Quality) Policy

South Australia gazetted the Environment Protection (Water Quality) Policy (hereafter called the Water Quality Policy) on 10 April 2003, to commence from 1 October 2003. The policy is a legislative instrument under the *Environment Protection Act 1993*. The Environment Protection Authority, which developed the policy, is producing supporting material due to be available on 1 October.

The State Water Plan 2000 originally required the Government to establish a water quality policy in 2000-01. South Australia deferred the development of the policy on a number of occasions, and reported in 2002 that development had taken longer than expected due to the public consultation required under the Environment Protection Act.

Prior to authorisation of the Water Quality Policy, South Australia lacked a consistent Statewide approach to the protection of water quality, particularly for inland waters. This posed the risk that the quality of South Australian waters would be degraded further, with economic, social (including public health) and environmental impacts (EPA 2003, p. v).

The Water Quality Policy applies to all inland surface water, groundwater and marine water. It covers:

- water quality objectives;
- the management and control of point sources of pollution;
- obligations relating to particular activities;
- management and control of diffuse sources of pollution;
- monitoring and reporting; and
- water quality criteria, discharge limits and listed pollutants.

Water quality objectives

Under the Water Quality Policy, water quality objectives are determined by:

- setting the environmental values that are required to be protected (protected environmental values);
- determining water quality characteristics that are important for these values;
- setting criteria for each characteristic that adequately protect each environmental value; and
- choosing the most stringent criteria for the environmental values applicable to each water body.

The Environment Protection Authority considers this process to be consistent with the approach set out in NWQMS paper no. 2: Policies and Principles. Under the Water Quality Policy, the protected environmental values considered for a particular body of water are the environmental values set out in the NWQMS framework: aquatic ecosystem, potable use, recreation and aesthetics, agriculture/aquaculture and industrial use. The policy sets default values that may subsequently be amended following a proposal from a stakeholder body such as a catchment management water board or INRM group. In assessing whether a default value for a particular body of water should be varied, the Environment Protection Authority is required to account for, where relevant, the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4).

A water quality characteristic is a chemical, physical, microbiological or biological measure that can be used to describe water quality condition. Examples of characteristics include the pH level, salinity, faecal coliforms, chlorophyll, colour and turbidity. Water quality criteria are numerical values that have been set for each characteristic which, if not met, may prejudice the ability to achieve or maintain the designated environmental values.

The Water Quality Policy lists water quality criteria for each environmental value. The Environment Protection Authority adopted these criteria from

nationally accepted criteria, including those set out in NWQMS paper no. 4 and the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6); it may revise them in accord with revisions to the national criteria (EPA 2003, pp. 9–10).

In accord with the NWQMS framework, the Water Quality Policy adopts the national criteria as a starting point, but allows for criteria to be set at higher or lower levels for particular sites as appropriate to site-specific conditions. It may be appropriate in some instances to set more stringent criteria than those specified in the policy, so as to protect a particularly sensitive aquatic environment.

The water quality objectives that are adopted are the most stringent water quality criteria applicable for each characteristic across each protected environmental value.¹⁰ The Water Quality Policy makes it an offence to discharge waste into a water body if it results in these criteria being exceeded (or if the criteria are already exceeded, to be further exceeded).

Codes of practice and guidelines

The Water Quality Policy uses codes of practice and guidelines to describe how a person undertaking a particular activity can comply with their general environmental duty. South Australia adopts the NWQMS guidelines as a basis for these codes and guidelines, but makes some variations to meet local requirements. Environment Protection Authority codes and guidelines explicitly linked to the Water Quality Policy include the:

- the Code of Practice for Milking Shed Effluent (2003);
- the Code of Practice for Vessels on Inland Waters (2003);
- Guidelines for the Establishment of Intensive Piggeries in South Australia (1998);
- Guidelines for the Establishment and Operation of Cattle Feedlots in South Australia (1994);
- Guidelines for Major Solid Waste Landfill Depots (1998);

¹⁰ For example, suppose the protected environmental values for a water body are potable use and protection of the aquatic ecosystems. The water quality objective for say, arsenic, would be 0.007 mg/L as this is the lower of the two criteria values for arsenic (0.050 mg/L for aquatic ecosystem protection and 0.007 mg/L for potable water use). The criteria values are published at Schedule 2 of the Water Quality Policy. The policy makes it an offence to discharge waste into the water body that results in the concentration of arsenic in the receiving water exceeding 0.007 mg/L.

- South Australian Biosolids Guidelines for the Safe Handling, Reuse or Disposal of Biosolids (1996);
- South Australian Reclaimed Water Guidelines (1999);
- the Stormwater Pollution Prevention Code of Practice for Local, State and Federal Government Agencies (1997); and
- the Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry (1999).

South Australia is developing additional codes or guidelines, including:

- a code of practice for aquifer storage and recovery (expected by October 2003);
- a code of environmental practice for pesticides (expected by March 2004); and
- a code of practice for wastewater system overflows (expected by December 2004).

Point source pollution

The Environment Protection Act provides for the licensing of larger industries' waste discharges that may have an impact on water quality. Smaller, unlicensed industries have been obliged to meet a general environmental duty of care under the Act but are not subject to the same constraints that apply to licensed industries. The Water Quality Policy goes beyond the general environmental duty by setting specific obligations for industries considered likely to have wastewater discharge. The listed activities include abattoirs, slaughter houses and poultry processors, milk processing works, septic tanks, tanneries and fellmongers, waste depots, applying antifoulants, extractive industries, milking sheds, piggeries, sewage treatment works, vessels on inland waters and wineries and distilleries.

Diffuse source pollution

The Water Quality Policy, through the development and implementation of best practice environmental management, aims to reduce and manage waste discharges from diffuse sources of pollution. The policy thus proposes the adoption of codes of practice or guidelines for a range of activities. The Environment Protection Authority intends to progressively develop, in conjunction with stakeholders, additional codes of practice or guidelines for particular activities where they can lead to improved outcomes for the environment.

Water quality monitoring

Several government agencies are involved in water monitoring and reporting in South Australia. The Environment Protection Authority undertakes ambient and point source pollution monitoring of surface water and groundwater. The Department of Water, Land and Biodiversity Conservation monitors flow, salinity and temperature of surface water and groundwater.

Following a number of water quality incidents in 1998, the Government established the State Water Monitoring Coordinating Subcommittee¹¹ to:

- review South Australia's water monitoring programs, and develop an integrated and cost effective Statewide water monitoring program that meets the legislative and business requirements of Government agencies;
- make recommendations to improve the accessibility of water monitoring data; and
- make recommendations for funding needs and responsibilities.

The subcommittee published a monitoring partnerships paper in December 2000 aimed at addressing overlaps in agency requirements. The paper also identified issues associated with monitoring programs. The paper was endorsed by agencies, as part of the State Water Monitoring Review.

The subcommittee is considering monitoring arrangements at both the State and regional (or catchment) level. A review of existing arrangements and the development of integrated monitoring strategies is under way on a regional basis. The subcommittee has completed the Integrated Water Monitoring Review of the Northern Adelaide and Barossa catchment area, and expects to complete similar work for the Western Mount Lofty Ranges by November 2003, Eastern Mount Lofty Ranges by February 2004, River Murray by October 2004, South East by 2006, and the staged initiation of regional review programs after July 2004 in the Northern and Yorke agricultural district, Kangaroo Island, Eyre Peninsula, arid areas and the Fleurieu Peninsula.

In addition, the subcommittee developed a database of current water research projects in South Australia. The database holds the details of approximately 300 research projects, which can be queried by project type and by regions.

¹¹ The subcommittee is made up of representatives from the Department of Water, Land and Biodiversity Conservation, Environment Protection Authority, SA Water Corporation, Department of Primary Industries and Resources, Department of Primary Industries and Resources – Fisheries, Department of Human Services Department of Transport, Urban Planning and the Arts – Planning SA, Department of Administrative and Information Services – Forestry SA, Catchment Water Management Boards and Local Government.

The database is maintained by the Department of Water, Land and Biodiversity Conservation.

The subcommittee completed a review of water resource management information in July 2003. The report provides an overview of water information according to the roles and responsibilities of key stakeholders, and identified gaps and overlaps in information. The review made recommendations to improve the collection, management and provision of water information.

The Department of Water, Land and Biodiversity Conservation has commenced a major upgrade of South Australia's surface water monitoring network, in line with early outcomes from the subcommittee's review of water monitoring requirements. Monitoring upgrades have commenced for the Onkaparinga and Marne rivers, the Mount Lofty Ranges and the Cygnet River on Kangaroo Island, with work in progress for the Torrens River, catchments flowing east to the River Murray, the southern Fleurieu Peninsula and the mid-north. Several of these monitoring upgrades rely on the cooperation of catchment management water boards and INRM groups. Monitoring reports on groundwater trends across the State are also being prepared (DWLBC 2002b). Other initiatives to improve water quality monitoring include a review by the Environment Protection Authority of the State Ambient Water Quality Monitoring Program. The review report is expected to be available in late 2003.

The Water Resources Council's *Report on the Implementation of the State Water Plan* (WRC 2002b) noted that South Australia had made little progress in developing an index of stream condition, which the report identified as a core indicator in evaluating implementation of the plan. The report stated:

There has been limited progress from the State on an Index of Stream Condition and no general agreement on what to measure, how, frequency, scale issues has been made. AusRivAS has good coverage but some areas have not been subject to regular assessments. This is a significant data gap which requires considerable development as little progress has been made (WRC 2002b, Annex 3, Indicator 14).

South Australia reported in 2003 that the Onkaparinga Catchment Water Management Board established a project through Land and Water Australia to develop an index of stream condition for its catchment. This will form a model for the development of an index of stream condition for the higher rainfall catchments elsewhere in the State.

Drinking water guidelines

The Department of Human Services, in consultation with the Standing Committee on Health Aspects of Water Quality (of which SA Water is a member) sets drinking water standards. The department oversees the performance of SA Water's drinking water quality monitoring program

according to agreed levels of service and the 1996 Australian Drinking Water Quality Guidelines (NWQMS paper no. 6). SA Water reports on the performance of metropolitan and country supply systems against the 1996 guidelines in its *Drinking water quality annual report* (SA Water 2002, available at www.sawater.com.au).

SA Water complied with the microbiological and physical/chemical requirements of the 1996 Australian Drinking Water guidelines in 2001-02 (WSAA 2003). A review of the Country Water Quality Monitoring Program, initiated in 2001-02, highlighted major monitoring gaps, so SA Water proposed to complete a more thorough review in 2002-03 (SA Water 2002).

Discussion

The Council raised concerns in 2001 and 2002 about South Australia's lack of progress in implementing its Water Quality Policy, which was originally proposed for implementation in 2000-01. The Council indicated that the Government should have released by 2003 draft modules for public consultation, showing the proposed implementation of specific guidelines for freshwater and marine water quality, drinking water, and water quality monitoring and reporting.

The gazettal of the Water Quality Policy in April 2003 and the policy's commencement in October 2003 are significant milestones in the State's implementation of the NWQMS. The policy establishes protected environmental values and water quality criteria for fresh and marine waters. These processes adopt methods set out in NWQMS papers 2, 4 and 6. South Australia has also introduced codes of practice that draw on several NWQMS guidelines on point source pollution.

Implementation of the Water Quality Policy underlines the importance of appropriate water quality monitoring arrangements. South Australia is reviewing regional monitoring arrangements, and has commenced upgrades in some areas. The State Water Monitoring Coordinating Subcommittee's review of water monitoring arrangements made a number of recommendations to improve the collection, management and provision of water information. The Environment Protection Authority's review of the State Ambient Water Quality Monitoring Program should provide further guidance on work needed in this area.

Assessment

The Council considers that South Australia made satisfactory progress for the 2003 NCP assessment in implementing policies that reflect the NWQMS guidelines. As part of its full assessment of water reform in 2005, the Council will consider South Australia's progress in water quality monitoring, including implementation of the recommendations of:

- the State Water Monitoring Coordinating Subcommittee's review of water monitoring arrangements; and
- the Environment Protection Authority's review of the State Ambient Water Quality Monitoring Program.

6.6 Water legislation review and reform

Assessment issue: South Australia is to have reviewed and, where appropriate, reformed all legislation that restricts competition. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations. In the 2002 NCP assessment, South Australia was yet to implement the recommendations of several reviews of water industry legislation.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

South Australia listed 14 water Acts for NCP review. It completed reviews of 13 of these, and approved repeal of the remaining Act (without review) to occur in October 2003. The reviews recommended repealing four Acts, three of which have been repealed. The Government has approved repeal of the fourth Act, scheduled to occur in September 2003.

Reviews did not recommend reform, or did not identify competition issues for nine Acts. Of these, reviews of the *Sewerage Act 1929*, *South Australian Water Corporation Act 1994* and *Waterworks Act 1932* found that the primary restrictions to competition and constraints on market entry arise from the inherent natural monopoly of relevant infrastructure rather than specific provisions of the legislation. The review considered that the majority of the identified restrictions to competition are appropriate in the context of the Acts' objectives, and found that there are net public benefits from their retention. While the review report identified a number of 'trivial and intermediate' restrictions and recommended some minor amendments, South Australia considered that existing arrangements adequately address the issues raised in the review report. Accordingly, while South Australia is reviewing the recommendations, the Government is not proposing legislative changes.

Assessment

South Australia has substantially advanced its review and reform program for water industry legislation, and will complete its program with the repeal of two Acts scheduled for later in 2003. With the repeal of the remaining two Acts, South Australia will meet review and reform obligations relating to the stock of water industry legislation.

6.7 Investments in new rural water schemes

Assessment issue: Investments in new rural water schemes or extensions to existing schemes are to be undertaken only after appraisal indicates the scheme or extension is economically viable and ecologically sustainable.

In the 2002 NCP assessment, the Council reported that South Australia was considering two rural water scheme proposals: for the supply of irrigation water to the Clare Valley and for the refurbishment of water supply infrastructure in the Lower Murray Reclaimed Irrigation Areas. A decision to proceed with the projects had yet to occur.

South Australia will need to demonstrate that the Clare Valley Water Supply Scheme, which proceeded during 2002-03, satisfies the CoAG tests of economic viability and ecological sustainability. South Australia also needs to report on the status of the Lower Murray rehabilitation project.

Next full assessment: The Council will examine investments made by the Government when the Government decides to proceed, to ensure that it has demonstrated that the project meets the tests of economic viability and ecological sustainability.

Reference: CoAG water reform agreement, clause 3(d)(iii)

At the time of the 2002 NCP assessment, South Australia was considering two rural water scheme proposals: for the supply of irrigation water to the Clare Valley and for the refurbishment of water supply infrastructure in the Lower Murray Reclaimed Irrigation Areas. A decision to proceed with the projects had yet to occur.

Developments since the 2002 NCP assessment

Clare Valley Water Supply Scheme

The Clare Valley Water Supply Scheme involves the transfer of up to 7.3 gigalitres per year of filtered and treated River Murray water via a pipeline to the Clare Valley. The project involves the construction of 83 kilometres of new pipeline, two pumping stations and a 4 megalitre water storage. The scheme has three main objectives:

- to provide reticulated water to the townships of Watervale, Penwortham, Sevenhill, Leasingham and Mintaro, and improve the supply to Clare and Auburn;
- to enable improved water supplies to other areas of the Mid-North region, particularly Yorke Peninsula; and
- to provide water to the Clare Valley region for irrigation and other bulk water purposes.

South Australia indicated that the initial impetus for the scheme was to provide township water supply and to augment the supply to other regions. It advised that the provision of irrigation water is necessary, however, to ensure the scheme is financially viable. The financial evaluation of the scheme assumes that over 95 per cent of the water will be used for irrigation. While initially expected to be undertaken by the private sector, the scheme proceeded as a SA Water project during 2002-03. Construction is expected to be completed in late 2003.

Ecological sustainability

SA Water engaged Resource and Environmental Management to assess the potential environmental effects of the transfer and use of the water. This environmental study was finalised in September 2002 (Resource and Environmental Management et al 2002). While noting that the project would increase the amount of water that enters the Clare Valley region via rainfall by less than 1 per cent, the study identified a number of potential environmental effects, including:

- waterlogging and drainage hazard formation — water use efficiencies exceeding 90 per cent are predicted to result in only small water table rises and a low to immeasurable impact (although in some locations water tables are close to the surface and even small rises would be problematic);
- increased stream baseflow and baseflow salinity in the vicinity of new and existing irrigation — while 90 per cent water use efficiency is expected to contribute only slightly to stream baseflows, baseflow salinity may increase;
- the salinisation of the groundwater resource as a result of the increased salt load from importing River Murray water;
- the release of chloraminated water (from the water treatment process) to the environment;
- disruption to the environment from the pipeline construction works; and
- ecosystem impacts resulting from changes to the water balance and salinity levels, including potential threats to the endangered Spalding blown-grass and the vulnerable Krefft's tiger snake, which may require

the project to be referred to the Commonwealth Minister for the Environment and Heritage for approval under the *Environment Protection and Biodiversity Conservation Act 1999*.

The study concluded, however, that importing River Murray water into the Clare Valley region for use in irrigation can be managed to avoid adverse environmental effects. To ensure this outcome, the study identified several issues that would need to be addressed, including:

- increasing the awareness of growers of the opportunities and threats associated with using River Murray water for irrigation;
- establishing a comprehensive baseline and ongoing groundwater and surface water monitoring program; and
- undertaking detailed flora and fauna surveys to identify the area of occurrence of a number of species that may be threatened by an expansion of the irrigation industry in the region.

To address these issues, the study recommended that:

- the existing groundwater and stream monitoring network be expanded across the entire area that could be affected, to establish a comprehensive baseline from which to monitor the effects;
- each landholder involved in the Clare Valley scheme be required to prepare an irrigation and drainage management plan to address the potential risks in using River Murray water, to be ratified by an appropriate body, and to attend irrigation awareness courses prior to being granted access to water from the scheme;
- the Clare Valley Prescribed Water Resources Area Water Allocation Plan be amended to allow more flexibility in the use of treated water imported from the River Murray for irrigation and municipal bulk water supply;
- investigations be undertaken into the composition and extent of groundwater-dependent ecosystems potentially at risk due to altered groundwater conditions, and to identify sites where changed groundwater conditions do not threaten ecosystems;
- surveys be conducted of the tolerance of in-stream and other natural ecosystems to ranges of surface water and groundwater salinity;
- a monitoring and reporting program be implemented to routinely assess and communicate the response of environmental receptors to scheme operation; and

- a flora and fauna survey be undertaken to establish the occurrence and range of at-risk species in areas likely to be affected and the extent to which the project poses a risk to their habitats — with the survey to be undertaken before considering whether the project requires referral to the Commonwealth Minister for the Environment and Heritage.

SA Water advised that the South Australian Government's approval of the scheme in November 2002 was subject to the establishment of an appropriate groundwater and surface water monitoring program. In cooperation with the Department of Water, Land and Biodiversity Conservation, SA Water indicated that it is committed to implementing management measures at several levels to ensure the potential impacts of the scheme are appropriately controlled.

- Monitoring program. The regional groundwater and surface water monitoring program is being expanded. The program includes additional groundwater observation wells, stream gauging stations, chemical water sampling sites, and habitat and invertebrate monitoring.
- Subcatchment modelling and land capability mapping. Detailed modelling and mapping will be undertaken to determine locations where irrigation using River Murray water will be restricted or not permitted because of the increased environmental risks of salinisation or rising water tables.
- Permit and licensing requirements. To use water from the scheme, irrigators will be required to obtain a permit or licence under the Water Resources Act. The department will not grant approvals in areas where there is an unacceptable risk to the environment. Permits and licences will include the following conditions: property owners will be required to prepare an irrigation drainage management plan; the use of River Murray water will be restricted where adverse environmental impacts are detected through the monitoring program; and annual irrigation reporting will be required and will provide additional property level monitoring.
- Increased grower awareness of issues associated with irrigation using River Murray water. SA Water is undertaking a community information program, which includes discussions with and the distribution of information to irrigator organisations.
- Flora and fauna surveys. Detailed surveys were undertaken, particularly in relation to nationally significant species, before construction of the pipeline commenced.

In relation to the potential threats to listed threatened species, South Australia advised that the Commonwealth initially declared the pipeline to be a controlled action under the Environment Protection and Biodiversity

Conservation Act in April 2003.¹² Following the provision of further information by South Australia, however, in June 2003 the Commonwealth revoked its initial decision. The revocation was based on detailed information on the pipeline route and the associated flora and fauna surveys that demonstrated the route would avoid the listed species and suitable habitat.

Economic viability

In September 2002, SA Water commissioned EconSearch to conduct a detailed evaluation of the financial and economic viability of the Clare Valley project. The analysis and results were reported by the Public Works Committee of the South Australian Parliament in its report on the project in December 2002 (Public Works Committee 2002).

The capital cost of the project to SA Water is estimated at A\$27.1 million. Operations and maintenance costs for SA Water are projected to increase over time from approximately A\$700 000 to A\$1.3 million per year. Revenue estimates were based on a separate consultancy study of future demand for water for irrigation, commercial and residential purposes. The estimates for irrigation were reduced to 75 per cent of the consultant's projections. Cost savings were expected from deferral of a A\$15 million system augmentation.

For SA Water, the financial evaluation estimated the project would have a positive net present value of approximately A\$2 million, based on a real discount rate of 8 per cent. Sensitivity analysis indicated that the net present value could range from negative A\$0.4 million, if irrigation sales were only 65 per cent of projected volumes, to positive A\$3.8 million at 85 per cent of projected volumes. Using alternative discount rates, the estimated net present value ranged from negative A\$0.7 million (at a 10 per cent discount rate) to positive A\$9.9 million (at 4 per cent).

The broader economic evaluation encompassing the wider economic benefits and costs to the State showed a positive net present value of A\$25.5 million, based on a discount rate of 7 per cent. This analysis took into account additional costs including the capital and operating costs of private connections and on-farm storage for off-peak irrigation water, as well as the cost of purchasing River Murray water licences. It also took into account additional benefits such as increased production from existing and new vineyard developments. The analysis assumed grape prices at a level 5 per cent below the 2002 price. Sensitivity analysis indicated the project would not be economic at grape prices 15 per cent below 2002 prices. The economic analysis also identified additional benefits that were not able to be quantified, including reduced health risks due to wider availability of potable water and increased regional tourism.

¹² The Commonwealth's decision related to the following listed threatened species: White-beauty Spider-orchid, Osborne's Eyebright, Hairy-pod Wattle and Trailing Hop-bush.

SA Water advised that the financial and economic evaluations included the costs of the catchment modelling (estimated at A\$70 000), establishment of the monitoring program (A\$150 000) and grower awareness and other information programs (A\$50 000) in the capital cost of the project. While the ongoing cost of the monitoring program (A\$66 000 a year) was not included, SA Water considered that its inclusion would not alter the viability of the scheme. It also considered that the costs associated with any rehabilitation measures were likely to be minor because of the environmental management regime.

Lower Murray rehabilitation project

The Government has previously advised that the Lower Murray Reclaimed Irrigation Areas require improved management and rehabilitation in order to reduce their environmental impact on the River Murray and improve farm productivity. The main agricultural activity in the area is flood-irrigated dairying.

A major options study, completed in June 2001, evaluated the benefits and costs of alternative management options such as abandonment, rehabilitation or conversion to alternative uses. The study concluded that the best option is rehabilitation of the most viable parts of the irrigation areas, after a period of restructuring of the dairy industry. The proposed rehabilitation designs for flood irrigation are expected to greatly improve water use efficiency (up from about 40 per cent to 80 per cent) and significantly reduce the pollutant load to the river (down by 70–80 per cent). The study considered that there would be significant benefits if, before rehabilitating the most viable areas, farmers were provided time to restructure in response to water trading, dairy industry deregulation and new drainage management requirements. This would allow poorer areas to be retired, and farms to consolidate, both of which would reduce rehabilitation costs.

As noted in section 6.4, the South Australian Government approved the study's preferred option. As part of this, landowners will be subject to new requirements in relation to water use and drainage management. In accordance with new water licences issued under the Water Resources Act, irrigators will be required to achieve a water use efficiency of at least 65 per cent, install a water meter to measure water use and use no more water than their allocation, with effect from 30 June 2007. In addition, from 1 July 2003 farmers are required to be licensed under the Environment Protection Act in order to undertake irrigated agriculture in the Lower Murray area. Under the licensing arrangements, irrigators will be required to comply with a code of practice, progressively implement an environmental improvement program to ensure no irrigation runoff reaches the river by 30 June 2008, and implement a water quality monitoring program. Penalties apply for noncompliance.

Where appropriate arrangements are not already in place, irrigators will need to establish management and funding arrangements, jointly with other irrigators within their irrigation district, to take responsibility for the future

operation, maintenance and replacement of shared irrigation and drainage infrastructure. This will be a condition of accepting the financial assistance the Government proposes to make available for infrastructure rehabilitation (see section 6.4).

During 2002-03, the Government approved a contribution of A\$22 million towards trials and to provide financial support to eligible landowners to assist with restructuring and rehabilitation works. An initial A\$2.6 million in joint Commonwealth–State Government funding has been made available for a 12 month period to assist restructuring. The aim is to encourage changes in land ownership and land use that will reduce the cost of subsequent rehabilitation for irrigators and taxpayers. Assistance is being provided to eligible landowners to undertake farm business planning, to acquire land to consolidate or relocate farms (in which case the assistance is in the form of a credit towards future rehabilitation costs), or to exit the industry by retiring or selling their landholdings. Funding is being sourced under the National Action Plan for Salinity and Water Quality.

The South Australian Government expects assistance for rehabilitation to commence in late 2003-04, though national action plan funding for this purpose is still to be approved. The assistance is to cover part of the cost of approved irrigation supply and reuse infrastructure works to serve the reclaimed areas. The Government proposes to offer financial assistance of A\$2 for every A\$1 contributed by irrigators up to a maximum amount per hectare. The Government considered this level of public funding reflects the extent of the wider public benefits from the rehabilitation, through reducing water diversion from the River Murray and drainage discharge to the river. The assistance is to be provided to the relevant irrigation authority rather than to individual irrigators. To be eligible for assistance, the authority will need to develop a rehabilitation plan, which will be assessed by the Government to ensure it is capable of meeting longer term water use and water quality outcomes, and submit an application for assistance by May 2004. The assistance will be contingent on irrigators committing funding to the required works and, in Government irrigation districts, agreeing to convert to a private district. The rehabilitation program is expected to be completed by June 2008.

Discussion and assessment

The Council aims to assess new rural schemes against the CoAG obligations on economic viability and ecological sustainability in the year in which the relevant Government decides the scheme can proceed.

In relation to the Clare Valley project, the study by Resource and Environmental Management found that importing River Murray water into the Clare Valley region for use in irrigation can be managed to avoid adverse environmental effects. SA Water advised that the South Australian Government's approval of the scheme was subject to the implementation of appropriate management measures, including the monitoring program. SA

Water, in cooperation with the Department of Water, Land and Biodiversity Conservation, is committed to implementing the necessary management measures. The department advised that, until the measures are in place, water from the pipeline will not be able to be used. Environment Australia notified South Australia that the project does not require approval under the Environment Protection and Biodiversity Conservation Act.

The study indicates that the project is ecologically sustainable, but this is dependent on South Australia implementing appropriate responses to the study's recommendations. Based on the information provided by SA Water, it appears to the Council that the environmental issues associated with the construction of the pipeline were appropriately addressed before construction commenced and the remaining issues will be addressed before water from the pipeline can be used for irrigation. The Council's preliminary view, therefore, is that South Australia complied with the CoAG obligation on ecological sustainability. For the 2004 NCP assessment, however, the Council will seek a report from the South Australian Government on: (1) how it has acted to address the matters raised in the ecological study and (2) the initial outcomes of the regional monitoring of groundwater and surface water.

In relation to economic viability, the study by EconSearch concluded that the Clare Valley project is commercially viable for SA Water. As a Government business, SA Water is undertaking the project on a commercial basis and is not expecting Government subsidies. The study also concluded that the project is economically viable accounting for wider benefits and costs, with a net present value of A\$25.5 million (based on a discount rate of 7 per cent). The study appears to account for relevant benefits and costs (except for the ongoing cost of the water monitoring program) and uses appropriate discount rates. At a present value of around A\$750 000, inclusion of the ongoing cost of the monitoring program would not alter the study's conclusions on the commercial or economic viability of the scheme. The Council, therefore, considers that South Australia complied with the CoAG obligation on economic viability for the Clare Valley project.

Based on the information now available, the Council considers that the Lower Murray rehabilitation project is not a new rural water infrastructure project or an extension to a project. The Council understands that the project, at least at this stage, is a refurbishment rather than an extension of the existing irrigation scheme. The project does not, therefore, require assessment against CoAG requirements for investment in new rural water schemes or extensions to existing schemes. The components of the project relating to the devolution of irrigation scheme management — an institutional reform obligation of the CoAG water agreement — are considered in section 6.4.

7 Tasmania

The elements of the water reform program that are relevant for Tasmania in this 2003 NCP assessment are: water and wastewater pricing; intrastate water trading arrangements; the remaining institutional reform requirements (primarily integrated catchment management); the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. In addition, Tasmania has under consideration a new rural water infrastructure project — the Meander Dam — that it must show satisfies the CoAG requirements on economic viability and ecological sustainability. The National Competition Council assessed Tasmania's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by Tasmania towards meeting water reform obligations on rural water pricing and the conversion of existing water allocations to water entitlements (which will be assessed in 2004) and the provision of water to the environment (which will be assessed in 2005).

7.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.

- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement, clauses 3(a)–3(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Urban water and wastewater service providers

Assessment issue: Tasmania is to demonstrate that water and wastewater pricing by urban water and wastewater service providers achieves full cost recovery, in accord with the CoAG pricing principles. In a supplementary 2002 NCP assessment, seven local government water and wastewater service providers that were not applying full cost recovery committed to a strategy and timeframe for achieving this by the 2005 NCP assessment. Tasmania undertook to provide additional educational support to local governments to assist them meet the CoAG water reform obligations.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement clauses, 3(a) and (b); CoAG pricing principles

In Tasmania, all urban retail water and wastewater services are provided by local government. There are 28 local governments offering water supply services, of which 27 also provide wastewater services. Three bulk water authorities provide services to 18 local governments. These are Hobart Regional Water Authority, the North West Regional Water Authority and the Esk Water Authority. The other 10 local governments mostly take, treat and reticulate water themselves.

In a supplementary 2002 NCP assessment (see section 1.4), Tasmania undertook to:

- revise and issue relevant guidelines and policy statements, provide educational material, targeted consultation and correspondence;
- develop a water reform education support program for local governments setting out the scope, objectives, methods and timing of the CoAG water reform program;

-
- conduct regional seminars and workshops for practitioners; and
 - establish a website that draws together government water related information.

The revised Government Prices Oversight Commission (GPOC) guidelines — the Urban Water Pricing Guidelines for Local Government in Tasmania — are now available. The guidelines require local governments to set prices for their water and wastewater services to recover costs within a lower and upper limit. The lower limit is set at minimum business viability, and includes costs of operations and maintenance, administration and overheads, externalities, taxes and tax equivalents, renewals annuity and a return on capital (interest on debt and any dividends paid). The upper limit sets the maximum allowable revenue of a business. It has similar treatment of costs as the lower limit, except for capital-related costs. For these costs, the upper limit requires applying an appropriate market rate of return on capital (using the weighted average cost of capital) to the asset base (which is measured at either depreciated replacement cost or depreciated optimised replacement cost). The cost of asset consumption is measured by depreciation, and is to be based on fair value in accord with the accounting standard AASB 1041. The GPOC guidelines also require local governments to report any community service obligations (CSOs) they provide to the community, and local governments' own-use of water and wastewater services

To assist local governments with applying the guidelines, the Tasmanian Government conducted two workshops for local government officers on 26 and 27 February 2003 to raise awareness of full cost recovery obligations, including the need for appropriate asset valuation, and the identification and reporting of CSOs and externalities. Pricing issues were discussed in a presentation on water assets and the NCP given by the GPOC to a Tasmanian Audit Office Local Government Accounting Standards seminar. The Tasmanian Government also wrote to all local governments that provide water and wastewater services, encouraging them to test their 2003-04 rating policies against the full cost recovery obligations in the GPOC pricing guidelines, to ensure that the real rate of return on their assets meets the target in the guidelines.

The GPOC undertakes an audit annually to determine the extent of compliance by local governments with the obligation to achieve full cost recovery in relation to water and wastewater services. The GPOC audit for 2001-02 found that 21 of the 28 local government providers of water services, including two that were in an agreed two year transition to full cost recovery, were in practical compliance with the full cost recovery obligation. The audit also found that 24 of the 27 providers of wastewater services were in practical compliance.

Of the seven local government providers of water services that did not achieve full cost recovery, six achieved results below the lower limit of the cost recovery range and will need to increase prices, reduce costs or do both to achieve full cost recovery. The six under recovering local governments were Launceston, Clarence, Waratah-Wynyard, Break O'Day, Southern Midlands

and Central Highlands. The largest of these is Launceston, which under-recovered revenue in 2001-02 (after being deemed to be in practical compliance in 2000-01). The 2001-02 outcome was due, in part, to the treatment of bulk water dividends. Launceston considered these dividends as revenue to the water business whereas the GPOC guidelines state that dividends must be removed from revenues when determining cost recovery. Launceston also undertook an asset revaluation in 2002, which may have had an impact on its return. The one local government that exceeded the upper limit of the cost recovery range indicated that it expects to meet full cost recovery obligations after its 2003-04 budget (GPOC 2003).

The GPOC audit noted that a number of local government providers of water and wastewater services had not revalued infrastructure assets for some time, and that revaluation may result in significantly different asset values, and thus different revenue needs. The audit found that the methods of valuing water and wastewater infrastructure assets were varied. Six local governments determined asset values in accord with the accounting standard AASB 1041, and the remaining 22 applied various other accounting standards. The GPOC audit report stated that local governments will be required to move to using the accounting standard AASB 1041 by mid-2003, in preparation for the 2002-03 audit to be conducted in March 2004.

The GPOC audit also reported on businesses' compliance with various other aspects of Tasmania's Urban Water and Wastewater Pricing Guidelines, including the structure of tariffs, the Community Service Obligation guidelines, the reporting of own-use water transfers and cross-subsidisation. The audit found that the majority of local governments that use two-part tariffs had structured them in accord with the Urban Water and Wastewater Pricing Guidelines. Few local governments reported CSOs or identified own-use of water and wastewater services. Regarding own-use, GPOC stated that all local governments would have some form of water and wastewater service use through local government buildings, and that it is important this is identified and funded so that other water users are not cross-subsidising local government consumption.

In the 2001 NCP assessment, Tasmania reported that 14 of 28 providers of local government water services and nine of 27 providers of wastewater services earned sufficient revenue to recover at least the lower limit of the CoAG cost recovery band. In the 2002 NCP assessment, 19 of the 28 local government providers of water services, and 20 of the 27 providers of wastewater services were recovering costs in accord with CoAG cost recovery principles.

Submissions

Mr Robert Rockefeller (Nekon Pty Ltd) submitted that Tasmania's performance on cost recovery is poor. He cited several reasons for this, including: inaccuracies in information provided to the GPOC; the absence of ringfencing of water and wastewater businesses from local governments'

other activities (which also means that the dividend provided by the water and wastewater businesses is not transparent); the lack of recognition and appropriate funding of CSOs; and the fact that water leakages are not estimated and paid for from general rates. He considered the absence of ringfencing meant that Tasmania had not appropriately addressed institutional reform obligations. Mr Rockefeller considered that the GPOC full cost recovery audit of local governments' water and wastewater businesses does not go far enough in determining whether local governments are meeting the Tasmanian urban water pricing guidelines or the NCP requirements.

Mr Anthony Hocking (Enterprise Marketing and Research Services) submitted that many Tasmanian local governments are reluctant to address requirements on full cost recovery. He considered that local governments should be required to fully ringfence their water and wastewater businesses, and to identify any shortfalls in full cost recovery as CSOs (or their equivalent), quantify them and report them in local government annual reports. He also argued that local governments should pay for their own use of the water and wastewater services.

Mr Hocking believed that the updated GPOC audit template provides an opportunity to gather much information on the extent to which Tasmania is implementing water reform. He welcomed the GPOC's more comprehensive reporting of the audit outcomes. He considered that the Tasmanian *Local Government Act 1993* should clearly state the powers and responsibilities of local government authorities with respect to the NCP.

Discussion and assessment

As it undertook in the supplementary 2002 NCP assessment to do, the Tasmanian Government provided additional support to local governments to help them achieve full cost recovery. This support included the revision and issue of the pricing guidelines, the provision of educational material, targeted consultation and correspondence, the conduct of regional seminars and workshops for practitioners, and the development of a web site that draws together Tasmanian Government water-related information.

Tasmania's Urban Water and Wastewater Pricing Guidelines impose obligations on local governments that are consistent with the CoAG pricing principles, including on asset valuation methods and the reporting of CSOs and environmental costs incurred by water businesses. The guidelines also expect that local governments will measure (or reasonably estimate) the water that they use themselves and pay for this use. The guidelines state that own-use should be disclosed as a transfer from general funds or departmental budgets (unless otherwise defined) and reported as a CSO. The Council considers that the guidelines appropriately reflect the CoAG pricing principles. Submission makers placed considerable importance on the GPOC auditing local governments' application of the (now revised) urban water and wastewater pricing guidelines. The GPOC audit for 2001-02 did this.

The most recent GPOC pricing audit (for 2001-02) found that 21 of the 28 local government water service providers were in practical compliance with the full cost recovery obligation, including two that were in an agreed two-year transition to full cost recovery. The audit showed that all larger local government water service providers were pricing within the cost recovery band apart from the Launceston City Council and the Clarence City Council. The seven local governments that the GPOC identified as not complying with full cost recovery obligations in 2000-01 each committed to a strategy and timeframe for reaching full cost recovery. While the timeframes for this vary among these local governments, each expects to achieve full cost recovery by the 2005 NCP assessment.

Tasmania's pricing guidelines now require an approach to asset valuation that is consistent with the CoAG pricing principles. The GPOC audit indicated, however, that most local government providers of water and wastewater services are yet to value assets in accord with the revised guidelines, and that the various other methods of asset valuation employed (together with the length of time since last revaluation) will have an impact on the extent of over or under recovery of costs. The Tasmanian Government expects all providers of local government water and wastewater services to adopt the complying asset valuation method by mid-2003.

Tasmania's pricing guidelines contain guidance on CSOs and own-use transfers that is consistent with the CoAG pricing obligations. Despite this, the GPOC audit found that only a small number of local governments were complying with the requirements on CSO reporting and own-use. This is an area that Tasmania will need to develop before the Council next assesses the State's compliance with the CoAG urban water and wastewater pricing obligations in 2005.

Two submissions argued that Tasmania's local government water and wastewater businesses should be ringfenced from other local government activities, and that this would assist transparency and meet institutional reform obligations. The CoAG water reform agreement does not require ringfencing of water and wastewater businesses. The CoAG obligation on structural separation is that, as far as possible, the roles of standard setting and regulatory enforcement and service provision are to be separated institutionally.

In a previous NCP assessment, the Council recognised that the small size of many water businesses meant that this obligation is best met by ensuring accountability and transparency in setting and reporting prices and service standards. Tasmania's approach is rigorous and transparent, and allows ready scrutiny of water and wastewater pricing and service provision. The urban water and wastewater pricing and other guidelines, together with the annual GPOC audit, provide detailed financial performance feedback to local government water and wastewater providers and advice on areas of weakness and ways of improving performance. The GPOC audit report is publicly available. Local governments appear to have been responsive to the GPOC process, as is indicated with the improvement in cost recovery over recent years.

The Council considers Tasmania has complied with its full cost recovery obligations for this 2003 NCP assessment. While Tasmania expects that some smaller local governments will not achieve full cost recovery until 2005, there is no reason to believe, on current evidence and given the direction provided via the annual GPOC audits, that this will not occur. The Council will look in the 2005 NCP assessment for Tasmania to have rectified the weaknesses that the annual GPOC audit identified; including local governments' identifying and reporting their CSOs and their own-use of water and wastewater services.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied to encourage more economical water use and to defer the need for costly investments. In the 2002 NCP assessment, the Council found that 17 of 18 water service providers had introduced a two-part tariff following either a commitment to do so or a study that showed the introduction of a two-part tariff would be cost-effective. The Council had limited information on trade waste charging including by service providers in the local government areas where the largest dischargers are located (Devonport, Hobart, Launceston, Circular Head, Central Coast, Glenorchy and Burnie).

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)–(c)

In Tasmania, all urban retail water services are provided by local government — 28 local governments operate 90 water supply schemes. In 1999, Tasmania required all local governments to assess whether the implementation of two-part tariff pricing structures would be cost-effective. This assessment was undertaken with reference to the GPOC report *Investigation into the cost-effectiveness of local governments implementing two-part pricing for urban water services*. The assessment was supervised by a review panel comprising representatives of the Department of Primary Industries, Water and Environment, the Department of Treasury and Finance, the Department of the Premier and Cabinet, and the Local Government Association of Tasmania.

Of the 90 water schemes under local government management, 50 were considered for application of consumption-based pricing. Five schemes already charged for water services using a two-part tariff, and a further 11 undertook to implement a water service two-part tariff without a cost-effectiveness study. The remaining 34 water supply schemes undertook a cost-effectiveness assessment of consumption-based pricing in accord with the

GPOC report.¹ These assessments showed that it would be cost-effective for seven water supply schemes to introduce consumption-based prices.

The outcome of Tasmania's process was that 18 water businesses had either elected to introduce a two-part tariff or should do so based on the cost-effectiveness study. Of these, 17 have now introduced a two-part tariff. The exception is Derwent Valley, where experience with a metering trial led to a further study that found it would no longer be cost-effective for Derwent Valley to implement consumption-based pricing.

Tasmania reported in the 1999 NCP assessment that while some local governments apply volumetric charges for wastewater services supplied to commercial and industrial customers, most applied a charge based on property value, with a fixed minimum. Five local governments applied a uniform fixed charge for wastewater services. The Hobart City Council sets wastewater charges using property values with no minimum fixed charge.

Local governments may enter agreements with waste dischargers to recoup the additional costs of treating trade waste. Several local governments have trade waste agreements with large dischargers that set charges on a volume basis. These local governments include Burnie, Central Coast and Circular Head. Some — including Hobart, Devonport and Glenorchy — have volume-related trade waste charging regimes applying to high volume or high strength dischargers. Launceston developed a trade waste charging policy comprising multiple tariffs based on volume and pollutant loads and has trialled the policy. Launceston has appointed consultants to review the trial results, develop proposed charge levels and advise on the policy's application.

Local governments may also establish By-laws under the Local Government Act on trade waste issues. The larger local governments — Devonport, Glenorchy, Hobart and Launceston — have trade waste policies and guidelines supported by By-laws. Other local governments, including Brighton, Central Highlands, Clarence, Huon Valley, Kingborough, Sorell and Tasman have sewer and/or drainage by-laws.

The Department of Primary Industries, Water and Environment issued guidelines identifying the type of liquid wastes that may be discharged into sewers under its Sewerage Management Program. Through this program, the department has been working with local governments to identify sources of trade waste. The department also developed a model trade waste agreement to assist local governments to establish trade waste agreements with significant dischargers.

¹ The review panel did not require 40 of the 90 schemes to undertake a more extensive cost-effectiveness study because of their small size and/or because the screening test developed by the GPOC required metering.

Discussion and assessment

All but one of the 18 Tasmanian local government water service businesses that the 1999 pricing review panel considered should employ consumption-based pricing for water services are now doing so. The exception — Derwent Valley — is not pricing on a use basis after information from a metering trial showed that introducing a two-part tariff would not be cost-effective.

Some 68 local government water supply schemes do not use a consumption-based approach. While nonuse-based pricing by these local governments does not raise NCP compliance questions (because the pricing obligation depends on the move to consumption-based pricing being cost-effective), it does mean that there are likely to be continuing cross-subsidies among different classes of customers and between water and wastewater services.

The two submissions that discussed approaches to pricing and related matters by Tasmanian local government water and wastewater businesses claimed that cross-subsidies are prevalent. The most recent GPOC audit of local government water and wastewater financial performance concluded that inefficiencies and cross-subsidies are an inevitable outcome where a two-part tariff is not employed, although it also considered that inefficiencies may be even greater if a local government introduces metering that is not warranted on net benefit grounds. Matters relating to cross-subsidies are discussed in the following section.

Most local governments where the larger dischargers are located appear to have some form of consumption-related trade waste charge. They apply use-based trade waste charges either via specific agreements with large dischargers or by imposing a use-based pricing regime for the waste disposal service supplied. (Launceston is currently developing a trade waste charging regime.) Residential wastewater charges are generally set by reference to property value and a minimum fixed charge, which has the potential to introduce cross-subsidies to the extent that waste disposal differs among households. The Council accepts that it is unlikely to be cost-effective to impose consumption-based charges for residential waste disposal.

The Council considers that Tasmania met CoAG obligations relating to consumption-based pricing for water and wastewater services for this 2003 NCP assessment. There are related issues, including the transparency of cross-subsidies, which Tasmania will need to address however (see below). The Council will monitor Launceston's implementation of a trade waste charging regime in future NCP assessments.

Cross-subsidies

Assessment issue: Tasmania is to ideally remove cross-subsidies where they are not consistent with efficient and effective service, use and provision or, where cross-subsidies remain, ensure they are transparently reported. In the 2002 NCP assessment, Tasmania had not advised how it intended to identify and report any remaining cross-subsidies.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clause 3(a)-(i); CoAG pricing principles

As discussed above, many local governments base water charges on property values, including some of the State's largest local government water providers. To address its water pricing obligations, the Tasmanian Government requested the GPOC to examine whether the use of property-based charges leads to cross-subsidies that are likely to create inefficiencies in the use and provision of water and wastewater services. The GPOC audit of local government water and wastewater businesses' performance in 2001-02 found that the absence of two-part pricing creates inefficiencies and may introduce cross-subsidies. The audit report considered, however, that these inefficiencies may be less than the inefficiencies that would arise if a local government introduced and administered a metering scheme that did not deliver a net benefit. The audit report considered that using property value or connection size to allocate the access (fixed cost) component of the two-part tariff is not necessarily inefficient and does not introduce a cross-subsidy provided the access charge does not exceed the value that a consumer places on connection to the network.

Submissions

The Tasmanian Conservation Trust submitted that Hobart, Clarence, Kingborough and Glenorchy are not using consumption-based pricing for water services and do not identify cross-subsidies. The trust also stated that it is not aware of any efforts by the Tasmanian Government to conduct public education and consultation programs on consumption-based pricing and cross-subsidies. The trust said that this work is left to individual local governments. It considered that multiparty discussions involving the National Competition Council, the State Government and local governments is the only way to progress these reforms.

Mr Robert Rockefeller (Nekon Pty Ltd) submitted that Tasmania's implementation of consumption-based pricing and removal or identification of cross-subsidies is poor. He considered that local governments that are not setting prices on a use basis are incapable of identifying cross-subsidies. Mr Rockefeller pointed to the frequent use of property-based charges for water and wastewater services, and what he considers to be excessive free water allowances by several local governments that employ a two-part tariff. He considered that there are significant nontransparent cross-subsidies from low

volume water users to high volume users in most of Tasmania and that there is also likely to be extensive cross-subsidisation between various classes of users, including between residential and commercial customers.

Mr Anthony Hocking (Enterprise Marketing and Research Services) submitted that many Tasmanian local governments are reluctant to address requirements on consumption-based pricing and the removal and/or reporting of cross-subsidies between different classes of consumer. He stated that the social objectives considered by the Tasmanian Government as acceptable rationales for rejecting consumption-based pricing are not clear.

Mr Hocking considered that local governments' annual reports should identify cross-subsidies between classes of water users, CSOs, the contribution to revenue from fixed and volumetric water charges, excess water rates and real rates of return on water assets, and should reconcile the amount of water used with the amount of bulk water taken from a water authority. He considered that local governments in Southern Tasmania that do not have water meters are unable to accurately identify cross-subsidies, which arise as a result of (1) disparity between the values of business properties and the volume of water they use and (2) variations in residential customers' water use that bear no relationship to property values. He also noted that the absence of meters means that it is not possible to estimate leakage.

Discussion and assessment

As recognised by the GPOC, charges for the use of water that are based on property value (or other nonuse measures) are unlikely to reflect well the cost of services provided to different customer classes, and so will probably introduce cross-subsidies. In addition, the existence of free water allowances can also have the effect of introducing cross-subsidies.

Tasmanian local governments have implemented consumption-based pricing where cost-effective. Tasmania subjected 34 local governments (selected according to a test developed by the GPOC), to cost-effectiveness studies, finding seven should change to a two-part tariff. A further 11 schemes were to voluntarily introduce two-part tariffs. Of these 18, 17 have introduced a two-part tariff. The one exception found, in a metering trial subsequent to the initial work, that a two-part tariff would not be cost-effective. The larger local governments have trade waste agreements with large dischargers or pricing regimes based on the volume and toxicity of discharge.

The GPOC audit of local government water businesses for 2001-02 found that most local governments that are required to apply consumption-based pricing for water services have done so appropriately. The audit found, however, that the local governments that were not using consumption-based pricing were not identifying and funding cross-subsidies, and that few were reporting own-use transfers, meaning that other water users were cross-subsidising local governments' water consumption. The audit also found that few local governments were reporting CSOs. The existence of cross-subsidies arising

from nonuse-based pricing by the other local governments does not contravene the CoAG pricing obligations, although all such cross-subsidies should be transparently reported. The Council will look for Tasmania to demonstrate that remaining cross-subsidies and all CSOs are fully reported consistent with CoAG obligations when it next assesses the State's implementation of urban water and wastewater pricing obligations in 2005.

Free water allowances provide a disincentive for water conservation. They have the potential to create nontransparent cross-subsidies to the extent that they are set at a level above that necessary to achieve public health objectives. The Council will consider the extent of remaining free water allowances when it next assesses Tasmania's implementation of urban water and wastewater pricing obligations in 2005.

Rural water service providers: progress report

Progress report: Tasmania is to demonstrate progress towards achieving full cost recovery for irrigation districts. In the 2002 NCP assessment, the Council found that some irrigation districts were not recovering full costs as defined by the CoAG pricing guidelines.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

Tasmania sources less than 10 per cent of irrigation water used in the State from publicly-owned infrastructure. The vast majority of irrigation water is sourced from unregulated streams or from farm storages utilising privately funded infrastructure.

There are three Government owned irrigation schemes in the State: Cressy–Longford, South–East and Winnaleah. On 1 April 2002, management of the Cressy–Longford Irrigation Scheme was devolved from the Rivers and Water Supply Commission to the Cressy–Longford Irrigators Association. The operation and management of the Winnaleah Irrigation Scheme was devolved to local irrigators on 1 July 2003. The South–East Irrigation Scheme is currently managed by the Rivers and Water Supply Commission. Water pricing for the irrigation schemes is set through the business plans for each scheme.

The Cressy–Longford Irrigation Scheme

Water pricing for the Cressy–Longford Irrigation Scheme comprises a fixed charge per megalitre of irrigation entitlement and a volumetric charge per megalitre of water actually used. Since 1997, water prices have risen to achieve full recovery of operational, maintenance, administration and asset consumption costs. This has been achieved by establishing a revenue target and then setting water prices to meet this target, based on the rolling five

year average of water sales. The financial costs (interest and repayment of the loans taken out to establish the scheme) are not included in the revenue target because they are treated as a Government subsidy to the scheme.

The Winnaleah Irrigation Scheme

Water pricing for the Winnaleah Irrigation Scheme comprises a fixed charge per megalitre of irrigation entitlement and a volumetric charge per megalitre of water actually used, with the volumetric charge varying over the irrigation season. The pricing system was suggested by scheme users and adopted by the Rivers and Water Supply Commission in 1999-2000. It aims to encourage greater water use in the off-peak seasons and to discourage use (or at least fully account for marginal costs) at the peak of the season.

Since 1997, water prices have risen to achieve full recovery of operational, maintenance, administration and asset consumption costs. This has been achieved by establishing a revenue target and then setting water prices to meet this target, based on the rolling five year average of water sales. As with the Cressy–Longford Scheme, the financial costs (interest and repayment of the loans taken out to establish the scheme) are not included in the revenue target because they are treated as a Government subsidy to the scheme. The scheme achieved full cost recovery in 1998-99. At this time, the costing for asset consumption was changed from straight line depreciation to an asset renewal levy.

The South–East Irrigation Scheme

Water pricing by the South–East Irrigation Scheme comprises a fixed charge based on the amount of irrigation entitlement held. Since 1997 water prices have risen with the intention of achieving full recovery of operational, maintenance, administration and asset consumption costs by 2006.

7.2 Water management progress report: water rights and provisions to the environment

Establishment of water rights systems

Progress report: Tasmania is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

From January 2000, the *Water Management Act 1999* established a system of water entitlements whereby licences (and water allocations) are not legally attached to land titles and are transferable. Licences are specified in volumetric terms and also indicate the reliability of the water allocations. To obtain a water allocation, a person must hold a water licence.² Licences are issued for 10 years, with a presumption of renewal, and are subject to a review of conditions after five years.³ In the transition from the previous system of water rights, the Minister may vary the conditions or reduce the water allocation on a licence, or impose restrictions on the taking of water, to meet environmental requirements.

Within formal irrigation districts, the Rivers and Water Supply Commission's previous water entitlements were preserved as a licence issued under the *Water Management Act*. Under the Act, the commission is subject to the same requirements as other water licensees. The *Irrigation Clauses Act 1973* (as amended in 1997 and 2001) established a system of irrigation rights within irrigation districts. The rights are separate from land and transferable within the district. Only an owner or occupier of land in the district, or a person who may hold land in the district, may hold irrigation rights. A holder of an

² Riparian and casual land users may take water without a licence for stock and domestic purposes. Occupiers of land may take surface water (not flowing in a watercourse) and groundwater for any purpose. These entitlements are subject to the taking of water not leading to environmental harm and not being contrary to a water management plan. Water may not be taken in excess of reasonable requirements and maximum takes may be set by Regulation.

³ Special licences are issued for 99 years to corporate bodies using water to generate at least 400 gigawatt hours of electricity annually or to other bodies approved by an advisory committee comprised of relevant Ministers. Special licences have been issued for Hydro Tasmania and the Wesley Vale pulp and paper mill.

irrigation right who no longer owns or occupies land in the district must transfer the right within six months or forfeit it. The Minister may give a single extension of six months.

Under the Water Management Act, a water licence holder is entitled to compensation when it is necessary to reduce water allocations in situations where total allocations exceed the quantity of water available or where there is inconsistency with the objectives of the Act. No compensation is payable, however, where the reduction in allocations is required to meet an environmental water provision in an approved water management plan (see next section on provision of water to the environment).

The Water Management Act provides for a register of licences, which includes provision for registering financial interests. The Department of Primary Industries, Water and Environment maintains the register, which is known as the Water Information Management System.

Reform progress

Tasmania advised that, by the end of April 2003, the process of converting water allocated under the previous system to licences and allocations under the new system was largely complete. The main exceptions were the water rights for two urban water authorities (Hobart and Cradle Coast) and one town supply (Burnie Council), and some Rivers and Water Supply Commission irrigation scheme licences. Tasmania expected the conversion process to be completed by 31 December 2003.

Provision of water to the environment

Progress report: Tasmania is to report on progress in implementing allocations to the environment by listing all draft and final water management plans and explaining each plan's stage of development.

Next full assessment: The Council will assess the Government's progress in implementing CoAG obligations on the allocation of water to the environment in 2004, consistent with the CoAG requirement that allocations be substantially completed by 2005.

Reference: CoAG water reform agreement, clauses 4(b)-(f)

Under its water for ecosystems policy, Tasmania is addressing water allocations for the environment in two stages.

- The Department of Primary Industries, Water and Environment is determining environmental water requirements to address the flow requirements for the State's rivers. The department uses detailed scientific methods and local knowledge for stressed (or more developed)

water sources.⁴ Rapid (desktop) assessment methods are used for lower priority water resources. An environmental water requirement is a description of the water regime needed to sustain the ecological values of aquatic ecosystems at a low level of risk.

- For stressed (or more developed) water sources, an environmental water provision is preserved for the environment by agreement or negotiation with the community and incorporation in a water management plan. The environmental water provision may be based on environmental, economic and social considerations. It represents that part of the environmental water requirement that can be met. (In unstressed systems, the environmental water provision is set equal to the environmental water requirement.)

Since 1995, environmental flows in summer in water courses that are considered to be stressed (or more developed) have been protected through two measures: (1) a policy of not issuing new water licences on these systems; and (2) the implementation of restriction thresholds on water extraction during summer. These restrictions are only lifted when an appropriate environmental flow regime is established. Additional temporary allocations have been provided on some rivers where environmental flow requirements are expected to be readily met.

Under the Water Management Act, in areas where a water management plan has not been developed, the Minister may approve applications for new water allocations (including water taken into dams) only when this would meet the objectives of the Act. The Act's objectives include the sustainable use of the water resources and the maintenance of ecological processes and genetic diversity for aquatic ecosystems.

Overland flows can be included in water management plans and regulated under the Act as necessary. At the time of the 2002 NCP assessment, Tasmania was in the process of developing a specific policy to manage the cumulative impact of farm dam development. A statutory committee, the Assessment Committee for Dam Construction, is responsible for assessing applications for the construction of new dams, with environmental matters considered by a subcommittee, the Technical Advisory Committee.

⁴ In the 2001 NCP assessment, the Council noted that the National Land and Water Resource Audit in 2000 identified no overallocated surface water or groundwater sources in Tasmania. The Department of Primary Industries, Water and Environment, however, noted some critical shortfalls during summer and considered that at least two systems, the South Esk and the Meander, could be considered to be overdeveloped or stressed.

Reform progress

Water management plans

Tasmania identified 14 water sources for which it intends to develop water management plans (see table 7.1). Following the determination of environmental water requirements for the Coal River during 2002-03, environmental water requirements have been determined for all of these water sources. Establishing environmental water provisions for these rivers depends on the Government also developing the water management plans. At 30 June 2003, no water management plans had been completed, although the Great Forester plan was almost finalised.

Tasmania's timetable (dated September 2002) for developing its water management plans is shown in table 7.1. The timetable indicates that Tasmania expected to have completed six plans by the time of this 2003 NCP assessment. Tasmania proposes to revise the timetable once the Department of Primary Industries, Water and Environment has completed a review of the Great Forester plan (expected mid-2003). The purpose of the review is to develop generic principles to guide the preparation of future plans. Tasmania considers that an agreement on the principles by the key stakeholders (including the Tasmanian Conservation Trust and the Tasmanian Farmers and Graziers Association) would greatly accelerate the development of water management plans. On this basis, Tasmania expected to substantially complete environmental water provisions for the water sources on its agreed implementation program by 2005.

Tasmania noted that the public exhibition of the draft plan for the Great Forester catchment (in the first half of 2002) provided an opportunity to better understand the issues of and processes for preparing water management plans. The Government established a local consultative group, which includes a representative of environmental groups, to assist in finalising the plan. The group will continue to work with the Department of Primary Industries, Water and Environment on ongoing water management issues relevant to the plan. As a result of this process, the department established similar consultative groups for other catchments.

Tasmania provided the Council with the penultimate draft of the Great Forester water management plan. Following 'sign off' by the local consultative group, the plan was undergoing a final round of consultation with statutory officers. The plan was expected to be submitted to the Minister in mid-2003.

Table 7.1: Timetable for water management plans in Tasmania, September 2002

<i>Water management plan</i>	<i>Expected completion</i>
Brumbys Creek	2005
Clyde River	2005
Coal River	2004
Elizabeth River	2002
Great Forester River	2004
Lake River	2002
Liffey River	2002
Macquarie River	2004
Meander River	2002
Mersey River	2002
North Esk River	2005
Ringarooma River	2004
St Patricks River	2005
Tooms River	2002

Other developments

In relation to the determination of environmental water requirements for other water sources on its agreed implementation program, Tasmania considered that it is making significant progress. It indicated, however, that delays continued to be experienced for three catchments. Reports on the environmental water requirements for the Welcome, Montagu and Jordan catchments are expected to be completed by September 2003.

Tasmania advised that its previously proposed 'farm dams policy' now comprises:

- guidelines for assessing applications for new water allocations from watercourses (including for proposed dams), a draft of which has been released for public consultation; and
- a project on the conservation of freshwater ecosystem values, which is being undertaken by the Department of Primary Industries, Water and Environment with the aim of designing and implementing a system to identify and conserve Tasmania's significant freshwater conservation values.

To assist in the assessment of water licence applications for winter flows, in 2002 the department developed a model to better estimate the available water yield after meeting environmental flows. The model has been extended to the assessment of all water licence applications. It also formed the basis for the draft policy guidelines for assessing applications for new water allocations noted above.

Submissions

The Tasmanian Conservation Trust expressed concern that, in the 12 months since the previous NCP assessment, not one water management plan had been finalised. The trust stated:

... the provision of water for the environment through the implementation of water management plans has been an abject failure to date. In particular, ARMCANZ principles 2, 5, 6 and 9 have been wilfully and knowingly contravened by the Tasmanian Government in order to appease water users. It is difficult to imagine this situation changing in the near future.

Further, there are only two dedicated staff to implement water management plans. The water development branch, on the other hand, has 5 staff, and has spent approximately \$1.5 million investigating large water storage proposals, none of which have eventuated. (TCT 2003, p. 5)

In relation to the Great Forester River, the Tasmanian Conservation Trust considered that there are several positive aspects about the amended draft water management plan released in September 2002. In particular, the trust welcomed the commitments to install water meters, monitor the impacts on threatened species and track land use changes (such as the conversion of pasture or native forests to plantation forests).

The trust considered, however, that the minimum flow levels in the revised draft plan were disappointing. It commented that:

The suggested level of 30 ML per day, across the entire irrigation period, is only a minor improvement on the current situation. Maintaining this target for three years ... effectively locks the Great Forester catchment into a situation where there is a high level of risk of damage to the environment until 2006. This is unacceptable. (TCT 2003, p. 3)

The trust raised three specific concerns with the draft plan.

- The flow regime in the plan is not an environmental flow regime. The specified minimum flow is significantly lower than current knowledge indicates would be required for a low or moderate risk of damage to the environment. At a constant 30 megalitres a day, the minimum flow level in no way mimics natural flows. In all but the wettest of irrigation seasons, environmental flows will not improve significantly.

- The flow regime appears to be at odds with the requirements of the Water Management Act as well as the Agriculture and Resource Management Council of Australia and New Zealand (ARMCANZ) National Principles for the Provision of Water for Ecosystems, particularly principle 2 (provision of water for ecosystems should be on the basis of the best scientific information available on the water regimes necessary to sustain the ecological values of water dependent ecosystems).
- As this is the first water management plan to be developed by Tasmania, it sets a dangerous precedent for other consultative committees that environmental flows are the least important part of the process.

The trust provided the following comments on other water management plans.

- Clyde. The plan must deal with two issues: (1) the artificial regulation of two lakes (Sorell and Crescent) and (2) the management of the river itself. Considerable progress has been made on the first issue. There is hope that the plan may satisfy all parties and also meet CoAG requirements. The plan may be completed in 2003.
- Meander. The development of the plan was informally postponed by the department in early 2002, in response to the uncertainties over the Meander Dam proposal. There has not been a public meeting or formal correspondence on the plan since December 2001. The delay is unacceptable. The department has announced that it will continue to allocate temporary water rights in the valley, in anticipation of the dam being built, which adds to expectations and distracts from sustainable water management. It is not possible to estimate when the plan may be completed.
- Mersey. The process commenced only in late 2002 and it is unclear whether there has been any real progress. The plan is unlikely to be completed in 2003.
- Ringarooma. The trust has not received any formal correspondence or updates on the plan since May 2002. The delay is unacceptable. The plan is unlikely to be completed in 2003.

The Tasmanian Conservation Trust criticised the Tasmanian Government's public consultation and education on water management issues, stating that it has been 'erratic and irregular' and that the Tasmanian Government 'appears to only pay heed to water users'. The trust indicated that on a number of occasions it suggested the establishment of Statewide reference groups (consisting of core conservation, community and industry representatives) to assist the development of water management plans, but this had been to no avail. In contrast, it pointed to the establishment of a new working group on environmental flows (consisting only of the Tasmanian Farmers and Graziers Association and the Department of Primary Industries, Water and Environment) following a meeting between the association and the Minister in March 2003.

Mr Anthony Hocking (Enterprise Marketing and Research Services) was concerned that the allocation of Tasmania's water resources, while:

... nominally at the disposal of the Rivers and Water Supply Commission ... has effectively been determined by and predominantly in response to the needs of the HEC, now Hydro Tasmania. (Hocking 2003, p. 16)

In commenting on the need for farmers in the South Esk catchment to negotiate with Hydro Tasmania to purchase additional water allocations, Mr Hocking found it '... curious that Hydro Tasmania should have ... a dual role as both a user and an allocator of water'. He considered that this raised the questions of whether water is being allocated efficiently and of the respective roles of Hydro Tasmania and the Rivers and Water Supply Commission.⁵

Discussion

Tasmania has determined environmental water requirements for all of its stressed rivers. Pending the development of water management plans, environmental flows are protected through the moratorium on the issue of new water licences and the implementation of water use restriction thresholds.

As the Council noted in previous NCP assessments, however, the process for determining environmental water provisions (that is, the water to be preserved for the environment) continues to be slower than Tasmania anticipated. At the end of June 2003, only one of 14 water management plans was nearing completion.

Tasmania considered that, following the finalisation of its first plan, the development of generic principles to guide the preparation of future plans will accelerate the process. On this basis, Tasmania still expects to substantially complete environmental water provisions for the water resources on its agreed implementation program by 2005. This would be sufficient to meet CoAG obligations.

In relation to the water management plan for the Great Forester catchment, the Tasmanian Government provided the following responses to the matters raised by the Tasmanian Conservation Trust.

⁵ Under the Water Management Act, the Minister for Primary Industries, Water and Environment is responsible for water licensing and allocations. In undertaking this role, the Minister is advised by the Department of Primary Industries, Water and Environment, and not by the Rivers and Water Supply Commission or Hydro Tasmania. (See also section 7.4.)

- River health monitoring surveys and a comprehensive report on the state of the catchment (DPIWE 1999a) indicate that, overall, the catchment is in good health, particularly in the middle to upper reaches. Sites that were assessed as being in poorer ecological condition showed a strong relationship with adjacent land use rather than with stream flow.⁶ The report indicates that river habitat condition and nutrient loading as a result of land use in the middle reaches are the major drivers of river health.
- A pyrethrum spill in April 1994, resulting from a dam failure, demonstrates that the Great Forester River is highly resilient to disturbance, with ecological resilience widely recognised as a key indicator of ecological sustainability. The spill caused high mortality in both fish and crayfish populations for up to 15 kilometres downstream. A report on the recovery of the river from this event concluded that the river had ‘recovered’ to an acceptable condition within two years (with the exception of two fish species that were recovering more slowly) (DPIF 1996). This ecological recovery occurred under a water use and management regime that was less favourable to the environment than the environmental water provision proposed in the water management plan.
- The environmental water requirement was determined to meet the needs of the natural ecosystem values and recreational fishing values. The monthly environmental water requirements represent the flow required to maintain greater than 85 per cent of habitat for native fish species and trout and 90 per cent of macroinvertebrate taxa with greater than 75 per cent of habitat. This represents a ‘no/low risk’ scenario for the key ecological and recreational fishing values that were assessed.
- The Great Forester River is an unregulated river. Estimated extraction represents only about 6 per cent of the median annual flow, with most of this water taken directly from the river during the irrigation season. Because of this, the environmental water provision (that is, the amount preserved for the environment in the plan) has focused on providing a base flow in summer. The proposed plan provides for a minimum managed flow of 30 megalitres per day. Warnings of impending irrigation restrictions commence at 45 megalitres per day, with restrictions enforced at 40 megalitres per day. This is a significant improvement on the existing cease-to-pump trigger level of 25 megalitres per day.⁷ The minimum flow

⁶ The Council notes that a report included with the state of the rivers report includes the following comment on the main stream of the Great Forester River: ‘The hydrology sub-index scores were low overall for most sites, indicating extraction rates for the summer period are high and may be strongly influencing instream processes.’ (DPIWE 1999b, p. 13)

⁷ The proposed cease-to-pump trigger effectively permits extractions of 56–80 per cent of natural flows from December to April. This is an improvement over existing conditions (where 64–84 per cent of natural flows can be extracted) but is significantly less than the recommended environmental water requirement (which would limit extractions to 6–36 per cent of natural flows).

presents a low risk of environmental change for native fish and for 16 out of 21 macroinvertebrate taxa. Even the high risk taxa, however, have recolonised the river after the pyrethrum spill under the existing (less favourable) flow regime.

- While the environmental water provision in the plan is less than the 'low risk' environmental water requirement during summer, the environmental water requirement study predicted that the river should be in worse condition than is indicated by river health monitoring. Based on the river health monitoring and the resilience of the river following the pyrethrum spill, Tasmania considers that the environmental water provision in the plan poses little risk to the ecological condition of the river in the short to medium term. The uncertainty regarding the long-term risk, combined with the socioeconomic impacts that would be associated with immediate implementation of the 'low risk' environmental water requirement, provides a compelling justification for the approach adopted in the plan.
- The department has committed to an extensive monitoring program and further research to improve the understanding of the river's water requirements. The results of the monitoring and research will be used to review the impact of the plan's environmental water provision over the next three years.
- The Government considers that the environmental water provision in the plan meets the objectives of the Water Management Act, as the plan provides water to maintain the ecological processes and genetic diversity of aquatic ecosystems. The Government also considers that the plan complies with CoAG environmental water obligations. The environmental water provision in the plan was developed using the best scientific information available (principle 2 of the National Principles for the Provision of Water for Ecosystems) and following extensive consultation with all relevant stakeholders (principle 12). The plan goes as far as possible to meet the water regime necessary to sustain ecological values while recognising the existing rights of water users (principle 4). It also provides considerably more water for the environment (at least a 20 per cent increase in summer minimum flows) than previously (principle 5).
- The negotiations on the environmental water provisions for other plans are actively considering lower levels of risk than accepted for the Great Forester catchment. Based on a six-year monitoring program, the minimum flow being negotiated for the Mersey River, for example, represents a 'low risk' environmental flow. The Government considers that different environmental water provision outcomes in different catchments demonstrate that the water management planning process is flexible, accommodating the various values of stakeholder groups while ensuring sound ecological outcomes.

While the latest draft plan includes environmental water provisions that are significantly less than the estimated environmental water requirements during summer, the provisions are an improvement and are to be reviewed within three years (whereas the usual requirement is for a review after five

years). Based on the additional information provided by Tasmania, including the results of the river health monitoring surveys and the resilience of the river to the pyrethrum spill, it appears unlikely that the environmental water provisions in the plan would compromise the ecological condition of the river before the proposed review. In the three years until the review, Tasmania has committed to undertake extensive monitoring and further research to improve the understanding of the river's water requirements. The department is required to publish an annual monitoring and assessment report on the plan and hold a public meeting on the report. As a result of the plan's requirement for water use to be metered, Tasmania also expects to obtain a better understanding of actual water use.

As the Great Forester plan is still to be finalised, the Council will consider the final plan, along with any other completed plans, in the 2004 NCP assessment. The Council notes Tasmania's view that, for other plans, the environmental water provisions being considered generally involve a lower level of risk than that accepted for the Great Forester catchment. The Council will report on progress by all jurisdictions with the implementation of environmental allocations in the 2004 NCP assessment, and conclude its assessment of jurisdictions' compliance with obligations in this area in 2005 consistent with the timetable established by CoAG.

7.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In the 2001 NCP assessment, the Council found that Tasmania's water trading arrangements were in the early stages of development, particularly for permanent trade. The Council identified two specific constraints on trade.

- In unregulated water systems, until January 2003, a permanent transfer would not be permitted unless certain conditions were met (primarily that the transferring party had obtained financial advice on the effects of the transfer).
- In regulated systems, the Rivers and Water Supply Commission may refuse to approve a transfer if it is likely to result in the movement of water from irrigated agriculture to another purpose.

In addition, the Council noted that holders of irrigation rights in regulated systems must own land in the irrigation district or transfer their rights within six months of ceasing to own land. Tasmania was also in the process of developing water management plans including trading rules.

Tasmania needs to remove constraints on water trading or demonstrate that any remaining constraints are in the public interest. Tasmania also needs to ensure trading rules in water management plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

In Tasmania, water trading is permitted in both regulated and unregulated systems.

Regulated systems

Within formal irrigation districts, under the Irrigation Clauses Act irrigation rights are separated from land and transferable within the irrigation district. Transfers are subject to any conditions imposed by the administrator of the irrigation district.⁸

Irrigation rights can be leased for a period of time or sold outright. An application to trade must be made to the scheme operator and must comply

⁸ A system of temporary trading in water rights has been operating in the Government-owned irrigation schemes since 1994-95. Owners of irrigation rights were able to transfer those rights to other users, in a particular season, with the approval of the Rivers and Water Supply Commission.

with conditions relating to the availability of water, infrastructure capabilities and the impact on the environment. If rights are to be traded out of an irrigation district, then the scheme operator would need to transfer a portion of its licence on behalf of the irrigator.

The trading rules applying in the three Government-owned irrigation districts (the South East, Cressy–Longford and Winnaleah irrigation schemes) are summarised in box 7.1. The Rivers and Water Supply Commission developed the rules in consultation with water users. The rules are intended to address the physical limits of scheme infrastructure, environmental constraints and the rights of third parties (other users and parties with a financial interest in an irrigation right).

Box 7.1: Trading rules in Tasmanian Government-owned irrigation districts

The Rivers and Water Supply Commission may refuse a proposed trade on the grounds that:

- supplying the water would have a significant negative effect on other users; or
- the commission cannot supply the water, given the capabilities of existing physical infrastructure or water availability.

The commission may require the preparation of a water development plan to ensure the sustainability of the proposed trade, with approval of the trade depending on the implementation of the plan.

Applications for trades incur administrative and registration fees. A fee also applies to recover the cost of any technical assessment of applications.

Applicants must provide evidence that any parties with a financial interest in an irrigation right, or the land to which it relates, approve of the trade.

The commission may refuse a transfer if it is likely to result in the movement of water from primarily irrigated agriculture to another purpose (a rule that ceased in May 2003).

Unregulated systems

For water resources outside formal irrigation districts, under the Water Management Act water licences (and allocations) are separated from land titles and transferable. Transfers are subject to the approval of the Minister for Primary Industries, Water and Environment.

- A licensee may transfer all or part of the water allocation on their water licence to another person. The transfer may be by permanent sale or temporary lease.⁹

⁹ Temporary water transfers had been occurring for some time before the new arrangements in the Water Management Act. The transfers were undertaken through the issue of temporary water licences under the previous Act.

- The transfer must accord with any relevant water management plan or, where there is no plan, with the objectives of the Act. Water management plans may include trading rules.
- The Minister may refuse to approve a proposed transfer if the transfer would have a significant adverse impact on other water users or the environment. In addition, the Minister may refuse or modify a proposed transfer if, after the transfer, the quantity of water available to the receiving party would be in excess of the quantity that they could use sustainably, for the purpose for which it is intended, on the relevant land. The Minister may require an applicant for a transfer to pay for an assessment of the effect of granting that transfer.
- The consent of any person noted on the register of water licences as having an interest in the licence (for example, a mortgagee) must be obtained for a transfer of an allocation on a licence to be approved.
- If the receiving party does not hold a water licence, they must apply for a licence when applying to transfer the allocation. Pre-approval of these applications is possible.

Trading to date

At the time of the 2001 NCP assessment, water trading in Tasmania was at an early stage of development. Trade had been occurring since December 1998 within the three regulated Government-owned irrigation districts, which account for only around 10 per cent of the State's water use. Trade in unregulated areas had been occurring to only a small extent since being permitted in January 2000. There was little (if any) demand for trade between regulated and unregulated systems.

Based on the latest data provided by Tasmania, water trading (both permanent and temporary) in the Government-owned irrigation districts amounted to 10–15 per cent of water use in 2001-02. In the South East Irrigation Scheme, the proportion of water traded rose to 23 per cent in the first half of 2002-03 (table 7.2).

Table 7.2: Irrigation rights transferred in Tasmanian Government-owned irrigation schemes, 1999-2000 to 2002-03^a

<i>Scheme</i>		<i>1999-2000</i>	<i>2000-01</i>	<i>2001-02^b</i>	<i>2002-03 (to 31 January 2003)</i>
Cressy–Longford Irrigation Scheme	Water supplied (megalitres)	7 505	7 162	5 489	na
	No. of trades	13	8	7	na
	Water traded (megalitres)	850	373	550	na
	% water traded	11	5	10	na
South East Irrigation Scheme	Water supplied (megalitres)	3 537	4 293	1831	2 522
	No. of trades	63	48	15	25
	Water traded (megalitres)	677	394	241	572
	% water traded	19	11	13	23
Winnaleah Irrigation Scheme	Water supplied (megalitres)	3 546	3 507	3 523	2 611
	No. of trades	10	4	15	8
	Water traded (megalitres)	245	74	525	275
	% water traded	7	2	15	11

^a Temporary trade accounts for the majority of this trade.

^b For the Cressy–Longford scheme, data are for the period to 20 March 2002. The scheme was transferred to self-management on 1 April 2002.

na Not applicable.

Source: Government of Tasmania 2003.

For permanent transfers in unregulated streams, Tasmania advised that:

- over the 20-month period from July 2000 to February 2002, there were 151 permanent water transfers, accounting for a total volume of 48 579 megalitres; and
- in the 12 months to February 2003, there were 63 permanent transfers totalling 7677 megalitres (made up of 163 allocations).

While the volumes traded appear to be significant, Tasmania advised that the majority of permanent transfers were the result of property sales. In the 12 months to February 2003, for example, only around 30 allocations (or 20 per cent) were transferred outside property sales. Tasmania did not provide data on the permanent trading proportion of water use in unregulated streams.

In relation to temporary transfers in unregulated streams, Tasmania advised that:

- over the eight-month period from July 2001 to February 2002, there were 32 temporary transfers totalling 3670 megalitres; and
- in the 12 months to February 2003, there were three temporary transfers totalling 215 megalitres.

Tasmania expects the development of water management plans to provide for the expansion of trading arrangements as competition for water resources emerges.

Tasmania provided information on the time taken for water transfers to be approved.

- For Government-owned irrigation districts, the Rivers and Water Supply Commission approves transfers within seven days on average. Over 90 per cent of applications are approved within 14 days, with the longest approval taking around 30 days.
- For unregulated systems, the Department of Primary Industries, Water and Environment processes transfers within five working days where no third party interest is involved. Permanent water transfers involving a third party interest take longer but generally are approved within 14 days unless there are complications.

Changes in the regulatory environment since 2001

During 2002-03, Tasmania removed two restrictions on water trading that the Council had noted in the 2001 NCP assessment.

- For unregulated systems, the transitional provision on permanent transfers — requiring a proposed transferring party to certify in writing that they had obtained independent financial advice on the likely effects of the transfer — ceased as scheduled on 1 January 2003. The provision was intended as a temporary measure to provide time for the community to become familiar with water trading and its effects.
- For the Government-owned irrigation districts, the Rivers and Water Supply Commission's power to refuse a transfer of water if likely to result in the movement of water from irrigated agriculture to another purpose was removed in May 2003. The provision was intended to apply in circumstances such as the subdivision of irrigation properties and the use of water for domestic purposes. Tasmania advised that the power had been applied generally only in the relatively small South East Irrigation Scheme.

Tasmania advised that its first water management plan (the plan for the Great Forester catchment) was expected to be finalised and submitted to the Minister for adoption in mid-2003 (see section 7.2). It provided the Council with the penultimate draft of the plan (dated April 2003). The trading rules in the draft plan mirror the requirements of the Water Management Act. The draft plan notes that the Department of Primary Industries, Water and Environment will make summary trading information (on the number, volume and average price of trades) publicly available on an annual basis, subject to voluntary disclosure by applicants and the protection of personal details.

Discussion

Under the CoAG water reforms, the objective of water trading is to ensure water is used to maximise its contribution to national income and welfare, subject to the social, physical and ecological constraints of catchments. Since the 2001 NCP assessment, Tasmania has made significant progress towards achieving the CoAG water trading objectives.

During 2002-03, Tasmania removed two restrictions on water trading that the Council identified in 2001 as likely to be inconsistent with CoAG water trading commitments.

- In unregulated systems, the transitional provision that a permanent transfer would not be permitted unless certain conditions were met (primarily that the transferring party had obtained financial advice on the effects of the transfer) was sunsetted.
- For the Government-owned irrigation districts, the Rivers and Water Supply Commission's power to refuse a transfer of water if likely to result in the movement of water from irrigated agriculture to another purpose was removed.

While neither of these provisions prohibited water trade outright, their removal is likely to facilitate trade and maximise water's contribution to national income and welfare, consistent with CoAG objectives.

In addition, Tasmania has virtually completed the conversion of all former water rights (attached to land titles) to licences and allocations under the new legislation. This conversion removes a further constraint to trading.

Water market and trading administration does not appear to represent an impediment to trade. In the 2001 NCP assessment, the Council found that, while Tasmania's register of water rights does not provide indefeasibility or surety of title, water rights are sufficiently well defined so as not to provide an impediment to trade. In addition, transfers require the consent of all parties with a registered financial interest in the water right. Tasmania advised that trades are approved on average within seven days in Government-owned irrigation districts and within five to 14 days in

unregulated systems, depending on third party interests. Current approval processes are unlikely, therefore, to impede efficient trade.

Tasmania's trading arrangements also adequately address risks for the environment by requiring, for example, that transfers are consistent with the objectives of the water legislation and any relevant water management plan. The trading rules in the penultimate draft plan for the Great Forester catchment reiterate the requirements of the Water Management Act and do not appear to impose additional conditions on trade. The Council will consider the trading rules in the final plan for the Great Forester catchment in the 2004 NCP assessment. The Council will consider the trading rules in other water management plans in future NCP assessments as these are progressively finalised.

Having further considered Tasmania's trading arrangements and those in other States, the Council has identified a remaining restriction on trading in irrigation districts that is likely to be inconsistent with CoAG obligations. Only an owner or occupier of land in the district may hold 'irrigation rights' (the form of water entitlement in an irrigation district). A holder of an irrigation right who no longer owns or occupies land in the district must transfer the right within six months (with a possible extension of a further six months) or forfeit the right. Tasmania advised that this condition is intended to ensure water from publicly funded irrigation schemes is used for the purpose for which it was provided and to militate against speculation in the water market. The Council considers, however, that this restriction is also likely to affect the entry and activities of agents, brokers and other potential participants in the water trading market. As a result, the restriction may reduce returns available to holders of irrigation rights and constrain the extent to which water is used for its highest value purpose. The provision is therefore likely to constrain Tasmania's achievement of CoAG water reform objectives. Tasmanian Government officials indicated a preparedness to consider the continuing need for this restriction before the 2004 NCP assessment.

For unregulated systems, the Water Management Act includes a provision that appears to have similar objectives to the remaining restriction on trade in irrigation districts. Under the Act, the Minister may refuse or modify a proposed transfer if, after the transfer, the quantity of water available to the transferee would exceed: the quantity that could be used sustainably on the relevant land; or the quantity that could be used for the purpose for which it is intended. (This condition is reiterated in the draft water management plan for the Great Forester catchment.) In part, the provision could be used to reinforce other provisions aimed at environmental objectives. The Council considers, however, that the restriction is likely to have similar impacts — on the entry and activities of agents, brokers and other potential participants in the water trading market and on the returns available to licence holders — to the restriction on trade in irrigation districts.

In the 2001 NCP assessment, the Council also indicated concern with the limited choice of trading mechanisms and the availability of market information. While Tasmania advised that there have been no significant

developments in these areas since the 2001 NCP assessment, there are no Government impediments to the establishment of new trading mechanisms and the current arrangements are understandable given the level of trade.

Assessment

Tasmania made significant progress in addressing its water trading commitments in 2002-03. It removed the two restrictions on water trading identified by the Council in the 2001 NCP assessment as likely to be inconsistent with CoAG water trading commitments. The Council, therefore, considers that Tasmania has made sufficient progress against its CoAG obligations on water trading for the 2003 NCP assessment.

In relation to the remaining restriction on trading in irrigation districts that is likely to be inconsistent with CoAG obligations — that is, the requirement that only an owner or occupier of land in the district may hold irrigation rights — Tasmania indicated a preparedness to consider the continuing need for the measure. Given that the Water Management Act includes a provision applying to unregulated systems that appears to have similar objectives — with scope for transfers to be refused if the quantity of water available would exceed the amount that could be used sustainably for the intended purpose — the Council will look for Tasmania to consider the need for this provision at the same time.

For the 2004 NCP assessment, the Council will expect Tasmania to have reviewed the remaining restrictions on trading and either removed the restrictions or demonstrated that they provide a net public benefit. In future assessments, the Council will consider the efficacy of trading rules in water management plans as the plans are finalised. The Council will also monitor the choice of water trading mechanisms and the availability of market information, which are likely to develop as trading in water increases.

7.4 Institutional reform

Structural separation

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement, and service provision are to be separated institutionally.

In the 2002 NCP assessment, the Council reiterated concerns with three areas of institutional reform in which Tasmania was still to address outstanding issues:

- transparency in local government water and wastewater service pricing arrangements, including reporting any remaining community service obligations and cross-subsidies;
- a complaints-handling process to address customer concerns with water service standards for local government water businesses; and
- the potential for conflicts of interest, given that the Minister for Primary Industries, Water and Environment is responsible for the Rivers and Water Supply Commission (the service provider) and for resource management and water allocations.

Tasmania needs to transparently report on pricing, including community service obligations and cross-subsidies, developments on complaints handling for customers of local government water businesses and arrangements for minimising potential conflicts between the various roles of the Minister.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clauses 6(c) and 6(d)

In the 2002 NCP assessment, the Council found that Tasmania was still to develop a complaints-handling process to address water service standard issues for customers of local government water businesses. It also reported concerns with the nature of Ministerial arrangements, given that the Minister for Primary Industries, Water and Environment is responsible for the Rivers and Water Supply Commission (the service provider) and for resource management and water allocations. The Council also raised questions about the transparency of water and wastewater pricing and related matters. At the time of the 2002 NCP assessment, Tasmania was proposing to develop a complaints-handling mechanism and service charter for local councils through the Premier's Local Government Council.

Reform progress

As reported in section 7.1, Tasmania's revised Urban Water and Wastewater Pricing Guidelines impose obligations on local governments that are consistent with the CoAG pricing principles, including the explicit reporting of CSOs and environmental costs incurred by water businesses. The guidelines also expect that local governments will measure (or reasonably estimate) water that they use themselves and pay for this use. The GPOC

audit of local government water and wastewater business performance reports on, among other things, compliance with the various aspects of the pricing guidelines, including costing and reporting CSOs, reporting own-use transfers, the structure of tariffs, and cross-subsidisation.

Tasmania clarified that many local governments have mechanisms for handling complaints and customers of local government water businesses have access to the Ombudsman. In addition, Tasmania advised that arrangements for the handling of complaints are now being considered as part of a wider review of the *Local Government Act 1993*. An issues paper, released in March 2003, indicates that the review is considering whether local governments should be required to adopt a formal complaints-handling procedure that has the confidence of their local communities. The review is also considering the case for establishing an independent complaints-handling body to deal with local government-related matters.

In relation to the potential conflicts for the Minister, Tasmania noted that in approving water management plans and water allocations the Minister is bound by specific requirements under the Water Management Act. The Rivers and Water Supply Commission must comply with the provisions of any relevant water management plan. As the portfolio Minister for the commission, the Minister is bound by the *Government Business Enterprises Act 1995*.

Submissions

The Tasmanian Conservation Trust considered that:

... the roles of water resource management, standards setting, regulatory enforcement and service provision are inextricably linked within the Tasmanian Government and heavily influenced by politics. Institutional separation is cosmetic at best. Debate is almost completely internalised, with little opportunity for community involvement. (TCT 2003, p. 1)

The trust referred to developments regarding the Meander Dam to support its view, including:

- the Rivers and Water Supply Commission, based within the Department of Primary Industries, Water and Environment, is the proponent for the dam, but at various stages has been represented by (and shared information with) other units within the department;
- Hydro Tasmania's roles in the preparation of the development proposal and environmental management plan, and as the commercial operator of the mini-hydro scheme included in the project, further confuse the issue;

-
- the department's water development branch actively promoted the dam, while its environment division was responsible for assessing the dam's environmental impacts;
 - the dam was approved by two statutory bodies that are based within the department (the Board of Environmental Management and Pollution Control and the Assessment Committee for Dam Construction) and both of these bodies have two senior managers from the department as members;
 - the Board of Environmental Management and Pollution Control delegated final approval of the dam to its chairman, who is also the department's secretary; and
 - during this process, the Minister for Primary Industries, Water and Environment made public statements supporting the dam.

The trust considered that the overturning of the permit for the dam by the Resource Management and Planning Appeal Tribunal raises serious questions about the department's capacity to both promote and assess water infrastructure proposals.

Discussion and assessment

Tasmania has addressed the matters raised in the 2002 NCP assessment concerning transparency in local government water and wastewater service pricing. The State's revised pricing guidelines impose obligations on local governments that are consistent with the CoAG pricing principles, including the explicit reporting of CSOs and local governments' own-use of water. The urban water and wastewater pricing and other guidelines, together with the annual GPOC audit, provide detailed financial performance feedback to local government water and wastewater providers and advice on areas of weakness and actions necessary to improve performance. This advice will assist in making transparent many of the cross-subsidies that exist in local government charging regimes although nontransparent cross-subsidies will remain where local governments do not charge on a use-base.

The Council notes the clarification provided by Tasmania of its processes for handling customer concerns about water service issues. Tasmania advised that many local governments have mechanisms for handling complaints, customers of local government water businesses have access to the Ombudsman, and complaints-handling processes are being reviewed as part of the wider review of the Local Government Act. The Council will await the outcome of the review before further considering the adequacy of complaints-handling processes for addressing concerns with the standards of service of local government water and wastewater businesses.

In response to the issues raised by the Tasmanian Conservation Trust, the Tasmanian Government advised the following.

- The Rivers and Water Supply Commission is a Government business enterprise subject to the Government Business Enterprises Act. It is a separate legal entity from the department. The department provides some administrative services for the commission under a commercial service agreement.
- The department's water resources division managed the information-gathering consultancies and the subsequent preparation of the development proposal and environmental management plan, as the commission did not have sufficient resources to undertake all of the work in a cost-effective manner.
- The Assessment Committee for Dam Construction is an independent, expertise-based, statutory committee. It has six members, three of which are not nominated by the Minister. Under the Water Management Act, the committee is not subject to the control or direction of the Minister when approving or refusing an application for a permit.
- The Environmental Management and Pollution Control Board is also an independent statutory body. It has five members: the department's secretary (as chair) and director of environmental management, and three persons with practical knowledge and experience in environmental management and/or conservation.
- The board's assessment of the Meander Dam proposal covered all relevant matters, including environmental impacts and mitigation strategies, dam safety, project economics and water management issues. The assessment involved a six-week period for public submissions. The proponent was then required to provide supplementary information to address the matters raised in submissions.
- The decision to issue an environmental protection notice (including the conditions attached to the notice) was determined by a formal meeting of the board. The board agreed to some amendments to the draft notice presented at the meeting and delegated the final signing of the notice to the chairman once these amendments had been made.

The additional information provided by Tasmania indicates that the Rivers and Water Supply Commission, the Assessment Committee for Dam Construction and the Environmental Management and Pollution Control Board are effectively separate legal entities from the department and must comply with their own specific legislative requirements. Departmental representatives do not comprise a majority on either the Assessment Committee for Dam Construction or the Environmental Management and Pollution Control Board. In addition, Tasmania has confirmed that the final decision on the environment protection notice was made by the board and not by the department's secretary.

In relation to potential Ministerial conflicts, Tasmania emphasised that in approving water management plans and water allocations the Minister must comply with the Water Management Act. As the portfolio Minister for the

Rivers and Water Supply Commission, the Minister is bound by the Government Business Enterprises Act.

The Council considers that Tasmania's Ministerial and institutional arrangements provide adequate safeguards and, for a small jurisdiction, are consistent with CoAG obligations. The Council will, however, continue to monitor outcomes in future NCP assessments.

Devolution of irrigation scheme management

Assessment issue: Constituents are to be given a greater degree of responsibility in the management of irrigation areas, for example, through devolution of operational responsibility to local bodies, subject to appropriate regulatory frameworks being established.

In the 2002 NCP assessment, the Council reported that Tasmania had transferred responsibility for the management of one of the three Government-owned irrigation schemes (the Cressy–Longford Irrigation Scheme) to local irrigators and was progressing devolution for the Winnaleah Irrigation Scheme. Tasmania expected negotiations on devolution for the South East Irrigation Scheme to commence once the transfer of the Winnaleah scheme was finalised.

Tasmania should report on progress in devolving responsibility for the management of the Winnaleah and South East irrigation schemes.

Next full assessment: The Council will consider Tasmania's progress with devolving management responsibility in the South East Irrigation Scheme in the 2004 NCP assessment. The Council will assess Tasmania's progress with institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(g)

In the 2002 NCP assessment, the Council reported that Tasmania had transferred responsibility for the management of one of the three Government-owned irrigation schemes (the Cressy–Longford scheme) to the local irrigators association in April 2002. It was also progressing the devolution of management for the Winnaleah scheme, though the process had been delayed pending resolution of the tax status of the Cressy–Longford scheme. In the expectation that arrangements for the transfer would be finalised, irrigators appointed new scheme managers for the Winnaleah scheme in September 2001. Tasmania expected negotiations with irrigators in the South East scheme to commence once the transfer of the Winnaleah scheme was settled.

Tasmania transferred responsibility for the management of the Winnaleah Irrigation Scheme to local irrigators on 1 July 2003. The transfer was made on a similar basis to that for the Cressy–Longford scheme. The Rivers and Water Supply Commission retains ownership of the fixed assets (for water delivery and water storage). The Winnaleah irrigators are responsible for day-to-day scheme operations, administration and management (including price setting and staff management) and own the operational assets.

Tasmania advised that discussions on the devolution of management responsibility for the South East Irrigation Scheme had commenced, but the timing of the devolution for the scheme is unclear. The scheme has more complex operational arrangements and there are several pricing issues to be resolved. These issues are currently being negotiated with local irrigators. The Government is providing relevant information to irrigators to assist the process.

Discussion and assessment

The Council is satisfied that Tasmania continues to meet its CoAG obligations on the devolution of irrigation scheme management for this 2003 NCP assessment. It will consider Tasmania's progress with devolving management responsibility in the South East Irrigation Scheme in the 2004 NCP assessment.

Integrated catchment management

Assessment issue: Tasmania is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council noted that Tasmania was revising its administrative arrangements for integrated catchment management. In 2002, the Council reviewed Tasmania's progress in implementing its Natural Resource Management Framework and considered that the Government was satisfactorily progressing its integrated catchment management obligations.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

Tasmania is implementing integrated catchment management reform under its Natural Resource Management Framework. The framework sets out principles and priorities in natural resource management and integrates statutory and nonstatutory instruments at State and regional levels. Tasmania completed the framework in February 2002 following extensive public consultation with stakeholders. The framework is available on the Department of Primary Industries, Water and Environment web site (www.dpiwe.tas.gov.au).

The Tasmanian framework is consistent with the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension.¹⁰ Tasmania signed a bilateral agreement with the Commonwealth Government to implement the national action plan in February 2002, and the Natural Heritage Trust extension in June 2003. Consistent with these agreements, the focus of the Tasmanian framework is planning on a regional basis rather than a catchment basis.

The Natural Resource Management Framework sits within Tasmania's Resource Management and Planning System, which was established in 1993 for the statutory and administrative coordination of natural resource management. Supported by a suite of complementary legislation (including the *Water Management Act 1999*), the system establishes a whole-of-government, industry and community approach to resource management and planning.

The *Natural Resource Management Act 2002* implements the Natural Resource Management Framework. The Act, which was passed in November 2002, establishes:

- the Tasmanian Natural Resource Management Council;
- regional natural resource management committees; and
- mechanisms to accredit regional strategies.

The Natural Resource Management Council, which first met in March 2003, advises the Government on natural resource management priorities, the accreditation of regional strategies, the effectiveness of implementation and funding arrangements. It also establishes communication mechanisms with regional bodies and among stakeholders.

Three regional committees¹¹ under the council identify regional priorities and prepare and monitor statutory natural resource management strategies. The committees, which were established in December 2002, undertake this work in conjunction with local communities, including local catchment groups. The committees are intended to link State and local natural resource management priorities.

Accredited regional strategies must include standards and targets that are consistent with the National Framework for Natural Resource Management

¹⁰ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 Budget. The implementation framework was endorsed in October 2002 by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus is on measures to improve water quality.

¹¹ Tasmania's three natural resource management regions are the North-West, Northern and Southern regions.

Standards and Targets 2002, and must meet accreditation criteria agreed by the Natural Resource Management Ministerial Council. In particular, regional strategies must set targets on a range of nationally agreed matters and monitor progress against those targets. The targets are being developed in consultation with the community.

In developing their strategies, the regional committees are drawing on pre-existing work in catchment planning that took place with assistance from the Department of Primary Industries, Water and Environment. Tasmania reported in 2001 that 28 catchment and subregional groups were developing or implementing catchment and natural resource management plans.¹² While the Natural Resource Management Framework adopts a regional focus (under the regional committees) rather than a narrower catchment focus, the 28 catchment groups continue to play a significant role in the development and delivery of the regional strategies. In particular, the catchment groups provide subregional input into the regional strategies, and in the future, will submit and implement projects at the regional, subregional and catchment levels.

Tasmania reported in 2002 that it anticipated developing three regional strategies under the Natural Resource Management Act by around the end of August 2003. However, the Act was delayed by the 2002 Tasmanian election, and the regional strategies are now due to be submitted for accreditation in March 2004. Tasmania advised in 2003 that the regional committees have each produced a regional situation paper as the first stage in the development of their strategies, and are now preparing material for community consultation.

Tasmania's natural resource management arrangements provide for some coordination between water quality and water quantity management. Water management plans and regional natural resource management strategies are developed under separate Acts that sit beneath the Resource Management and Planning System — the overarching Statewide framework for implementing sustainable development. While there is no direct statutory link between the plans and the strategies, the requirements of the Resource Management and Planning System mean that regional strategy actions pertaining to water management activities are primarily implemented via water management plans (where such plans exist).¹³

¹² The Mersey group, for example, produced the Mersey Natural Resource Management Plan and Mersey Rivercare Plan, which were the basis for a devolved grant that provided funding to groups and individuals for on-ground works for river, riparian, soil and vegetation management.

¹³ Other links between water quantity and water quality management include the application of protected environmental values and State of River reporting (see the section on 'National Water Quality Management Strategy.')

Salinity

The National Land and Water Resource Audit's 2000 salinity assessment estimated that dryland salinity is placing 54 000 hectares of the State at risk and may cost farm industries A\$5.4 million per year. The audit also found that some groundwater bores and streams have excessive salinity levels. The area at risk is expected to rise to 94 000 hectares by 2050. The Derwent Valley, the Midlands, the North East, the East Coast and the Bass Strait Islands are the areas identified as being most vulnerable to salinity (NLWRA 2001).

Tasmania proposes to address salinity issues through the regional natural resource management committees, which will identify those areas requiring salinity management as a basis for developing management strategies. Consistent with the national action plan (and the Natural Heritage Trust extension, for regions outside the national action plan priority regions), the strategies will set and monitor targets on nationally agreed matters.

Other measures

Beyond the development (and eventual implementation) of regional natural resource management strategies, Tasmania's approach to integrated catchment management also encompasses:

- land care practices to protect rivers with high environmental values;
- the State Water Quality Strategy; and
- State of River reports.

The Council considers land care practices in the following section. The State Water Quality Strategy and State of River reporting are examined in the context of Tasmania's implementation of the National Water Quality Management Strategy (see section 7.5).

Land care practices

Tasmania initiated projects from 2000 to address property-based land care issues identified in catchment plans. Work to address these issues includes fencing, flood mitigation, the rehabilitation of native vegetation, and riverworks. Individual farmers undertook this work with Natural Heritage Trust funding. Tasmania reported in 2001 that 36 river care plans had been completed, while another 47 were approved or under development. Nine weed management plans were also in development. Tasmania expects that many of these plans will be used as the basis for delivering on-ground action as part of the implementation of the regional strategies.

In addition, the State Policy on Water Quality Management addresses a range of land care issues, including the control of erosion and stormwater runoff, agricultural runoff and forestry operations. These land care provisions protect rivers and streams.

The State policy also advocates using the planning system and developing a code of practice to reduce the effects of development activities on waterways. Action is under way to ensure that planning schemes contain the appropriate provisions. The Hobart metropolitan councils and Launceston City Council, for example, developed best practice guidelines for the control of erosion and stormwater runoff from land disturbance. The guidelines describe best practice environmental management to minimise contaminated runoff from construction sites, subdivisions, civil infrastructure and road works, and include measures to protect streamside vegetation. In relation to agricultural runoff, the State policy requires the development of a code of practice or guidelines to reduce the impact of stormwater runoff from agricultural land on water quality.

The Department of Primary Industries, Water and Environment, jointly with the Tasmanian Farmers and Graziers Association completed a Natural Heritage Trust-funded project titled Guidelines for Good Agricultural Land Practice in Tasmania. The aim of the project was to develop guidelines for good agricultural land practice to improve soil, water and vegetation management, and to reduce the impact of agriculture on Tasmania's land and water resources. Specific guidelines address the impact on water quality of stormwater runoff from agricultural land. The completed guidelines were distributed to members of the Tasmanian Farmers and Graziers Association and other interested farmers. Tasmania also has a code of practice relating to private and public forestry land. The code was amended in 2001 and 2002 to tighten restrictions on the clearing of forest trees.

Support for catchment management

Tasmania has a number of supports to facilitate catchment management. These include:

- a guide for community groups, titled *Integrated catchment management: what it is and how to do it*; and
- Landcare, Rivercare and Bushcare program teams to help groups deal with technical issues arising from their catchment management projects.

Submissions

The Tasmanian Conservation Trust criticised Tasmania's implementation of integrated catchment reforms (TCT 2003, p. 2). The trust's key criticisms are that the scope of reform is limited, the pace of reform is too slow, and the Government is predisposed to facilitating development at the expense of environmental values. According to the Tasmanian Conservation Trust:

With the exception of community driven, [Natural Heritage Trust] funded plans such as for the Brid-Forester Integrated Catchment Management Plan, there has been very little focus on [integrated catchment management] in Tasmania in recent years ...

Natural Resource Management is running seriously behind schedule in Tasmania. The three regional councils have only been established a few months, and the likelihood of regional strategies being delivered prior to the end of 2003 is very low. (TCT 2003, p. 2)

On the promotion of development at the expense of environmental considerations, the Tasmanian Conservation Trust stated that:

The focus of Tasmanian Government policy is purely and solely directed at resource development, and water is no exception. The Water Development Plan (WDP), which is focussed almost entirely on the development of large water storages, has taken the lion's share of both funding and resources in recent years. With the exception of the Conservation of Freshwater Ecosystem Values Project, which is beginning to look undeliverable, there has been no counter to this. For example, despite promoting over 150 gigalitres of increased water storage for the sole purpose of irrigation, there has been no assessment of the potential increase in salinity impacts as a result of the WDP. (TCT 2003, p. 2)

The trust considered that public consultation and education are 'reasonably comprehensive' in this reform area, but that 'details have often been vague.' It argued that an exception is Tasmania's nomination of priority projects under the national action plan:

The Tasmanian Conservation Trust has been forced to raise serious procedural and eligibility concerns with the Federal Minister with regards to the projects put forward by the Tasmanian Government as [national action plan] priority projects. Our primary concern is the fact that these projects were developed within the Water Development Branch of the [Department of Primary Industries, Water and Environment], with no community consultation or input. This is contrary to both the spirit and the intent of the [national action plan]. The [Tasmanian Conservation Trust] also believes that the majority of these nominated projects are not priority proposals, and that the Water Development Branch is attempting to avoid any scrutiny of its own

activities, particularly the potential increase in salinity impacts due to massive increases in irrigation. (TCT 2003, p. 2)

Tasmania advised that national action plan priority projects are not water development projects. The Government stated that the priority projects were not developed by the Water Development Branch, but by the Water Assessment and Planning Branch and the Water Management Branch. Tasmania advised that the State's priority projects encompass baseline information and monitoring as well as conservation projects, and that relevant processes and accreditation criteria account for salinity issues. Tasmania further advised that the priority projects referred to by the Tasmanian Conservation Trust were endorsed by the relevant natural resource management regional committees.

Discussion and assessment

Since the 2001 NCP assessment, Tasmania appears to have focused on establishing an administrative framework to implement integrated catchment management. Tasmania enacted the Natural Resource Management Act in November 2002, and established the Tasmanian Natural Resource Management Council in February 2003. Tasmania developed its Natural Resource Management Framework to reflect the requirements of the national action plan and Natural Heritage Trust extension, including observance of the National Framework for Natural Resource Management Standards and Targets 2002. The framework facilitates consideration of, and support for, land care practices to protect rivers with high environmental values.

Tasmania signed an intergovernmental partnership agreement with the Commonwealth Government to implement integrated catchment management reforms in priority catchments as part of the national action plan. This approach is consistent with Tasmania's NCP obligations to implement integrated catchment management reform. Tasmania will continue to develop integrated catchment management arrangements in the context of the national action plan and under the Natural Heritage Trust extension.

The Council considers that Tasmania made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, it:

- developed administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments.

While refining the administrative framework was a substantial task and sets the groundwork for the State's catchment management work, catchment management activity appears relatively limited. The three regional natural resource management committees have commenced their work, but the regional strategies, which were to have been in place by mid-2003, will not be developed until early 2004. In addition, Tasmania's progress in determining environmental water provisions (water to be preserved for the environment) is slower than Tasmania originally anticipated (see section 7.2). At 30 June 2003, only one of 14 water management plans was nearing completion.

The Council will consider Tasmania's progress in implementing regional natural resource management strategies in the 2005 NCP assessment. The Council will look for Tasmania to have significantly advanced its catchment management activity.

7.5 National Water Quality Management Strategy

Assessment issue: Tasmania is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 NCP assessment, the Council was satisfied that Tasmania was meeting its 2001 obligations on the NWQMS.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

Tasmania implements the NWQMS through its State Policy on Water Quality Management 1997. The policy assists in the management of water resources, decisions on water quality, sewerage and drainage services, and the coordination of government strategies. It applies to both surface water and groundwater. It implements the NWQMS in Tasmania by:

- adopting the broad objectives and structure of the NWQMS;
- developing water quality objectives through a consultative approach;
- addressing point source pollution through policies based on the NWQMS model;
- adopting NWQMS strategies to deal with major sources of diffuse pollution;

- adopting the waste minimisation hierarchy in the NWQMS;
- dealing with groundwater issues in accord with the NWQMS; and
- adopting or referring to guidelines produced under the NWQMS, including the Australian Water Quality Guidelines (NWQMS paper no. 6) and the Guidelines for Urban Stormwater Management (NWQMS paper no. 10). Tasmania has developed draft guidelines to implement several NWQMS modules, and additional guidelines are being developed.

Protected environmental values

The State Policy on Water Quality Management:

- sets environmental values that are required to be protected (protected environmental values) for Tasmania's fresh and estuarine surface waters;¹⁴
- determines water quality targets, based on the best scientific information available, of the level of indicators that should be met to protect these values; and
- sets water quality objectives for specific bodies of water as the most stringent set of water quality guidelines that should be met to achieve all of the protected environmental values nominated for that body of water.

Tasmania's protected environmental values are set either on a catchment basis or by municipal areas. The Board of Environmental Management and Pollution Control sets the values and water quality objectives through a community consultation process coordinated by the Department of Primary Industries, Water and Environment. Participants include local government authorities, regional water management bodies, planning authorities and community representatives (NCC 2001g, pp. 103–4). The public process, which takes at least three months, includes workshops, public discussion papers, public meetings and submissions.

Tasmania reported in 2001 that values had been set for nearly 75 per cent of the State's surface waters. At the date of the 2003 NCP assessment, community consultation on values for all surface waters had been completed, although a few local governments had not endorsed the values for their municipal areas.

Tasmania is developing water quality objectives for catchments on an 'as needs basis' to help control emissions from heavy industry. The approach is consistent with that outlined in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4). The State

¹⁴ The policy is being amended to eventually extend to coastal and ground waters.

has run pilot schemes in several catchments to determine water quality targets and interim water quality objectives on a site specific basis. The targets and objectives will be finalised through public consultation in the development of regional natural resource management strategies (see the discussion on integrated catchment management in section 7.4). Tasmania adopts the default values in NWQMS paper no. 4 where site specific information is inadequate.

Processes for considering water quality values have become more closely integrated with processes for determining water quantity values. In particular, protected environmental values and water quality objectives are considered in setting water allocations (including environmental allocations) for the State's water resources. The Department of Primary Industries, Water and Environment is developing statutory water management plans to determine future water allocations for water courses, lakes and groundwater areas. Each plan must include an assessment of the likely impacts of water allocations on protected environmental values and water quality objectives. In effect, the environmental flow is the stream flow required to ensure that the values and objectives are not compromised. In this way, water allocations can account for community-developed protected environmental values, water quality objectives and other water values (including ecosystem values, consumptive and nonconsumptive use values, recreation values, aesthetic values and physical landscape values). The first water management plan, for the Great Forester River, is nearing completion.

In areas where there is no water management plan, the Director of Environmental Management may issue an Environment Protection Notice under the Act to ensure protected environmental values and environmental objectives are met by the Department of Primary Industries, Water and Environment.

State Water Quality Monitoring Strategy

The National Land and Water Resource Audit reported that water quality datasets for Tasmania did not meet minimum requirements in terms of sampling frequency and length of monitoring recorded to enable a comparison of surface water quality against the 1992 Australian and New Zealand Guidelines for Fresh and Marine Water Quality (NLWRA 2001).

The Tasmanian Government approved the State Water Quality Monitoring Strategy in March 2003 to address issues in the collection of water quality information. The Government is developing an implementation strategy that will include an extension of the baseline water quality monitoring network and wider use of State of Rivers reporting (see below), each of which is consistent with approaches outlined in NWQMS paper no. 4. Consistent with the strategy, Tasmania committed A\$500 000 in 2001-02 to establish continuous water quality and quantity monitoring sites around the State. The chosen sites provide the basis for regular indicator reporting and on-ground management decisions. Work under this program is largely complete. The

strategy recognises the Government's need to improve partnerships in monitoring and reporting of water quality information, work more closely with Waterwatch as a key community group, and organise and improve access to data within a single State database and via the Internet.

Tasmania reported that its current monitoring programs are consistent with the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7). The national guidelines will form part of the State Water Quality Monitoring Strategy.

State of River reporting

The Department of Primary Industries, Water and Environment publishes catchment-based State of River reports to provide information on water quality, aquatic health, water use and allocations, and river condition in catchments. The studies are designed to integrate physical, chemical and biological monitoring at appropriate time and space scales as recommended by NWQMS paper no. 4. In particular, the studies provide a snapshot of current conditions, which will allow the identification of trends in natural resource condition over time.¹⁵ Tasmania expects to complete State of River reports once every 10 years. The Government advised in 2003 that seven reports had been completed, with a further six reports to be completed by September 2003. The reports are available from www.dpiwe.tas.gov.au.

Tasmania determines priorities for undertaking State of River reports from a weighting of water quality and water management priorities within an 'impact matrix' used to assess environmental flow priorities. Priorities also depend on community interest and participation. The impetus for some reports arose from local councils and natural resource management groups.

State of River reports provide information for water management and catchment management planning. They also provide input for water quality monitoring under the State Water Quality Management Strategy (see above). In this sense, State of River reporting provides another link between the State's water quality and water quantity management processes.

¹⁵ To identify trends in natural resource degradation, Tasmania is expanding the baseline water quality network to provide information between reports. This is in accord with priorities outlined in the State Water Quality Monitoring Strategy.

Drinking water

Tasmania formally adopted the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6) under the *Public Health Act 1997*, which provides specific quality parameters to assess acceptable drinking water standards. The Tasmanian Water Quality Guidelines 1997, published by the Department of Health and Human Services, specify public health standards for drinking and recreational water quality. The Tasmanian guidelines refer to the 1996 Australian Drinking Water Guidelines.

The Director of Public Health is required under the Public Health Act to publish an Annual Drinking Water Quality Report, including an assessment of the individual performance of every water supply authority against the relevant performance parameters set out in the guidelines. The Director published the 2001-2002 report in July 2003.

The State Policy on Water Quality Management also requires that water quality objectives be set with reference to 'guidelines recommended by the National Health and Medical Research Council, unless otherwise specified by the Director of Health'. Tasmania reported that this requirement refers to NWQMS paper no. 6.

The Water Services Association of Australia reported that Hobart Water complies with the 1996 Australian Drinking Water Guidelines for bacteriological standards, but not with those for physical-chemical guidelines (WSAA 2003, p.18).¹⁶ The Department of Health and Human Services advised that Hobart Water reports above and beyond the State reporting requirements for drinking water quality. The Department noted that while NWQMS paper no. 6 requires percentage compliance for microbiological quality parameters, it does not require percentage compliance reporting for the following physical-chemical guidelines: pH, colour and turbidity levels.

Wastewater management

Several measures, including the State Water Quality Management Policy, are in place to manage wastewater in Tasmania. These measures cover wastewater discharges, the removal of existing discharges from waterways and the promotion of the re-use of wastewater.

¹⁶ In 2001–02, 75 per cent of Hobart Water samples met the pH compliance range of 6.5–8.5. Of the noncompliant samples, 92 per cent were below pH 6.5. With respect to turbidity, Hobart Water had 100 per cent compliance with NWQMS paper no. 6, and 90 per cent compliance with Hobart Water's internal guidelines.

Tasmania has published emission limit guidelines for:

- sewage treatment plants that discharge pollutants into fresh and marine waters (2001);
- meat premises and pet food works (2001);
- intensive animal husbandry activities (2001); and
- fruit and vegetable processing activities (2002).

The Government finalised environmental guidelines for the re-use of recycled water in December 2002. Consistent with the State Policy on Water Quality Management, the Government endorsed environmental best practice guidelines for undertaking works in waterways and wetlands in March 2003.

For the period 1999–2003, Tasmania used funding through the Natural Heritage Trust to upgrade sewage treatment lagoons.¹⁷ The project (the Clean Quality Water Program) is managed by the Department of Primary Industries, Water and Environment and aims to ensure lagoon effluent is suitable for direct re-use for irrigation or, where this is not feasible, for disposal to rivers with insignificant environmental impact.

From 1999, the Tasmanian Government provided funding under its Clean Quality Water Program to local governments for capital works for sewage lagoon upgrades and re-use schemes. To March 2001, A\$3.5 million was allocated for 15 projects. From April 2001 to March 2003, a further 11 projects were funded, totalling A\$3.2 million. Tasmania expects these projects to significantly reduce harmful discharges into inland waters.

Tasmania co-authored NWQMS paper no. 15: *Guidelines for Sewerage Systems – Sewerage System Overflows*, based on the State Sewage Pumping Station Environmental Guidelines 1999. The national approach is therefore reflected in the State guidelines.

Tasmania also made some progress on stormwater management. It recently completed a draft five-year stormwater management strategy and a model stormwater management plan for the Derwent Estuary Program (NWQMS paper no. 10). The stormwater management model is intended to assist regional natural resource management committees in planning and implementing regional strategies (see also the section on ‘land care’ under ‘integrated catchment management’).

¹⁷ Sewage treatment lagoons are the most common method of sewage treatment in Tasmania. Discharges from the lagoons are among the main sources of point source pollution for inland rivers.

Discussion and assessment

Tasmania has made further progress in implementing the NWQMS framework. Significant developments since the 2001 NCP assessment include:

- the completion of the State Water Quality Monitoring Strategy in 2003;
- the setting of protected environmental values for most of the State's catchments, and pilot schemes to set water quality objectives;
- further work on State of River reporting;
- the establishment of links between water quantity and water quality issues in water management plans and State of River reporting; and
- the implementation of wastewater and stormwater management strategies.

The Council considers that Tasmania made satisfactory progress for the 2003 NCP assessment in implementing policies that reflect the NWQMS guidelines. The Council will consider Tasmania's progress in the development of water quality objectives and implementation of the State Water Quality Monitoring Strategy in the 2005 NCP assessment.

7.6 Water legislation review and reform

Assessment issue: Tasmania is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where a review and/or reform implementation are not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations. In the 2002 NCP assessment, the Council noted that Tasmania had proclaimed new water industry legislation.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

Tasmania proclaimed new water management legislation on 1 January 2000. The *Water Management Act 1999* replaced the *Water Act 1957* and the *Groundwater Act 1985*, and amended or replaced 12 other Acts covering the allocation of water resources in the State. The new water management legislation governs the manner in which access to, and use of, the State's water resources are regulated. In particular, the Water Management Act:

- establishes new institutional arrangements for water management in Tasmania including the development of water management plans that allocate water for extractive uses and for the environment (see section 7.2);
- provides for consistent water licensing arrangements for all types of users, including the establishment of special licences major users such as Hydro Tasmania and the Wesley Vale Pulp Mill (see section 7.2);
- facilitates trading in water entitlements (see section 7.3);
- establishes a new system of dealing with applications for dam construction (see section 7.7); and
- creates water districts.

The Water Management Act includes a provision applying to unregulated systems that allows transfers of water entitlements to be refused if the quantity of water exceeds the amount that could be used sustainably for the intended purpose. The Irrigation Clauses Act (as amended in 1997 and 2001) imposes a requirement that appears to have a similar objective — only an owner or occupier of land in the district, or a person who may hold land in the district, may hold irrigation rights. As discussed in section 7.3, these provisions are likely to affect the development of the water trading market by limiting the activities of agents, brokers and other potential participants in the market, and as a result, may reduce returns available to holders of irrigation rights and constrain the extent to which water is used for its highest value purpose.

Assessment

The Council considers Tasmania has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation. For the 2004 NCP assessment, the Council will look for Tasmania to consider the need for provisions in the Water Management Act and the Irrigation Clauses Act that may impinge on the development of water trading.

7.7 Investments in new rural water schemes

Assessment issue: Investments in new rural water schemes or extensions to existing schemes are to be undertaken only after appraisal indicates the scheme or extension is economically viable and ecologically sustainable.

In 2001, the Tasmanian Government announced an intention to proceed with the design of the Meander Dam project. The 2002 NCP assessment reported that the feasibility study commissioned by Tasmania had concluded there were good prospects for the scheme proving to be financially viable, though the proposed funding model included Government contributions. At the time of the 2002 NCP assessment, an application for a permit to commence construction of the dam was being assessed under Tasmania's statutory processes. The development proposal had also been designated a controlled activity under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999*.

Tasmania will need to demonstrate that the Meander Dam project satisfies the CoAG tests of economic viability and ecological sustainability before the project proceeds.

Next full assessment: The Council will examine investments made by the Government when the Government decides to proceed, to ensure that it has demonstrated that the project meets the tests of economic viability and ecological sustainability.

Reference: CoAG water reform agreement, clause 3(d)(iii)

In 2001, the Tasmanian Government announced an intention to proceed with the design of the Meander Dam project, 50 kilometres south west of Launceston. Water from the 43-gigalitre dam would be used primarily to increase the quantity and surety of irrigation water in the region. A mini hydroelectric power plant, connected to the State grid, is also proposed to operate at the site. The Tasmanian (A\$7 million) and Commonwealth governments (A\$2.6 million) are to contribute funding for the project.

As reported in the 2002 NCP assessment, a feasibility study conducted by Davey and Maynard Agricultural Consulting, Deloitte Touche Tohmatsu and Serve-Ag Pty Ltd for the Department of Primary Industries, Water and Environment was released in March 2002 (Davey and Maynard et al 2002). The study concluded there were good prospects for the scheme proving to be financially viable. This was based on an anticipated capital cost of around A\$30 million and a proposed funding model including the Government contributions (which may need to be provided with no return), an electricity generator and one or more private investors.

At the time of the 2002 NCP assessment, the Tasmanian Government was assessing an application for a permit to commence construction of the Meander Dam under the statutory processes of the Water Management Act and the *Environmental Management and Pollution Control Act 1994*. The development proposal had also been designated a controlled activity under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* on the grounds of potential impacts on listed threatened species and communities, particularly the spotted tailed quoll and the plant species *Epacris aff. exserta*. Work was underway to identify ways of minimising the impact on threatened species and to develop plans for the species' recovery.

Developments since 2002

As a follow up to the March 2002 feasibility study, the Department of Primary Industries, Water and Environment commissioned Davey and Maynard Agricultural Consulting to undertake an economic evaluation of the project. The consultants provided a draft economic evaluation in December 2002 (Davey and Maynard 2002). The draft evaluation concluded that the project would have a positive net present value estimated at A\$30.4 million (at a 6 per cent real discount rate). Apart from the project's more direct costs and revenues, the evaluation included an estimate of A\$200 000 per year as benefits from flood mitigation, improved water quality and recreational value. In terms of environmental costs, the evaluation noted that some mitigation of impacts was included in the cost estimates for dam construction and operations. The study also reported an alternative methodology which considered a narrower range of costs and benefits (excluding, for example, on-farm capital costs and the mini hydroelectricity plant) and focusing on the net benefit accruing from each particular use of the water. This approach resulted in a lower, but still positive, estimated net economic benefit of A\$9.6 million.

In late 2002, Tasmania's Director of Environmental Management issued an environment protection notice enabling the dam to proceed (subject to conditions) and the Assessment Committee for Dam Construction issued a permit for the dam. The environment protection notice includes requirements for mitigation measures to be put in place to reduce the impact on the quoll and *Epacris* species. The notice requires, for example, preparation of a fauna habitat management plan, including the preservation or creation of an equivalent habitat (in terms of area and quality) for the quolls near the dam. It also requires preparation of a program to protect the known *Epacris* populations in the Meander and Mersey regions.

In January 2003, however, Tasmania's Resource Management and Planning Appeal Tribunal set aside the dam permit and environment protection notice following an appeal by the Tasmanian Conservation Trust and a private party. In reaching its decision, the tribunal commented on both the economic and environmental impacts of the project.

- The dam would create economic benefits ranging from below zero to around A\$39.4 million in net present value terms, though 'it is a matter of speculation as to where in that range the result would lie'.
- To the extent that benefits would flow, these would be achieved at the cost of substantial adverse impacts upon both the quoll and *Epacris* species. Based on the evidence before it, the tribunal considered there was no apparent means of avoiding, or substantially mitigating, the impacts on the *Epacris* species and that it was uncertain whether reasonable mitigation of the impact on the quoll species could be achieved. As a result, the tribunal was not satisfied that the conditions in the environment protection notice would be likely to achieve their objectives.

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- The Tribunal concluded that ‘the certain and further likely environmental harm arising from construction of and the existence of the dam clearly outweigh the less certain benefits’ (RMPAT 2003, paragraph 49).

The Tasmanian Government subsequently introduced legislation to overcome the tribunal’s decision and permit construction of the dam. The *Meander Dam Project Act 2003*, passed in April 2003, reinstates the dam permit and environment protection notice and removes any right of further review or appeal. In announcing the legislation, the Tasmanian Minister for Primary Industries, Water and Environment stated that:

The purpose of this Bill is to help advance the sustainable development of Tasmania’s valuable water resources in line with the Government’s aim of growing the State’s agricultural sector. (Minister for Primary Industries, Water and Environment 2003.)

Before the dam can proceed, as it is a controlled action under the Environment Protection and Biodiversity Conservation Act, it also requires the approval of the Commonwealth Minister for the Environment and Heritage. In making a decision, the Commonwealth Minister must consider relevant environmental impacts and social and economic factors. Tasmania indicated that the Commonwealth Government commissioned further work on the economic, social and environmental impacts of the project, which includes investigating ecological evidence of the effects on the two nationally significant species — the spotted tailed quoll and the *Epacris* species.

As part of the process, Tasmania also engaged consultants to undertake further analysis. It recently submitted two additional reports to assist the Commonwealth Government’s assessment: an economic analysis (MJA 2003) and a report on the social and community impacts of the project (Kilpatrick et al 2003).

Marsden Jacob reviewed the economic work submitted to the Resource Management and Planning Appeal Tribunal and provided a revised economic evaluation of the project. As part of this, Marsden Jacob took into account other analyses undertaken for the Tasmanian Conservation Trust and WWF Australia (see discussion of submissions below), as well as initial work and comments from Environment Australia’s consultants, ACIL Tasman. Marsden Jacob found that:

- under a more conservative base case scenario (than the Davey and Maynard draft economic evaluation) for the uptake of water from the project, based on discussions with processors and exporters, the project was projected to result in a net economic benefit (in net present value terms) of A\$10.7 million (at a 6 per cent real discount rate);

- under a pessimistic scenario, which combined adverse assumptions on capital, operating, environmental monitoring and mitigation costs, and future water demand, the net present value would be lower (A\$1.4 million using a 6 per cent real discount rate) but still positive – given that the major project risks were factored into the cash flows under this scenario, Marsden Jacob considered that a discount rate closer to the risk free rate should be used, which increased the net present value to A\$16.8 million (using a 3 per cent real discount rate); and
- under a ‘more likely’ scenario, the project was projected to have a net present value of A\$27 million (at a real discount rate of 6 per cent).

Marsden Jacob stated:

... the project is economically viable. That is, it would provide net economic benefits to Australia. This finding holds under a wide variety of deliberately conservative assumptions and we therefore conclude that the project is not only economic but robustly so. (MJA 2003, p. xi)

The study of social and community impacts concluded that the Meander Dam is likely to result in:

- positive economic benefits for the agricultural industry and for rural centres and areas;
- higher employment, including job opportunities for young people;
- increased vocational education opportunities, particularly in agricultural and related industries; and
- an overall strengthening of the sustainability of the Meander Valley community (Kilpatrick et al 2003, p. iii).

Submissions

The Tasmanian Conservation Trust is concerned that the Tasmanian Government continues to pursue the proposed Meander Dam, despite approval for the dam being set aside by the Resource Management and Planning Appeal Tribunal. The trust made the following points (TCT 2003, p. 3).

- The tribunal’s decision has ‘clearly and unambiguously demonstrated that the Meander Dam is not ecologically sustainable, as the dam would have significant impacts on two nationally listed threatened species’. No effective mitigation measures have yet been proposed and the advice of expert consultants has been ignored.

-
- Material submitted as part of the appeal, and subsequent work by groups such as WWF Australia, has demonstrated that the project is not economically viable.
 - Public consultation and education processes have been ‘completely compromised’ in the Government’s pursuit of the dam. The decision to legislate to override the tribunal’s decision ‘demonstrates that the Tasmanian Government will not tolerate public participation in water development issues, and independent advice on politically favoured projects will be ignored.’

While not a formal submission, WWF Australia provided the Council with a copy of its paper on whether the Meander Dam complies with Tasmania’s CoAG water reform obligations (Trujillo 2003). The paper focuses on whether the project meets the economic viability criterion. It reviews information in the feasibility study and draft economic evaluation prepared by consultants for the Department of Primary Industries, Water and Environment. WWF Australia reached the following conclusions.

- The project is not economically viable and therefore will not meet CoAG requirements. The project’s net present value was assessed to be negative, at between A\$13 million and A\$16 million. If environmental costs were included, this would lead to a larger loss.
- The full costs of the project will not be recovered at the proposed price of A\$55 per megalitre. There is no scope for increasing the price, since any price above this level has been demonstrated to reduce demand and total project revenue.
- There is no justification for the Government to subsidise construction of the dam based on it providing public benefits. Although the department’s consultants quantified some public benefits, with a net present value of A\$2 million, no environmental or third party costs were included.

Discussion and assessment

The Council aims to assess new rural schemes against the CoAG obligations on economic viability and ecological sustainability in the year in which the relevant Government decides the scheme can proceed.

Before the Meander Dam can proceed, it requires Commonwealth Government approval under the Environment Protection and Biodiversity Conservation Act, as well as a final decision by the Tasmanian Government. The Commonwealth Government’s approval process is still to be completed.

If the Commonwealth Government approves the project during 2003-04 (the Tasmanian Government’s actions indicate it has decided to proceed with construction upon approval of the project by the Commonwealth Government), the Council would ordinarily assess Tasmania’s compliance

with the CoAG obligations on new rural infrastructure in the 2004 NCP assessment. The Council considers, however, that there are transparency benefits for both the Commonwealth and Tasmanian governments from the Council providing preliminary views on Tasmania's compliance before the governments make a final commitment to the project. Otherwise, the two governments would be committing funds without full information on the implications of their decisions.

The Council's preliminary view on the economic evidence is that the Marsden Jacob report provides a robust case to show that the dam would be economically viable. The analysis accounted for relevant costs and benefits, used an appropriate discount rate and responded appropriately to the issues raised by other parties. Sensitivity analysis indicated that the project is economically viable under a wide range of conservative assumptions. The Council has insufficient information at this time, however, to reach a preliminary view on Tasmania's compliance with the requirements on ecological sustainability.

If the Commonwealth Government approves the project during 2003-04, then the Council will conduct a supplementary assessment to consider whether the project satisfies CoAG's economic viability and ecological sustainability requirements. In conducting the supplementary assessment, the Council will consider the economic and environmental studies undertaken by the Commonwealth and Tasmanian governments. It will also take into account the information provided by other parties, including the Tasmanian Conservation Trust (including its recent submission to the Commonwealth Government) and WWF Australia. The Council will publicise the commencement of any supplementary assessment process and will invite all parties to provide relevant information additional to that provided for this 2003 NCP assessment. Any Council recommendations on Tasmania's competition payments will relate to 2004-05.

8 Australian Capital Territory

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for the ACT in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing; intrastate water trading arrangements; the remaining institutional reform requirements; the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. The National Competition Council assessed the ACT's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by the ACT towards meeting water reform obligations on converting existing water allocations to water entitlements (which will be assessed in 2004), and towards meeting CoAG obligations on the provision of water to the environment (which will be assessed in 2005).

8.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.

- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.
- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement, clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Urban water and wastewater services

Assessment issue: The ACT is to demonstrate that water and wastewater pricing achieves full cost recovery, in accord with the CoAG pricing principles. In the 2001 NCP assessment, the Council found that the ACT had complied with all aspects of full cost recovery except the level of dividend. In the 2002 NCP assessment, the Council found that the ACT had met all pricing obligations.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

The ACT Electricity and Water Corporation (ACTEW) — a Government owned corporation — supplies metropolitan water and sewerage services in the ACT. ACTEW and AGL formed a joint venture (ActewAGL) with the aim of improving the performance of the ACT's water, wastewater and energy services. Under the partnership arrangements, ACTEW retains ownership of water and wastewater assets. Service delivery is contracted to the partnership entity ActewAGL. The Independent Competition and Regulatory Commission sets the standards for economic performance and prices independently of the service provider.

Rate of return

ACTEW achieved a combined water and wastewater rate of return on assets of 6.07 per cent in 2001-02 (WSAA 2003).

Taxes and tax equivalents

ACTEW is subject to all Commonwealth and ACT taxes and tax equivalents, as required under the *Territory Owned Corporations Act 1990* (ss. 29 and 30B).

Dividends

As an incorporated entity, ACTEW is bound by the *Corporations Act 2001*, which stipulates that it may pay dividends only from profits (including accumulated retained profits). The ACT's approach is to require ACTEW to pay a dividend equivalent to 100 per cent of after-tax profits, subject to a consideration of factors such as the business's cash needs and its requirements for capital restructure and capital expenditure. The ACT Government reviews these factors annually when negotiating ACTEW's statement of corporate intent, to determine whether the 100 per cent dividend policy should apply. As a result, ACTEW does not always pay a dividend equal to 100 per cent of after-tax profits. After considering the advice of ACTEW's board of management, the ACT Government reduced the 2000-01 dividend to 74 per cent of after-tax profits.

Assets

In setting maximum prices, the Independent Competition and Regulatory Commission valued ACTEW water and wastewater assets at their estimated economic value (recoverable amount), adjusting for contributed assets and asset augmentation. The commission used straight line depreciation to project asset roll-forward. This method involved adjusting the initial asset base to reflect changes in the value of the productive capacity of existing assets and new investment.

Externalities

The ACT Government applies a water abstraction charge of 10 cents per kilolitre. This covers the environmental costs of water use (externalities) and the scarcity value of water, and applies to all customers (including urban customers). The (former) Independent Pricing and Regulatory Commission directed that the water abstraction charge should be treated as a direct cost to consumers and shown separately on water bills. In making its direction, the commission stated that:

For the water abstraction charge to have the desired effect in terms of signalling the scarcity value of water and the environmental costs associated with its use, the commission considered that it was desirable that there be a pass through of the charge in a manner such that final consumers could both identify the cost involved and were required to pay that cost. (IPARC 2000, p. 5)

Assessment

The Council assesses the ACT as having complied with its full cost-recovery pricing obligations.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for costly investments. In the 2001 and 2002 NCP assessments, the Council was satisfied that ACTEW had applied charges for water and wastewater services, and had identified and made transparent community service obligations and cross-subsidies, consistent with CoAG commitments. The one exception was that the ACT had not provided information to demonstrate that the lack of a systematic trade waste charge for high volume or toxic waste dischargers does not lead to nontransparent cross-subsidies.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)-(c)

The ACT reported that ACTEW, as the utility provider, implemented trade waste acceptance practices. The policy for accepting nondomestic water (trade waste) into the sewerage network — which requires the customer to enter a formal agreement with ACTEW following an application process — was introduced on 1 July 2003 after public consultation.

The ACT advised that the acceptance policy complies with the requirements of the water supply and sewerage services standards code under the *Utilities Act 2000*. The code allows for negotiated contracts between the utility provider and customers. Within these contracts, users contribute to the costs of monitoring and, as a transitional measure in a few cases, to additional waste treatment costs based on the volume and strength of the discharge.

ACTEW is assessing the approach to trade waste charging from a broader charging perspective. It aims to determine an appropriate and cost-effective charging regime that accounts for the specific trade waste circumstances of the ACT. To ensure trade waste charges are cost-reflective and minimise cross-subsidies, ACTEW is assessing the nature of customer loads and the cost of treating such wastes.

The ACT stated that the results of ACTEW's assessment will be included in submission material to the Independent Competition and Regulatory Commission for the commission's review of the ACTEW water and wastewater charges to apply from July 2004 to June 2009.

Discussion and assessment

The ACT's progress with trade waste reform is consistent with the timetable that ACT proposed in 2002. The Council thus assesses the ACT as having met its consumption-based pricing obligations for the 2003 NCP assessment.

Rural services: progress report

Progress report: Governments are to demonstrate progress towards full cost recovery and consumption-based pricing by rural water authorities.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The ACT has no publicly owned rural water infrastructure. It does not contribute to the operation costs of River Murray Water.

8.2 Water management progress report: water rights and provisions to the environment

Establishment of water rights systems

Progress report: The ACT is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

The *Water Resources Act 1998* is the legal basis for the allocation of water, the issuing of licences to take water, and the determination of environmental flow requirements in the ACT. Water rights are separated from land title, are issued in perpetuity and provide the holder with a right to a share of the available resource.¹ The Environment Management Authority maintains a

¹ Holders of Territory leases issued before December 1998 have common law rights to groundwater. The rights to groundwater remain connected to land until the lease is re-issued. The ACT expects that most groundwater use will be subject to the

register of licences and water allocations. There is no facility to record third party interests in an allocation, but the ACT previously advised that it can readily address this issue when the need arises.

Under the Act, water allocations are managed through the ACT's Water Resources Management Plan, which came into effect in 2000. The plan sets out estimates of total water resources, environmental flow requirements and water available for consumption to 2010. The ACT component of the Murray–Darling Basin Ministerial Council cap on water diversions is still to be finalised.

Reform progress

Progress in establishing the ACT cap on water diversions is reported in section 8.3. Subject to matters beyond its control, the ACT Government anticipated reaching a final position on the cap during 2003.

Provision of water to the environment

Progress report: The ACT is to report on progress in implementing allocations to the environment.

Next full assessment: The Council will assess the Government's progress in implementing CoAG obligations on the allocation of water to the environment in 2004, consistent with the CoAG requirement that allocations be substantially completed by 2005.

Reference: CoAG water reform agreement, clauses 4(b)–(f)

Under the Water Resources Act, water is allocated for environmental flows before consumptive uses. The ACT adopted a conservative approach to water extractions. Under the ACT's environmental flow guidelines, flows are protected up to the 80th percentile (that is, the flow that is exceeded 80 per cent of the time). For most subcatchments, extraction for consumptive use is limited to 10 per cent of flows above the 80th percentile. For water supply catchments, 100 per cent of flows above the 80th percentile are available for abstraction (except for spawning flows). Groundwater extraction is limited to 10 per cent of average annual recharge.

The Water Resources Management Plan sets out the environmental allocations for each of the ACT's 32 subcatchments. Environmental flows were in place for all of the subcatchments at the time of the 2001 NCP assessment. No new allocations of water can be made for consumptive use unless the plan provides for them. There are no stressed or overallocated

allocation system in five to 10 years, because leases for many significant users of groundwater are due for renewal over that period.

systems within the ACT. The Environment Management Authority is required to keep water resources (and the Water Resources Management Plan and environmental flow guidelines) under review.

Reform progress

The ACT is developing an integrated water resource strategy (see section 8.5). The strategy is to address the full range of issues relating to the management and development of water resources in the ACT. The Government expects to finalise the strategy in late 2003 following a community consultation process.

8.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In the 2001 NCP assessment, the Council found that the ACT had removed legislative impediments to trading. While there had been no water trading within the ACT, this largely reflected the available resource and the relatively small industrial and agricultural sectors in the ACT. The ACT Government considered demand in the Territory was insufficient to justify the establishment of intraterritory trading rules.

The Council noted in 2001 that interstate trade between the ACT and New South Wales, although not then occurring, might be likely in the future. The Council identified two matters that needed to be progressed: (1) the development of trading rules applying to the Murray and Murrumbidgee rivers to allow transfers of water entitlements; and (2) a final decision on the size of the Murray-Darling Basin Ministerial Council cap on diversions for the ACT and the way in which the cap is determined.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

The Water Resources Act permits the permanent or temporary transfer of all or part of a water allocation with the approval of the Environment Management Authority. In determining whether to approve the transfer, the authority is required to account for the environmental record of the applicant. Where the authority refuses the transfer, the Act permits the ACT Administrative Appeals Tribunal to review the decision.

There has been no water trading in the ACT or between the ACT and another jurisdiction. The lack of trade largely reflects the available resource and the relatively small industrial and agricultural sectors in the ACT compared with other jurisdictions. The ACT Government previously advised that there is insufficient demand in the Territory to justify the establishment of intraterritory trading rules (beyond the requirement for the approval of the

Environment Management Authority) or an intraterritory trading market. Interstate trade involving the ACT depends on the development of trading rules for the Murrumbidgee and Murray rivers and the finalisation of the Murray–Darling Basin Ministerial Council cap on water diversions for the ACT.

Changes in the regulatory environment since 2001

In November 2002, the ACT established a Senior Executives Water Coordinating Group. The group consists of senior officers of the Chief Minister's Department, Treasury, ACTEW, Environment ACT and the ACT Office of Sustainability. As part of its work on developing a comprehensive and integrated water resource strategy for the Territory, the group is progressing the establishment of the ACT cap on water diversions and the development of arrangements for cross-border trading.

The ACT conducted a workshop in February 2003 to consider the cap on diversions to the ACT and water trading. The workshop was attended by senior ACT officials, representatives of the Murray–Darling Basin Commission and the Commonwealth, and an observer from New South Wales. The workshop developed a forward work plan to progress consideration of the cap on diversions and noted that the main impediment to water trading is the absence of a basin-wide trading system.

The ACT Government anticipated reaching a final position on the cap on diversions during 2003. It noted, however, that matters beyond its control could influence this timing.

Discussion and assessment

In previous assessments, the Council found that the ACT Government had removed all legislative impediments to intrastate trade in water through the Water Resources Act. The Council noted that for future assessments it would look for the Government to consider developing trading rules beyond the requirement for the Environment Management Authority's approval.

The Council considers that the ACT met obligations on water trading for the 2003 NCP assessment. The continuing lack of demand for water trade in the ACT means that the absence of trading rules does not currently affect trade. As water use and scarcity, and therefore the demand for trade, increase, however, trading rules will need to be developed.

In the 2004 NCP assessment, the Council will consider the ACT's progress in finalising the Murray–Darling Basin Ministerial Council cap on water diversions and developing arrangements for interstate trade in water.

8.4 Institutional reform

Structural separation

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement, and service provision are to be separated institutionally.

At the time of the 2001 NCP assessment, the ACT had developed a new institutional framework for the water industry but was still implementing it. In the 2002 NCP assessment, the Council reported on the ACT's progress in addressing outstanding implementation issues — in particular, a standard customer contract, a utility services licence, and industry and technical codes.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clauses 6(c) and 6(d)

The ACT's institutional framework for the water industry is established through the *Utilities Act 2000* and related arrangements:

- all utilities (including water) are required to be licensed;
- the Independent Competition and Regulatory Commission is responsible for licensing and prices oversight;
- the Safety and Technical Regulator is responsible for developing technical standards and monitoring compliance;
- Environment ACT retains responsibility for environmental management; and
- the Chief Health Officer is responsible for protecting drinking water quality (according to drinking water quality requirements that are consistent with the 1996 Australian Drinking Water Guidelines).

In the 2002 NCP assessment, the Council revisited several outstanding implementation issues. It reported that the ACT had finalised:

- a standard customer contract setting out the terms and conditions for the supply of water and sewerage services to customers, including the obligations on both ACTEW and customers;
- ACTEW's utility services licence, which includes ACTEW's obligations regarding its operations, the environment and its participation in benchmarking processes; and
- a range of industry and technical codes covering, for example, customer protection; connections to water and sewerage networks; dam safety;

minimum standards for the design, construction and maintenance of water and sewerage networks; water metering; and minimum standards for the quality and reliability of water and sewerage services.

Discussion and assessment

The matters finalised by the ACT by the time of the 2002 NCP assessment addressed the outstanding implementation issues from 2001. The Council is satisfied that the ACT met its CoAG obligations on institutional separation.

Integrated catchment management

Assessment issue: The ACT is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council found that the ACT was meeting its 2001 obligations on integrated catchment management.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

The ACT Territory Plan 1993 requires that planning for land and water resources:

- be integrated, based on total catchment management principles;
- seek to protect identified environmental values and beneficial uses of water resources; and
- be guided by principles of ecological sustainability and exclude catchment land and water uses that have an impact on the sustainability of designated environmental or water use values.

Integrated catchment management framework

Environment ACT released *An Integrated Catchment Management Framework for the ACT* in March 2000. The framework adopts a 'whole of system' approach and recognises the role of communities in managing natural

resources. Environment ACT released an implementation plan for 2001–2003 in October 2001.

The catchment management framework reflects national, regional and local contexts. Since the ACT lies within the Murray–Darling Basin, the framework reflects the objectives set out in the Murray–Darling Basin Commission’s *Natural Resource Management Strategy 1990*. The ACT participates in the Murray–Darling Basin Initiative, including in activities aimed at halting degradation and improving the quality of resource management in the Basin.

At the regional level, the ACT falls entirely within the catchment of the Murrumbidgee River. In recognition of this, the Territory participated in the preparation of the Murrumbidgee catchment blueprint by the Murrumbidgee Catchment Management Board (based in New South Wales). In addition, the ACT is developing its own integrated natural resource management plan. This plan reflects the objectives set out in the blueprint, while setting catchment targets for issues over which the ACT has responsibility. Some management targets in the ACT plan are identical with those in the blueprint, actions and activities are the same, and none is inconsistent (Murrumbidgee Catchment Management Board 2002, p. 14). The ACT plan will be the basis for the ACT’s participation in the National Action Plan for Salinity and Water Quality (Environment ACT 2001b, p. 4).²

At the local level, the catchment framework supports the development of subcatchment management plans by community groups working in partnership with the Government. The process brings together community groups that may have been working in isolation, or focusing on a single issue, to develop a more strategic approach to subcatchment activities.

The plans are intended to eventually form an integrated network of subcatchment plans across the ACT (Environment ACT 2002, p. 36). The Sullivan’s Creek Catchment Group and the Ginninderra Catchment Group released subcatchment management plans during 2000 (see box 8.1).³ The plans have attracted investment activity from the private sector, the ACT Government and Natural Heritage Trust. The ACT Government signed a bilateral agreement with the Commonwealth on the Natural Heritage Trust extension in March 2003.⁴

² The ACT has not reached agreement with the Commonwealth Government on implementation of the national action plan. The ACT expects that an agreement will be in place before the end of 2003.

³ The ACT reported that the Molongolo catchment community, extending from inner north Canberra to Captains Flat and Burra in NSW, will form a subcatchment group. This will complete subcatchment group coverage for the ACT and surrounding New South Wales.

⁴ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 budget. The implementation framework was endorsed in October 2002

Box 8.1: Riparian projects undertaken by ACT subcatchment groups

Sullivan's Creek Catchment Group constructed the ACT's first wetland to be retrofitted into an established suburb. The wetland, built in September 2001, involved the diversion of low flows from the O'Connor stormwater tributary into an excavated pond. The stormwater is detained in the pond and treated. Over time, nutrient and bacterial pollutants should be reduced and the quality of the water should rise by about 50 per cent. The water is then diverted back into the O'Connor channel in a much healthier state. The wetland has been landscaped with over 55 000 native plants including water plants, grasses, shrubs and trees. Volunteers undertook the planting of the wetland. Construction was funded by the private sector and the Natural Heritage Trust

Ginninderra Catchment Group established a comprehensive water quality and monitoring program and removed more than 10 000 willow stems. There has been a significant increase in the creek's discharge, and in the number and diversity of water birds using the creek. Control of weed infestations in the creek corridor continues to be a major focus for on-ground works. Revegetation activities since 1998 have seen more than 8 000 native trees and shrubs planted in the Creek corridor and maintained by Landcare groups.

Source: Environment ACT 2002, p. 37

Environment ACT and the Natural Heritage Trust are sponsoring the development by community groups of six additional subcatchment plans. The first plans under this program, for Tuggeranong-Tharwa and Woden-Weston, were published in 2002. Community groups in these subcatchments formed an umbrella Southern ACT Catchment Group in 2002 to further integrate their activities and progress the plans. In addition work has started on the development of a plan for the rural areas south of the Murrumbidgee River.

The subcatchment plans form the basis for future environmental investment. The plans must be submitted to the Integrated Catchment Management Working Group for accreditation based on criteria defined in the ACT Subcatchment Management Planning Guidelines and the Commonwealth Accreditation Criteria for Integrated Catchment/Regional Management Plans (Southern ACT Catchment Group 2003, p. 41). In response to Commonwealth requirements, the plans are being developed to incorporate a monitoring system that reflects the Catchment Health Indicators Program (Southern ACT Catchment Group 2003, p. 43). This program, developed by Environment ACT and CSIRO Land and Water, is funded by the Natural Heritage Trust. The Government expects to implement it in all major populated subcatchments by the end of 2003 (Environment ACT 2001b, p. 7).

The ACT published a support strategy for volunteers engaged in natural resource management in October 2001. The strategy, *Working Together for the ACT's Environment*, includes an action plan for community support. A community-based Catchment and Landcare Association was formed in 2003 to provide overarching leadership for catchment groups in the Territory. Government agencies participate as observers.

by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus of the framework is on measures to improve water quality.

Environment ACT recognises that the regional emphasis of the Natural Heritage Trust and the national action plan requires some shift in approach in the ACT's approach to catchment management (Environment ACT 2001b, p. iv). The ACT Government reported in 2003 that:

- interim priority funding is being provided to subcatchment groups to realign their plans to satisfy the national accreditation frameworks;
- it is using the National Framework for Natural Resource Management Standards and Targets 2002 as the basis for developing the ACT Monitoring, Evaluation and Reporting Strategy and expects to finalise the strategy by the end of 2003; and
- a coordinator support network, jointly funded by the Natural Heritage Trust and the ACT Government, is helping subcatchment groups interpret the Natural Heritage Trust and national action plan frameworks.

The ACT reported that its natural resource management frameworks recognise relationships between processes for subcatchment planning and water resource management planning. The Water Resources Task Force consults with catchment communities, while subcatchment plans must reflect broader community targets for water that are identified through the work of the task force.

Land care

Some 57 community groups participate in on-ground Landcare activities in the ACT, including in the work of subcatchment groups. Their activities include weed removal and management, revegetation, education and awareness raising, riparian restoration and wetlands management, surveying, monitoring, research, and planning (Environment ACT 2001b, p. 7).

Salinity issues

Salinity is not an issue in the ACT. However, the ACT monitors the emergence of salinity risk through its water quality and water monitoring policies (see National Water Quality Management Strategy). The ACT engages in salinity management initiatives through its participation in the Murray–Darling Basin Initiative and the Murrumbidgee catchment blueprint.

Discussion and assessment

The ACT has made considerable progress in integrated catchment management since the 2001 NCP assessment. The ACT has:

- published an implementation plan and support strategy for volunteers engaged in natural resource management;
- participated in developing the Murrumbidgee catchment blueprint in conjunction with the Murrumbidgee Catchment Management Board, and is developing its own integrated natural resource management plan to complement the Murrumbidgee blueprint;
- reached bilateral agreement with the Commonwealth on the Natural Heritage Trust extension; and
- assisted with the development and publication of subcatchment plans for Tuggeranong-Tharwa and Woden-Weston by the Southern ACT Catchment Group.

The Council considers that the ACT made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, the ACT:

- developed administrative arrangements and decision making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments.

Moreover, the ACT's natural resource management framework appears to facilitate consideration of and support for land care practices to protect rivers with high environmental values. The Council will assess the ACT's progress in the development and implementation of subcatchment plans as part of its full assessment of water reform in 2005.

8.5 National Water Quality Management Strategy

Assessment issue: The ACT is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 assessment, the Council was satisfied that the ACT was meeting its 2001 obligations on NWQMS implementation.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

The ACT continues to implement mechanisms that take account of National Quality Water Management Strategy (NWQMS) guidelines. NWQMS initiatives are principally incorporated through codes of practice covering water quality, water monitoring and wastewater management. The ACT has codified drinking water quality practices, developed a draft policy to manage trade waste and implemented the Canberra Water Supply Catchment Project.

Water Pollution Environment Protection Policy

The Water Pollution Environment Protection Policy 1998 aims to maintain, and where appropriate, enhance water quality by minimising water pollution. The policy is based on the environmental values set out in the Territory Plan, and covers the following water uses: conservation, water supply, and drainage and open space. Each category has a water use policy that sets out specific objectives and environmental values for particular waterways.

The ACT Water Quality Standards set out indicators and maximum acceptable concentrations of substances and materials for the maintenance of the environmental values for water outlined in the Territory Plan. The standards are set out at schedule 4 of the Environment Protection Regulations 1997. The Water Pollution Environment Protection Policy states that situations or activities that are not included in the Water Quality Standards are managed under the appropriate NWQMS guidelines (Environment ACT 1999, p.7).

The Water Quality Standards were developed prior to the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4). The ACT reported that a review of the Water Quality Standards in 2004 will address consistency with the national guidelines.

Water quality monitoring

Environment ACT manages a water monitoring and assessment program that includes water quality, streamflow monitoring and biological monitoring. The information is used to assess the effectiveness of management strategies to maintain the aquatic values set for ACT waters. Environment ACT is moving towards a holistic ecosystem health monitoring system as prescribed by the Murray–Darling Basin Commission’s Sustainable River Audit. The approach uses biological data to ascertain ecosystem diversity and water quality data to determine trends. The results are then compared with the environmental values and standards set out in the *Environment Protection Act 1997* and its regulations. Environment ACT makes water quality data available through its annual water quality report and information on its web site.

The ACT reported that water monitoring contracts are due for review in 2004. At that time, the ACT will review the consistency of monitoring arrangements with the Australian Guidelines for Water Quality Monitoring and Reporting 2000 (NWQMS paper no. 7).

ACTEW conducts water monitoring in the Cotter and Queanbeyan water supply catchments. The program encompasses physical, chemical, biological, and fish components and supports an investigation into environmental flows being undertaken by the Cooperative Research Centre for Freshwater Ecology (Environment ACT 2002, p. 2).

Urban stormwater management

Urban stormwater generated in the ACT is ultimately discharged into the Murrumbidgee River. The ACT draft policy for sustainable water resource management signalled the need to improve management of stormwater and urban runoff to avoid significant water quality and ecological impacts on urban waterways and lakes. The policy proposes measures to reduce the volume and intensity of urban stormwater flows (Government of the ACT 2003b, pages 8 and 11).

Drinking water

The ACT became the first Australian government to formally regulate drinking water quality when, in 2001, it adopted the Australian Drinking Water Guidelines 1996 (NWQMS paper no. 6). ActewAGL Distribution, which operates the water and wastewater assets of ACTEW Corporation Ltd, supplies water to ACT properties and bulk water to Queanbeyan City Council. It monitors drinking water quality and assesses the results against the Australian Drinking Water Guidelines as specified in the ACT Drinking Water Quality Code of Practice. In line with the guidelines, ActewAGL uses a multiple barrier approach (catchment protection, water treatment,

coagulation, settling, filtration and disinfection) to protect the quality of drinking water. ActewAGL's water quality monitoring program includes physical, chemical, biological and microbiological parameters and takes place from catchment to point-of-customer-supply.

The ACT uses the Australian Drinking Water Guidelines to set trigger levels which, if exceeded, require licensees to undertake remedial action. Licensees are assessed in terms of actions undertaken to address exceedances, subject to local operation constraints. The code of practice requires ActewAGL to report annually on the ACT's drinking water standards to meet community consultation requirements. The Water Services Association of Australia reported that ActewAGL Corporation complied with the Australian Drinking Water Guidelines 1996 for microbiological and physical/chemical requirements (WSAA 2003).

Waste management

The ACT has made progress since the 1980s in the re-use of treated wastewater. Currently, 5 per cent of wastewater effluent is treated and re-used for irrigation. The ACT proposes to increase the re-use rate to 20 per cent by 2013 (Government of the ACT 2003b, pages 7 and 11). The ACT Wastewater Reuse for Irrigation Environment Protection Policy 1999 provides guidance on meeting environmental, health and planning requirements for wastewater reuse. Several local effluent reuse systems in the ACT allow for treated wastewater to be reused for irrigation. The systems operate under an agreement with the Environment Protection Authority and require compliance with monitoring arrangements set out in the policy.

ACTEW expects a draft policy for Acceptance of Non-Domestic Waste (Trade-Waste) into the Sewerage Network to be in place by 1 July 2003, following public consultation. The policy allows ACTEW and users to negotiate a contribution to monitoring costs and, in a small number of cases, extra treatment discharge costs based on volume and strength (Government of the ACT 2003a, p. 42). The draft policy and acceptance criteria are consistent with NWQMS paper no. 12: Guidelines for Sewerage Systems — Acceptance of Trade Waste (Industrial Waste). In particular, discharge limits are within the recommended limits prescribed in NWQMS paper no. 12.

The ACT Government has commenced an assessment of trade waste charging arrangements to develop an appropriate charging regime that takes into account specific trade waste issues in the ACT. This assessment will form part of a submission to the Independent Competition and Regulatory Commission, which is investigating prices for water and wastewater services for the ACT.

Environment ACT manages the licensing of end-of-pipe discharges and non-point source discharges, through erosion and sediment control plans (Environment ACT 2002, p. 5). A polluter-pays scheme was introduced in July 2000 to charge regulated industries according to the level of pollutants they

emit. The ACTEW sewage treatment at the Lower Molongolo Water Quality Control Centre and the Queanbeyan Sewage Treatment Works are the principal activities affected by this fee.

The WSAA reported that ACTEW Corporation complied with the EPA licence for wastewater and fully complied with treated wastewater standards (WSAA 2003, p. 3).

Discussion and assessment

The ACT continues to implement the NWQMS framework, giving priority to areas of relevance to the Territory. The ACT became the first Australian government to formally regulate drinking water quality when, in 2001, it adopted the Australian Drinking Water Guidelines 1996. ActewAGL published its first annual report on drinking water quality in 2002.

The ACT also:

- published a draft policy for sustainable water resource management, including proposals to improve stormwater and waste management; and
- developed a draft policy for acceptance of non-domestic trade waste into the sewerage network, based on NWQMS principles.

While the ACT made progress in implementing parts of the NWQMS, it is still to fully implement the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4) and the Australian Guidelines for Water Quality Monitoring and Reporting 2000 (NWQMS paper no. 7). The Council will look for the ACT to have addressed these areas when it next assesses progress in the 2005 NCP assessment.

8.6 Water legislation review and reform

Assessment issue: The ACT is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where review and/or reform implementation is not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

The ACT identified five water industry Acts for review in accord with the Competition Principles Agreement. All five Acts have been repealed.

The Water Resources Act is the legal basis for the allocation of water, the issuing of licences to take water, and the determination of environmental flow requirements in the ACT. The Act does not restrict water trading: the permanent or temporary transfer of all or part of a water allocation can occur with the approval of the Environment Management Authority.

The Council considers that the ACT has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation.

9 Northern Territory

The elements of the Council of Australian Governments (CoAG) water reform program that are relevant for the Northern Territory in this 2003 National Competition Policy (NCP) assessment are: water and wastewater pricing; intrastate water trading arrangements; the remaining institutional reform requirements; the implementation of the National Water Quality Management Strategy (NWQMS); and the completion of the review and reform of water industry legislation that restricts competition. The National Competition Council assessed the Northern Territory's compliance with the CoAG obligations in these areas in this 2003 NCP assessment. As required by CoAG, the Council also considered public education and consultation activity in the reform areas assessed. In addition, the Council reported on progress by the Northern Territory with converting existing water allocations to water entitlements (which will be assessed in 2004), and towards meeting CoAG obligations on the provision of water to the environment (which will be assessed in 2005).

9.1 Water and wastewater pricing

Full cost recovery

Governments are to set prices so water and wastewater businesses earn sufficient revenue to ensure their ongoing commercial viability but avoid monopoly returns. To this end governments agreed that prices should be set by the nominated jurisdictional regulator (or its equivalent) as follows.

- To be viable, a water business should recover at least the operational, maintenance and administrative costs, externalities, taxes or tax equivalents (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement. Dividends should be set at a level that reflects commercial realities and simulates a competitive market outcome.
- To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities (defined for the purpose of the pricing obligation to be natural resource management costs attributable and incurred by the water business), taxes or tax equivalent regimes, provision for the cost of asset consumption and cost of capital, the latter being calculated using a weighted average cost of capital.
- In determining prices, the regulator or equivalent should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level. Cross-subsidies that are not consistent with efficient and effective service, use and provision should ideally be removed.

- Where service deliverers are required to provide water services to classes of customers at less than full cost, the cost of this should be fully disclosed and ideally paid to the service deliverer as a community service obligation.
- Asset values should be based on deprival value methodology unless an alternative approach can be justified, and an annuity approach should be used to determine medium to long term cash requirements for asset replacement/refurbishment.
- Transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, tax equivalent regimes and any remaining cross-subsidies.

Reference: CoAG water reform agreement clauses 3(a)–(d); and guidelines for the application of section 3 of the CoAG strategic framework and related recommendations in section 12 of the expert group report (CoAG pricing principles)

Urban water and wastewater services

Assessment issue: The Northern Territory is to demonstrate that water and wastewater pricing by the Power and Water Corporation achieves full cost recovery, in accordance with the CoAG pricing principles. In the 2001 NCP assessment, the Council found that the Northern Territory had met most if its CoAG full cost recovery obligations. The Council expected the Power and Water Authority (now the Power and Water Corporation, or PowerWater) to continue to improve cost recovery in services provided to small regional centres, and to further consider transparently reporting the costs of identified externalities.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing principles

PowerWater provides the vast majority of the Northern Territory's urban water and wastewater services. A small amount of water is also provided privately, such as to employees of remote mining operations.

Commercial viability

The Northern Territory reported that water and wastewater operations earned sufficient operating income and community service obligation (CSO) revenue to recover total operating, debt servicing and asset refurbishment costs in 2001-02. Operating losses were incurred in most urban centres apart from Darwin, arising from the Government's decision that the water authority should impose uniform tariffs. The authority, now PowerWater, is moving towards compliance with CoAG cost recovery requirements in all urban centres.

Taxes and tax equivalents

As a Government-owned corporation, PowerWater is required to operate in accord with the Northern Territory's competitive neutrality policy framework. The tax-related costs incurred by PowerWater include:

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- income tax equivalent payments made in accord with the national tax equivalent regime administered by the Australian Tax Office;
 - goods and service tax compliance costs;
 - local government rate equivalent payments made in accord with the Northern Territory's tax equivalents regime administered by the Northern Territory Treasury; and
 - the direct payment of other Northern Territory taxes, including payroll tax and stamp duty on conveyances, leases, insurance and motor vehicles.

Dividends

PowerWater was established as a Government-owned corporation on 1 July 2002. Under the Government-owned corporation arrangements, dividends are agreed between the shareholding Minister and the PowerWater board. Dividends are transparently reported (in PowerWater's annual report, the statement of corporate intent and the Budget papers) and the Utilities Commission is able to report publicly on pricing and in its annual report. While there is no provision in the Government Owned Corporation Act specifying the quantum of annual dividend payments, the Northern Territory's Government Business Division Dividend Policy Statement is a reference for the dividend paid by PowerWater. The policy sets a dividend target of 50 per cent of after-tax profits. PowerWater's water and wastewater operations contributed A\$1.7 million to the corporation's total dividend paid to the Northern Territory Government from earnings in 2000-01.

Assets

The Northern Territory reported that PowerWater derives asset consumption costs from a written-down replacement cost for internal transfer pricing. PowerWater also calculates asset consumption costs on a replacement annuity basis for comparative purposes and to ensure compliance with the lower band of CoAG cost-recovery. It applies these methods uniformly for both water and wastewater charges.

Externalities

Legislation administered by the Department of Infrastructure, Planning and Environment imposes a number of environmental requirements on PowerWater.

Most of these requirements are conditions of extraction and discharge licences issued under the *Water Act 1999*. While a licence may be issued for up to 50 years, the terms of the licence may be varied at any time. The controller of water can thus continuously revise (as is occurring) licence conditions in the

light of ongoing water allocation planning and environmental monitoring programs. The Act allows the controller of water to require a licensee, at the licensee's expense, to provide data.

Operational environmental requirements imposed on PowerWater include the requirement to: monitor water quality and quantity daily, weekly and monthly; investigate environmental dynamics and impact mitigation measures; and report monitoring and investigation results monthly and annually. Further environmental requirements (and costs) are associated with pollution incident reporting (under the *Waste Management and Pollution Control Act 1998*) and national pollution inventory reporting.

The Northern Territory advised that PowerWater's use of water resources is limited to water allocations defined in extraction licences, which are set at environmentally sustainable levels. This provision will mitigate the adverse environmental implications of water consumption in the Northern Territory.

PowerWater's annual report details the costs of complying with water allocations and monitoring and reporting requirements.

Discussion and assessment

The Council considers the Northern Territory has satisfactorily addressed its full cost-recovery pricing obligations.

Consumption-based pricing

Assessment issue: Prices are to reflect the volume of water supplied, to encourage more economical water use and to defer the need for costly investments. Cross-subsidies should ideally be removed where they are inconsistent with efficient service provision and use. Any remaining cross-subsidies should be transparently reported.

Next full assessment: The Council will conduct a full assessment across the entire package of reforms in 2005.

Reference: CoAG water reform agreement, clauses 3(a)-(c)

PowerWater introduced a two-part tariff consistent with CoAG commitments, so all water charges in the Northern Territory are based on use. There are no free water allowances, ensuring all water customers face a price incentive to use water economically. Domestic and nondomestic wastewater charges are based on the number of sanitary units. Charges reflect the level of service provided, to the extent that the number of units is a good proxy for the volume and quality of waste discharged.

For previous NCP assessments, the Northern Territory Government reported on its progress against obligations to eliminate cross-subsidies and transparently report those remaining.

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- Future PowerWater price path submissions to PowerWater's Regulatory Minister will be based on the phased elimination of cross-subsidies, including cross-subsidies from Government users to commercial and domestic customers.
 - PowerWater developed a trade waste management system in 2002 as a framework to administer, accept and regulate the disposal of trade wastes. The trade waste charges reduce cross-subsidies from businesses that produce low volume and toxic discharges to those producing high volume and toxic discharges.
 - The Government provides CSO funding to subsidise water and wastewater charges for pensioners in all Northern Territory centres. It provides additional CSO funding for services in the Katherine, Tennant Creek and Alice Springs regions, to maintain uniform tariffs across the Northern Territory. External funding means these CSOs are not funded through cross-subsidies.
 - PowerWater reports cross-subsidies in its annual reports.

Discussion and assessment

The National Competition Council considers the Northern Territory has satisfactorily addressed its consumption-based pricing obligations.

Rural water pricing: progress report

Progress report: For Government-owned rural water supply businesses, prices are to reflect the volume of water supplied to encourage more economical water use and to defer the need for costly investments.

Next full assessment: The Council will assess rural full cost recovery and pricing reform in 2004.

Reference: CoAG water reform agreement, clauses 3(a) and (b); CoAG pricing guidelines

The Northern Territory has no publicly funded or owned rural water infrastructure.

9.2 Water management progress report: water rights and provisions to the environment

Establishment of water rights systems

Progress report: The Northern Territory is to report on progress towards converting existing allocations to new water rights systems, and in implementing mechanisms to support these systems.

Next full assessment: The Council will assess the Government's compliance with CoAG obligations on implementing water rights arrangements in 2004.

Reference: CoAG water reform agreement, clause 4

In previous NCP assessments, the Council found that the Northern Territory had established a comprehensive system of water entitlements, separated from land title and specified in terms of ownership, reliability, volume, transferability and, if appropriate, quality. Water entitlements are specified via surface water and groundwater extraction licences issued under the *Water Act 1992*. Licences are generally issued for up to 10 years, with the Minister able to approve a longer period. Subject to the Act, water rights and the rights to the use, flow and control of all water are vested in the Northern Territory Government.

In relation to the Northern Territory's registry system, a hard copy of the register is available from the Department of Infrastructure, Planning and Environment. The register is a public database and contains details of licence holders, quantities of water and dates for renewal, but does not provide for third party interests to be registered. In the 2001 NCP assessment, the Council noted that the ability of third parties to register an interest was not an issue in the Northern Territory at that time, given the zero value of water licences and the absence of trading (because water is not scarce).

Reform progress

The Department of Infrastructure, Planning and Environment established a new electronic database to improve the administration of water licences. The department indicated that a formal policy for public access to water licence information (including access via the Internet) is to be prepared in accordance with the *Information Act 2002*, which commenced on 1 July 2003.

Provision of water to the environment

Progress report: The Northern Territory is to report on progress in implementing allocations to the environment by listing all draft and final water allocation plans and explaining each plan's stage of development.

Next full assessment: The Council will assess the Government's progress in implementing CoAG obligations on the allocation of water to the environment in 2004, consistent with the CoAG requirement that allocations be substantially completed by 2005.

Reference: CoAG water reform agreement, clauses 4(b-f)

Water allocation planning in the Northern Territory occurs through an integrated regional resource management process covering both surface water and groundwater. Water allocation plans may be declared for water control districts. The plans include contingent allocations for the environment. The plans are set for 10 years and reviewed every five years. Water advisory committees oversee implementation of the plans.

At the time of the 2002 NCP assessment, water allocation plans were being developed for four of the Northern Territory's six water control districts. The Northern Territory Government does not intend to develop water allocation plans for the other two districts (Tennant Creek and Gove) at this stage. Given that the Northern Territory has no stressed or overallocated surface water systems, it has until 2005 to implement environmental allocations for the four water control districts in its agreed implementation program.

In the 2001 NCP assessment, the Council found that the Northern Territory had met minimum commitments in relation to the National Principles for the Provision of Water for Ecosystems, but was at an early stage in developing a scientific basis for determining environmental water requirements. In 2002, the Council reviewed the Northern Territory's progress on five major research projects on environmental flows in the Daly and Douglas rivers, the only river system where significant levels of development are planned. One of the five projects had been completed, with the other four under way. The Council was satisfied that the Northern Territory was addressing the obligation to establish a 'best available' scientific basis for determining environmental flows, and indicated it would re-examine progress in the 2004 NCP assessment.

Reform progress

The Northern Territory Government advised that the water allocation plan for the Ti-Tree Water Control District was finalised in August 2002. The remaining three plans are expected to be finalised in 2003-04. The Northern Territory's progress is summarised in table 9.1.

Table 9.1: Stocktake of water allocation plans in the Northern Territory

<i>Water control districts</i>	<i>Progress with water allocation plans</i>
Ti-Tree	Plan was formally declared under the Water Act on 16 August 2002. It is being implemented by the Ti-Tree Water Advisory Committee. Ti-Tree regional land use plan is being developed based, in part, on the water allocation plan.
Darwin	Preliminary draft plan is nearing completion. Consultation with key stakeholders is under way. Plan is expected to be declared around August 2003.
Katherine/Daly	Preliminary draft plan for the Daly River is nearing completion. Consultation process is being developed in conjunction with the regional land use plan, biodiversity conservation strategy and new vegetation clearing controls. Plan is expected to be declared in 2003-04.
Alice Springs	Resource assessment work is largely completed. Consultation is programmed for the second half of 2003. Declaration of the plan is targeted for early 2004.

Over the past year, the Northern Territory also made progress in its scientific research on environmental water requirements. In particular, the four remaining research projects on environmental flows in the Daly and Douglas rivers were completed and a summary report covering all five projects was prepared. The Northern Territory advised that the summary report and each of the project reports are being used to guide the drafting of the water allocation plan for the Daly River region. The reports will also be used as references during the regional consultation process for the plan. The consultation process is to be undertaken as part of an integrated regional planning initiative, which will also include the development of a regional biodiversity conservation strategy, a regional land use planning framework, an agricultural development strategy and native vegetation clearing controls.

9.3 Intrastate trading

Assessment issue: Trading arrangements in water allocations or entitlements are to be instituted to maximise water's contribution to national income and welfare, within the social, physical and ecological constraints of catchments. Any restrictions on trading need to be shown to be in the public interest. According to the CoAG timetable for assessment of reform progress by the Council, arrangements to enable intrastate trade are to be assessed in 2003.

In the 2001 NCP assessment, the Council found that the Northern Territory had removed legislative impediments to trading. While there had been no trade in licensed water entitlements, this reflected the level of development and the plentiful water supplies relative to demand. The Northern Territory was still developing water allocation plans, including trading rules.

The Northern Territory needs to ensure that trading rules in water allocation plans facilitate trading where this is socially, physically and environmentally sustainable.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

Following amendments to the Water Act in May 2000, water entitlements are clearly specified and fully separated from land title. In terms of trading, the legislation provides for:

- trading in water entitlements between consumptive beneficial uses¹ in water control districts where water allocation plans have been declared — given the geographically dispersed nature of developed water resources in the Northern Territory, the Act limits trade in water entitlements to individual water control districts;
- trading rules for regions to be developed under each water allocation plan;
- property rights that are well specified;
- a publicly available register, which contains details of licence holders, quantities held and dates for renewal; and
- no compensation, although the conservative basis used for setting allocations and environmental flows in the Northern Territory means there is little risk of a reduction in allocations.

There has been no water trading within the Northern Territory or between the Northern Territory and another jurisdiction.

¹ Consumptive beneficial uses listed in the Act are agriculture, aquaculture, public water supply, manufacturing and riparian use.

Changes in the regulatory environment since 2001

Under the Ti-Tree Region Water Resource Strategy, the only water allocation plan completed to date (see section 9.2), groundwater resources are managed in separate zones. Management is based on a consideration of water quality, aquifer recharge processes and demands for irrigation, public water supply, and stock and homestead needs. The strategy sets limits for total licensed entitlements and includes specific trading rules that restrict trading to within-zone transactions. Trading within each zone is not constrained. No trading has occurred in the Ti-Tree district.

For all water allocation plans, the Northern Territory advised that trading of entitlements from downstream to upstream within a specific river system will not be permitted without approval, and that trading of groundwater entitlements will be restricted to within-aquifer transactions.

Discussion and assessment

At current levels of development, water supplies in the Northern Territory are plentiful relative to demand. As a result, there is little, if any, demand for water trading and there has been no trade in licensed water entitlements. The Northern Territory's legislation prohibits trade between consumptive and nonconsumptive water uses, to prevent environmental and cultural water allocations from being traded to water irrigators and other water users. In the 2001 NCP assessment, the Council accepted that this rule is consistent with CoAG requirements.

While the Northern Territory removed previous legislative impediments to water trade, it has finalised only one water allocation plan, meaning that trading of water entitlements is possible in only one water control district. The Northern Territory has no stressed or overallocated surface water systems. In line with the CoAG assessment timetable, the Council will consider the four water allocation plans in the Northern Territory's agreed implementation program in 2005 (see section 9.2). Consistent with the objectives set by CoAG, the trading rules in the water allocation plans should facilitate trading where this is socially, physically and environmentally sustainable.

The Northern Territory foreshadowed two general restrictions on water trading in all its water allocation plans.

- For river systems, the trading of entitlements from downstream to upstream within a specific system will not be permitted without approval. The Northern Territory advised that this requirement reflects concern that uncontrolled downstream to upstream trade could have an impact on environmental water provisions and adversely affect the environment. Upstream trade will be approved only after it has been demonstrated that there will be no impact on the environmental provisions of the relevant water allocation plan.
- For groundwater sources, trading of entitlements will be restricted to within-aquifer transactions, reflecting physical and environmental constraints.

In the one water allocation plan that has been declared (that for the Ti-Tree Water Control District), trading in groundwater is restricted to within-zone transactions. The Northern Territory advised that this restriction reflects the management of the groundwater resources within separate zones and the need to limit extractions within each zone to a sustainable level.

As the general restrictions on water trading and the trading rules in the Ti-Tree plan reflect physical and environmental constraints, the Council considers these are consistent with CoAG obligations.

The Council notes that the Northern Territory's water licence register does not provide scope to register third party interests in a licence. The Northern Territory considers that the registration of third party interests is unnecessary at this stage, given the negligible value of water licences and the lack of trading. As indicated in the 2001 NCP assessment, however, the Council will look for the Northern Territory Government to address this matter as demand increases, along with other matters required for an effective water market (including robust and timely trading and clearance procedures, a variety of market mechanisms to effect trade, and accessible market information).

The Council considers that the Northern Territory made sufficient progress against its CoAG obligations on intrastate water trading for the 2003 NCP assessment.

9.4 Institutional reform

Structural separation

Assessment issue: As far as possible, the roles of water resource management, standard setting and regulatory enforcement, and service provision are to be separated institutionally.

In the 2001 NCP assessment, the Council found that the Northern Territory's institutional arrangements provide appropriate separation of water resource management, standard setting and regulatory enforcement, and service provision.

The Northern Territory needs to ensure appropriate separation of responsibilities continues following corporatisation of the former Power and Water Authority.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clauses 6(c) and 6(d)

On 1 July 2002, the Power and Water Authority became the first Government business to be covered by the Northern Territory's *Government Owned Corporations Act 2001*. The authority is now known as the Power and Water Corporation (or PowerWater). Under the Government Owned Corporations Act, PowerWater's board of directors is accountable to a shareholding Minister (currently the Treasurer) for the performance of the corporation through a formal statement of corporate intent. Under the Water Act, resource management, water allocation and environmental regulation are the responsibility of the Minister for Lands and Planning. Under the *Water Supply and Sewerage Services Act 2000*, economic regulation and the setting of service standards are the responsibility of the regulatory Minister (currently the Treasurer) acting on independent advice from the Utilities Commission.

Discussion and assessment

In the 2001 NCP assessment, the Council found that the Northern Territory had made substantial progress in reforming institutional arrangements in the water industry. The Northern Territory's arrangements provide appropriate separation of water resource management, standard setting and regulatory enforcement, and service provision.

Under the new arrangements, the Northern Territory Treasurer continues to be responsible for agreeing with PowerWater on dividends (but as the shareholding Minister rather than as Treasurer), as well as for setting prices (as the regulatory Minister). As the Council noted in its supplementary second tranche NCP assessment in February 2001, the vesting of responsibility for dividends and price setting in the one office theoretically

provides a potential for higher prices and dividends, and therefore higher returns to the Government.

In performing these two roles, however, the Treasurer is advised by different agencies — by the Northern Territory Treasury on dividends and by the independent Utilities Commission on price regulation — and must comply with the relevant legislation (the Government Owned Corporations Act for dividends and the Water Supply and Sewerage Services Act for price regulation). Dividends are transparently reported (in PowerWater’s annual report, the statement of corporate intent and Budget papers), and the Utilities Commission is able to report publicly on pricing and in its annual report.

The Council considers that the Northern Territory’s arrangements provide an adequate safeguard against conflicts between regulatory and shareholder roles and, for a small jurisdiction, are consistent with CoAG obligations. The Council will, however, continue to monitor outcomes in future NCP assessments.

Commercial focus: PowerWater

Assessment issue: Service delivery organisations in metropolitan areas in particular are to have a commercial focus.

In previous NCP assessments, the Council was satisfied with the commercial focus of the predecessor of PowerWater.

The Northern Territory needs to demonstrate that PowerWater continues to operate on a commercial basis following corporatisation.

Next full assessment: The Council will assess institutional reform in 2005 as part of a full assessment across the entire package of water reforms.

Reference: CoAG water reform agreement, clause 6(f)

The Northern Territory’s Government Owned Corporations Act covers PowerWater. It establishes a shareholder model of corporate governance for Government businesses and provides for Government-owned corporations to have a commercial board of directors. The board is accountable to a shareholding Minister (currently the Treasurer) for the performance of the corporation. The objectives of a Government-owned corporation include performing at least as efficiently as any comparable business and maximising the sustainable return on the Northern Territory’s investment in the corporation.

Discussion and assessment

In previous NCP assessments, the Council found that the predecessor of PowerWater, the Power and Water Authority, operated on a commercial basis. The new Government Owned Corporations Act enhances the commercial focus of PowerWater. It requires PowerWater to operate, as far as possible, on a basis similar to that of a private sector corporation.

Integrated catchment management

Assessment issue: The Northern Territory is to:

- develop administrative arrangements and decision-making processes to ensure an integrated approach to natural resource management;
- adopt an integrated catchment management approach to water resource management and set in place arrangements to consult with the representatives of local government and the wider community in individual catchments; and
- support the consideration of establishing land care practices that protect areas of rivers that have a high environmental value or are sensitive for other reasons.

In the 2001 NCP assessment, the Council found that the Northern Territory was meeting its 2001 obligations on integrated catchment management.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 6(a), 6(b), 8(b) and 8(c)

The Northern Territory Department of Infrastructure, Planning and Environment is the lead agency in natural resource management, including integrated catchment management. An interdepartmental committee facilitates coordination between agencies.²

The *Water Act 1992* provides for the establishment of catchment advisory committees in areas where beneficial uses have been declared.³ The committees:

- clarify the beneficial water uses for a region or catchment;
- identify potential threats to those uses; and

² The committee comprises representatives of the Department of Infrastructure, Planning and Environment and the Department of Business, Industry and Resource Development.

³ Beneficial water uses include agriculture, aquaculture, public water supply, environment, cultural, manufacturing industry and riparian stock and domestic use.

-
- develop catchment plans with strategies and action plans to manage threats.

Catchment advisory committees are established under the Water Act as water advisory bodies that report to the Minister for Lands and Planning. The committees comprise regional stakeholders with expertise in catchment issues. Where possible, the Minister invites community, land care groups, environmental and industry groups, local government and Northern Territory agencies to provide nominations for committees.

The Government establishes catchment advisory committees on a needs basis in response to the resource management issues identified during public consultation to establish beneficial uses.⁴ Six of the 26 areas declared for beneficial use have a catchment management plan in place or being developed. Catchment plans are developed through transparent and inclusive community consultation processes. The pace and extent of catchment activity depends on the interests and capabilities of the relevant regional community.

Programs established under the catchment plans include sustainable use and conservation of coastal waters, urban waterways, rural floodplains and broad-scale regional planning. These activities are supported by the monitoring of waterway condition and reporting on water quality (see section 9.5 on the National Water Quality Management Strategy). Table 9.2 lists the Northern Territory's catchment management plans, and summarises their content and stage of development.

The principal initiatives since the 2001 NCP assessment are the Ilparpa Swamp Rehabilitation Plan (released in 2003) and the Darwin Harbour Plan of Management (scheduled for release in 2003). The Ilparpa Swamp plan provides direction for action and investment to rehabilitate the swamp, located near Alice Springs. The management plan will be implemented over a three year period, with annual reviews of the action plan and work programs. PowerWater is funding the management plan budget. Development of the rehabilitation plan followed community consultation on environmental concerns, and designation of the swamp for environmental and cultural uses under the Water Act (Ilparpa Swamp Rehabilitation Committee 2003).

⁴ The declaration of beneficial uses can be the basis for one or more of:

- waste discharge licensing to limit water quality impacts (see section 9.5);
- water allocation planning to manage water consumption to sustainable levels (see section 9.2); and/or
- catchment management planning of water quality issues.

Most declarations have been made only for the purpose of issuing waste discharge licences.

The Darwin Harbour catchment supports the largest concentration of residential, commercial and industrial activities in the Northern Territory. In recognition of the diverse values associated with the catchment, the Government in 2002 appointed the community-based Darwin Harbour Advisory Committee to develop a management plan to facilitate economic development while protecting biodiversity and the environment. The plan will encompass a coastal marine protection strategy, a management plan for Darwin Harbour, and the protection of mangroves in the harbour (Government of the Northern Territory 2002a, 2002b). The committee was engaged in community consultation in 2003. The Government expects the management plan to be completed before the end of 2003.

The Northern Territory signed bilateral agreements with the Commonwealth Government to implement the National Action Plan for Salinity and Water Quality (in February 2003) and the Natural Heritage Trust extension (in June 2003).⁵ The Northern Territory stated that, in preparing integrated regional natural resource management plans under these agreements, it will adopt the approaches set out in the National Framework for Natural Resource Management Standards and Targets 2002. The plan and trust provide for assistance to catchment advisory committees in developing integrated regional natural resource management plans for accreditation. The Northern Territory Landcare Council acts as a coordinating body for catchment committees.

The Mary River integrated catchment management plan is being reviewed to address accreditation criteria under the national action plan. The Northern Territory expects a long period of public consultation as required under the national frameworks before the plan can be submitted for accreditation, probably around June 2004.

⁵ The Commonwealth Government extended the Natural Heritage Trust to 2006-07 in the May 2001 budget. The implementation framework was endorsed in October 2002 by the Natural Resource Management Ministerial Council and State, Territory and Commonwealth Ministers. A significant focus is on measures to improve water quality.

Table 9.2: Catchment management plans in the Northern Territory

<i>Catchment management plan</i>	<i>State of development</i>	<i>Focus</i>	<i>Advisory Committee membership</i>
Mary River Integrated Catchment Management Plan	Released in 1998 and updated in 2000. Currently under review.	Addresses salt water intrusion, weeds, aquatic habitats, fire, grazing, pastures, nature conservation, clearing, water quality, erosion, visitor experience and feral pests.	Representatives from Mary River Landcare Group, pastoral, fishing, tourism and mining industries, Department of Business, Industry and Resource Development, Department Infrastructure, Planning and Environment, Commonwealth Parks North and Defence North.
Rapid Creek Management Plan (Darwin)	Released in 1994 and currently under review.	Management issues include fire, weeds, access, illegal dumping, water quality and open space planning.	Representatives from Defence North, Darwin Airport, Larrakia Association, NT University, Greening Australia, Rapid Creek Landcare Group, Department Infrastructure, Planning and Environment, Darwin City Council and the local Member of the Legislative Assembly.
Iparpa Swamp Rehabilitation Plan (Alice Springs)	Released in 2003.	Environmental issues identified are public health (mosquitos), altered hydrology, salinity, fire, weeds, feral animals, threats to flora, waterbird habitat and heavy metal contamination. Infrastructure issues include reduction of sewage inflow to the Alice Springs Sewage Ponds, timing of sewage overflows into swamp, road overflows and erosion.	Representatives from Central Land Council, PowerWater Corporation, Department of Infrastructure, Planning and Environment, Greening Australia, Arid Lands Environment Centre, NT Fire Police and Emergency Services, Tangentyere Council, Department of Health and Community Services, Alice Springs Town Council, Iparpa Valley Landcare Group, Blatherskite Park Trustees, Old Timers Village and Caravan Parks Association.

(continued)

Table 9.2 continued

<i>Catchment management plan</i>	<i>State of development</i>	<i>Focus</i>	<i>Advisory Committee membership</i>
Darwin Harbour Plan of Management	In preparation through public consultation. To be released in 2003.	Issues include pollution, altered catchment hydrology and geomorphology, harbour hydrodynamics and sediment transport, introduced flora, fauna and pathogens, impacts on biodiversity and ecosystems, habitat degradation and loss, groundwater extraction, fishing and harvesting of native flora/fauna, disturbance to fauna and flora by vessel movement, coastal erosion and climate change.	Representatives of Darwin City Council, Amateur Fisherman's Association, NT Environment Centre, Larrakia Nation, NT University, Darwin Port Corporation, Northern Land Council, NT Tourist Commission, Perkins Shipping Pty Ltd, Australian Institute of Marine Science, Marine and Coastal Community Network, Dover Investments, NT Chamber of Commerce and Industry, Department of Business, Industry and Resource Development and Department of Infrastructure, Planning and Environment.
Gulf Region Natural Resource Management Strategy (Gulf of Carpentaria)	At preliminary community consultation stage. Expected to be completed in 2004.	Management issues include erosion, weeds, dust, fire, ground and surface water quality and quantity, feral animals, tourism, sustainable fishing, dugong and turtle management, lack of people on country, cultural and historical sites, rubbish tips and marine debris, best management practice training, mining and cross border links with Queensland.	Stakeholders include Pastoral Land Board, McArthur River Mine, Merlin Mine, Rio Tinto, Department of Business, Industry and Resource Development, Department of Infrastructure, Planning and Environment, Mabunji Resource Centre, Mungoorbada Aboriginal Association, Northern Land Council, ATSIC, Indigenous Land Management Facilitator, Aboriginal Landcare Education Program, Amateur Fisherman's Association, Katherine Regional Tourism Association, Gulf Savanna Guides, King Ash Bay Fishing Club, Borroloola Community Government Council, Greening Australia, Gulf Extension Group, Numberinid and Warrahaliba Fishery Committees, South West Gulf Fishing Group, Tropical Savannas CRC, World Wildlife Fund for Nature, Environment Centre, Bushfires and Border Action Group.
Tiwi Islands Natural Resource Management Strategy	In preparation by Tiwi Land Council appointed steering committee. Expected to be completed in 2006.	Issues are quarantine matters including cane toad exclusion, weeds, water quality, groundwater sustainability, coastal monitoring and community planning, marine management and illegal fishing.	Steering committee comprises Land Council delegates, Tiwi Islands Training and Employment Board, Tiwi Islands Local Government and others on case by case basis.

Source: Adapted from Government of the Northern Territory 2003a, 2003b.

The Northern Territory indicated in 2001 that water allocation plans may be expanded to include complementary regional water resource strategies that address integrated catchment management. (The only water allocation plan in place in 2003 is the Ti-Tree Region Water Resource Strategy.) The Northern Territory advised that it sees no reason to expand the strategy to address integrated catchment management principles until the strategy's first review, which must occur by mid 2007. The Northern Territory noted, however, that the five-year work program for the strategy includes reassessment for the presence of water dependent ecosystems and the possible need for their management. The plan also requires investigation and reporting on surface and groundwater pollution vulnerability and any actions that may be required to address these issues. The Northern Territory stated that the findings of these assessments would determine whether there is a need for specialist environmental representation on the advisory committee.

Land care

Land care groups operate in over 70 per cent of the Northern Territory. A high percentage of membership comprises primary producers and Aboriginal groups. Land care groups in the catchments of the Howard River, Rapid Creek and Ludmilla Creek carry out revegetation of riparian corridors, weed eradication, erosion control, bank stabilisation and wildfire management. Land care groups are represented on the advisory committees for the Rapid Creek and the Mary River catchments. Waterwatch is also active, with over 80 groups monitoring over 150 sites in 12 catchments.

The Northern Territory has introduced a number of land care policies since the 2001 NCP assessment. In particular, the Northern Territory released land clearing guidelines in February 2002, and introduced a requirement for development permits for the clearing of native vegetation in December 2002.

Salinity

The National Land and Water Resources Audit Australian Dryland Salinity Assessment 2000 did not classify any part of the Northern Territory as a high salinity hazard. The audit found the overall salinity hazard for the Northern Territory to be relatively low, with 6 per cent of areas classified as moderate hazard, 34 per cent classified as low hazard and 60 per cent classified as very low hazard (NLWRA 2001). Nevertheless, catchment management committees identified salinity as an environmental issue (see, for example, Iparpa Swamp Rehabilitation Committee 2003, p. 28), and the Northern Territory Government signed a bilateral agreement with the Commonwealth Government to implement the National Action Plan for Salinity and Water Quality. The Northern Territory reported that, in accord with Commonwealth Government priorities, the agreement will not address dryland salinity in Alice Springs.

Discussion and assessment

The Northern Territory made some progress in integrated catchment management since the 2001 assessment. The principal achievements were:

- the bilateral agreements with the Commonwealth Government on the National Action Plan for Salinity and Water Quality and Natural Heritage Trust extension;
- the implementation of the Ilparpa Swamp Rehabilitation Plan (Alice Springs);
- the appointment of an advisory committee for the Darwin Harbour plan of management, and the conduct of extensive community consultation on the plan; and
- the implementation of new land clearing guidelines and controls.

The Northern Territory stated that closer integration of water allocation and catchment management processes is unlikely in the near future. However, the work program for the Ti-Tree Water Resource Strategy appears to take some preliminary steps towards coordinating these processes.

The Council considers that the Northern Territory made satisfactory progress for the 2003 NCP assessment against its integrated catchment management obligations. In particular, the Northern Territory:

- developed administrative arrangements and decision making processes to ensure an integrated approach to natural resource management; and
- adopted an integrated catchment approach to water resource management, and set in place arrangements to consult with local government and the wider community in individual catchments.

The Northern Territory's natural resource management framework appears to facilitate consideration of and support for land care practices to protect rivers with high environmental values. This focus is likely to increase as a result of the Northern Territory's participation in the National Action Plan for Salinity and Water Quality and the Natural Heritage Trust extension. The Council will look for the Northern Territory to have finalised its remaining catchment plans when it next assesses progress in the 2005 NCP assessment.

9.5 National Water Quality Management Strategy

Assessment issue: The Northern Territory is to demonstrate a high level of commitment to the ongoing implementation of the objectives of the National Water Quality Management Strategy (NWQMS), including action (through market-based and regulatory measures, water quality monitoring, catchment management policies, town wastewater and sewage disposal, and community consultation and awareness) to achieve the agreed objectives.

In the 2001 assessment, the Council was generally satisfied that the Northern Territory was meeting its 2001 obligations on NWQMS implementation, but was concerned that regulatory arrangements for drinking water quality may be inadequate.

Next full assessment: The Council will conduct a full assessment across the entire package of water reforms in 2005.

Reference: CoAG water reform agreement, clauses 8(b) and (d)

The Northern Territory continues to implement mechanisms that take account of the National Water Quality Management Strategy (NWQMS). These initiatives are principally incorporated through the application of the Australian Drinking Water Guidelines 1996 and a code of practice covering trade waste. The Northern Territory contributed to the revised Australian and New Zealand Guidelines for Fresh and Marine Water Quality, the Australian Guidelines for Water Quality Monitoring and Reporting, Guidelines for Sewerage Systems Sludge (Biosolids) Management and Guidelines for Sewerage Systems Overflows. The Northern Territory also contributed to proposed revisions to the Australian Drinking Water Guidelines, including the use of the Katherine water supply in a pilot project.

Declaration of beneficial uses

The Northern Territory manages water quality issues through the statutory declaration of beneficial water uses under the *Water Act 1992*.⁶ The Northern Territory considers the categories of beneficial use defined in the Act as consistent with the framework of environmental values in the Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2000 (NWQMS paper no. 4). A declaration refers each beneficial use to the relevant water quality guidelines in NWQMS paper no. 4.

The Northern Territory has made 26 declarations of beneficial uses, covering surface water catchments, coastal waters and groundwater systems (see table 9.3). The declarations cover three ports and areas of major environmental and cultural value. Seven declarations have been made since the 2001 NCP

⁶ Beneficial water uses include agriculture, aquaculture, public water supply, environment, cultural, manufacturing industry and riparian stock and domestic use.

assessment, including for the Mary River (surface water and groundwater), the Ti Tree catchment (surface water and groundwater) and Ilparpa Swamp. The beneficial uses declared for these areas include environment, cultural, riparian, agriculture and public water supply uses.

Table 9.3: Beneficial uses declared in the Northern Territory

<i>Location</i>	<i>Environmental values (beneficial uses)</i>
1994 Mount Bunday Creek	aquatic ecosystem protection, stockwater
Ryan Creek	aquatic ecosystem protection, stockwater
1995 Copperfield Creek and Tributaries	aquatic ecosystem protection, drinking water
Hudson Creek and Tributaries	aquatic ecosystem protection
1996 Edith Creek and Tributaries	aquatic ecosystem protection
Howley Creek and Tributaries	aquatic ecosystem protection
Darwin Harbour and Estuaries	aquatic ecosystem protection, recreational water quality and aesthetics
1997 Katherine River	aquatic ecosystem protection, recreational water quality and aesthetics, raw water for drinking water supply, agricultural water use
1998 Coomalie Creek and Tributaries	aquatic ecosystem protection, recreational water quality and aesthetics, agricultural water use
Coastal Waters: Groote Eylandt, Fog Bay, Gove, McArthur River, Shoal Bay-Vernon Island	aquatic ecosystem protection, recreational water quality and aesthetics
Crater Lake	recreational water quality and aesthetics
McKinlay River	aquatic ecosystem protection
Darwin and Blackmore River Catchments	aquatic ecosystem protection, recreational water quality and aesthetics, raw water for drinking water supply, agricultural water use
Katherine River Tributaries	aquatic ecosystem protection, recreational water quality and aesthetics, agricultural water use
1999 Katherine Region Groundwaters	raw water for drinking water supply, agricultural water use, industrial water use
2000 Rapid Creek – Freshwater Reaches	aquatic ecosystem protection
Elizabeth and Howard River Region Waterways	aquatic ecosystem protection, recreational water quality and aesthetics

(continued)

Table 9.3 continued

<i>Location</i>	<i>Environmental values (beneficial uses)</i>
Elizabeth and Howard River Region Groundwater	raw water for drinking water supply, agricultural water use
2001 McArthur River Catchment Area	environment, cultural, riparian
2002 Mary River Surface Water	environment, cultural, riparian
Mary River Groundwater	environment, agriculture, riparian
Ti Tree Surface Water	environment, cultural, riparian
Ti Tree (Western Zone) Groundwater	agriculture, public water supply, riparian
Ti Tree (Central Zone) Groundwater	agriculture, riparian
Ti Tree (Eastern Zone) Groundwater	riparian
Iparpa Swamp	environment, cultural

Source: Government of the Northern Territory 2003b

The Northern Territory consults with regional stakeholders interested in water quality management prior to making beneficial use declarations. In this way, declarations are intended to reflect community values and expectations on sustainable water use and management. A beneficial use declaration activates water quality management strategies that can include catchment management planning (see the discussion on integrated catchment management in section 9.4) and waste discharge licensing. Each process is subject to monitoring requirements.

Waste discharge

Regulatory agencies in the Northern Territory recognise and use the NWQMS guidelines on point and diffuse source pollution where their use is considered appropriate. Currently, some guidelines are not relevant to the Northern Territory as the particular sources of potential pollution are not present (for example, NWQMS papers 16–20). In some cases, the Northern Territory considers the national guidelines to be inadequate (for example, the guidelines on effluent re-use; NWQMS paper no. 14).

The Government manages point source waste discharge into Northern Territory waters via a statutory requirement that waste discharge be licensed. Licences are only available in areas where beneficial uses have been declared. The licences currently in place regulate all known point waste discharge sources, including mines, sewage treatment plants, an aquaculture operation and several marinas on the Darwin Harbour.

The Northern Territory applies NWQMS guidelines (including the Australian and New Zealand Water Quality Guidelines) to waste discharge licensing under the Water Act, to ensure that declared environmental values are not

compromised. In particular, a waste discharge licence requires the discharger to monitor and report the quality of receiving waters and to limit water quality impacts beyond the immediate contact zone so that beneficial uses are maintained. The Department of Infrastructure, Planning and Environment and the Department of Business, Industry and Resource Development conduct independent random auditing of water quality. The former normally conducts two or three checks per year, while the latter conducts continuous monitoring as a check on the data supplied by dischargers.

Routine monitoring is conducted mainly for sewage treatment plant effluent and mine-site wastewater discharges. (This reflects the nature of development in the Northern Territory). Monitoring is also undertaken at point sources that include aquaculture sites, marine waters in Darwin Harbour, and streams in Darwin's rural hinterland. The Northern Territory applies the Australian Guidelines for Water Quality Monitoring and Reporting (NWQMS paper no. 7) to the design and conduct of monitoring programs. The departments make water quality information available through published reports and on request as a free information service. The departments do not currently provide internet access to information.

PowerWater developed a Trade Waste Management System in 2002 as a framework to administer, accept and regulate the disposal of trade wastes. The system, which was developed in consultation with dischargers, adopts NWQMS guidelines to set acceptable concentrations of various wastes. The Trade Waste Code, a key document under the Trade Waste Management System, establishes criteria under which approval is granted to allow the discharge of trade waste into the sewerage system. The code is based on user-pays principles to encourage industry to minimise waste by implementing effluent improvement strategies.⁷ The code is self-regulated.

In developing the system and code, PowerWater aligned its approach with the approaches set out in NWQMS paper No. 12 (Guidelines for Sewerage Systems Acceptance of Trade Waste). Power Water also considered the trade waste policies of interstate sewerage businesses to ensure its approach is consistent with the national approach.

Water quality monitoring

The Northern Territory monitors surface, marine and ground water quality on a needs basis in the context of waste discharge licensing (see the discussion above on waste discharge) and integrated catchment management. The Department of Infrastructure, Planning and Environment is working with the Australian Institute of Marine Science to monitor water quality in

⁷ PowerWater consulted with waste dischargers and industry representative bodies on the commencement of trade waste charges. The commencement date is being reviewed to allow dischargers time to invest in pre-treatment facilities.

the greater Darwin Harbour as part of the development of a catchment management plan (AIMS 2003).

The National Land and Water Resource Audit (NLWRA 2001) found that Northern Territory water quality data sets did not meet minimum requirements in terms of sampling frequency and length of monitoring record. The Northern Territory considers that the national audit methodology did not reflect the risk management approach adopted in the NWQMS water quality monitoring guidelines. The Northern Territory applies risk management principles in assigning limited resources to the expensive task of water quality monitoring in a large and sparsely populated jurisdiction. Consequently, the Northern Territory considers that while its monitoring framework meets public health and environmental management priorities, the resultant data sets could not be expected to comply with the more comprehensive approach in the national audit.

Drinking water

PowerWater has primary responsibility for providing safe drinking water. The Northern Territory Department of Health and Community Services sets minimum drinking water standards and monitors compliance.

The *Water Supply and Sewerage Services Act* requires that water and wastewater service providers be licensed by the Utilities Commission. The Commission issued a licence to PowerWater in February 2002, requiring it to apply water quality service standards and provide information on its performance to the Utilities Commission and the Northern Territory's Chief Health Officer.

PowerWater introduced a formal drinking water quality policy in 2002 that aims to 'minimise risks to drinking water quality at all points along the delivery chain from source water to the consumer' (PowerWater 2002). A central aspect of the policy is the adoption and progressive implementation of the Framework for Management of Drinking Water Quality developed by the National Health and Medical Research Council for future inclusion in the Australian Drinking Water Guidelines. PowerWater trialled the framework and participated in its development. Under the drinking water quality policy, PowerWater committed to:

- implement and maintain a drinking water management system consistent with the Australian Drinking Water Guidelines (NWQMS paper no. 6);⁸ and

⁸ Consistent with the guidelines, all centres except Tennant Creek have two contamination barriers, major centres have at least three and centres that rely on surface water have additional barriers.

- develop a drinking water monitoring program in consultation with the Northern Territory's Department of Health and Community Services, monitor the quality of drinking water supplies in accord with the agreed program and report annually to the Chief Health Officer.

PowerWater's drinking water quality and microbiology monitoring program is based on the 1996 NWQMS guidelines for major water centres and the 1987 guidelines for minor centres (supplying water to about 15 per cent of consumers). The main difference relates to the frequency of monitoring, with the 1996 guidelines based on a weekly sampling program and the 1987 guidelines based on monthly sampling. Aesthetic, chemical and radiological monitoring is assessed against the 1996 guidelines for all centres. PowerWater published its first annual report on drinking water quality in 2002 (PowerWater 2002).

As a relatively small utility, PowerWater has sought to enhance its research and development capacity by participating since 2001 in the national Cooperative Research Centre for Water Quality and Treatment. The centre's work program includes a focus on water quality issues in regional and rural areas.

Groundwater

The Northern Territory applies the NWQMS Guidelines for Groundwater Protection (NWQMS paper no. 8) where it considers their use is warranted. In particular, the Northern Territory applies the guidelines to manage wellhead protection zones at McMinns and Howard East borefields, which supply 15 per cent of Darwin's water supply and are in close proximity to residential and horticultural developments. The Northern Territory considers that other borefields do not face management pressures warranting the degree of attention set out in NWQMS paper no. 8.

Discussion and assessment

The Council considered in the 2001 NCP assessment that regulatory arrangements for drinking water in the Northern Territory may be inadequate. The Northern Territory has since introduced the Framework for Management of Drinking Water Quality, and PowerWater published the Northern Territory's first comprehensive report on drinking water quality.

While the Northern Territory's drinking water monitoring program is partly based on the 1987 guidelines, the NWQMS recognises the practicalities and costs of sampling in widely-dispersed minor centres by providing some scope for jurisdictions to adapt guidelines to their particular circumstances. PowerWater will review its drinking water monitoring program in 2003 to evaluate its effectiveness and will update the program as required. The

Council is satisfied that the Northern Territory has met its NCP obligation in this area.

Other Northern Territory initiatives since 2001 include:

- the declaration of seven additional areas for beneficial use, resulting in the activation of water quality management processes that can include waste discharge licensing and catchment management;
- improved point source pollution management by introducing the Trade Waste Management System and the Trade Waste Code.

The Council considers that the Northern Territory made satisfactory progress for the 2003 NCP assessment in implementing policies that reflect the NWQMS guidelines. The Council will consider the Northern Territory's progress in this area as part of its full assessment of water reform in 2005.

9.6 Water legislation review and reform

Assessment issue: The Northern Territory is to have reviewed and, where appropriate, reformed all water industry legislation that restricts competition. Legislative restrictions that are retained must be shown to provide a net benefit to the whole community. Completion of review and reform obligations is a key element of the 2003 assessment. Where review and/or reform implementation is not complete (or an appropriate transitional path to reform is not in place), the Council will consider that the relevant government has not complied with National Competition Policy obligations.

Next full assessment: This is the final assessment for legislation review and reform matters.

Reference: Competition Principles Agreement, clause 5

The Northern Territory reviewed the Water Act and regulations — the legislation providing for the use, control, protection and management of the Northern Territory's water resources — in 2000. Following amendments in May 2000, the Water Act clearly specifies water entitlements that are fully separated from land title. The Act provides for trading in water entitlements in water control districts where water allocation plans have been declared (see section 9.3) and for trading rules for regions to be developed under each water allocation plan. The Northern Territory also reviewed the Water Supply and Sewerage Act in 2000. This Act was repealed by the Water Supply and Sewerage Services Act, which retained the single service provider status of PowerWater and implemented an economic regulatory framework.

The Council considers that the Northern Territory has completed all obligations under the Competition Principles Agreement in relation to the review and reform of the stock of water industry legislation.

10 Murray–Darling Basin Commission

The Murray–Darling Basin Commission manages the River Murray system and advises the Murray–Darling Basin Ministerial Council on matters related to the use of water, land and other environmental resources of the basin. It provides bulk water services to New South Wales, Victoria and South Australia through its water business, River Murray Water. The Ministerial Council consists of Ministers for land, water and the environment of each of the contracting governments: the Commonwealth, New South Wales, Victoria, Queensland, South Australia and the ACT.

In this 2003 NCP assessment, the main element of the water reform program that is relevant for the Murray–Darling Basin Commission is interstate trading, which is a progress report issue.

The Murray–Darling Basin Ministerial Council is to further consider options for improving environmental flows in the River Murray at its meeting in November 2003 (against three reference points of 350, 750 and 1500 gegalitres of flow restored in an average year). At its May 2003 meeting, the Ministerial Council asked the commission to prepare a specific proposal (including cost-sharing arrangements) for the November meeting as a ‘first step’ to delivering improved environmental flows under ‘The Living Murray’ initiative. The Council will need to account for further developments in the 2004 NCP assessment when it considers State Governments’ progress in implementing CoAG obligations on the allocation of water to the environment.

In the 2004 NCP assessment, the Council will also consider the implementation by River Murray Water of the recommendations of the independent review of its pricing arrangements undertaken in 2002. As part of this, the Council will consider the adequacy of reporting in the commission’s annual report of each government’s annual cost shares for River Murray Water and the corresponding bulk water volumes supplied in each State. The commission’s 2001-02 annual report was not publicly available in time for the 2003 NCP assessment.

10.1 Interstate trading

Progress report: The Murray–Darling Basin Commission is to report on progress in developing arrangements for interstate trading in water allocations or entitlements to maximise water’s contribution to national income and welfare, within the social, physical and ecological constraints of catchments.

Next full assessment: The Council will assess arrangements for water trading in 2004.

Reference: CoAG water reform agreement, clause 5

The Murray–Darling Basin represents 14 per cent of Australia’s land surface but accounts for around 40 per cent of the gross value of agricultural production. Trading in water entitlements provides a means of maximising returns on the basin’s limited water resources.

Water has been traded interstate on a temporary basis in the Murray–Darling Basin since the mid-1990s. In 1998, the Murray–Darling Basin Commission established a pilot project for permanent interstate water trading. The pilot is limited to the permanent transfer of high-security water entitlements held by private diverters in the Mallee region of South Australia, Victoria and New South Wales (downstream of Nyah). The total volume of permanent interstate trade under the pilot project to 30 June 2002 was around 15 gigalitres, which is less than 1 per cent of the water applied in the pilot area. Over 90 per cent of permanent interstate trade was from New South Wales and Victoria to South Australia. The Council reported on the most recent review of the pilot project in the 2001 NCP assessment (NCC 2001b, p. 41).

In the 2002 NCP assessment, the Council noted that the Murray–Darling Basin Commission was examining several interstate trading issues, including the development of:

- a system of exchange rates to allow trading between regions and between different water entitlements in different States;
- adequate environmental controls for trading;
- efficient administrative arrangements for processing and approving trades; and
- a system of access to State-based registry systems to enable those interested in interstate trading to obtain the information necessary to conduct such trades.

Developments since the 2002 assessment

At its meeting in May 2003, the Murray–Darling Basin Ministerial Council noted that:

... expanded and effective permanent interstate and intrastate trading markets in water access entitlements are fundamental to The Living Murray initiative, and [the Ministerial Council] will consider the prospects for commencement of an expanded market across the southern basin by the 2004-05 irrigation season at its November 2003 meeting. (Murray–Darling Basin Ministerial Council 2003, p. 3)

The Ministerial Council endorsed the following key requirements for an expanded and effective permanent trading market:

- clear specification of water access entitlements by governments, including the duration of tenure and the arrangements under which tenure may be modified;
- clear registration of water access entitlements by governments for individuals to hold, use and trade permanently between zones, valleys and interstate;
- the removal of administrative barriers that limit access to permanent interstate water markets; and
- an agreement between the States on the environmental clearance requirements for new irrigation developments.

With the aim of enhancing water markets, the Ministerial Council directed the commission to undertake further work on:

- the establishment of trading zones and exchange rates;
- the development of rules to manage different tenures and review periods (for water access entitlements);
- approaches to removing rules that prevent trade out of irrigation districts and to providing mechanisms to deal with the financial and asset management impacts of trade out of districts; and
- ensuring the legal validity of trade.

The Murray–Darling Basin Commission is working on a system of trading zones, rules (for example, to manage system constraints) and exchange rates for interstate water trade. The aim is to establish a system that is technically robust and agreed among policy advisers in each jurisdiction, for subsequent approval by the Ministerial Council. Exchange rates can be used to allow for trading between different forms of water entitlement, different valleys (or

zones) and different States.¹ In late 2002, the commission engaged an additional modeller to undertake work on exchange rates. An interjurisdictional technical support group was also established. The calculation of exchange rates requires the use of computerised hydrological models that represent the physical attributes and operational rules of the river systems on which the trades are undertaken. The work is initially focusing on the Murray, Murrumbidgee and Goulburn rivers. The Ministerial Council is expected to consider further work on the policy and technical issues at its meeting in November 2003.

In relation to environmental clearance processes, the commission has supported (including through funding) the development of a rapid assessment tool to analyse the salinity impacts of trades, focusing initially on the Mallee region. The tool is to be enhanced using an expert panel. The commission has also undertaken modelling of the in-stream ecological impacts of interstate trade. A set of trading rules is being developed to address these effects and to manage system delivery constraints. The commission provided the Council with a copy of a paper that briefly considers the environmental benefits and impacts of water trade, the States' policy frameworks for assessing the ecological impacts of trade and the hydrological and physical supply system constraints on trade (Sinclair Knight Merz 2002). The paper reported the following.

- New South Wales is the only State to have undertaken specific work on the ecological impacts of trade. It identified instances of unseasonable wetting of the floodplain and wetlands when channel capacities have been exceeded as a result of trade. No assessment has been made of the effects of trade on instream flora and fauna.
- The pilot interstate trading project has probably had a positive impact on environmental flows, but the effect is too small to measure.
- The environmental effects of trade at the point of use depend on the adequacy of the standards adopted in irrigation and drainage management plans and the extent to which they are enforced. All States indicated problems in monitoring compliance with such plans.
- The Murray–Darling Basin Agreement enables measures to be put in place to limit transfers based on physical constraints and unacceptable impacts on other water users or the environment.

¹ The application of an exchange rate enables the volume and reliability characteristics of the water entitlement to be converted from those of the seller's State to those of the buyer's State, including accounting for losses incurred in delivering the water. Exchange rates can be used to minimise adverse impacts on other entitlement holders.

The commission held workshops of staff from the States involved in the processing and approval of trades to work through the process for interstate trades. Applications for each permanent trade are provided to the commission for advice (not approval) in relation to exchange rates and delivery capacity. The States also advise the commission of temporary trades. The protocol for these processes is being reviewed. The system to provide access to State-based registry systems (for those interested in trading to obtain information) is also being worked on by the commission and the States as part of this process.

The Murray–Darling Basin Commission is also undertaking work on barriers to interstate water trade, in consultation with governments. Recent work focused on two issues: (1) barriers to trade out of irrigation districts and (2) the impact (on interstate trade) of differential financial arrangements for bulk water between the States.

A consultancy undertaken for the commission found that barriers to water trade (out of irrigation districts) imposed by the boards of irrigation companies were typically erected in response to fears of ‘stranded assets’ (Hassall and Associates 2002).² If water entitlements are sold out of the irrigation district, then fewer users are left to meet the ongoing costs of water supply, including the costs of maintaining supply infrastructure. The study noted other rationales provided for the restrictions, particularly environmental and community impacts and the preservation of water entitlements for future development. The study considered several alternatives to restrictions on trade out of districts and recommended the following.

- The Murray–Darling Basin Commission should undertake (or facilitate) an assessment of the case for reforming water charges in the irrigation districts. This would involve examining alternative pricing strategies to account for stranded assets. The options include: exit fees (that is, charges levied on irrigators selling their entitlement out of the district to recoup the fixed costs of infrastructure); or long-term contracts (under which irrigators would agree to meet the fixed costs even if they sell their entitlement).³ If pricing reform is found to be desirable, an education and consultation process should be developed to promote acceptance within the irrigation districts.

² In New South Wales, there is a prohibition on net trade out of some irrigation districts (see section 2.3). In Victoria, a transfer may be refused if it would result in more than 2 per cent (net) of the total water entitlement being transferred out of selected irrigation districts in any given year (see section 3.3). In South Australia, the Central Irrigation Trust has a 2 per cent cumulative limit on the proportion of entitlements that can be permanently traded out of the trust’s districts (see section 6.3).

³ Long-term contracts would be mainly relevant to new or refurbished infrastructure.

- The impact of removing restrictions on trade on the pattern and rate of structural change in the Murray–Darling Basin should be examined. This is necessary to address the community and social concerns that are strongly held in some irrigation districts. Analysis may be required for each irrigation scheme.
- An interim strategy would be to adopt a more liberal but gradualist policy in New South Wales and South Australia, similar to that in Victoria. A specific strategy would be to encourage the irrigation corporations and trusts to adopt an annual 2 per cent limit on permanent trade for a period of five years, with a review after this period.

The study noted that any action to address the restrictions is likely to be protracted because of the need for further analysis, education and consultation. The Murray–Darling Basin Commission is undertaking further work on options to address the stranded assets problem, in consultation with governments and the irrigation corporations and trusts.

Another consultancy found that the expansion of permanent interstate trade is likely to be impeded by differential charging arrangements for bulk water between the States (Scrivco and Hassall and Associates 2003). South Australia does not pass on to irrigators River Murray Water charges for bulk water.⁴ While New South Wales and Victoria pass on these costs, different charging arrangements apply: charges are part fixed and part variable in New South Wales and mostly fixed in Victoria. In addition, under the pilot interstate trading project, the financial contributions from the States to meet River Murray Water's costs are not adjusted for permanent interstate transfers. As a result, when water is traded under the pilot project into South Australia, for example, the selling State (the wholesalers and the remaining retail water users) in effect pays the bulk water charge. The study also identified problems that would arise from the extension of permanent interstate trade to tributary systems not operated by River Murray Water.⁵ Based on an analysis of various options and permanent interstate trading scenarios, and consultations with the States, the study recommended adoption of a set of principles including the following.

- When permanent interstate trades are approved, the financial responsibility for bulk water charges should transfer to the Government or wholesaler in the buyer's State.

⁴ River Murray Water recovers the full cost of constructing, operating, maintaining and renewing assets from the Murray–Darling Basin Commission's member governments. River Murray Water recovers 75 per cent of the cost of asset refurbishment and replacement from the States, with the Commonwealth Government paying the remaining 25 per cent. The States meet the full cost of the operation and maintenance of assets.

⁵ Under existing financial arrangements, for a permanent interstate trade from Victoria to South Australia, for example, there would be no payment from South Australia to meet the bulk water costs of the supplying wholesaler in Victoria.

- The financial contributions from each State to meet River Murray Water’s costs should be adjusted annually to reflect entitlement balances as at 1 July.
- A wholesaler in the seller’s State that has wholesale assets on a tributary system should charge River Murray Water the same price for bulk water for permanent interstate transfers that it charges entitlement holders in the seller’s State. These bulk water charges should include the cost of wholesale assets on the tributary (and State resource management costs where appropriate). River Murray Water should include these charges in the calculation of the costs that it passes onto the States.
- Permanent interstate trades should not be approved unless the buyer’s wholesaler accepts financial responsibility for the bulk water charges.
- The wholesalers within each State should pass on the bulk water charges to entitlement holders (though it would be up to each State to decide whether the charges are passed on).
- The seller should pay for the fixed bulk water charges for temporary trades.
- The seller’s wholesaler and the seller should pay for the fixed bulk water charges for permanent trades in the year of trade. In subsequent years, fixed charges should be met by the buyer’s wholesaler and the buyer (assuming these costs are passed on).
- The buyer should pay for the variable bulk water charges for permanent trades.

The study indicated that the proposed principles are unlikely to provide a perfect solution in all circumstances and may require further refinement. The consultants considered, however, that the principles would assist in overcoming the impediment to permanent interstate trade posed by the existing arrangements. The study recommended that the principles not be applied retrospectively.

The Council will consider further developments in relation to these issues when it assesses progress with interstate trading arrangements in the 2004 NCP assessment.

Appendix A: Guidelines for the application of section 3 of the CoAG water reform agreement (the CoAG pricing principles)

1. Prices will be set by the nominated jurisdictional regulators (or equivalent) who, in examining full cost recovery as an input to price determinations, should have regard to the principles set out below.
2. The deprival value methodology should be used for asset valuation unless a specific circumstance justifies another method.
3. An annuity approach should be used to determine the medium to long term cash requirements for asset replacement/refurbishment where it is desired that the service delivery capacity be maintained.
4. To avoid monopoly rents, a water business should not recover more than the operational, maintenance and administrative costs, externalities, taxes or TERs [tax equivalent regime], provision for the cost of asset consumption and cost of capital, the latter being calculated using a WACC [weighted average cost of capital].
5. To be viable, a water business should recover, at least, the operational, maintenance and administrative costs, externalities, taxes or TERs (not including income tax), the interest cost on debt, dividends (if any) and make provision for future asset refurbishment/replacement (as noted in (3) above). Dividends should be set at a level that reflects commercial realities and stimulates a competitive market outcome.
6. In applying (4) and (5) above, economic regulators (or equivalent) should determine the level of revenue for a water business based on efficient resource pricing and business costs. Specific circumstances may justify transition arrangements to that level.
7. In determining prices, transparency is required in the treatment of community service obligations, contributed assets, the opening value of assets, externalities including resource management costs, and tax equivalent regimes.

Notes:

- The reference to or equivalent in principles 1 and 6 is included to take account of those jurisdictions where there is no nominated jurisdictional regulator for water pricing.
- The phrase not including income tax in principle 5 only applies to those organisations which do not pay income tax.
- 'Externalities' in principles 5 and 7 means environmental and natural resource management costs attributable to and incurred by the water business.

- Efficient resource pricing in principle 6 includes the need to use pricing to send the correct economic signals to consumers on the high cost of augmenting water supply systems. Water is often charged for through a two-part tariff arrangement in which there are separate components for access to the infrastructure and for usage. As an augmentation approaches, the usage component will ideally be based on the long-run marginal costs so that the correct pricing signals are sent.
- Efficient business costs in principle 6 are the minimum costs that would be incurred by an organisation in providing a specific service to a specific customer or group of customers, or the minimum amount that would be avoided by not providing the service to the customer or group of customers. Efficient business costs will be less than actual costs if the organisation is not operating as efficiently as possible.

Appendix B: Water legislation: summary of review and reform activity

Under the Competition Principles Agreement, governments were obliged to review and, where appropriate, reform the stock of legislation that restricts competition. All governments identified water industry legislation for review and reform under the NCP program. This appendix comprises a tabular summary of the review and reform status of the water industry legislation by jurisdiction.

The following abbreviations are used in the 'Agency' column of the water legislation review and reform tables in this appendix.

AIS	Department of Administration and Information Services (South Australia)
CM	Chief Minister's Department (ACT)
DIER	Department of Infrastructure, Energy and Resources (Tasmania)
DIPE	Department of Infrastructure, Planning and Environment (Northern Territory)
DPINR	Department of Planning, Infrastructure and Natural Resources (New South Wales)
DPIWE	Department of Primary Industries, Water and Environment (Tasmania)
DSE	Department of Sustainability and Environment (Victoria)
DUS	Department of Urban Services (ACT)
EH	Department of Environment and Heritage (South Australia)
EPA	Environment Protection Agency (Victoria)
FT	Forestry Tasmania (Tasmania)
H	Department of Health (Queensland) Department of Health (Western Australia)
HT	Hydro Tasmania (Tasmania)

LA	Department of Land Administration (Western Australia)
LGP	Department of Local Government and Planning (Queensland)
NRM	Department of Natural Resources and Mines (Queensland)
OWR	Office of Water Regulation (Western Australia)
PAW	Power and Water Corporation (Northern Territory)
TF	Department of Treasury and Finance (South Australia)
WLBC	Department of Water, Land and Biodiversity Conservation (South Australia)
WRC	Water and Rivers Commission (Western Australia)

Table B3.1: Water legislation review and reform status, June 2003

New South Wales

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Balranald Irrigation Act 1902</i>				The Act was repealed by the <i>Water Management Act 2000</i> .
<i>Crown Lands Amendment Act 1932</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Drainage Act 1939</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Fish River Water Supply Administration Act 1945</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Glennies Creek Dam Act 1979</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Hunter Valley Flood Mitigation Act 1956</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Irrigation Act 1912 (and as amended)</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Irrigation and Water (Amendment) Act 1943</i>				The Act was repealed by the <i>Water Management Act</i> .
<i>Irrigation Corporations Act 1944</i>				The Act was repealed by the <i>Water Management Act</i> .

(continued)

New South Wales continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Irrigation, Water and Rivers and Foreshores Improvement (Amendment) Act 1955</i>				The Act was repealed by the Water Management Act.
<i>Miscellaneous Acts (Water Administration) Amendment Act 1986</i>				The Act was repealed by the Water Management Act.
<i>Private Irrigation Districts Act 1973</i>				The Act was repealed by the Water Management Act.
<i>Rivers and Foreshores Improvement Act 1948</i>				The Act was repealed by the Water Management Act.
<i>Water (Soil Conservation) Amendment Act 1986</i>				The Act was repealed by the Water Management Act.
<i>Water Act 1912 (and as amended)</i>				The Act was repealed by the Water Management Act.
<i>Water Administration (Transfer of Functions) Act 1986</i>				The Act was repealed by the Water Management Act.
<i>Water Administration Act 1986</i>				The Act was repealed by the Water Management Act.
<i>Water Management Act 2000</i>	DPINR			The Water Management Act was passed in December 2000, and replaces various pieces of water legislation.
<i>Water Supply Authorities Act 1987</i>				The Act repealed by the Water Management Act.

Victoria

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Catchment and Land Protection Act 1994</i>	DSE	Act removed from legislation review program because the Act does not restrict competition. Its objective is to ensure competition in relevant markets is sustainable in the long term.		The provisions of part 7 of the Act, which relate to extraction of material have been superseded by the <i>Extractive Industries Development Act 1995</i> and will be repealed when the Act is next amended.
<i>Murray Darling Basin Act 1993 and other legislation relating to interstate sharing and management of resources</i>	DSE		South Australia completed a review of the legislation which found there were no restrictions on competition.	
<i>Pollution of Waters by Oil and Noxious Substances Act 1986</i>	DSE	Act assessed as not restricting competition.		

(continued)

Victoria continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Act 1989, Water Industry Act 1994, Melbourne & Metropolitan Board of Works Act 1958, Melbourne Water Corporation Act 1992, Rain Making Control Act 1967</i>	DSE	Various regulatory controls and market restrictions.	A major public review by Marsden Jacob consultants was completed in June 2001.	<p>The Victorian Government accepted most of the review recommendations. Work has begun:</p> <ul style="list-style-type: none"> • on proposals to introduce vetted competition; • on consultation in respect of proposals for water leasing arrangements; • on the proposal to separate the power to require connection to the sewerage system from service delivery and infrastructure provision; • on the introduction of public scrutiny to the By-law making process; and • on the establishment of a legislative framework for water businesses.
<i>Water Industry Act 1994 (part 4)</i>	DSE	Act imposes licensing arrangements for use of jetties (s. 135A) and powers to levy rates on households in the metropolis.	Review underway. Issues paper publicly released, with a call for submissions. Targeted consultation with key stakeholders.	

Queensland

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Canals Act 1958 and Regulation 1992</i>	EPA	Regulates construction, maintenance and use of canals, including a requirement for approval to be granted before construction can begin. Regulations relate to quantitative elements, quality/technical standards and natural resource permits/licences.	The review was completed and published in November 1998. The review concluded that the restrictions in the Act are in the public interest.	Provisions subjected to NCP review have been retained without change.
<i>Fluoridation of Public Water Supplies Act 1963 and Regulation 1964</i>	H	Prescribes a particular brand of testing equipment.	The Department of Health repealed the restrictive provisions without formal review.	Anticompetitive provisions were repealed in 1997.
<i>Gladstone Water Board Act 1984</i>	NRM	Imposes a statutory monopoly.	The Department of Natural Resources and Mines completed the review in February 2000.	The Act was repealed by the <i>Water Act 2000</i> .

(continued)

Queensland continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<p><i>Metropolitan Water Supply and Sewerage Act 1909</i></p> <p><i>Sewerage and Water Supply Act 1949 and Regulation 1987</i></p> <p><i>Standard Water and Sewerage Laws</i></p>	NRM LGP	<p>The Acts impose restrictions including a statutory monopoly, licensing/registration requirements and constraints on business. The Acts prescribe requirements on water supply and sanitary plumbing, sanitary drainage, sewer installation, the management of water supply, sewerage and drainage utilities and licensing requirements for plumbing and drainage work.</p> <p>Standard sewerage and water supply laws are administered by local governments and prescribe the purposes and uses of domestic water. The laws provide for the control/supply of water to the Brisbane metropolitan area to be the sole responsibility of the Brisbane City Council. Provisions now largely set by City of Brisbane Act ordinances.</p>	The Department of Natural Resources and Mines and the Department of Local Government and Planning jointly administer the Acts. Restrictions in provisions administered by the Department of Natural Resources and Mines were substantively dealt with by the <i>Water Act 2000</i> . All other restrictions were considered in the NCP review of occupational licensing (plumbers and drainers).	<p>The restrictive elements requiring amendment were incorporated into the Water Act. This commenced in part on 13 September 2000, with the remaining provisions commencing on 19 April 2002.</p> <p>The <i>Plumbing and Drainage Act 2002</i> repealed the Sewerage and Water Supply Act and came into force on 1 July 2003. Non-legislative recommendations for training and information programs for local governments and industry are being delivered.</p>
<p><i>South East Queensland Water Board Act 1979 and Townsville/Thuringowa Water Supply Board Act 1987</i></p>	NRM	Both Acts impose a statutory monopoly.	Review completed.	Both Acts have been repealed. A commercialised Townsville/Thuringowa Water Supply Board was created by amendment of the <i>Local Government Act 1993</i> .

(continued)

Queensland continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Resources Act 1989, Water Resources (Watercourse Protect) Regulations 1993, Water Resources (Rates and Charges) Regulations 1992, and Natural Resources Amendment Act 1996</i>	NRM	Licensing or registration, pricing restrictions and business conduct.	Review completed in February 2000. Review completed as part of broader CoAG water reform agenda. Discussion papers on modules for new legislation were progressively released for discussion during 1999. A draft of the revised legislation was released for consultation early in 2000.	The restrictive elements that required amendment were incorporated into the Water Act which commenced in part on 13 September 2000, with the remaining provisions coming into force on 19 April 2002. The Water Regulation 2002 commenced in part on 19 April 2002 with remaining provisions commencing on 30 June 2002.

Western Australia

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
Carnarvon Irrigation District By-laws	WRC	Differential treatment.	The Water and Rivers Commission completed the review in January 2000. The review found minor restrictions to be justified on public welfare grounds to maintain security of supply and safeguard infrastructure.	The Cabinet has approved the transfer of the irrigation assets and management to local control. The transfer of the management of the business has been undertaken while the asset transfer has been deferred due to a number of native title issues.
<i>Country Areas Water Supply (Clearing Licence) Regulations 1981</i>	OWR	Controls over land clearing.	The Office of Water Regulation completed the review in August 2000 and recommended no change. Controls were justified on wider ecological and public interest grounds.	The Government endorsed the review recommendations on 18 December 2000. The Act was retained without change.
<i>Country Areas Water Supply Act 1947</i>	OWR	Licensing, market power by Water Corporation.	The Office of Water Regulation completed the review in September 1999.	Amendments to the Act were to be progressed via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.
<i>Country Areas Water Supply By-laws 1957</i>	OWR	Market power.	Review completed.	The Government endorsed the findings of the review in December 1999. The Office of Water Regulation and the Water Corporation are finalising the amendments.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Country Towns Sewerage Act 1948 and By-laws</i>	OWR	Licensing, registration, entry requirements (competency or six years experience and qualification, fit and proper), the reservation of practice (either licensed or under licensed supervision), disciplinary processes.	Review of <i>Water Services Coordination Amendment Act 1999</i> recommended retaining restrictions to prevent unlicensed persons from performing plumbing work, and maintaining the board's power to set licence conditions.	The Government endorsed the review's recommendations. Amendments to the Act were to be progressed via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill. Plumbers licensing provisions were transferred to the Water Services Coordination (Plumbers Licensing) Regulations in 2000. The transfer also shifted responsibility for plumbers licensing from Water Corporation to new Plumbers Licensing Board. By-laws are to be amended.
<i>Harvey, Waroona Collie River Irrigation Districts By-laws 1975</i>	WRC	Monopoly powers to Water Corporation. Differential rights to irrigators.	Review by Water and Rivers Commission completed in January 2000. No action proposed – minor restrictions justified on public welfare grounds to maintain security of supply and safeguard laws proposed to reflect current management practices.	The Government endorsed the review recommendations on 14 August 2000.
<i>Health (Treatment of Sewerage and Disposal of Effluent and Liquid Waste) Regulations 1993</i>	H	Licensing.		Replacement legislation is to be developed.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Irrigation (Dunham River) Agreement Act 1968</i>	LA	Differential rights.		The Act is to be repealed.
<i>Land Drainage Act 1925</i>	OWR	Market power.	The Office of Water Regulation completed the review in 1999. Minor amendments to Act are proposed to ensure consistency with the competitive licensing regime and other related Acts.	The Government endorsed the review recommendations on 20 December 1999. The Act was to be amended via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.
<i>Land Drainage By-laws 1986</i>	OWR	Market power.	The Office of Water Regulation completed the review in 1999.	The Government endorsed the review recommendations on 20 December 1999. The Water Corporation in consultation with the Office of Water Regulation is currently developing drafting instructions for amendments.
<i>Land Drainage Regulations 1978</i>	OWR	Market power.	The Office of Water Regulation completed the review in 1999 and recommended that all charges be dealt with through the <i>Water Agencies (Powers) Act 1984</i> .	Amending regulations to be consistent with the review's recommendations.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Land Drainage (Rating Grades) Regulations 1986</i> <i>Water Agencies (Entry Warrant) Regulations</i>	OWR	Provides an exemption from paying rates for certain activities, subject to those exemptions on specific land uses that are imposed for social reasons, continuing to be subject to the formal and transparent community service obligation payment. Provides for land to be subject to water supply, sewerage, drainage and irrigation charges even if it is not actually connected to the system and where owners or occupiers do not actually use the system. Provides exemption from charges for pensioners.	The review recommended retaining legislative restrictions finding them to be in the public interest for reasons of social equity and good infrastructure planning. Some 'housekeeping' recommendations include amending the: <ul style="list-style-type: none"> grading system in the Land Drainage (Rating Grades) Regulations so that all charges are dealt with through the <i>Water Agencies (Powers) Act 1984</i>; and <i>Water Agencies (Infringements) Regulations 1994</i> to ensure they are consistent with the <i>Water Agencies (Powers) Act</i>, which enables the Water and Rivers Commission to delegate authority for issuing infringements. 	The Government endorsed the review recommendations. The Water Corporation, in consultation with the Office of Water Regulation, is currently developing drafting instructions for the amendments.
<i>Metropolitan Water Authority (Miscellaneous) By-laws 1982</i>	WRC	Differential treatment.	The Water and Rivers Commission review has been completed with no competition restrictions identified.	The Government endorsed the review recommendations and retained the Act without change.
<i>Metropolitan Water Authority Act 1982</i>	WRC	Provides market power to the Water Corporation.	The Water and Rivers Commission review has been completed with no competition restrictions identified.	The Government endorsed the review recommendations on 14 August 2000 and retained the Act without change.
<i>Metropolitan Water Supply, Sewerage and Drainage By-laws 1981</i>	WRC	Licensing - as for Country Towns Sewerage Act 1948.	The Office of Water Regulation has completed the review.	Plumbers licensing provisions transferred to the Water Services Coordination (Plumbers Licensing) Regulations in 2000. Transfer also shifted responsibility for plumbers licensing from Water Corporation to new Plumbers Licensing Board. Further amendments expected.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Metropolitan Water Supply, Sewerage and Drainage Act 1909</i>	OWR	Market power, and differential treatment for licensing.	The Office of Water Regulation completed the review in September 1999.	The Government endorsed the review recommendations on 20 December 1999. Drafting instructions to include the recommended amendments in Acts Amendment and Repeal (Competition Policy) Bill 2002 were forwarded to Parliamentary Counsel. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.
<i>Ord Irrigation District By-laws</i>	WRC	Provides market power to Water Corporation. Differential rights to irrigators within the area.	The Water and Rivers Commission completed the review in January 2000. The review recommended no change as the restrictions are minor and justified on public welfare grounds to maintain security of supply and safeguard infrastructure.	The Government endorsed the review recommendations on 14 August 2000. Amendments to by-laws proposed to reflect devolved ownership and control of the scheme.
<i>Preston Valley Irrigation District By-laws</i>	WRC	Differential treatment.	The Water and Rivers Commission completed the review in January 2000 and recommended retaining the restrictions on competition in the public interest. Amendment to the By-laws to reflect the current management practices and responsibilities of the Water Corporation and grower cooperatives following the devolution of irrigation management.	The Government endorsed the review recommendations on 14 August 2000. The Water Corporation is drafting amendments in consultation with the Water and Rivers Commission.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Rights in Water and Irrigation (Construction and Alteration of Wells) Regulations 1963</i>	WRC	Licensing restrictions. The Waters and Rivers Commission is given sole rights to fit, repair and test water meters.	The Water and Rivers Commission completed the review in January 2000.	The Government endorsed the review recommendations on 14 August 2000. Amending the regulations to remove the Water and Rivers Commission's exclusive right to the fitting, repair and testing of water meters is being progressed.
<i>Rights in Water and Irrigation Act 1914 and Regulations</i>	WRC	Licensing of rights to take water. Provides monopoly powers to the Water Corporation.	The Water and Rivers Commission completed the review.	The Government endorsed the review recommendation on 20 December 1999. Drafting instructions to include the recommended amendments in the proposed Acts Amendment and Reform (Competition Policy) Bill 2002 were forwarded to Parliamentary Counsel. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.
<i>Swan River Trust Act 1988 and Regulations</i>	WRC	Licensing. Limitations on development activity that can be undertaken in the area under the control of the Swan River Trust; and limitations on non-development activity (including advertising) that can be undertaken in the area under the control of the Swan River Trust.	The Water and Rivers Commission completed the review in 2000 and recommended restrictions be retained.	The Government endorsed the review recommendations. Act retained without change.
<i>Treatment of Sewerage and Disposal of Effluent and Liquid Waste Regulations</i>	H	Licensing.	The review is underway. The review is a public process involving a public seminar and an invitation to make submissions.	

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water (Dixvale Area and Yanmah Area) Licensing Regulations 1974</i>	WRC	Differential treatment of a small group of irrigators.	The Water and Rivers Commission completed the review in 2000 and recommended repealing the regulations.	The Government endorsed the review recommendations.
<i>Water Agencies (Charges) By-laws 1987</i>	OWR	Differential treatment of Crown lands.	The Office of Water Regulation completed the review in 1999.	The Government endorsed the review recommendations for no change.
<i>Water Agencies (Entry Warrants) Regulations 1985</i>	OWR		The Office of Water Regulation completed the review in 1999.	The Government endorsed the review recommendations for no change.
<i>Water Agencies (Infringements) Regulations 1994</i>	OWR	Provides market power to the Water Corporation.	The Office of Water Regulation completed the review in 1999. The review recommended minor amendments were recommended to ensure consistency of the approach with competitive licensing regime, and related Acts.	The Government endorsed the review recommendation to modify regulation 5 (officers issuing infringements to make it consistent with recommendations from the review of the <i>Water Agencies (Powers) Act 1984</i> . The regulation will be amended once the Water Agencies (Powers) Act is amended via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Agencies (Powers) Act 1984</i>	OWR	Provides market power to Water Corporation.	The Office of Water Regulation completed the review in 1999.	The Government endorsed the review recommendations for implementation via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill.
<i>Water Agencies Restructure (Transitional and Consequential Provisions) Act 1995</i>	OWR		The Office of Water Regulation completed the review in 2000. No restrictions on competition were identified.	The Act was retained without change.
<i>Water and Rivers Commission Act 1995</i>	WRC	The Act provides powers for natural resource management.	The Water and Rivers Commission completed the review in 2000. No changes were recommended.	The Government endorsed the review recommendations in 2000.
<i>Water Boards Act 1904 and By-laws</i>	OWR	Licensing. Restricts powers to supply of water and within defined areas.	The Office of Water Regulation completed the review in 1999.	Amendment to Act allows agencies to provide a full suite of water services and freedom to compete for licences on equal terms with the Water Corporation. The revised By-laws were considered under gatekeeper requirements. Umbrella legislation is being developed to incorporate the agreed NCP reforms and the Government's desired corporate governance arrangements.
<i>Water Corporation Act 1995</i>	OWR		The Office of Water Regulation completed the review in 1999.	The Act was retained without change.

(continued)

Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Services Coordination Act 1995 - part 1 of 2</i>	OWR	Complex licensing regime inhibits competitive outcomes.	The Office of Water Regulation completed the review in 1999. The recommendations include the adoption of a simpler, pro-competitive licensing regime and provide for competitive neutrality in relevant Acts. Five year review under s62 completed in 2003.	Recommendations were to be implemented via the Acts Amendment and Repeal (Competition Policy) Bill 2002. Due to difficulties in preparing the drafting instructions these reforms will now be included in a second competition policy omnibus bill. Some recommendations are being implemented through the Economic Regulation Authority Bill 2002, which is currently being debated in the Legislative Council. These are the inclusion of public interest considerations as part of the licensing regime, and the ability to transfer a licence. The Bill also provides for regulations prescribing public consultation processes as part of the decision to grant, amend or transfer a licence.
<i>Water Services Coordination Act 1995 - part 2 of 2: Water Services Coordination (Plumbers Licensing) Regulations 2000</i>	OWR	Plumbers licensing, registration, entry requirements (six years experience and qualification, fit and proper person) reservation of practice (either licensed or under supervision of licensed) and disciplinary processes.	The review has been completed. The review recommended retaining restrictions to prevent unlicensed persons performing plumbing work and maintaining the board's power to set licence conditions.	The Government endorsed the review and no change was proposed.

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Western Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Supply, Sewerage and Drainage Act 1912</i>	OWR	Restrictions relate to asset ownership.	The Office of Water Regulation completed the review in 1998.	The Act was retained without change.
<i>Waterways Conservation Act 1976 and Regulations</i>	WRC	Licensing system for disposal of waste in waterways.	The Water and Rivers Commission completed the review in 2000. The review recommended no changes. A major review was proposed to achieve rationalisation of functions and operation between this Act and the Environmental Protection Authority Act.	The Government endorsed the review recommendations on 20 1999 and the Act was retained without change.

South Australia

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Catchment Water Management Act 1995</i>	EH	Restricts market conduct.	Review completed.	The Act was repealed by the <i>Water Resources Act 1997</i> .
<i>Groundwater (Border Agreement) Act 1985</i>	WLBC	Restricts market conduct.	The review was completed in 2000. No change recommended.	The Act was retained without change.
<i>Irrigation (Land Tenure) Act 1930</i>	EH	Restricts market conduct.	The review was completed in 1999 and did not identify any major issues. The review recommended that legislation be updated and consolidated.	The Government approved repeal of the Act on 20 January 2003. Repeal is scheduled for September 2003.
<i>Irrigation Act 1994</i>	WLBC	Restricts market conduct.	The review was completed in 2000. Minor legislative changes were recommended. The review identified a need for a further comprehensive review of the legislation and its objectives.	No competition-related reform required.
<i>Loans for Fencing and Water Piping Act 1938</i>	T&F	Restricts market conduct.	No review as the Act is to be repealed.	The Government approved repeal in August 2002. This is scheduled for October 2003.
<i>Murray-Darling Basin Act 1993</i>	WLBC	The agreement in place is aimed at providing equitable sharing of the resource.	The review was completed in 1999 and recommended no change to the Act.	Review noted by Murray-Darling Basin Commission and presented to the Minister.
<i>Renmark Irrigation Trust Act 1936</i>	WLBC	Restricts market conduct.	The review was completed in 2000. Minor legislative change recommended removing obsolete and inconsistent sections.	No competition-related reform required.
<i>River Murray Waters Agreement Supplemental Agreement Act 1963</i>	WLBC	Restricts market conduct.	The review was completed in 1998 and recommended the Act be repealed.	The Act has been replaced by the Murray-Darling Basin Act.

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South Australia continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Sewerage Act 1929</i>	T&F	Barriers to market entry, restrictions on market conduct, product and service standards.	The review of the <i>Sewerage Act</i> , <i>Waterworks Act 1932</i> and the <i>South Australian Water Corporation Act 1994</i> was completed in 2001. The review found that: <ul style="list-style-type: none"> the primary restrictions appear to arise from the inherent monopoly of the infrastructure; and the majority of the identified restrictions on competition are appropriate in the context of the Acts' objectives. 	Although the report identified a number of trivial and intermediate restrictions in the Acts and consequently recommended some minor amendments, the South Australian Government considers the existing arrangements and administrative responses adequately address the issues raised in the review, and accordingly no legislative changes are proposed. The Government is considering the other non-legislative review recommendations.
<i>South Australian Water Corporation Act 1994</i>	T&F	Barriers to market entry, and restricts market conduct.	Refer to the <i>Sewerage Act</i> for details.	No reform is required.
<i>South Eastern Water Conservation and Drainage Act 1992</i>	WLBC	Restricts market conduct.	The review was completed in 1999 and did not recommend any change.	The Act has been retained without change.
<i>Water Conservation Act 1936</i>	WLBC	Barriers to market entry, and restricts market conduct and products/service standards.	The review was completed in 2000 and found no competition issues.	No competition-related action required.
<i>Water Resources Act 1990</i>	WLBC	Restricts market conduct.	Review completed.	The Act was repealed by the <i>Water Resources Act 1997</i> .
<i>Waterworks Act 1932</i>	AIS	Barriers to market entry, and restricts market conduct, and product/service standards.	Refer to <i>Sewerage Act</i> for details.	The Government is considering the review recommendations.

Tasmania

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Australian Titan Products Act 1945</i>	DIER	Provides certain water rights to a company and prohibits it from generating electricity.		The Act was repealed by the <i>Legislation Repeal Act 1998</i> .
<i>Clyde Water Act 1898</i>	DPIWE	Vests trustees with the power to repair and alter works, construct works to convey water from Lake Sorell to the River Clyde and any waterworks necessary to provide the towns of Bothwell and Hamilton with water.		The Act was repealed by the <i>Water Management Act 1999</i> .
<i>Electricity Supply Industry Restructuring (Savings and Transitional Provisions) Act 1995</i>	DIER	Requires certain irrigation waters to be made available to certain water users, providing them with a commercial benefit that is not available to others.	The review has been completed.	The Act was amended by the <i>Water Management Act</i> .
<i>Florentine Valley Paper Industry Act 1935</i>	FT	Authorises the granting of exclusive timber, water and transport rights to one company.	The review has been completed and recommended that the power to license water rights be attached to the <i>Water Management Act</i> .	Licensing of water rights was transferred to the <i>Water Management Act</i> .
<i>Groundwater Act 1985</i>	DIER	Prohibits the construction or enlarging of a well, or the drawing of water, in a proclaimed region without a permit. Provides the Director of Mines with the power to shut, limit, repair or modify any Tasmanian well.		The Act was repealed by the <i>Water Management Act</i> .
<i>Hobart Regional Water Act 1984</i>	DPIWE	Gives the Hobart Regional Water Board exclusive rights to take water from the Derwent River, Mount Wellington and other streams, construct bulk supply works and enter into agreements with municipalities to provide water.		The Act was repealed by the <i>Hobart Regional Water (Arrangements) Act 1996</i> .

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Tasmania continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Huon Valley Pulp and Paper Industry Act 1959</i>	FT	Provides the company with free unlimited water rights, restricts the water rights of the Huon Council (and its residents), rights over Crown land. Sets company conduct in relation to river bank degradation and water quality.		The Act was repealed by the Legislation Repeal Act.
<i>Irrigation Clauses Act 1973</i>	DPIWE	Market entry. Provides for the construction of waterworks by persons authorised by another Act to do so. Provides for the right to a supply of water for irrigation. Establishes irrigation rights within irrigation districts.	The review has been completed.	The Act was amended by the Water Management Act. Restricts the holding of irrigation rights in a district to an owner or occupier of land in the district.
<i>Loan (Hydro-Electric Commission) Act 1957</i>	HT	Provides irrigation rights to persons in the Parish of Lawrenny.		The Act was repealed on 6 November 1996. Repealing Acts were the <i>Electricity Supply Industry Act 1995</i> and the <i>Electricity Supply Industry Restructuring (Savings and Transitional Provisions) Act 1995</i> .
<i>Mount Cameron Water Race Act 1926</i>	DIER	Legislated restriction on competition as part of a legislative scheme governing water rights to the Rushy Lagoon property.		The Act was repealed by the Legislation Repeal Act.
<i>North Esk Regional Water Act 1960</i>	DPIWE	Provides the Rivers and Water Supply Commission with the exclusive right to supply certain 'water districts' from waterworks vested in the commission.		The Act was repealed by the <i>Northern Regional Water (Arrangements) Act 1997</i> .

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Tasmania continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>North-West Regional Water Act 1987</i>	DPIWE	Provides that the North West Regional Water Authority may take water from specified places. Provides that the Authority shall supply municipalities in the Water District with water and that municipalities will not obtain water in bulk from elsewhere.		The Act was repealed by the <i>North West Regional Water (Arrangements) Act 1997</i> , which commenced in 1999.
<i>Rossarden Water Act 1954</i>	DPIWE	Provides that the Fingal Council may use its power to supply water to the Aberfoyle Tin mine free of charge, effectively providing the company with a competitive advantage.		The Act was repealed by the Water Management Act.
<i>Sewers and Drains Act 1954</i>	DPIWE	Specifies material and work standards for the construction and maintenance of sewerage works. Requires certain council officers to hold certificates of qualification.		Restrictive provisions in Act were removed.
<i>Thomas Owen and Co. (Australia) Limited Act 1948</i>	DPIWE	Provides a company with the right to take as much water as required at no cost and prohibits it from using that water to generate electricity.		The Act was repealed by the Water Management Act.
<i>Water Act 1957</i>	DPIWE	Gives the Rivers and Water Supply Commission the power to allow or prevent persons from taking water from rivers and lakes. Prohibits the taking of water for irrigation without the authority of the Commission. Specifies water quality standards.	The review was completed in 1999.	The Act was repealed and replaced by the Water Management Act.
<i>Water Management Act 1999</i>	DPIWE	Establishes a system of transferable water rights.	New legislation assessed under gatekeeper requirements.	

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Tasmania continued

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Waterworks Clauses Act 1952</i>	DPIWE	Gives power to persons, authorised by special Acts to construct waterworks, to acquire land and to undertake various activities associated with the construction of such waterworks.	The review has been completed.	The Act was amended by the Water Management Act.
<i>Wesley Vale Pulp and Paper Industry Act 1961</i>	FT	Ratifies a financial agreement providing a particular company with a competitive advantage, potentially acting to restrict competition.	The review has been completed.	The Act was amended by the Water Management Act.

Australian Capital Territory

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Cotter River Act 1914</i>	DUS		An intradepartmental review was completed in 1999.	The Act was repealed on 23 March 2000.
<i>Energy and Water Act 1988</i>	DUS			The Act was repealed as part of the <i>Utilities Act 2000</i> .
<i>Sewerage Rates Act 1968</i>	CM			The Act was repealed and relevant provisions now contained in the Utilities Act.
<i>Water Pollution Act 1984</i>	DUS			The Act was repealed by the <i>Environment Protection Act 1997</i> .
<i>Water Rates Act 1959</i>	CM		An intradepartmental review has been completed.	The Act was repealed and relevant parts included in the Utilities Act.

Northern Territory

<i>Name of legislation</i>	<i>Agency</i>	<i>Major restrictions</i>	<i>Review activity</i>	<i>Reform activity</i>
<i>Water Act and Regulations</i>	DIPE	Provides for the investigation, use, control, protection, management and administration of water resources.	The review was completed in July 2000 and recommended no change.	
<i>Water Supply and Sewerage Act</i>	PAW	Single provider status provided to the (former) Power and Water Authority. Lacks separation of service delivery from regulatory roles.	Independent review completed in March 2000.	The Act was repealed and replaced by the <i>Water Supply and Sewerage Services Act 2000</i> . Single service provider status was retained due to economies of scale. The Utilities Commission is now responsible for licensing for water and sewerage supply in the Northern Territory. In February 2002, the Utilities Commission issued an urban water supply licence to the Power and Water Corporation.

Appendix C: Submissions on water reform to the 2003 National Competition Policy assessment

Burnett Water For All, April 2003

Burnett Water Pty Ltd, June 2003

Environment Victoria, April 2003

Environmental Defender's Office, April 2003

Hocking, Mr Tony, Enterprise Marketing and Research Services, April 2003

Hodges, Mr Griffith, March 2003

Karykowski, Mr Jeffrey, April 2003

Lower Balonne Community Reference Group, 2003

Macquarie River Food and Fibre, April 2003

Murrumbidgee Horticultural Council, April 2003

NSW Irrigators' Council, April 2003

Pioneer Valley Water Board and Eton Irrigators, 10 April 2003

Queensland Conservation Council, April 2003

Rockefeller, Mr Robert, Nekon Pty Ltd, April 2003

Smartrivers, April 2003

Tasmanian Conservation Trust, April 2003

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— 2002d, *Healthy landscapes sustainable communities, Victorian action plan for second generation landcare*, Melbourne.

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